Hamilton County - Paycor Stadium South Vertical Transportation - Architecture and MEP BP#3 Project

ITB#037-26

PROJECT MANUAL

Hamilton County
OHIO

Phil Beck
138 E. Court Street, Room 607
Cincinnati, Ohio 45202

PROJECT MANUAL

HAMILTON COUNTY
ITB#037-26
PAYCOR STADIUM SOUTH VERTICAL TRANSPORTATION –
ARCHITECTURE AND MEP BP#3 PROJECT

THE BOARD OF COUNTY COMMISSIONERS

STEPHANIE SUMMEROW DUMAS, PRESIDENT
ALICIA REECE, VICE PRESIDENT
DENISE DRIEHAUS

JEFFREY ALUOTTO, COUNTY ADMINISTRATOR

MAY 2026

SECTION 000125
PROJECT DIRECTORY

Owner
Hamilton County
Department of Stadia and Parking
1 Paycor Stadium
Cincinnati, Ohio 45202

Construction Manager
Messer Construction /Jostin
Construction/MBJ Consultants Inc.
643 West Court Street
Cincinnati, Ohio 45203
Phone: 513-242-1541

Structural Engineer

THP Limited, Inc.
100 East Eighth Street
Cincinnati, Ohio 45202
Phone: 513-241-3222

Architect

KZF Design
700 Broadway
Cincinnati, Ohio 45202
513-621-6211

END OF SECTION

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NOTICE:
This Project Manual, an unpublished instrument of service of the authors, is for use on this Project only and is prepared for use in conjunction with the authors' interpretations, observations, decisions, and administration as described in the General Conditions, without which desired results are unlikely. Use in part or in whole for other purposes without the authors' expressed written consent may violate Act 17, United States Code, paragraph 301, 1991. Copyright 2013, KZF Design.

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DIVISION 00 – GENERAL PROJECT REQUIREMENTS
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PROJECT DIRECTORY

OWNER
Hamilton county
Department of Stadia and Parking
1 Paycor Stadium
Cincinnati, Ohio 45202

OPERATOR
Paul Brown Stadium Limited
1 Paycor Stadium
Cincinnati, Ohio 45202

CONSTRUCTION MANAGER
Messer Construction
643 West Court Street
Cincinnati, Ohio 45203
Phone: 513-242-1541

ARCHITECT
KZF Design
700 Broadway
Cincinnati, Ohio 45202
Phone: 513-864-8682

STRUCTURAL ENGINEER
THP Limited, Inc.
221 East Fourth Street, Suite 1150
Cincinnati, Ohio 45202
Phone: 513-241-3222

MEP ENGINEER
Davies Engineering Group
3960 Red Bank Road, Suite 250
Cincinnati, Ohio 45227
Phone: 513-561-2271

CODE CONSULTANT
CCI
215 West 40th Street, 10th Floor
New York, NY 10018
Phone: 212-216-9596

END OF DOCUMENT

HAMILTON COUNTY PURCHASING DEPARTMENT

Purchasing Department
138 East Court Street, Room 507
Cincinnati, Ohio 45202
Phone: (513) 946-4355
purchasing@hamiltoncountyohio.gov
http://www.hamilton-co.org/purchasing/

County Administrator:
Jeffrey Aluotto

Director of Purchasing:
Jill Williams

Board of County Commissioners:
Stephanie Summerow Dumas, President
Alicia Reece, Vice President
Denise Driehaus

DATE OF ISSUANCE: **05/05/2026**

INVITATION TO BID (ITB) NUMBER: **ITB#037-26**

INVITATION TO BID (ITB) NAME: **Paycor Stadium South Vertical Transportation – Architecture and MEP BP#3 Project**

Date of Pre-Bid Conference: Hamilton County, Location: Paycor Stadium, Main Security; located at corner of Central Avenue and Mehring Way, and Cincinnati, Ohio	**05/13/2026 at TIME**; meet at 10:00 AM
Deadline for Receiving Final ITB - Questions:	**05/15/2026 12:00 PM**
Deadline for Receiving Final ITB - Answers:	**05/20/2026 11:00 AM**
BID OPENING DATE: Hamilton County Purchasing Department, 138 East Court Street, Room 507	**05/26/2026 11:00 AM**
Small Business Participation Requirement: **Minority-Owned Business Participation Requirement:** **Women-Owned Business Participation Requirement:**	**20%** **16.5%** **4.2%**
This is a Prevailing Wage Project, the Budget is:	**$12,866,309**

Sealed proposals will be received at the Hamilton County Purchasing Department, Room 507, 138 East Court Street, Cincinnati, Ohio 45202, until 11:00 AM on the date listed above and will be read at that time. **Bid opening will be held in Conference Room**. Proposal forms, specifications, etc. may be obtained upon application at ARC (American Reprographics Co) Office, 4219 Malsbary Road, Blue Ash, OH 45242, Phone: 513-326-2300, or they may be electronically retrieved by accessing the following web site: **http://www.hamilton-co.org/purchasing/.**

THE BID BOND FOR THIS PREVAILING WAGE PROJECT IS:

A surety in the form of a cashier's check drawn on a solvent financial institution, and made payable to the BOARD OF COUNTY COMMISSIONERS, in the amount of 10% (Ten Percent) of the total amount of the bid including any alternates, or a bond in the amount of 100% (One Hundred Percent) of the total amount of the bid including any alternates must accompany each proposal as a guarantee that if the proposal is accepted, a contract will be entered into. The surety must be submitted with the bid.

Use the bid guaranty and contract bond in accordance with ORC 153.571 as specified.

Failure to submit the bid bond with the bid will result in disqualification of the bid.

THE PERFORMANCE BOND FOR THIS PREVAILING WAGE PROJECT IS:

The successful Bidder will be required to furnish a corporate surety bond, made payable to the Board of County Commissioners, Hamilton County, for one hundred percent (100%) of the total amount of the contract price as a guarantee for the faithful performance thereof.

The submitted bond must be issued by a company licensed to conduct business in the State of Ohio.

DEPARTMENT INFORMATION

Department Name:	Hamilton County, Phil Beck
Street Address:	138 E. Court Street, Room 607
City:	Cincinnati
State:	Ohio
Zip Code:	45202

In its efforts to promote participation of all businesses in Hamilton County projects, it is the policy of the Hamilton County Board of Commissioners that Hamilton County is an equal business opportunity governmental entity, and has always provided and will continue to provide, equal business opportunities in accordance with this policy.

REGISTRATION FORM
PLEASE READ AND ACKNOWLEDGE RECEIPT OF THIS DOCUMENT

ITB#:037-26 –Paycor Stadium South Vertical Transportation – Architecture and MEP BP#3– GR

All inquiries regarding this ITB are to be e-mailed or mailed to:
Gina Richmond
138 E. Court Street, Room 507
Cincinnati, Ohio 45202
Email: Purchasing@hamiltoncountyohio.gov

The County will not entertain any oral questions regarding this ITB/RFP. Other than specified above, no bidder may contact any county official, employee, project team member or evaluation team member. Bidders are not to schedule appointments or have contact with any of the individuals connected to or having decision-making authority regarding the award of this ITB/RFP. **Inappropriate contact including attempts to influence the ITB/RFP process, evaluation process or the award process by bidders or by others on their behalf will result in bid/proposal rejection.**

The only appropriate contact is with the Purchasing Department as listed above.

Have you been banned from doing business with the State of Ohio? _____

Is your company a Small/Minority/Women Owned Business? _____
If yes, please specify any certifications:

Please e-mail this page to the Purchasing Department as soon as possible.

By e-mailing this page to the Purchasing Department, you will be registering your company's interest in this ITB/RFP, attendance at pre-bid conference, and it will ensure you will receive all addenda or correspondence. Your signature is an acknowledgement that you have read and understand the information contained on this page. Hamilton County will not be responsible for the timeliness of the delivery via U.S. Mail

DATE:	
COMPANY NAME:	
ADDRESS:	
CITY, STATE & ZIP CODE:	
SALES REPRESENTATIVE'S NAME:	
TELEPHONE NUMBER:	
EMAIL ADDRESS:	
NUMBER OF PEOPLE ATTENDING PREBID (IF APPLICABLE):	
SIGNATURE:	

GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. The Board of County Commissioners reserves the right to reject any or all bids and, unless otherwise specified by the bidder, to accept any item in the bid. In case of error in extending the total amount of the bid, the unit price will govern.

2. Hamilton County, Ohio (the "County") is an equal business opportunity governmental entity and recognizes that minority, women and small businesses contribute to employment and economic growth in our region. County encourages the participation of such businesses on County projects.

3. ***(If applicable)*** The overall annual goals for Minority-owned businesses is 16%, Women-owned businesses is 13% and Small Business is 20% (all as defined in the Hamilton County Minority, Women, and Small Business Enterprise Program packet, attached hereto and incorporated herein by reference ("MBE, WBE, SBE Program"). However, contract-specific goals will vary depending on the individual contract specifications as further detailed in the MBE, WBE, SBE Program. Bidder shall comply with all terms and conditions specified in the MBE, WBE, SBE Program, and the terms and conditions of such MBE, WBE, SBE Program will be incorporated into any resultant contract.

4. The County will make the final payment when the materials, supplies, equipment, or the work performed has been fully delivered or completed to the full satisfaction of the Board of County Commissioners.

5. In case of default by the bidder or contractor, the Board of County Commissioners may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess costs occasioned thereby.

6. Prices must be stated in units or quantities specified.

7. Whenever a reference is made in the specifications or in describing the materials, supplies, or services required, of a particular trade name or manufacturer's catalog or model number, the bidder, if awarded the contract, will be required to furnish the particular item referred to in strict accordance with the specifications and descriptions **UNLESS** a departure or substitution is clearly noted and described in the proposal by the bidder and accepted by the county.

8. The bidder, if awarded a contract or order, agrees to protect, defend, and hold harmless the Board of County Commissioners against any demand for payment for the use of any patented material, process, article, or device that may enter into the manufacture, construction, or from a part of the work covered by either order or contract. He/she further agrees to indemnify and hold harmless the Board of County Commissioners from suits or actions of every nature and description brought against it for or on account of any injuries or damages received or sustained by any party or parties by or from any acts of the contractor, his/her servants or agents. To this extent,

the bidder or contractor agrees to furnish adequate Public Liability and Property Damage Insurance, the amount of which will be determined by the Board of County Commissioners wherever such insurance, in the opinion of the Board, is deemed necessary.

9. It is agreed that the bid shall be irrevocable for a period of sixty days (60) after it is opened by the Purchasing Department, and if accepted, the bidder will, within five days (5) after receiving notice of acceptance of said bid, enter into a contract in writing for the said material, supplies, or services required, with a surety to the satisfaction of the Board of County Commissioners, faithfully to perform said contract according to its terms and according to said specifications, and that bidder will promptly pay all damages and expenses occurring to said Board of County Commissioners by reason of the failure or refusal of the bidder to enter into said contract. Use the bid guaranty and contract bond in accordance with ORC 153.571 as specified.

   The Board of County Commissioners will treat all bidders alike in every respect, and they will take final action on this and all other bids no later than sixty days (60) after this and all other bids are opened aforesaid.

   No bid shall be considered as accepted, nor any obligation assumed hereunder by the Board of County Commissioners, until such time as said Board of County Commissioners may deposit in the U.S. Mail written notice, addressed to the successful bidder or bidders at the address give on the bid of acceptance of the bid or award of a contract.

10. Samples, when requested, are returned at the bidder's expense.

11. Proposals, to receive consideration, MUST BE RECEIVED prior to the specified time of opening and reading as designated in the invitation.

12. Bidders are required to use the proposal form furnished by the Purchasing Department when submitting their proposals. Envelopes must be sealed when submitted and the ITB # prominently written/displayed on the outside of the envelope/packages.

13. Proposals having erasures or corrections thereon will be rejected unless explained or noted over the signature of the bidder.

14. Bidders may submit proposals on any one or group of items provided, however, the unit price is shown as requested.

15. References in the specifications or in describing the materials, supplies, or services required, of a particular trade name, manufacturer's catalog or model number, are made for descriptive purposes to guide in interpreting the type of materials, supplies, or of performing the work in a manner other than specified. However, the bidder's attention is called to Item 7 as previously stated, which condition must be strictly adhered to.

16. Concealed weapons, whether with or without a permit, are not allowed in any Hamilton County Building. ORC states that "Unless otherwise authorized by law, pursuant to the Ohio Revised Code, no person shall knowingly possess, have under the person's control, convey, or attempt to convey a deadly weapon or dangerous ordnance onto these premises."

17. The bid tabulation that is entered in the system is a preliminary summary of the bids as they were opened and announced at the bid opening. Bid prices have not been verified and are subject too change in the event mathematical errors are discovered during bid review. Other information contained in this summary is also subject to review. The awarded bid tabulation will be the final version of the bid results.

TAXES

OHIO SALES TAX:	Not applicable to County purchases.
FEDERAL EXCISE TAX:	Not applicable to purchases for essential government functions.

PROPOSAL OR BID

In compliance with the foregoing invitations for bids, and subject to all conditions set forth, the undersigned offers and agrees, after having carefully examined the specifications, if this bid is accepted within a reasonable time from the date of the opening, to furnish any or all of the items upon which prices are quoted, in accordance with the specifications applying, at the price set opposite each item.

The Legal Advertisement, General Conditions, Special Conditions, Instructions to Bidders, and Specifications and Plans become a part of this proposal.

TAXES: Ohio Sales Taxes are not applicable to Hamilton County purchases.

TAX ID #:_____

PRINT NAME: _____

SIGNATURE: _____

TITLE: _____

NAME OF COMPANY: _____

NOTE: Your attention is called to the fact that a bond or certified check must accompany this proposal if so specified in the "INVITATION".

HAVE YOU PROPERLY SIGNED YOUR BID AND BOND?

_____

DATED

_____

ADDRESS

_____

_____

PHONE NUMBER

1. BIDDING DOCUMENTS

April 27, 2026

Legal Advertisement Dept.
Cincinnati Court Index Press

Please insert the following "INVITATION TO BID" in the **Court Index Press** on **May 5, 2026.**

Sealed proposals will be received at the Hamilton County Purchasing Department, 138 East Court St., (Room 507) Cincinnati, OH 45202, until 11:00AM on **May 26, 2026,** and will be read at that time for **ITB# 037-26 – Hamilton County Paycor South Vertical Transportation – Architectural and MEP.**

A Pre-Bid Conference will be held on May 13, 2026, at 10:00 a.m., at Paycor Stadium (meet at: Security Office), 2 Paycor Stadium, Cincinnati, Ohio 45202.

This is a prevailing wage project, and the estimated budget is **$12,866,309**. Proposal forms, specifications, etc. may be obtained upon application at the ARC, 4219 Malsbury Road, Cincinnati, Ohio 45242 or they may be electronically retrieved by accessing the following web site – http://www.hamilton-co.org/purchasing/.

After publication, please send affidavit and invoice to the Hamilton County Purchasing Department at the above address.

Sincerely yours,

Jill Williams

Jill Williams
Purchasing Director

Document 001000.2

Instructions to Bidders

Part 1 General

1.1 SUMMARY

A. AIA Document A701, Instructions to Bidders, 1997 Edition, Articles 1 through 9, as amended and modified is a part of the Bidding Documents. A copy of this document is attached.

AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

Hamilton County Paycor Stadium
South Vertical Transportation Towers
ITB # 037-26
BP#3 - Architectural and MEP
1 Paycor Stadium
Cincinnati, Ohio 45202

THE OWNER:
(Name, legal status, address, and other information)

Board of County Commissioners,
Hamilton County, Ohio
603 County Administration Building
138 East Court Street
Cincinnati, Ohio 45202

THE ARCHITECT:
(Name, legal status, address, and other information)

KZF Design, Inc.
700 Broadway
Cincinnati, Ohio 45202

THE CONSTRUCTION MANAGER:
(Name, legal status, address, and other information)

Messer Construction Co.
643 West Court Street
Cincinnati, Ohio 45203

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

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ARTICLE 1 DEFINITIONS

§ 1.1 "Bidding Documents" include the Bidding Requirements and the Contract Documents. The Bidding Requirements consist of the Advertisement to Bid or Invitation to Bid, Instructions to Bidders, as amended, the Bid form, the Minority, Women and Small Business Program and any other sample bidding and contract forms. The "Contract Documents" consist of the form of Agreement between the Owner and Contractor, as amended, and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 1 of the Agreement.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction and in other Contract Documents apply to the Bidding Documents.

§ 1.3 An "Addendum" or "Addenda" are written or graphic instruments issued by the Architect or Construction Manager prior to the execution of the Agreement, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A "Bid" is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents. The word "Proposal" is used interchangeably with the word "Bid."

§ 1.5 The "Base Bid" is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An "Alternate Bid" (or "Alternate") is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A "Unit Price" is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A "Bidder" is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A "Median Bid" shall be interpreted as the Bid where an equal number of all other Bids are higher and lower than said Bid. In the event of an even number of Bids, the Median Bid shall be the average of the two (2) Bids where an equal number of all other Bids are higher and lower than the two (2) said Bids.

ARTICLE 2 BIDDER'S WARRANTIES AND REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder warrants and represents that:

- **.1** the Bidder has read and understands the Bidding Documents;
- **.2** the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- **.3** the Bid complies with the Bidding Documents;
- **.4** the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Bidding Documents;
  - **.1** A pre-bid meeting will be held as noted in the Advertisement to Bid. All Bidders are strongly encouraged to attend the pre-bid meeting, but attendance is not a mandatory prerequisite to bidding. However, all Bidders are required to visit the Site prior to the Bid date to thoroughly familiarize themselves with existing conditions affecting the Work.
  - **.2** The Bidder awarded the Contract will not be given extra payments for conditions that could have been determined by examining the site and Bidding Documents and/or attending the pre-bid meeting.
- **.5** the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception;
- **.6** the Bid does not include any fees or expenses for Bidder's or Bidder's subcontractors' General Liability and Excess Liability insurance for on-site exposures on the Project;
- **.7** except as otherwise set forth in **§ 4.4,** the Bid is irrevocable for the period of sixty (60) days after conclusion of the bid opening procedures; and

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.8 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the Bidding Documents.

§ 2.2 Bid Preparation Costs

§ 2.2.1 Any and all cost associated with the preparation and submittal of the Bid shall be the sole responsibility of the Bidder. The Bidder must certify that the Bid and pricing will remain in effect for the duration specified. All materials submitted in response to the Invitation to Bid will become the property of Owner and may be returned only at Owner's option and at Bidder's expense.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidder must refer to the Advertisement to Bid for procedures to acquire Bidding Documents.

§ 3.1.2 Bidding Documents will be issued to anyone registering their interest in the process.

§ 3.1.3 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner, the Construction Manager nor the Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.4 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study and compare the various Bidding Documents, shall compare the Bidding Documents with other work being bid concurrently or presently under construction to the extent it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall immediately notify the Architect or Construction Manager of errors, omissions, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to **§ 3.2.2**.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect and Construction Manager through the Hamilton County, Ohio Purchasing Department on or before the deadline set forth in the Invitation to Bid.

§ 3.2.2.1 Bidders shall submit all requests for clarification and interpretation of the Bidding Documents via email to: purchasing@hamiltoncountyohio.gov. Bidders must include the Project Name and ITB number on its written request. Owner shall not entertain any oral communications regarding the Invitation to Bid or the Work, except as provided herein. No Bidder may contact any Owner representative, including County officials, employees, project team members, and evaluation team members, and no Bidder may schedule appointments or have contact with any of the individuals connected to or having decision-making authority regarding the award of the Contract, unless specifically authorized herein. Any inappropriate contact, including attempts to influence the Bidding process or Owner's consideration and evaluation of Bids, will result in rejection of the Bid.

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution. Bidder represents that the Bid amount set forth on its Bid form is based on the specified standards set forth in the Bidding Documents, including those set forth by Addenda.

§ 3.3.1.1 If certain brands of materials, products or equipment are specified as the basis of design, each Bid must be based on these brands or equivalent materials, products or equipment. The burden is on the Bidder to demonstrate to the satisfaction of the Architect that the materials, products or equipment is equivalent to the specifications.

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§ 3.3.1.2 Any substitution for a specified brand must be submitted to the Architect in accordance with **§ 3.3.2**

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect on or before the deadline set forth in the Invitation to Bid. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in **§ 3.2.2**.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary or appropriate for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.2.4 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.2.5 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.2.5.1 Alternatively, if the Bidder wishes to propose substitutions which have not been considered prior to submission of Bids, Bidder may list said substitution(s) on the Substitution Request Form included as a part of the Bidding Documents. The Substitution Request Form shall be submitted with a Bidder's Bid Form. Bidder shall clearly define the proposed substitution and indicate the difference in cost, if any, from its Base Bid indicated on the Bid Form. If no substitutions are proposed, Bidder shall state such on the Substitution Request Form. Proposed substitutions shall not be considered in the determination of the lowest and best Bid. The Architect's approval or disapproval of a proposed substitution shall be final. The Owner shall accept or reject the proposed substitution prior to execution of the Contract.

§ 3.3.2.6 No substitutions will be considered after the Contract award unless specifically provided for in the Bidding Documents.

§ 3.4 Addenda

§ 3.4.1 Any explanation, interpretation, correction or modification of the Bidding Documents will be issued in writing, in the form of an Addendum, which shall be the only means considered binding. All Addenda will become a part of the Bidding Documents. Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

§ 3.4.1.1 The Owner shall transmit all Addenda to all registered Bidders via email. Bidders shall make certain it has provided Owner with its current email address. Additionally, all Addenda will be uploaded to ARC Document Solutions and the Owner's bid system.

§ 3.4.2 Addenda will be available where Bidding Documents are maintained for inspection purposes.

§ 3.4.3 If within seventy-two (72) hours prior to the published time for the opening of Bids, excluding Saturdays, Sundays, and legal holidays, the Owner seeks to issue an Addenda and mail or otherwise furnish to persons who have obtained the Bidding Documents any modification of the plans or specifications and estimated cost for the Project, the time for opening of Bids shall be extended one week, with no further advertising of Bids required.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

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ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the Bid form shall be legibly executed. Paper Bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the Bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits, interlineations or alterations to entries made on paper Bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the Bid form. Failure to bid an Alternate shall be cause of rejection of entire Bid only if said Alternate is accepted by Owner.

§ 4.1.6 Bidders may bid on more than one Bid item. Bidders submitting Bids on several Bid items must submit each separate Bid item in a separate sealed envelope in order to expedite the Bid opening and recording process.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Guaranty

§ 4.2.1 Each Bid shall be accompanied by the Bid Guaranty in the form and amount required in **Article 7** herein.

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall furnish bonds guaranteeing the Bidder's faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the Bid Guaranty shall be forfeited to the Owner as liquidated damages, not as a penalty.

§ 4.2.3 The Owner will have the right to retain the Bid Guaranty of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit one (1) original paper copy of its Bid by mail or hand-delivered to the Hamilton County Purchasing Department, Room 507, County Administration Building, 138 East Court Street, Cincinnati, Ohio 45202. **The following documents, completed and signed as required, shall be submitted with the Bid:**

- **§.1** Bid Form**;**
- **§.2** As required by **Article 7**, the Bid Guaranty and Contract Bond for the full amount of the Bid (including Alternates) and which meets the requirements of this document and Ohio Revised Code §153.54(B); or a certified check, cashier's check, or an irrevocable letter of credit pursuant to Chapter 1305. of the Ohio Revised Code in the amount equal to ten percent (10%) of the Bid (including Alternates) and which meets the requirements of this document and Ohio Revised Code §153.54(C)(1);
- **§.3** A Certificate of Compliance from the State of Ohio Department of Insurance demonstrating the bonding agent is licensed to do business in the State of Ohio;
- **§.4** For Bid Guaranty and Contract Bond, submit credentials showing proper power of attorney for the attorney-of-fact of the Surety;
- **§.5** Non-Collusion Affidavit of Bidder**;**

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§.6 Bidder's Certification Concerning Equal Employment Opportunity Requirements;
§.7 Warranty Against Unresolved Findings for Recovery;
§.8 Substitution Request Form;
§.9 Personal Property Tax Statement;
§.10 Bidder's MBE/WBE/SBE Goal Compliance Plan; and
§.11 Bidder's MBE/WBE/SBE Application for Program Waiver, as applicable.

Bids submitted without all of the above-listed documents, properly completed and signed as required, may be rejected as determined by the Owner, in its sole discretion.

§ 4.3.2 Paper copies of the Bid Form, the Bid Guaranty, and all other Bid documents described in **§ 4.3.1** shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name and Bid Number, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the Invitation to Bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted. . The time clock in the Hamilton County Purchasing Department's office will serve as the official timepiece of the date and time that sealed Bids are received; and will be the sole factor in determining if Bids are received in a timely manner in order to be considered.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this **Section § 4.3** will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in **Section § 4.3**, provided they fully conform with these Instructions to Bidders. Bid security for the resubmitted Bid shall meet the requirements of **Article 7**.

§ 4.4.3 Except as otherwise provided in **Section § 4.4.4,** a Bid may not be modified, withdrawn or canceled by the Bidder at any time after the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid

§ 4.4.4 Procedure for Withdrawal of Bid

§ 4.4.4.1 A Bidder may withdraw its Bid from consideration if the price bid was substantially lower than the other Bids, provided the Bid was submitted in good faith, and the reason for the price bid being substantially lower was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, or material made directly in the compilation of the Bid. Notice of a claim of right to withdraw such Bid must be made in writing filed with the Owner within two (2) business days after the conclusion of the Bid opening procedure.

§ 4.4.4.2 No Bid may be withdrawn when the result would be the awarding of the contract on another Bid of the same Bidder.

§ 4.4.4.3 No Bidder who is permitted to withdraw a Bid shall for compensation supply any material or labor to, or perform any subcontract or other work agreement for, the person to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted, without the approval of the Owner. The entity to whom the contract was awarded and the

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withdrawing Bidder are jointly liable to the Owner in an amount equal to any compensation paid to or for the benefit of the withdrawing Bidder without such approval, in addition to the penalty provided in §2913.31 of the Ohio Revised Code.

§ 4.4.4.4 If a Bid is withdrawn under authority of this **Section § 4.4**, the Owner may award the contract to the next lowest and best bidder or reject all Bids and resubmit the project for bidding. In the event the Owner resubmits the project for bidding, the withdrawing Bidder shall pay the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective Bidders, if the Owner finds that such costs would not have been incurred but for such withdrawal.

§ 4.4.4.5 The Owner, if it intends to contest the right of a Bidder to withdraw a Bid, shall hold a hearing thereon within ten (10) days after the opening of such Bids and issue any order allowing or denying the claim of such right within five (5) days after such hearing is concluded. The Owner shall give to the withdrawing Bidder timely and reasonable notice of the time and place of any such hearing. The Owner shall make a stenographic record of all testimony, other evidence, and rulings on the admissibility of evidence presented at the hearing. Such order may be appealed under §119.12 of the Ohio Revised Code. The Bidder shall pay the costs of the hearing.

§ 4.4.4.6 In the event the Owner denies the claim for withdrawal and the Bidder elects to appeal or otherwise refuses to perform, the Owner may reject all Bids or award to the next lowest and best Bidder.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

The Bid for which the award is to be made shall be opened at the time and place named in the Advertisement to Bid or Invitation to Bid, unless extended by the Owner or its representative or unless, within seventy-two (72) hours prior to the published time for the opening of Bids, excluding Saturdays, Sundays, and legal holidays, any modification of the Bidding Documents for the Project for which Bids are solicited is issued and mailed or otherwise furnished to persons who have obtained Bidding Documents for the Project, for which the time for opening of Bids shall be extended one week, with no further advertising of Bids required.

§ 5.2 Rejection of Bids

§ 5.2.1 The Owner shall have the unrestricted right to reject any or all Bids. A Bid not accompanied by the required Bid Guaranty and other substantive information required by the Bidding Documents as determined by the Owner in its sole discretion, shall be rejected. A Bid which includes informalities and irregularities, or is in any way irregular, but which otherwise conforms to the requirements of the Bidding Documents, as determined by the Owner in its sole discretion, may be rejected.

§ 5.2.2 Before evaluating the Bids, the Owner will review the Bid submitted to determine whether it is responsive. A Bid is responsive if it includes a properly completed Bid form and is accompanied by the Bid Guaranty described in **Article 7**. A Bid must be responsive before the Owner will evaluate the Bid in accordance with **§ 5.3.1.** Examples of non-responsiveness, which may result in a Bid not being accepted and reviewed, in the Owner's sole discretion, include (but are not limited to) the following: failure to sign the Bid form, failure to acknowledge an Addendum that addresses the Bid amount, inclusion of exceptions or qualifications on the Bid form or on a separate sheet with the Bid form, failure to sign the Bid Guaranty, failure to use the Bid form included in the Bidding Documents provided to Bidders, failure to include a Bid amount for an Alternate accepted by the Owner, or failure to include a Unit Price or allowance requested on the Bid Form. If a Bid is determined to be non-responsive, it will be returned to the Bidder and will not be considered by the Owner.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest and best Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. The Owner shall have the right to waive any and all informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's sole judgment and discretion, is the lowest and best. In determining the lowest and best Bidder, the following criteria will be considered in addition to the Bid amount:

§ .1 Bidder's past performance on other publicly-funded projects;
§ .2 Bidder's past performance on other Owner projects;

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§ .3 Bidder demonstrates it has adequate equipment and facilities to perform the Work properly and expeditiously;
§ .4 Bidder has suitable financial resources to meet its obligations incident to the Work;
§ .5 Bidder has appropriate technical experience in projects of similar scope and conditions;
§ .6 Bidder's prior history for the successful and timely completion of projects, including Bidder's history of filing and having claims filed against it;
§ .7 Bidder's satisfactory compliance with all terms and conditions specified in the Hamilton County Minority, Women, and Small Business Enterprise Program packet which is included as part of the Bidding Requirements;
§ .8 Bidder's satisfactory compliance with the requirements set forth in the Responsible Bidder Requirements;
§ .9 Bidder demonstrates the ability to complete the Work in a timely, proper and expeditious manner; and
§ .10 Bidder's attendance at the pre-bid meeting.

§ 5.3.2 Unless Owner rejects all Bids, a Contract will be awarded as soon a practicable after the opening of Bids.

§ 5.3.3 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest and best Bidder on the basis of the sum of the Base Bid and Alternates accepted.

§ 5.3.4 No Contract will be awarded if the low Bidder for that Contract is more than 15% below the Median Bid unless the following procedure is followed:

§ .1 Architect and Construction Manager will hold an interview with the Bidder to determine what, if anything, has been overlooked in the Bid in question, and to analyze the process envisioned by the Bidder to complete the Contract.
§ .2 The financial status of the Bidder and its Surety shall be examined, based upon financial statements submitted by each to the Architect.
§ .3 Written confirmation by the Surety shall be submitted to the Construction Manager that it has reviewed the Bid in question and finds it to be in compliance with Bidding Documents.
§ .4 Bidder may be required to furnish satisfactory evidence of their experience and ability to execute work of like character, scope and size to that of the Work.
§ .5 The record of the Bidder in performing other publicly funded projects in the past will be considered.
§ .6 If after review and consideration, the acceptance of the lowest Bid is not in the best interest of the Owner, the Owner may reject the lowest Bid and accept another Bid so opened or reject all Bids and advertise for other Bids.

§ 5.3.5 No Bid nor any obligation hereunder to be assumed by the Owner, shall be considered accepted until such time as Owner, or Owner's representative, deposits in the U.S. Mail, or hands to Bidder personally, written notice of acceptance of Bid, addressed to Bidder at the address given on the Bid form.

§ 5.3.6 By submitting its Bid, the Bidder acknowledges and agrees that the Owner's determination of responsiveness and lowest and best is final and conclusive, and that if the Bidder, or any person at the Bidder's urging, directly or indirectly challenges such determination in any legal proceeding and such challenge is not successful, the Bidder shall reimburse the Owner for all legal fees and expenses incurred by Owner that are related to such challenge, including the cost of collection.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect and Construction Manager, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Post-Bid/Pre-Award Meeting

Bidder shall be required to attend a post-bid, pre-award meeting with the Architect and Construction Manager and shall submit to the Architect and Construction Manager any and all documentation requested by the Architect or Construction Manager.

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§ 6.3 Submittals

§ 6.3.1 The Bidder will be required to establish to the satisfaction of the Architect, Construction Manager and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.2 Prior to the execution of the Contract, the Architect or Construction Manager will notify the Bidder if the Owner, Construction Manager or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner, Construction Manager or Architect has reasonable objection to a proposed person or entity, the Bidder must submit an acceptable substitute person or entity.

§ 6.3.3 Persons and entities proposed by the Bidder and to whom the Owner, Construction Manager and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner, Construction Manager and Architect.

ARTICLE 7 BID GUARANTY AND PERFORMANCE BOND REQUIREMENTS

§ 7.1 Bid Guaranty Requirements

§ 7.1.1 Each Bidder shall submit, **with its Bid**, a Bid Guaranty, made payable to the "Board of County Commissioners, Hamilton County, Ohio and Messer Construction Co." as Obligees in the form of either (a late Bid Guaranty will not be accepted):

§ 7.1.1.1 A Bid Guaranty and Contract Bond for the full amount of the Bid (including Alternates) and which meets the requirements of Ohio Revised Code §153.54(B) and §153.571 (a copy of a Bid Guaranty and Contract Bond is included within the Bidding Documents); or

§ 7.1.1.2 A certified check, cashier's check, or an irrevocable letter of credit pursuant to Chapter 1305 of the Ohio Revised Code in the amount equal to ten percent (10%) of the Bid (including Alternates) and which meets the requirements of Ohio Revised Code §153.54(C)(1).

§ 7.2 Bid Guaranty and Contract Bond

§ 7.2.1 The Bid Guaranty and Contract Bond shall be substantially in the form set forth in Ohio Revised Code §153.571 and shall serve as an assurance that upon acceptance of the Bid, the Bidder shall comply with all conditions precedent for Contract execution, within the time specified by the Owner. **No other form of Bid Guaranty bond is acceptable to the Owner for use as a Bid Guaranty and Contract Bond. Should Bidder submit with its Bid a Bid Guaranty bond which is not in substantial conformance with Ohio Revised Code §153.54(B) and §153.571, its Bid shall be rejected.**

§ 7.2.2 If the blank line for the penal sum on the Bid Guaranty and Contract Bond is left blank, the penal sum shall be the full amount of the Base Bid plus all additive Alternates. If the blank line for the penal sum is filled in, the amount shall not be less than the full amount of the Base Bid plus all additive Alternates, stated in dollar and cents. **A percentage is not acceptable**. In the event the blank line for the penal is filled in for an amount less than the full amount of the Base Bid plus all additive Alternates or as a percentage amount, the Bid shall be rejected.

§ 7.2.3 The Bid Guaranty and Contract Bond shall be issued by a surety company authorized to do business as a surety in the State of Ohio**.** If the Bidder submits a Bid Guaranty and Contract Bond executed by a surety not licensed, or a surplus lines company not approved, by the Ohio superintendent of insurance to execute such a bond in Ohio, the Bid shall be deemed nonresponsive and shall be rejected.

§ 7.2.4 An authorized agent must sign the Bid Guaranty and Contract Bond and the Bidder shall provide a certified and current copy of the Power of Attorney from the surety**.**

§ 7.2.5 The Bid Guaranty and Contract Bond shall affirmatively state on its face that the surety is authorized to execute bonds in the State of Ohio and that the liability incurred is within the limits of Ohio Revised Code §3929.02**.**

§ 7.2.6 For successful Bidders who have submitted the Bid Guaranty and Contract Bond as Bid Guaranty, the Performance Bond is the Bid Guaranty and Contract Bond and no other form of Performance Bond is required.

§ 7.2.7 The cost of the Bid Guaranty and Contract Bond shall be included in the Bid.

§ 7.3 Certified Check, Cashier's Check, or Irrevocable Letter of Credit/Performance Bond

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§ 7.3.1 A Bid Guaranty filed in the form of a certified check, cashier's check, or an irrevocable letter of credit shall be conditioned to provide that if the Bid is accepted, the Bidder, after the awarding or the recommendation for the award of the Contract, whichever the Owner designates, will enter into a proper Contract in accordance with the Bidding Documents. If for any reason, other than as authorized by §9.31 of the Ohio Revised Code or division (G) of §153.54 of the Ohio Revised Code, the Bidder fails to enter into the Contract, and the Owner awards the Contract to the next lowest and best bidder, the Bidder is liable to the Owner for the difference between the Bidder's Bid and that of the next lowest and best bidder, or for a penal sum not to exceed ten per cent of the amount of the Bid, whichever is less. If the Owner does not award the Contract to the next lowest and best bidder but resubmits the Project for bidding, the Bidder failing to enter into the Contract, except as provided in division (G) of §153.54 of the Ohio Revised Code, is liable to the Owner for a penal sum not to exceed ten per cent of the amount of the Bid or the costs in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less.

§ 7.3.2 For Bidders who have submitted a certified check, cashier's check, or an irrevocable letter of credit as Bid Guaranty, the successful Bidder shall, at the time the Contract is entered into, file with the Owner a Performance Bond, for the full amount of the Contract. The Performance Bond shall be substantially in the form set forth in Ohio Revised Code §153.57 and shall meet all requirements set forth in **§§ 7.2.3, 7.2.4**, and **7.2.5**, herein.

§ 7.3.3 The cost of the Bid Guaranty filed in the form of a certified check, cashier's check, or an irrevocable letter of credit and any Performance Bond shall be included in the Bid.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

The successful Bidder shall promptly enter into an Agreement for the Work. The Agreement for the Work will be written on AIA Document A132-2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, as modified by Owner and included in the Project Manual.

ARTICLE 9 ADDITIONAL REQUIREMENTS

All Bidders are advised the Owner has an Owner-Controlled Insurance Program ("OCIP") for the Project. Contractor must review and carry the coverages set forth in Article 11 of the AIA A232-2019 and the OCIP Manual included within the Project Manual until enrolled in the OCIP, then comply with the OCIP insurance manual plus any "outside OCIP" coverages (commonly: auto, WC if not wrapped, professional/E&O, cyber, off-site equipment, and sometimes completed ops depending on the OCIP terms). In recognition of the OCIP providing General Liability and Excess Liability insurance, as more fully described in the OCIP Manual contained in the Project Manual for the Project and a part of the Bidding Documents, the Contractor shall not include in its Bid any fees or expenses for Bidder's or Bidder's subcontractors General Liability and Excess Liability insurance for on-site exposures on the Project.

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DOCUMENT 001000.3
ADDITIONAL BID CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

A. The contracting practices used for this project shall conform to the Hamilton County for MBE/WBE/SBE Program for the Paycor Stadium Project.

B. The following documents contain additional bid conditions and are supplemental to and an integral part of the “Instructions to Bidders”:

1. Special Provision – Hamilton County for MBE/WBE/SBE (Minority Business Enterprise/Women Business/Small Business Enterprise) Program
   (Hamilton County is still utilizing the terms set forth in the Project Manual and the Bid Documents).
2. Special Provision – Responsible Bidder Requirements Applicable to Public Contracts
3. ALL MBE/WBE/SBE Forms,are to be submitted with bid.

4. The Contractor’s Non-discrimination Policy also must be submitted with bid.

PART 3

END

BID FORM

ACKNOWLEDGMENT OF BIDDER:

Submitted by: _____
(enter company name here)

TO: The Board of County Commissioners, Hamilton County, Ohio
Hamilton County Purchasing Department
138 East Court Street, Room 507
Cincinnati, Ohio 45202

We, the undersigned, having visited the site, carefully studied the local conditions affecting the cost of the work, and having thoroughly examined the Bidding Documents, consisting of the Instructions to Bidders, this Proposal Form, Bonding Requirements, Minority, Women, and Small Business Enterprise Program, Contract Form, General Conditions, Technical Specifications, Drawings, and Addenda for the Project titled:

Paycor Stadium Southeast/Southwest Escalator Towers
Architecture and MEP Package
ITB#037-26
TC-05 General Trades, TC-06 Electric, TC-07 Plumbing
and
TC-08 Fire Suppression

prepared by KZF, 700 Broadway, Cincinnati, Ohio 45202, for the Board of County Commissioners, Hamilton County, Ohio, do hereby propose to perform all work required to be performed, and to provide and furnish equipment, transportation services, and temporary installations necessary to perform and complete, in a workmanlike manner, such items of work hereinafter designated by and for the sum of money set forth for said items.

ACKNOWLEDGMENT OF ADDENDA:

The undersigned acknowledges receipt of the following Addenda to the Contract documents (indicate Addendum Number and Issue Date):

Addendum No._____ Date:_____ Page(s): _____

Addendum No. _____ Date: _____ Page(s): _____

Addendum No. _____ Date: _____ Page(s): _____

Addendum No. _____ Date: _____ Page(s): _____

Addendum No. _____ Date: _____ Page(s): _____

A. BIDDER AGREEMENTS:

The undersigned Bidder Agrees:

1. To accept the provisions of these Instruction to Bidders, Supplementary Instructions to Bidders, General Conditions, and Division 1 of the Specifications.
2. To provide and include a Bid Guaranty and Contract Bond as dictated in the Legal Advertisement.
3. To accept the provisions and provide all required documents contained within the Minority, Women, and Small Business Enterprise Program.
4. That the amounts stated in this Proposal Form represents the entire cost of the work. The completion time stated represents the entire time for performance of the work. The amount bid includes allowances for all fees for permits, taxes and insurance required or applicable to the work. That no claims will be made for any increases in wage scales or material costs.
5. To certify that this bid is genuine not sham or collusive or made in the interest or in behalf of any person not herein named, and that the undersigned has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other person, firm or corporation to refrain from bidding and that the undersigned bidder has not in any manner sought by collusion to secure for himself and advantage over any other bidder.
6. And certifies that (we) (he) (they) (has) (have not) previously performed work subject to the President's Executive Order No. 11246.
7. That this bidder will comply with all City, State, and Federal Statutes relating to Liability Insurance, Working Hours, Minimum Wages, Safety and Sanitary Regulations, which in any way may affect those engaged or employed on the work in the event that the award of the Contract is made on the Proposal herein submitted.
8. That the bidder will comply with any new laws or acts regulating public buying procedures.
9. Refer to additional instructions for bidder registration process (See Registration Form within the Legal Advertisement Packet).

BID FORM STIPULATIONS:

1. The wording of this proposal shall be used throughout, without damage, alteration or addition. Any change in wording may cause it to be rejected.
2. Include all required forms.
3. Bid amounts shall be provided in both words and figures. The worded amount shall govern in the case of discrepancies or in cases of error in extending the total amount of the bid, the unit price may govern.
4. In the event that qualified bidders submit equal bids (to the penny) and are deemed the lowest and best bidders for that trade’s bid, those bidders agree to let the County award the contract to the bidder selected by the current "tied bid" procedures used by the Hamilton County Purchasing Department.
5. A Base Bid must be submitted prior to bidding Alternates Bid unless noted otherwise in the Bid Form.

6. The Board of County Commissioners reserves the right to reject any or all bids and, unless otherwise specified by the bidder, to accept any item in the bid.

C. ALLOWANCES:

The County may after the bids are opened add an allowance to the contract at its own discretion. This allowance shall be added to the contract and so denoted in the contract in section 4.3. Any allowances added by the County shall be for incidentals associated with this project. If unused, during the project all allowance monies shall be returned to the County at the end of the project or at the County's request.

A. General:

1. Work related to cash allowances will be performed on a time and material basis. The Contractor shall furnish and certify daily detail records of all labor and materials provided.

2. If the cost to complete the work is less than the cash allowance, a deduct Change Order will be prepared by the County for the cost difference.

B. Cash Allowance Items:
   1. Trade Contract TC-05 General Trades No.1: $
   2. Trade Contract TC-06 Electric No.2: $
   3. Trade Contract TC-07 Plumbing No.3: $
   4. Trade Contract TC-08 Fire Suppression No.4: $

D. AWARDING:

The selection process includes but is not limited to:

1. The rules and laws set forth in the Ohio Revised Code for Public Bids.
2. The bidder submitting the Lowest and Best Bid per Ohio Revised Code.
3. The lowest accepted Base Bid and "Accepted" Alternate combination.
4. The bidder best meeting all required specifications.
5. Review of the required forms submitted by the Bidder at the time of the Bid Opening in compliance with the Minority, Women, and Small Business Program.
6. Substitutions not approved prior to the bid opening cannot be used in the determination of the Lowest and Best Bid Determination.
7. Substitutions will not be used in determining Lowest and Best Bids.
8. If Hamilton County and the bidder are unable to successfully come to terms regarding the bid and subsequent contract, Hamilton County reserves the right to terminate contract discussions with the bidder(s) and select the next apparent low bidder.

Hamilton County reserves the right to:

1. Reject any or all bids.
2. Waive any informality in the bids.
3. Eliminate conditions or terms that are not in the best interest of Hamilton County and its residents.

E. ADDITIONAL BID REQUIREMENTS:

Bidder shall review the Legal Advertisement for project timeline, pre-bid meeting information, bidding registrations, and addendum notifications.

Bidder shall review the Summary of Work for work hours, length of project, permitting requirements, contractor and sub assignments, and prime contract arrangements (single vs multiple contracts).

Bidder shall assume that No Asbestos removal or remediation is required on this project. Any contractor suspecting asbestos shall stop work immediately and report suspicious areas to the Owner. The owner shall be responsible for removing any asbestos discovered or targeted for removal in this project.

F. BID PROPOSALS:

Bidder's Name: _____

Each bidder is required to fill out all entries in the proposal section. Enter "NO BID" where no bid will be entered for this proposal.

BASE BID TC-05 General Trades

(Includes $ Cash Allowance)

TOTAL COST (LUMP SUM): _____ *(in numbers)*

_____ *(in words)*

the worded amount shall govern

For reference only provide a breakdown of the total prices listed in the Base Bid. This breakdown is solely a reference tool to be used by the County and shall not enter into the determination of the winning bidder for this project. The summation of the lines below should equal your total price listed above.

General Contractor Material: $_____*(in numbers)*

General Contractor Labor: $_____*(in numbers)*

Mechanical Material: $_____*(in numbers)*

Mechanical Labor: $_____*(in numbers)*

Electrical Material: $_____*(in numbers)*

Electrical Labor: $_____*(in numbers)*

Project Management: $_____*(in numbers)*

Allowance: $_____*(in numbers)*

The summation of these lines should equal the Total Cost above.

BASE BID TC-06 Electric

(Includes $ Cash Allowance)

TOTAL COST (LUMP SUM): _____ *(in numbers)*

_____ *(in words)*

the worded amount shall govern

For reference only provide a breakdown of the total prices listed in the Base Bid. This breakdown is solely a reference tool to be used by the County and shall not enter into the determination of the winning bidder for this project. The summation of the lines below should equal your total price listed above.

General Contractor Material: $_____*(in numbers)*

General Contractor Labor: $_____*(in numbers)*

Mechanical Material: $_____*(in numbers)*

Mechanical Labor: $_____*(in numbers)*

Electrical Material: $_____*(in numbers)*

Electrical Labor: $_____*(in numbers)*

Project Management: $_____*(in numbers)*

Allowance: $_____*(in numbers)*

The summation of these lines should equal the Total Cost above.

BASE BID TC-07 Plumbing

(Includes $ Cash Allowance)

TOTAL COST (LUMP SUM): _____ *(in numbers)*

_____ *(in words)*

the worded amount shall govern

For reference only provide a breakdown of the total prices listed in the Base Bid. This breakdown is solely a reference tool to be used by the County and shall not enter into the determination of the winning bidder for this project. The summation of the lines below should equal your total price listed above.

General Contractor Material: $_____*(in numbers)*

General Contractor Labor: $_____*(in numbers)*

Mechanical Material: $_____*(in numbers)*

Mechanical Labor: $_____*(in numbers)*

Electrical Material: $_____*(in numbers)*

Electrical Labor: $_____*(in numbers)*

Project Management: $_____*(in numbers)*

Allowance: $_____*(in numbers)*

The summation of these lines should equal the Total Cost above.

BASE BID TC-08 Fire Suppression

(Includes $ Cash Allowance)

TOTAL COST (LUMP SUM): _____ *(in numbers)*

_____ *(in words)*

the worded amount shall govern

For reference only provide a breakdown of the total prices listed in the Base Bid. This breakdown is solely a reference tool to be used by the County and shall not enter into the determination of the winning bidder for this project. The summation of the lines below should equal your total price listed above.

General Contractor Material: $_____*(in numbers)*

General Contractor Labor: $_____*(in numbers)*

Mechanical Material: $_____*(in numbers)*

Mechanical Labor: $_____*(in numbers)*

Electrical Material: $_____*(in numbers)*

Electrical Labor: $_____*(in numbers)*

Project Management: $_____*(in numbers)*

Allowance: $_____*(in numbers)*

The summation of these lines should equal the Total Cost above

G. ALTERNATES:

Alternates, if accepted.

H. SUBSTITUTIONS – No substitutions

Bidder's Name: _____

All Prime Contractors hereby acknowledge and accept all responsibilities assigned to them by the General Conditions, Minority, Women, and Small Business Program, and Division One of the Specifications. All fees for supervision and coordination are included in the bids.

Bids submitted by virtue of this Proposal hereby are acknowledged by the Owner to be made under the conditions that the Bidder will not be prevented, on account of strikes or other disruptions affecting source of supply, from obtaining materials necessary to carry out his contract to complete the construction covered thereby.

It is understood and agreed by the undersigned that the Owner reserves the right to reject any and all bids.

It is agreed that this Proposal shall be irrevocable for a period of Sixty (60) days after receipt of same by the Owner at the Day and Place set forth in the "Legal Advertisement".

[ ] We have read and agree to the terms listed above.
(check here)

Firm Name: _____

( ) Corporation ( ) Partnership ( ) Sole Proprietorship *(check one)*

Authorized Offerror *(print name):* _____

Authorized Signature *(sign name):* _____

Title: _____

Official Address: _____

_____

_____

E-mail Address: _____

Telephone Number:

Bid Submission Documents

DOCUMENT 001000.5
BID GUARANTY AND CONTRACT BOND
(SECTION 153.571 OHIO REVISED CODE)

KNOWN ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____
(Name and Address)

as Principal and _____
(Name of Surety)
as Surety, are hereby held and firmly bound unto the Board of County Commissioners of Hamilton County, Ohio ("Primary Obligee") and Messer Construction Company ("Additional Obligee") collectively, the Obligees, in the penal sum of the dollar amount of the bid submitted by the Principal to the Primary Obligee on _____to undertake the project known as:

_____ (the "Project").

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Primary Obligee, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Primary Obligee, which are accepted by the Primary Obligee. In no case shall the penal sum exceed the amount of_____dollars ($ _____). *(If the foregoing blank is not filled in, the penal sum will be the full amount of the Principal's Bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid, including alternates, in dollars and cents. A percentage is not acceptable.)* For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named Principal has submitted a bid on the above-referred Project;

NOW, THEREFORE, if the Primary Obligee accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Primary Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Primary Obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Primary Obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal pays to the Primary Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the Primary Obligee accepts the bid of the Principal and the Principal within ten days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

NOW ALSO, if the said Principal shall well and faithfully perform each and every condition of such contract; and indemnify the Board of County Commissioners of Hamilton County, Ohio, against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefor; and shall pay all lawful claims of subcontractors, materials suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any

materials suppliers or laborer having a just claim, as well as for the Obligees herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans specifications therefore shall in any wise affect the obligations of said Surety on this bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

The Surety shall not be liable to the Primary Obligee, the Additional Obligee, or either of them, unless the Primary Obligee, the Additional Obligee, or either any of them shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract to the Surety) strictly in accordance with the terms of said Contract as to payments and shall perform all other obligations to be performed under said Contract at the time and in the manner therein set forth; and

PROVIDED, FURTHER that the aggregate liability of the Surety under said Bond to any or all of the Obligees, as their interests may appear, is limited to the penal sum of said Bond, and that the Additional Obligee's rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and that the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under said Contract.

SIGNED AND SEALED This _____day of _____, 20____

PRINCIPAL:

_____

BY: _____

TITLE: _____

SURETY:_____

BY: _____
Attorney-in-Fact

Approved _____, 20__
BOARD OF COUNTY COMMISSIONERS
HAMILTON COUNTY, OHIO

_____

_____

_____

SURETY COMPANY ADDRESS:

_____
Street

_____
City State Zip

_____
Telephone

SURETY AGENTS ADDRESS:

_____
Agency Name

_____
Street

_____
City State Zip

_____
Telephone

NOTE: Failure by any party to sign Bid Guaranty and Contract Bond shall result in rejection of Bid.

Bid Submission Documents
Complete & Submit With Bid

DOCUMENT 001000.6
CERTIFICATE OF COMPLIANCE

STATE OF OHIO
DEPARTMENT OF INSURANCE

As **DIRECTOR OF INSURANCE OF THE STATE OF OHIO**, I do hereby certify the _____, a corporation located at _____ in the State of _____, has complied in all respects with the laws of this State applicable to it, and is authorized to transact in this State its appropriate business of insurance as described by Section 3929.01 (A), lines:

( )	1	Fire	( )	18	Aircraft (all perils)
( )	2	Allied Lines	( )	19	Fidelity
( )	3	Farmowners Multiple Peril	( )	20	Surety
( )	4	Homeowners Multiple Peril	( )	21	Glass
( )	5	Commercial Multiple Peril	( )	22	Burglary & Theft
( )	6	Ocean Marine	( )	23	Boiler & Machinery
( )	7	Inland Marine	( )	24	Credit
( )	8	Financial Guaranty	( )	25	Reinsurance Only
( )	9	Medical Malpractice	( )	26	Other (List)
( )	10	Earthquake			
( )	11	Group A & H			_____
( )	12	Credit A & H (Group & Individual)			
( )	13a	Collectively Renewable A & H			_____
( )	13b	Noncancellable A & H			
( )	13c	Guaranteed Renewable A & H			_____
( )	13d	Nonrenewable for Stated Reasons Only			
( )	13e	Other Accident Only			
( )	13f	All Other A & H			
( )	14	Workers' Compensation (to the extent permitted by law)			
( )	15	Other Liability			
( )	16a	Private Passenger Auto No-Fault (personal injury protection to the extent permitted by law)			
( )	16b	Other Private Passenger Auto Liability			
( )	16c	Commercial Auto No-Fault (personal injury protection to the extent permitted by law)			
( )	16d	Other Commercial Auto Liability			
( )	17a	Private Passenger Auto Physical Damage			
( )	17b	Commercial Auto Physical Damage			

FROM: _____, 20_____ UNTIL: _____, 20_____

_____, 20_____

In witness whereof, I have signed my
name and caused my seal to be affixed
at Columbus, Ohio, this day and date

_____
Director of Insurance of Ohio

Bid Submission Documents
Complete & Submit With

DOCUMENT 001000.7

NON-COLLUSION AFFIDAVIT OF CONTRACTOR

THIS AFFIDAVIT MUST BE FILLED OUT AND EXECUTED BY THE BIDDER; IF THE BID IS MADE BY A CORPORATION, THEN BY ITS PROPERLY AUTHORIZED AGENT

State of Ohio, County of Hamilton, ss.

_____

(Name of Bidder or Bidders)

being duly sworn does depose and say that _____ resides

(Bidder's Authorized Representative)

at _____

(Address of Bidder)

and that _____

(Give names of all persons, firms or corporations interested in bid)

is/are the only person(s) interested with _____

(Name of Bidder)

in the profits of the Contract to be predicated on the within bid; that the said Contract will be performed without any connection or interest in the profits thereof with any other person making any bid or proposal for said work; that said bid, is on _____ part, in all

(His/Her/Their)

respects fair, and without collusion or fraud; and also that no member of the Board of County Commissioners, or any other officer or employee of Hamilton County, is directly or indirectly interested therein.

Subscribed and sworn to this _____

day of _____, 20____ before

me _____

(Notary Public)

_____

(Signature of Bidder's Authorized Representative)

_____

(Print Name of Bidder's Authorized Representative)

_____

(Address of Bidder)

Bid Submission Documents
Complete & Submit With Bid

DOCUMENT 001000.8
BIDDER'S CERTIFICATION CONCERNING EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

1. _____ (Name of Bidder) certify that I intend to use the following listed construction trades in the work under the Contract:

_____

_____

_____

2. The bidder hereby certifies that he **has ...., has not ....,** participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive orders 10925, 11114, or 11246, and that he **has ...., has not ....,** filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements. ***The Bidder must circle the appropriate "has or has not" above.***

_____
Authorized Representative of Bidder
Date

On behalf of _____
(Name of Bidder)

Document 001000.9

PERSONAL PROPERTY TAX STATEMENT

In accordance with Section 5719.042 of the Ohio Revised Code, I hereby certify that the company I represent is not delinquent in the payment of personal property taxes to the State of Ohio or any subdivision thereof.

_____

SIGNATURE

_____

PRINT NAME

_____

TITLE

TO BE COMPLETED BY NOTARY PUBLIC

On _____, there appeared before me
DATE

_____**,** saying that he/she is
PRINT NAME

_____ of,
PRINT TITLE

_____,
PRINT NAME OF COMPANY

and that he/she understands all of the implications of the above statement and has signed in good faith.

_____

SIGNATURE OF NOTARY PUBLIC

Bid Submission Documents
Complete & Submit With Bid

DOCUMENT 001000.10

SUBCONTRACTOR AND MATERIAL SUPPLIER LIST

Bidder must list below all subcontractors and material suppliers used in compilation of bid. Branches shall be listed in the order appearing in the Project Manual index except as otherwise indicated. Contractor shall list its name for those branches, which it will complete with its own forces.

BRANCH	MATERIAL SUPPLIER AND/OR SUBCONTRACTOR NAME AND ADDRESS

NOTE: This listing is not meant to commit bidder to material suppliers or subcontractors above. If bidder can show just cause at time of awarding Contract that a specific material supplier or subcontractor has withdrawn its bid or raised its bid, bidder may substitute at no additional cost to the County a material supplier or subcontractor upon written approval of the County.

END OF SECTION

SECTION 001000.11
MINORITY, WOMEN AND SMALL BUSINESS ENTERPRISE PROGRAM

PART 1 GENERAL

1.1 SUMMARY

A. Minority, Women and Small Business Enterprise Program (Section 001000, Document 001000.11)

B. Goal Compliance Plan (Section 001000, Document 001000.12, Appendix B. 1)

C. Application for Progam Waiver(Section 001000, Document 001000.13, Appendix B. 2)

D. Letter of Intent (LOI) Between Prime Contractor and Sub-Contractor/Supplier (Section 001000, Document 001000.14, Appendix B. 3)

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

HAMILTON COUNTY MINORITY, WOMEN, AND SMALL BUSINESS ENTERPRISE PROGRAMS

Hamilton County
OHIO

Section 1. Minority, Women, and Small Business Enterprise Programs Purpose

The Board finds Minority Business Enterprises ("MBEs"), Women Business Enterprises ("WBEs"), and Small Business Enterprises ('SBEs") provide employment and economic growth in Hamilton County, Ohio. The Board further finds that encouraging the participation of minority businesses, women businesses and small businesses in Hamilton County construction, professional services, and goods and services procurement will benefit all residents of Hamilton County, Ohio. Hamilton County is an equal business opportunity governmental entity, and has strived to provide, and will continue to provide, equal business opportunities to diverse groups within our region.

Section 2. Non-Discrimination Policy

I. Overview

The County is committed to a policy of non-discrimination. Every contract and subcontract for or on behalf of the County, for construction, professional services, and goods and services shall contain provisions by which the contractor agrees to both of the following:

A) That, in the hiring of employees for the performance of work under the contract or any subcontract, no contractor, subcontractor, or any person acting on a contractor's or subcontractor's behalf, by reason of race, creed, sex, disability or military status as defined in section 153.59 of the Ohio Revised Code, or color, shall discriminate against any citizen of the state in the employment of labor or workers who is qualified and available to perform the work to which the employment relates;

B) That no contractor, subcontractor, or any person on a contractor's or subcontractor's behalf, in any manner, shall discriminate against or intimidate any employee hired for the performance of work under the contract on account of race, creed, sex, disability or military status as defined in section 153.59 of the Ohio Revised Code, or color.

II. Non-Discrimination Policy for Contracting

No respondent, vendor, and/or Contractor doing business with the County who competes for or is awarded a public contract shall discriminate or retaliate against a MBE/WBE/SBE. If a respondent is found to be in violation of this policy, either in the awarding of the subcontract in connection with an opportunity advertised by the County or in a contract between the County and the respondent, the County will use all remedies legally available under the law to address the policy violations.

The County may not allege or investigate an allegation of an occurrence of discrimination or retaliation in subcontracting as a basis for debarring or disqualifying a

respondent more than three (3) years after the alleged discriminatory or retaliatory conduct occurred or more than three (3) years after the County, in the exercise of reasonable diligence, should have discovered the conduct, whichever is later.

A respondent shall certify in the documents accompanying the respondent's offer to enter into a public contract that the respondent has not discriminated or retaliated and will not discriminate or retaliate against any MBE/WBE/SBE in obtaining any required subcontract.

After a respondent is awarded a public contract, if the respondent violates the certification provisions of these Policies and Procedures, the County may regard the violation as a breach of contract that permits one or more actions in Section 13.

III. Complaints of Discrimination or Retaliation

Any adult person, business entity, association, organization, or government agency may file a complaint with the Director of ECS stating facts showing or tending to show that a respondent has, within the preceding three (3) year period from the date of the complaint, engaged in discrimination or retaliation in connection with a County contract or solicitation. Within ten (10) business days, the Director, or his/her designee, shall notify the respondent against whom the complaint was filed that a complaint has been received.

IV. Complaint Procedure, Initial Findings and Recommendations

The complaint will be sent to ECS to review and determine whether there is noncompliance of the contract. See the noncompliance process in Section 13 and the appeal process in Section 14 for additional information about complaint procedures, findings, and recommendations.

Section 3. Minority, Women, and Small Business Enterprise Contract Goals

The MBE/WBE/SBE Programs goal setting applies to all competitively bid County-funded contracts of $75,000.00 or more. MBE/WBE goals will be determined based on availability data provided by the *MBE/WBE Goal-Setting Worksheet* on a contract-by-contract basis. **The MBE utilization goal for this contract is 16.5 %, and the WBE utilization goal is 4.2 %. The SBE utilization goal for this contract is 20 %.**

THE UTILIZATION GOALS FOR THIS CONTRACT ARE:

MBE: 16.5 % WBE: 4.2 % SBE: 20 %

Respondents shall be fully informed of the MBE/WBE/SBE Programs and of any MBE/WBE/SBE contract goals, in all County bid documents. When State and/or Federal funding sources require affirmative action goals, those goals, as defined in the contract documents, replace the requirements of the MBE/WBE/SBE Goals Program.

Every respondent shall be required to submit to the County, with its bid, a plan for the engagement of MBEs/WBEs/SBEs in connection with the contract, known as the *MBE/WBE/SBE Goal Compliance Plan*. The *MBE/WBE/SBE Goal Compliance Plan* form, which shall include, among other things, the names, addresses, phone number, Tax I.D. number, and certification numbers, if applicable, of certified businesses, and any other information required by the Director, ECS, as set forth in the bid solicitation documents. If awarded a contract or procurement with the County, a Contractor shall use its Good Faith Efforts at all times to implement and accomplish the objectives with respect to the use of MBEs, WBEs and SBEs as set forth in the *MBE/WBE/SBE Goal Compliance Plan*. Following the award, the *MBE/WBE/SBE Goal Compliance Plan* shall become a part of the contract between the Contractor and the County. Documents must be approved by ECS before the award is finalized. **Failure to comply with the above requirements shall result in the respondent being deemed non-responsive**.

All ITBs, RFPs, or RFQs shall include a requirement that, if an MBE/WBE/SBE contract participation goal is applicable, the respondent must:

A. With its bid, submit a signed *MBE/WBE/SBE Goal Compliance Plan* form, showing its commitment to meet or exceed the goals for the project or contract.

B. Make Good Faith Efforts, before the opening of bids or submittal of proposals, to meet the applicable contract participation goal(s); and

C. Keep records of its Good Faith Efforts adequate to permit a determination of compliance with the *MBE/WBE/SBE Goal Compliance Plan*. If a contract goal will not be met, a respondent shall be required to submit with its bid a signed *MBE/WBE/SBE Goal Compliance Plan* form, and the *Application for MBE/WBE/SBE Program Waiver* form for approval by ECS. The respondent must submit its Good Faith Efforts documentation for review by ECS with the bid document.

As such, Construction, Professional Services, and Goods and Services contracts of $77,500.00 or greater to be awarded competitively shall be reviewed by the ECS for MBE/WBE/SBE utilization responsiveness. After its review of the *MBE/WBE/SBE Goal Compliance Plan* and the *Application for MBE/WBE/SBE Program Waiver* form, ECS shall make a recommendation to the Purchasing Department and the Department of the respondent's responsiveness.

While the inability of a respondent to meet goals established under the MBE/WBE/SBE Program may not alone exclude a respondent from award of a contract or procurement, the respondent's adequate Good Faith Efforts to meet the goal will be considered in determining award of the Contract.

For the procurement of goods and services, and/or the award of construction contracts value d at $77,500.00 or more, public notice of the opportunity to bid on such procurements or contracts will be given and the procurement or contract will be awarded to the respondent that submits the applicable bidding standard.

Section 4. Request for Waivers to MBE/WBE/SBE Contract Goals

If the respondent will not meet the MBE/WBE/SBE participation goals, in addition to its *MBE/WBE/SBE Goal Compliance Plan*, the respondent shall also submit with its bid a fully completed *Application for MBE/WBE/SBE Program Waiver* form (see Appendix B for applicable forms). The respondent shall indicate on the *Application for MBE/WBE/SBE Program Waiver* form, the Good Faith Efforts that it made prior to submission of its bid, to meet the MBE/WBE/SBE goals for the contract. The respondent shall also submit all documentary evidence to support those Good Faith Efforts made by the respondent, as declared on the *Application for MBE/WBE/SBE Program Waiver* form with its bid or the respondent will be deemed nonresponsive. The Director of ECS, the Director of Purchasing, or their designees, will review the documents submitted and make its determination of the *Application for MBE/WBE/SBE Program Waiver* request based on those submitted documents. When considering whether a respondent made adequate Good Faith Efforts to achieve the MBE/WBE/SBE participation goals, the County will evaluate the described efforts and documentation provided by contractors.

Section 5. Good Faith Efforts Documentation

All respondents must document the Good Faith Efforts it took to obtain MBE/WBE/SBE participation. As part of the selection process, a review of the respondent's *MBE/WBE/SBE Goal Compliance Plan* form is performed to determine the respondent's commitment to meeting the MBE/WBE/SBE goals for the contract. If the respondent will not meet the MBE/WBE/SBE participation goal, the *Application for MBE/WBE/SBE Program Waiver* form must be submitted with the bid.

Such Good Faith Efforts may include, but are not limited to the following:

A. Respondent's attendance at pre-bid conference;

B. Advertisement in general circulation media, trade publications, and minority focused media at least two (2) weeks before bids or proposals are due;

C. Tailored mailings to MBE/WBE/SBE firms notifying them of contracting opportunities at least two (2) weeks before bids or proposals are due;

D. Efforts made to select portions of the work proposed to be performed by MBE/WBE/SBE firms in order to increase the likelihood of achieving the stated goal(s);

E. Efforts to negotiate with MBE/WBE/SBE firms for specific sub-bids, including at a minimum:

a. The names, addresses and telephone numbers of MBE/WBE/SBE firms that were contacted;

b. A description of the information provided to MBE/WBE/SBE firms regarding the plans and specifications for portions of the work to be performed; and/or

c. A statement of why additional agreements with MBE/WBE/SBE firms were not reached.

F. If the respondent rejected any MBE/WBE/SBE firm(s) as unqualified, they must submit the reason(s) for this conclusion.

G. The respondent must also document technical assistance provided to the MBE/WBE/SBE firms in obtaining bonding or insurance required by the County.

H. Providing interested MBE/WBE/SBEs with prompt access to the plans, specifications, scope of work, and requirements of the contract.

I. Follow up to initial solicitations and copy of call logs.

J. Has a joint venture agreement or partnership for the contract with an MBE/WBE firm. Commercially useful function participation by the MBE/WBE/SBE must be 30% or greater.

K. Has a mentor-protégé agreement with an MBE/WBE/SBE firm for the contract.

Failure to provide the *Application for MBE/WBE/SBE Program Waiver* at the time of bid submission will result in the bid being determined to be non-responsive.

Respondents' Good Faith Efforts to meet MBE/WBE/SBE participation goals will be a factor in determining the award of the contract. In determining whether a respondent has made adequate Good Faith Efforts, the County may consider the performance of other respondents in meeting the MBE/WBE/SBE participation goals for the same solicitation. Respondents that fail to meet MBE/WBE/SBE goals and fail to demonstrate Good Faith Efforts shall be deemed non-responsive to the County's solicitation and shall not be eligible to be awarded the contract.

Section 6. MBE/WBE/SBE Programs Records and Reports

In order to ensure the effective tracking of these efforts, the following shall be done:

1) Each Contractor shall continuously maintain, compile, and provide to the County monthly information, utilizing the procurement software system (when available) relating to its use of MBE/WBE/SBEs. This information shall include without limitation the following information for each of the MBE/WBE/SBE subcontractors, suppliers, and/or vendors utilized by the Contractor: a description of the categories of contracts awarded to and spent with MBE/WBE/SBEs; the dollar value of contracts awarded to and spent with MBE/WBE/SBEs; the contract number(s), and contact information for the MBE/WBE/SBEs. Additionally, the Contractor shall provide information regarding its progress toward attaining the MBE/WBE/SBE goals for the contract.

2) Within thirty (30) days after the end of a contract in which there were MBE/WBE/SBE goals, each contractor shall provide the County with a report including by not limited to the following information: the identity of and contact information for each MBE/WBE/SBE to whom the contractor has awarded a subcontract or supplier agreement; the type of work performed or supplies provided by each subcontractor/supplier; the dollar value of each of the subcontracts/supplier agreements; and the total percentage of the value of the County contract subcontracted to MBE/WBE/SBE subcontractors, suppliers, and/or vendors.

Section 7. Payments to Subcontractors/Prompt Pay

A Contractor shall be required to certify electronically or in writing that all of its subcontractors, suppliers, and/or vendors have been paid for work and materials in relation to the County contract by the Contractor for previous disbursements before additional disbursements of contract and/or procurement payments are made to the Contractor. This section requires Hamilton County to make every effort to make payments to Contractors within thirty (30) days of receipt of a complete and responsive invoice.

If a subcontractor or material supplier submits an application or request for payment or an invoice for materials to a contractor in sufficient time to allow the contractor to include the application, request, or invoice in the contractor's own pay request submitted to an owner, the contractor, within ten calendar days after receipt of payment from the owner for improvements to the property, shall pay to the:

A. Subcontractor, an amount that is equal to the percentage of completion of the subcontractor's contract allowed by the owner for the amount of labor or work performed;
B. Material supplier, an amount that is equal to all or that portion of the invoice for materials that represents the materials furnished by the material supplier.

If the contractor fails to comply with this provision, the contractor shall pay the subcontractor or material supplier, in addition to the payment due, interest in the amount of eighteen percent per annum of the payment due, beginning on the eleventh day following the receipt of payment from the owner and ending on the date of full payment of the payment due plus interest to the subcontractor or material supplier. *Refer to Ohio Revised Code, Section 4113.61: Time limitations for payments to subcontractors and materialmen*.

During the contract and upon completion of the contract, the County may request documentation to certify payment to subcontractors or suppliers. The subcontractor or supplier may be required to sign off on the certification of payment form or affidavit, by the subcontractor or supplier, to attest to the receipt of payment from the Contractor.

Section 8. Subcontractor Substitution

If a contractor must substitute a subcontractor after the contract has been awarded, the contractor shall request approval for any substitution of a MBE/WBE/SBE subcontractor, supplier, or vendor used or proposed to be used by a Contractor, by completing and submitting a copy of the *Prime Contractor Substitution Request* form. The *Prime Contractor Substitution Request* form and instructions for completing the request will be included in the contract at the time of award.

Section 9. Change Orders and Amendments to Contracts

This rule applies to contracts valued at $100,000.00 and greater. Whenever a contract is amended, any single change order is issued, or subsidiary agreement is authorized that increases the total original contract cost by more than ten percent (10%), the MBE/WBE/SBE contract goal regarding the work, services, or supplies to be paid for through such amendment, modification, change order, or subsidiary agreement will remain the same; and, Good Faith Efforts will be made to ensure that it maintains the same percentage of MBE/WBE/SBE participation in performing the additional work, services, or supplies.

Section 10. Certification

The County does not conduct its own MBE, WBE or SBE certification process but does accept MBE, WBE, and SBE certifications from other County-approved agencies.

The requirements for County approved MBE certification are:

A. The applicant is an independent operating business and must have been in business for at least one year before applying for certification.
B. The owner is a sole proprietorship that is independently owned and controlled by an individual who is a minority group member; a joint venture that is at least 51% independently owned and controlled by minority group members; or a partnership, limited liability company or corporation that is at least 51% independently owned and controlled by minority group members;
C. The minority owners have interest in capital and earnings commensurate with the minority group members' percentage of ownership;
D. The firm performs a commercially useful function;
E. Each owner of the firm must be United States citizens or lawfully admitted permanent residents;
F. The firm has a valid and current MBE or WBE certification or both with at least one of the County-approved certification agencies (see Appendix A. Certification Agencies).

The requirements for County approved WBE certification are:

A. The applicant is an independent operating business and must have been in business for at least one year before applying for certification.
B. The owner is a sole proprietorship that is independently owned and controlled by an individual(s) who is a woman; a joint venture that is at least 51% independently owned and controlled by a woman; or a partnership, limited liability company or corporation that is at least 51% independently owned and controlled by a woman;
C. The woman owners have interest in capital and earnings commensurate with the woman's percentage of ownership;
D. The firm performs a commercially useful function;
E. Each owner of the firm must be United States citizens or lawfully admitted permanent resident;
F. The firm has a valid and current WBE certification with at least one of the County-approved certification agencies (see Appendix A. Certification Agencies).

The requirements for County approved SBE certification are:

A. The firm has gross revenues or number of employees, averaged over the past three years and inclusive of any affiliates, as defined by 13 C.F.R. Sec. 121.201, and does not exceed the size standards as defined pursuant to Section 3 of the SBE Act. A full table of the Small Business Size Standards matched to the North American Industry Classification System (NAICS) may be obtained at *www.sba.gov/size.*

B. The personal net worth of each owner and his or her spouse cannot exceed $750,000, exclusive of specified assets (equity in primary residence, retirement accounts subject to a significant withdrawal penalty, equity in the business for which they are applying).
C. The applicant for SBE certification must have been in business for at least one year before applying for certification;
D. The firm performs a commercially useful function;
E. Each owner of the firm must be United States citizens or lawfully admitted permanent residents;
F. The firm has a valid and current SBE certification with at least one of the County approved certification agencies (see Appendix A. Certification Agencies).

A business that desires approval by Hamilton County through its Economic and Community Support department as a MBE, WBE or SBE must complete and submit a County Vendor Registration form and provide a current MBE, WBE or SBE certification from a County-approved agency.

The County approves MBE, WBE, and SBE applicants in three categories:

A. Construction;
B. Professional Service;
C. Goods and Services

Section 11. Selection Criteria and Evaluation

Hamilton County will consider past compliance with MBE/WBE/SBE programs in determining contract awards.

For RFPs, selection criteria and evaluation will include a criterion for the respondent's commitment to the MBE/WBE/SBE contract goals and will be worth no less than 10% of the selection evaluation total points.

Section 12. Falsification of MBE and WBE Subcontracts

Falsification or misrepresentation of an agreement with a subcontractor as to company name, contract amount and/or actual work performed by subcontractor, submitted on any contracts or forms required or otherwise requested by the County, will result in the County utilizing any and all remedies available under the law to enforce ECS policies.

Section 13. MBE/WBE/SBE Program Noncompliance Process

If ECS or the contracting department determines that a contractor has failed to comply with the terms of the MBE/WBE/SBE programs, ECS and the contracting department shall meet

to discuss the contract, issues of noncompliance, and the options for correcting contract noncompliance.

A contractor may be found in noncompliance with the MBE/WBE/SBE Programs in the following ways without limitation:

1. By evidence found by the contracting department or by ECS through the course of regular monitoring of the execution of such contract;
2. By complaint submitted to the contracting department or ECS, where the party responsible for the complaint submits any evidence or documentation they possess in support of their claim;
3. Contractor fails to notify Hamilton County of debarment or suspension by the State of Ohio, City of Cincinnati, or any other municipality before or during the contract period.

If ECS and/or the contracting department through their discussion find evidence of noncompliance with Hamilton County's MBE/WBE/SBE programs, The Director of ECS may at this stage request that the contractor participates in a meeting to discuss its progress towards meeting its proposed MBE/WBE/SBE utilization goals. If ECS and the contractor agree on corrective measures, the contractor shall, within ten (10) business days, submit a letter to the Project Manager and Director of ECS documenting the corrective measures to be taken by the contractor along with an agreed-upon timeline for implementation.

If no agreement can be reached, ECS shall serve a written notice of MBE/WBE/SBE program noncompliance to the contractor. The written notice will include all instances of noncompliance and potential options for rectification. Contractors shall have ten (10) business days from the date of the written notice of MBE/WBE/SBE program noncompliance to determine and communicate a method for remedying all instances of noncompliance. The contractor must include within their communication a plan that is agreed to by ECS to remedy all instances of MBE/WBE/SBE program noncompliance within thirty (30) days of their response. If the contractor cannot remedy all instances within thirty (30) days of the notice of MBE/WBE/SBE program noncompliance, the Director of ECS and Program Manager, may, at their discretion, negotiate a new timeframe to achieve MBE/WBE/SBE program compliance with the contractor.

If a contractor fails to remedy all instances of MBE/WBE/SBE program noncompliance within thirty (30) days of the date of the written notice or within the newly negotiated timeframe, ECS shall make a determination of noncompliance which will be sent to the contractor in writing.

Once a determination of noncompliance is made, ECS may use all available legal remedies including but not limiting to:

a. Withhold all or part of all future payments to the contractor;
b. Require contractor payment of liquidation damages,

If appropriate, ECS will refer the matter to the appropriate authorities for potential criminal investigation and prosecution.

Section 14. Appeal Process for Determinations of Noncompliance

Any contractor who is determined to be noncompliant in connection with the performance of a contract shall be allowed ten (10) business days from receipt of the ECS notice of MBE/ WBE/SBE program noncompliance to file a written appeal of that determination. Filing of the appeal shall be accomplished by delivery (paper or electronic) of a notice of appeal to ECS. The notice of appeal by the contractor shall be in writing and shall briefly state all the facts or other basis upon which the contractor contests the ECS. finding of noncompliance. Supporting documentation must be included.

The ECS Director, with the input of the Purchasing Director and the Project Manager, shall consider the contractor's appeal and shall make a written decision no later than thirty (30) days after receipt concerning the merits of the contractor's appeal. Hamilton County staff may, at their discretion, meet with the contractor to discuss the appeal.

A copy of the appeal decision shall be sent to the contractor. If the ECS upholds the finding of noncompliance, the ECS Director shall inform the contractor of the decision which shall be final, and the appropriate penalties shall be applied.

If Hamilton County accepts the appeal, then the contractor will be informed. If Hamilton County’s determination is not made within thirty (30) days after the receipt of the appeal, then the contractor will not be held accountable.

Appendix A. Certification Agencies

Below are certification agencies we recognize as outlined in our Hamilton County Economic Inclusion Policy:

City of Cincinnati
Department of Economic Inclusion
805 Central Avenue, Suite 600
2 Centennial Plaza
Cincinnati, OH 45202
Phone: (513) 352-3154
Email: cincinnati@diversitycompliance.com
Website:
https://cincinnati.diversitycompliance.com/
Certifies SBEs, MBEs, WBEs

U.S. Small Business Administration (SBA)
Columbus District Office
8(a) Business Development Program
2 Nationwide Plaza, Suite 1400
Columbus, OH 43215
Phone: (614) 469-6860
Email: answerdesk@sba.gov
Website: *https://certify.sba.gov/*
Certifies WOSBs

Women's Business Enterprise Council Ohio River Valley (WBEC ORV)
3458 Reading Road
Cincinnati, OH 45229
Phone: (513) 487-6503
Email: crudisell@wbec-orv.org
Website: *https://www.wbecorv.org/how-to-apply/*
Certifies SBEs, WBEs

Abbreviations:
SBE- Small Business Enterprise
MBE- Minority Business Enterprise
WBE- Women's Business Enterprise

Ohio Department of Transportation (ODOT)
Office of Equal Opportunity
1980 West Broad Street
Columbus, OH 43223
Phone: (614) 644-8436 or 1-800-459-3778
Email: DOT.SDBE@dot.ohio.gov
Website: *https://www.transportation.ohio.gov/programs/business-economic-opportunity/business-economic-opportunity*
Certifies SBEs, MBEs

Ohio Minority Supplier Development Council
Chase Building
100 East Broad Street, Suite 2460
Columbus, OH 43215
Phone: (614)-225-6959, Ext.208
Email: certification@ohiomsdc.org
Website: *https://thh.3df.myftpupload.com/certificationprocess/*
Certifies SBEs, MBEs

Ohio Department of Development
Equal Opportunity Division
30 East Broad Street, 18th Floor
Columbus, OH 43215
Phone: (614) 466-838
Email:
Donald.Stinsonjr@development.ohio.gov
Website: *https://development.ohio.gov/business/minoritybusiness/certifications*
Certifies MBEs, WBEs

MBE/WBE/SBE GOAL COMPLIANCE PLAN

Failure to complete this form in its entirety may result in your bid being deemed non-responsive.

Bidder must achieve, or show good faith efforts to achieve, all goals. All sections of this form must be completed and returned as part of the bid. MBE/WBE firms that are also certified as SBEs may be used to achieve both the MBE/WBE goal and the SBE goal. Firms that are certified as both MBE and WBE will be counted towards the MBE goal and not the WBE goal. If you are not able to meet one or more of the stated goals, you must include the Application for SBE/MBE/WBE Program Waiver with your bid package.

Bidder must list the following information for **every** firm that will perform work, labor, render services, or provide materials as part of the contract or project, including certified MBE/WBE/SBE firms; non-certified small, minority-, or woman-owned firms; and any other firms. Bidder must also include any work to be self-performed and any work performed by a joint venture (JV) partner.

For projects under $1 million, bidders must submit a completed Letter of Intent (LOI) for all subcontractors/suppliers listed in their bid package at the time of submission. For larger projects over $1 million, bidders must include a completed LOI for all MBE/WBE/SBE subcontractors/suppliers listed in the Goal Compliance Plan at the time of submission. The LOI for all other subcontractors can be submitted after the time of submission, but before the contract is awarded. This applies to any subcontractors/suppliers that are substitutions or additions to the plan made after award and prior to the start of work.

Bidder must ensure that all firms whose participation is being counted towards the MBE, WBE, and SBE goals are certified as an MBE, WBE, or SBE with one of the certification agencies recognized by Hamilton County and are registered as a certified company with Hamilton County.

If you plan to perform 100% of the work yourself, you must submit the Goal Compliance Plan and indicate this in the self-performance section. In addition, you must successfully complete the the Application for Program Waiver by selecting the goals you would like to waive and signing and dating the Application for Program Waiver.

MBE/WBE/SBE GOAL COMPLIANCE PLAN

Failure to complete this form in its entirety may result in your bid being deemed non-responsive.

SUBMIT WITH BID
Section 001000
Document 001000.12

Bid Number:_____

Project Title:_____

Total Bid Amount:_____

Bidder Name:_____

Primary Contact Name:_____

Bidder Address:_____

Bidder Email:_____

Bidder Phone:_____

Certification Type (if applicable):

☐ MBE ☐ WBE ☐ SBE

Race/Ethnicity (if MBE):_____

Description of Self-Performed Work (if applicable):

Dollar Amount:_____ Percent of Total Bid:_____

STATED COMMITTMENT TO MBEs/WBEs/SBEs

MBE goal stated in solicitation:_____ WBE goal stated in solicitation:_____

Total $ amount committed to MBEs:_____ Total $ amount committed to WBEs:_____

% total bid amount committed to MBEs:_____ % total bid amount committed WBEs:_____

SBE goal stated in solicitation:_____

Total $ amount committed to SBEs:_____

% total bid amount committed to SBEs:_____

PARTICIPATING FIRMS

SUBMIT WITH BID
Section 001000
Document 001000.12

Bidder should add additional firms using the same format as needed.

Company Name, Address, and Telephone Number	JV Partner, Subcontractor, or Supplier	Certification Type (MBE/WBE/SBE) *Select all that apply	Race/Ethnicity (if MBE)	Description of Work	Dollar Amount	Percent of Total Bid	ECS APPROVED *ECS use only
Name: Address: Phone:	☐ JV Partner ☐ Subcontractor ☐ Supplier	☐ MBE ☐ WBE ☐ SBE ☐ N/A					☐
Name: Address: Phone:	☐ JV Partner ☐ Subcontractor ☐ Supplier	☐ MBE ☐ WBE ☐ SBE ☐ N/A					☐
Name: Address: Phone:	☐ JV Partner ☐ Subcontractor ☐ Supplier	☐ MBE ☐ WBE ☐ SBE ☐ N/A					☐
Name: Address: Phone:	☐ JV Partner ☐ Subcontractor ☐ Supplier	☐ MBE ☐ WBE ☐ SBE ☐ N/A					☐
Name: Address: Phone:	☐ JV Partner ☐ Subcontractor ☐ Supplier	☐ MBE ☐ WBE ☐ SBE ☐ N/A					☐

By signing below, the Bidder certifies that the information included in this form is accurate and complete to the best of their knowledge.

Signature:_____

Date:_____

Title:_____

Company:_____

HAMILTON COUNTY MBE/WBE/SBE PROGRAMS
Application for Program Waiver

At the time of bid submission, Bidders **that do not meet one or more of the MBE, WBE, or SBE goals** must request a waiver from achieving the MBE, WBE, and/or SBE goal(s) by documenting the Good Faith Efforts they made to achieve the goal(s) and document, with specificity, the Good Faith Efforts they made to achieve the goal(s). "Good Faith Efforts" means the efforts a bidder made to utilize MBEs, WBEs, and SBEs in response to the solicitation. Bidders that request a waiver must demonstrate they took reasonable steps to achieve the MBE/WBE/SBE goal(s) specified within the bid/RFP, and that the scope, intensity, and appropriateness of their efforts could reasonably be expected to result in MBE/WBE/SBE participation sufficient to achieve the goal(s), even if they were not successful in doing so. In considering waiver approval, among the totality of Good Faith Efforts bidders make, Hamilton County will consider the specific efforts the bidder made.

Bidders requesting a waiver must complete this form to document their Good Faith Efforts with specificity, or their bid will be deemed non-responsive. Every item marked on the checklist must have associated documentation in order to receive points.

HAMILTON COUNTY MBE/WBE/SBE PROGRAMS
Application for Program Waiver

SUBMIT WITH BID
Section 001000
Document 001000.13

Bid/RFP Name:_____ Bid/RFP Number: _____

Bidder Name:_____ Bidder Address:

Primary Contact Name:_____

Bidder Phone:_____ Bidder Email: _____

Bidder is requesting a waiver for: (select all that apply)

MBE goal **WBE goal** **SBE goal**

In attempting to meet the projected goal(s), the bidder made the following good faith efforts:
Check all that apply. Minimum score required to establish "good faith" effort is 70 points.

Item	Points	Score (ECS USE ONLY)
Respondent's attendance at pre-bid conference;	10	
Advertisement in general circulation media, trade publications, and minority-focused media at least two (2) weeks before bids or proposals are due;	10	
Tailored mailings to MBE/WBE/SBE firms notifying them of contracting opportunities at least two (2) weeks before bids or proposals are due;	10	
Efforts made to select portions of the work proposed to be performed by MBE/WBE/SBE firms in order to increase the likelihood of achieving the stated goal(s);	10	
Efforts to negotiate with MBE/WBE/SBE firms for specific sub-bids, including at a minimum: The names, addresses, and telephone numbers of MBE/WBE/SBE firms that were contacted; A description of the information provided to MBE/WBE/SBE firms regarding the plans and specifications for portions of the work to be performed and/or; A statement of why additional agreements with MBE/WBE/SBE firms were not reached.	15	
If the respondent rejected any MBE/WBE/SBE firm(s) as unqualified, they must submit the reason(s) for this conclusion.	10	
The respondent must also document technical assistance provided to the MBE/WBE/SBE firms in obtaining bonding or insurance required by the County.	15	
Providing interested MBE/WBE/SBEs with prompt access to the plans, specifications, scope of work, and requirements of the contract.	10	
Follow up to initial solicitations and copy of call logs.	10	
Has a joint venture agreement or partnership for the contract with an MBE/WBE/SBE firm where the commercially useful function participation by the MBE/WBE must be 30% or greater.	15	
Has a mentor-protégé agreement with an MBE/WBE/SBE firm for the contract.	10	
	TOTAL	

Document the nature of Good Faith Efforts made to achieve participation with MBEs, WBEs, and SBEs, and attach copies of any documentation of those efforts, including copies of emails, written communications, advertisements, call logs, and outcomes of in-person/telephone negotiations.

Pre-bid and Pre-solicitation Meeting Attendance

List date, time, and location of pre-bid/pre-solicitation meetings attended for this solicitation. (ECS to verify attendance using sign-in sheets.)

Meeting Date	Meeting Time	Meeting Location

Advertisements

Provide the following information for each advertisement.

Newspaper/Publication Name	Date(s) on which ad was published

Attach copies of published advertisements.

Communication Efforts to MBE/WBE/SBEs

How many MBEs did you contact? How many WBEs did you contact? How Many SBEs did you contact?

Provide the following information for each contact made:

Name and Contact of MBE/WBE/SBE	Certification Type (MBE/WBE/SBE) *list all that apply	Scope of Work / Line of Work	Dates of Contact	Contact Method	Contract Plans / Requirements	Negotiation	Selected	Reasons for Outcome
Name: Phone: Email: Address:			Initial: Follow-up:		☐ Requested ☐ Sent	☐ Yes ☐ No	☐ Yes ☐ No	
Name: Phone: Email: Address:			Initial: Follow-up:		☐ Requested ☐ Sent	☐ Yes ☐ No	☐ Yes ☐ No	
Name: Phone: Email: Address:			Initial: Follow-up:		☐ Requested ☐ Sent	☐ Yes ☐ No	☐ Yes ☐ No	
Name: Phone: Email: Address:			Initial: Follow-up:		☐ Requested ☐ Sent	☐ Yes ☐ No	☐ Yes ☐ No	
Name: Phone: Email: Address:			Initial: Follow-up:		☐ Requested ☐ Sent	☐ Yes ☐ No	☐ Yes ☐ No	

Attach additional pages using the same format as necessary. ***Attach copies of all correspondence.***

Assistance to MBE/WBE/SBEs (including bonding, insurance, financial equipment, or other resources

Provide information below regarding any assistance provided to MBE/WBE/SBEs in obtaining bonding and insurance required for the solicitation.

Name and Contact of MBE/WBE/SBE	Certification Type (MBE/WBE/SBE) *list all that apply	Type of Assistance Provided
Name: Phone: Email: Address:		
Name: Phone: Email: Address:		
Name: Phone: Email: Address:		

Attach additional pages using the same format as necessary.

Segmenting Scope(s) of Work for MBE/WBE/SBE Participation

Describe efforts made to segment scope(s) of work to enable MBE/WBE/SBE participation.

Joint Venture Agreements with MBE/WBE/SBEs

List MBE/WBE/SBEs involved in the joint venture agreement.

Name and Contact of MBE/WBE/SBE	Certification Type (MBE/WBE/SBE) *list all that apply	Scope of Work	% of Total Bid
Name: Phone: Email: Address:			
Name: Phone: Email: Address:			
Name: Phone: Email: Address:			

Attach agreement documents for the joint venture agreement.

Mentor-Protégé Agreements with MBE/WBE/SBEs

List any mentor-protégé agreements with MBE/WBE/SBEs and provide supporting documentation.

Name and Contact of MBE/WBE/SBE	Certification Type (MBE/WBE/SBE) *list all that apply	Describe nature of mentor-protégé agreement
Name: Phone: Email: Address:		
Name: Phone: Email: Address:		

By signing below, the Bidder agrees that the information included in this form is accurate and complete to the best of their knowledge:

Signature: _____

Printed Name: _____

Title/Position: _____

Date: _____

FOR ECS USE ONLY

Application for Program Waiver approved:

☐ Yes ☐ No

If no, provide reasons for rejection:

Director of ESC Signature: _____ **Date:** _____

Appendix B.3 Letter of Intent (LOI) Between Prime Contractor and Subcontractor/Supplier

Letter of Intent (LOI)
Between Prime Contractor and
Subcontractor/Supplier

(Page 1 of 3)

The following Letter of Intent (LOI) is to be used by Prime Contractors and their subcontractors/suppliers. For projects under $1 million, signed and notarized LOIs between Bidder and all subcontractors/supplies must be included in their Goal Compliance Plan at the time of submission. For larger projects above $1 million, bidders must submit a completed LOI for all MBE/WBE/SBE subcontractors/suppliers listed in the Goal Compliance Plan at the time of submission. The LOI for all other subcontractors can be submitted after the time of submission, but before the contract is awarded. Submit a separate form for each distinct subcontractor/supplier.

Any changes to the MBE/WBE/SBE Goal Compliance Plan, including substitution or addition of an MBE/WBE/SBE subcontractor/supplier must be submitted to the Contract Administrator and approved by Hamilton County's Director of Economic & Community Support (ECS). LOIs must be submitted prior to the start of work for changes of MBE/WBE/SBEs stated in the Goal Compliance Plan.

Letter of Intent (LOI) Between Prime Contractor and Subcontractor/Supplier

SUBMIT WITH BID
Section 001000
Document 001000.14

Prime Contractor:_____

Address:_____

City:_____ State:_____ Zip:_____

Telephone:_____ Fax:_____ Proposed Contract Amount: $_____

Project Solicitation Number:_____

Project Name:_____

Type of Agreement:_____
(Lump Sum/Unit Price/Commodity/Professional Service)

Period of Performance:_____

Name of Subcontractor/Supplier:_____

Certification Type (select all that apply): ☐ MBE ☐ WBE ☐ SBE ☐ N/A

Address:_____

City:_____ State:_____ Zip:_____

Telephone:_____ Fax:_____ Proposed Contract Amount: $_____

Description of work to be performed under Subcontract:

By signing below, the Prime Contractor and the subcontractor/supplier agree that they intend to enter into a contract by which the Prime Contractor agrees to pay the contract amount and the subcontractor/supplier agrees to perform the work described herein.

SUBMIT WITH BID
Section 001000
Document 001000.14

Prime Contractor: _____

Name of Firm: _____

By: _____ Title: _____
(Signature)

Print Name: _____ Date: _____

Subcontractor/Supplier: _____

Name of Firm: _____

By: _____ Title: _____
(Signature)

Print Name: _____ Date: _____

STATE OF _____

COUNTY OF _____

SUBSCRIBED AND SWORN TO before me on the _____ day of _____, 20____

Notary Public _____

Printed Name of Notary _____

WARRANTY AGAINST AN UNRESOLVED FINDING FOR RECOVERY

Document 001000.15

In accordance with Section 9.24 of the Ohio Revised Code, I hereby certify that the company I represent does not owe any money to the State of Ohio.

_____

SIGNATURE

_____

PRINT NAME

_____

TITLE

TO BE COMPLETED BY NOTARY PUBLIC

On _____, there appeared before me
DATE

_____**,** saying that he/she is
PRINT NAME

_____ _____ of,
PRINT TITLE

_____
PRINT NAME OF COMPANY

and that he/she understands all of the implications of the above statement and has signed in good faith.

_____

SIGNATURE OF NOTARY PUBLIC

Prime Contractor Substitution Request Form

APPLICABLE POST AWARD

No changes to the *MBE/WBE/SBE Goal Compliance Plan* are permitted after submittal of the Bid and before the award of the Trade Contract. After Trade Contract award, changes to the *MBE/WBE/SBE Goal Compliance Plan* must be requested through the Contract Administrator and approved by Hamilton County's Director of Economic and Community Support (ECS).

Submission and Evaluation of Requests

Where a Bidder discovers after award of the Trade Contract that the *MBE/WBE/SBE Goal Compliance Plan* must be changed or a substitution must occur, the Bidder must request changes through the Contract Administrator and receive approval by the Director of ECS using the attached form. The form must be notarized.

The written request must state specific reasons for the proposed change or substitution. Sworn statements from the subcontractor/supplier to be substituted stating why it cannot perform on the Project may be submitted to support the request. The facts supporting the request must not have been known nor reasonably should have been known by the Bidder and/or proposed subcontractor/supplier prior to the submission of the *MBE/WBE/SBE Goal Compliance Plan.*

The following conditions constitute examples of acceptable reasons for changes:

- Unavailability of subcontractor/supplier after receipt of reasonable notice to proceed;
- Failure to perform the scope(s) of work;
- Financial incapacity;
- Failure to honor bid or proposal price within a reasonable period of time after original submittal;
- Failure of subcontractor/supplier to meet bonding, insurance, or licensing requirements specified in the solicitation;
- Withdrawal of bid or proposal by subcontractor/supplier;
- When the County determines that it is in the best interest of the Program and the County.

Where the reason is a valid mistake or disagreement on the scope(s) of work, the request must document all efforts made by the parties to reach an agreement for a reasonable price for the corrected scope(s) of work.

Good Faith Efforts on Substitutions and Additions of MBE/WBE/SBE Subcontractor/Suppliers

When a change or substitution of an MBE/WBE/SBE is requested, the Prime Contractor still must continue to make Good Faith Efforts to meet the goal as submitted in the *MBE/WBE/SBE Goal Compliance Plan.*

Prime Contractor Substitution Request Form

Project Solicitation Number:_____ Date:_____

Project Name: _____

Prime Contractor:_____

Total Trade Contract Price:_____

Participation Goals Stated in Solicitation: MBE: _____ WBE: _____ SBE:_____

Actual Participation Prior to Proposed Change: MBE:_____ WBE:_____ SBE:_____

Participation After Proposed Change: MBE: _____ WBE:_____ SBE:_____

The Prime Contractor on the above Project requests approval of the following addition and/or deletion of subcontractor/suppliers as submitted in the MBE/WBE/SBE Goal Compliance Plan included in the Bid. (Submit a separate form for each proposed change.)

PROPOSED DELETION:

Name of subcontractor/supplier:_____

Certification Type (select all that apply): ☐ MBE ☐ WBE ☐ SBE ☐ N/A

Address:_____

City:_____ State:_____ Zip:_____

Contact Person:_____ Telephone Number:_____

Amount of Subcontract: $_____ Percent of Trade Contract: _____

Description of Work:_____

PROPOSED ADDITION: *Attach Good Faith Efforts documentation, if applicable. See preceding page for instructions.*

Name of subcontractor/supplier: _____

Certification Type (select all that apply): ☐ MBE ☐ WBE ☐ SBE ☐ N/A

Address: _____

City: _____ State: _____ Zip: _____

Contact Person: _____ Telephone Number: _____

Amount of Subcontract: $_____ Percent of Trade Contract: _____

Description of Work: _____

REASONS FOR REQUESTING CHANGE: Attach supporting documentation as necessary. A statement from the subcontractor/supplier to be removed stating why it cannot perform on the Project may be submitted to support the request.

AFFIDAVIT

The above information is true and complete to the best of my knowledge and belief. I further understand and agree that this affidavit shall become a part of my Trade Contract with Hamilton County.

Name and Title (Print): _____

Signature: _____ Date: _____

State of: _____

County of: _____

On the _____day of _____. 20____, _____ personally appeared and having been duly sworn by me, subscribed to the foregoing affidavit and has stated that the facts stated therein are true and correct.

Notary Public: _____

Printed Name of Notary: _____

FOR ECS USE ONLY:

Substitution Request Form Approved:

☐ Yes ☐ No

COMMENTS:

Director of ECS Signature: _____ **Date:** _____

DOCUMENT 001000.17

Responsible Bidder Certification

Project: Paycor Stadium Southeast/ Southwest Escalator Towers Architecture and MEP Package ITB#037-26

_____
Name of Bidder

_____
Address of Bidder

_____
Date

Bid Reference No._____

_____ ("Bidder") hereby certifies to the Board of County Commissioners of Hamilton County, Ohio ("County") that it will adhere to the Responsible Bidder Requirements (the "Responsible Bidder Requirements") set forth in the Bid Documents, and does hereby further certify to the County the following:

1. Bidder will require all contractors who bid or perform any work pursuant to the contract on which the Bidder is bidding to satisfy all of the Responsible Bidder Requirements set forth in the Project Manual.

2. Bidder will pay prevailing wages as set forth in the Project Manual and Bid Documents for the Project.

3. Prior to award of a contract or subcontract of Two Hundred and Fifty Thousand Dollars ($250,000) or more, the Bidder will engage in a review of the constructability and scope of the bid to verify that the contractor included all required work.

4. In the event Bidder submits the lowest bid and such bid is more than twenty percent (20%) below the bid of the next lowest bidder, the Bidder shall identify three (3) construction projects that it has successfully completed within five (5) years of the Bid date.

5. Bidder will employ supervisory personnel on the project that (a) are qualified to perform in such supervisory capacity and (b) have any license or licenses required by applicable law to perform in such capacity.

6. Bidder is not currently debarred from performing state or federal construction contracts (after all appeals), because of a violation of the Fair Labor Standards Act and/or any state or federal prevailing wage law. A list of every occasion on which Bidder has been debarred from performing local, state or federal

construction contracts (after all appeals), because of a violation of the Fair Labor Standards Act and/or any state of federal prevailing wage law, during the last ten years, if any such debarments have occurred, are listed below:

_____ _____

_____ _____

7. Bidder, and each of its subcontractors have implemented an OSHA-compliant Safety Program which includes: a) with respect to all supervisors, completion of OSHA's thirty (30) hour safety course; and b) with respect to all field employees, completion of OSHA's ten (10) hour safety program. Bidder shall provide evidence of implementation of an OSHA-compliant safety program to the Construction Manager.

8. Bidder has implemented a substance-abuse policy that is in compliance with Ohio's Drug Free Workplace Requirements. Bidder will provide evidence of implementation of such policies to the Construction Manager.

9. Bidder has all licenses required by applicable state law and regulation to perform work required herein.

10. Any and all professional license or licenses that have been revoked by Ohio or revoked by any other state within five (5) years prior to the Bid date as listed below:

_____ _____

_____ _____

11. Bidder has no final judgments against it which are not secured by payment bond or other surety at the time of award which are equal to or exceed fifty percent (50%) of the Bidder’s net worth.

12. Bidder has complied with applicable unemployment and workers compensation laws for at least two (2) years preceding the date of bid submittal.

13. Bidder will not subcontract more than seventy percent (70%) of the bid amount of the Contract. Bidder acknowledges it may apply for a waiver of the foregoing requirement by the County, which waiver shall be subject to the review and approval of the County.

14. Bidder does not have an Experience Modification Rating of more than 1.3 (a penalty rated employer) with respect to the Ohio Bureau of Workers’ Compensation risk assessment rating.

15. Bidder is not debarred from bidding on the contracts that are the subject of this bid.

16. Bidder herby acknowledges and agrees that bidder's falsification of any of the certifications herein or failure to comply with the requirements set forth herein, shall be the basis for a default termination of the Contract.

State of _____)
)ss.
County of _____)

BY: _____
ITS: _____

Sworn to and subscribed by _____ in my presence this _____ day of _____ 202__.

_____
NOTARY PUBLIC

DOCUMENT 001000.18

TAX EXEMPT STATEMENT

Purchases of building and construction materials and services by Contractor for incorporation into the Work or a portion of the Work that constitutes a structure or improvement to real property are not subject to Ohio sales or use tax pursuant to Ohio Revised Code 5739.02(B)(B)(13) and 5741.02(C)(2). Purchases by Contractor of expendable items or items consumed by Contractor in performance of the Work are not incorporated into a structure or improvement to real property and are not exempt from Ohio sales or use taxes as provided above. Examples of such purchases include, but are not limited to, form lumber, tools, oils, greases, fuel, equipment and trailer rental, temporary fencing and temporary road materials and temporary power equipment.

Signature:_____

Document 001000.21

CERTIFIED CHECK

If you are submitting a Certified Check: **Check #**_____dollars

drawn on _____ **bank** is herewith submitted and deposited in lieu of bond under the same terms and conditions as set forth.

PRINT NAME_____ of,

PRINT NAME OF COMPANY _____

Date

SIGNATURE

Document 001000.22

REGISTRATION FORM
PLEASE READ AND ACKNOWLEDGE RECEIPT OF THIS DOCUMENT

ITB#:037-26 –Paycor Stadium Southeast/Southwest Escalator Tower Architecture and MEP Package– GR

All inquiries regarding this ITB are to be e-mailed or mailed to:
Gina Richmond
138 E. Court Street, Room 507
Cincinnati, Ohio 45202
Email: Purchasing@hamiltoncountyohio.gov

The County will not entertain any oral questions regarding this ITB/RFP. Other than specified above, no bidder may contact any county official, employee, project team member or evaluation team member. Bidders are not to schedule appointments or have contact with any of the individuals connected to or having decision-making authority regarding the award of this ITB/RFP. **Inappropriate contact including attempts to influence the ITB/ RFP process, evaluation process or the award process by bidders or by others on their behalf will result in bid/proposal rejection.**

The only appropriate contact is with the Purchasing Department as listed above.

Have you been banned from doing business with the State of Ohio? _____

Is your company a Small/Minority/Women Owned Business? _____
If yes, please specify any certifications:

_____

Please e-mail this page to the Purchasing Department as soon as possible.

By e-mailing this page to the Purchasing Department, you will be registering your company's interest in this ITB/RFP, attendance at pre-bid conference, and it will ensure you will receive all addenda or correspondence. Your signature is an acknowledgement that you have read and understand the information contained on this page. Hamilton County will not be responsible for the timeliness of the delivery via U.S. Mail

DATE:	
COMPANY NAME:	
ADDRESS:	
CITY, STATE & ZIP CODE:	
SALES REPRESENTATIVE'S NAME:	
TELEPHONE NUMBER:	
EMAIL ADDRESS:	
NUMBER OF PEOPLE ATTENDING PREBID (IF APPLICABLE):	
SIGNATURE:	

Hamilton County Paycor Stadium
Southeast/Southwest Escalator Towers
Architecture and MEP Package
May 1, 2026
KZF Project No: 8445.01/8445.02

ATTACHMENT F
PREVAILING WAGE RATES

PART 1 GENERAL

1.1 SUMMARY

The current Ohio Prevailing Wage Rates shall apply for all contractors on this project in accordance with ORC Chapter 4115 as established by the Ohio Department of Commerce.

A. Prevailing Wage Rate data dated May 1, 2026 is attached as Exhibit E.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

Department of Commerce
Division of Industrial Compliance

Affidavit of Compliance

Prevailing Wages

I, _____
(Name of person signing affidavit) (Title)

do hereby certify that the wages paid to all employees of

_____
(Company Name)

for all hours worked on the

_____
(Project name and location)

project, during the period from _____ to _____ are in
(Project Dates)

compliance with prevailing wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

_____
(Signature of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20_____.

_____ (Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

PREVAILING WAGE THRESHOLD LEVELS
IMPORTANT NOTICE

Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the Public Authority shall have the Ohio Department of Commerce-Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.

"New" construction threshold for Building Construction:	**$250,000**

"Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" threshold level for Building Construction:	**$75,000**

As of January 1, 2026:

"New" construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction threshold level has been adjusted to:	**$101,201**

"Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction threshold level has been adjusted to:	**$30,320**

A) Thresholds are to be adjusted biennially by the Director of the Ohio Department of Commerce.
B) Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill's Engineering News-Record, but may not increase or decrease more than 3% for any year.

If there are questions concerning this notification, please contact:
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov

An Official State of Ohio site. Here's how you know

Search Prevailing Wage Rates

To view the current commercial prevailing wage rates:

- Select the county that the prevailing wage project takes place in.
- Counties with an asterisk (*) include rates that only cover part of that county. See "Special Jurisdictional Note" on the wage rate sheet for more information.
- Be sure to check both the county with an asterisk (*) and without for a full list of rates for that county.

To download wage rates:

- Select the wage rates that you would like to download.
- Click 'DOWNLOAD (PDF)'.

Please note: You can only download 100 rates at a time and the PDF download process may take some time to complete. Kindly remain on this page while your file is being generated.

Notice: If you are selecting a county and no rates are pulling up, your session has most likely timed out. Please log out of the portal, restart your browser, and log back in. In the future, log out of the portal before closing the application to prevent a session timeout issue.

Select a County: Hamilton DOWNLOAD (PDF)

Union	Classification	Wage Rate Type	Effective Date	Posted Date	
Asbestos Local 207	Asbestos Worker	Commercial	08/06/2025	08/06/2025	View
Asbestos Local 8 Heat & Frost Insulators	Asbestos Worker	Commercial	03/04/2026	03/04/2026	View
Boilermaker Local 105	Boilermaker	Commercial	10/01/2013	09/25/2013	View
Bricklayer Local 23 (Cincinnati)	Bricklayer	Commercial	06/01/2025	05/28/2025	View
Bricklayer Local 23 Heavy Hwy (A)	Bricklayer	Commercial	03/25/2026	03/25/2026	View
Bricklayer Local 23 Heavy Hwy (B)	Bricklayer	Commercial	03/25/2026	03/25/2026	View
Bricklayer Local 23 Tile Finisher	Bricklayer	Commercial	09/01/2023	08/30/2023	View
Bricklayer Local 23 Tile Mechanic	Bricklayer	Commercial	09/01/2023	08/30/2023	View
Carpenter & Pile Driver SW District HevHwy	Carpenter	Commercial	05/01/2026	04/29/2026	View
Carpenter & Pile Driver SW Zone 2	Carpenter	Commercial	06/11/2025	06/11/2025	View

Union	Classification	Wage Rate Type	Effective Date	Posted Date	
Carpenter Locals 2 & 136 Floorlayer SW	Carpenter	Commercial	09/17/2025	09/17/2025	View
Carpenter Millwright Local 1090 SW Zone I	Carpenter	Commercial	09/10/2025	09/10/2025	View
Cement Mason Local 132 (Cincinnati)	Cement Mason	Commercial	06/01/2025	05/28/2025	View
Cement Mason Local 132 Hev Hwy (Cincinnati)	Cement Mason	Commercial	05/01/2026	04/29/2026	View
Electrical Local 212 Inside	Electrical	Commercial	07/09/2025	07/09/2025	View
Electrical Local 212 Inside Lt Commercial South West	Electrical	Commercial	01/01/2024	12/27/2023	View
Electrical Local 212 Voice Data Video	Electrical	Commercial	12/03/2025	12/03/2025	View
Electrical Local 71 High Tension Pipe Type Cable	Electrical	Commercial	01/07/2026	01/07/2026	View
Electrical Local 71 Outside Cincinnati	Electrical	Commercial	06/04/2025	06/04/2025	View
Electrical Local 71 Outside Utility Power	Electrical	Commercial	01/07/2026	01/07/2026	View
Electrical Local 71 Underground Residential Distribution	Electrical	Commercial	01/07/2026	01/07/2026	View
Electrical Local 71 Voice Data Video Outside	Electrical	Commercial	03/06/2024	03/06/2024	View
Elevator Local 11	Elevator	Commercial	03/18/2026	03/18/2026	View
Glazier Local 387	Glazier	Commercial	11/19/2025	11/19/2025	View
Ironworker Local 44	Ironworker	Commercial	06/01/2025	05/28/2025	View
Labor HevHwy 3	Laborer	Commercial	05/01/2026	04/29/2026	View
Labor Local 265 Building	Laborer	Commercial	06/20/2024	06/20/2024	View
Labor Local 265A Mason Tender	Laborer	Commercial	06/20/2024	06/20/2024	View
Operating Engineers - Building Local 18 - Zone III	Operating Engineer	Commercial	05/01/2026	04/29/2026	View
Operating Engineers - HevHwy Zone II	Operating Engineer	Commercial	05/01/2026	04/29/2026	View
Painter Local 123 & 238 Commercial & Industrial	Painter	Commercial	05/01/2024	05/01/2024	View
Painter Local 123 & 238 Drywall	Painter	Commercial	05/01/2026	04/29/2026	View
Painter Local 123 & 238 Hvy Hwy	Painter	Commercial	05/01/2024	05/01/2024	View
Painter Local 639 Sign and Display	Painter	Commercial	06/18/2025	06/18/2025	View
Painter Local 639 Zone 2 Sign	Painter	Commercial	05/28/2025	05/28/2025	View
Plasterer Local 132 (Cincinnati)	Plasterer	Commercial	07/01/2024	06/26/2024	View

	Union	Classification	Wage Rate Type	Effective Date	Posted Date	
☐	Plumber Pipefitter Local 392	Plumber Pipefitter	Commercial	06/11/2025	06/11/2025	View
☐	Roofer Local 42	Roofer	Commercial	11/26/2025	11/26/2025	View
☐	Sheet Metal Local 24 (Cincinnati)	Sheet Metal Worker	Commercial	11/19/2025	11/19/2025	View
☐	Sprinkler Fitter Local 669	Sprinkler Fitter	Commercial	08/06/2025	08/06/2025	View
☐	Truck Driver Locals 20,40,92,100,175,284,348,377,637,697,908,957 - Bldg & HevHwy Class 1	Truck Driver	Commercial	05/01/2026	04/29/2026	View
☐	Truck Driver Locals 20,40,92,100,175,284,348,377,637,697,908,957 - Bldg & HevHwy Class 2	Truck Driver	Commercial	05/01/2026	04/29/2026	View

Prevailing Wage Rate
Skilled Crafts

Name of Union: Asbestos Local 207

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Asbestos Worker	8/6/2025	8/6/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Asbestos Abatement	$32.50		$10.95	$7.25	$0.75	$3.75	$0.00	$0.05	$0.00	$0.00	$55.25	$71.50
Apprentice	BHR	Percent										
Trainee	$22.00	$67.69	$10.95	$1.90	$0.75	$1.00	$0.00	$0.05	$0.00	$0.00	$36.65	$47.65

(*)Special Calculation Note :

Other: Drug Testing

Ratio :

3 Journeymen to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

Adams, Ashland, Ashtabula*, Athens, Auglaize, Brown, Butler*, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Delaware, Erie*, Fairfield, Fayette, Franklin, Geauga, Greene, Guernsey, Hamilton, Hardin, Harrison, Highland, Hocking, Holmes, Huron, Knox, Lake, Licking, Logan, Lorain, Madison, Mahoning, Marion, Medina, Miami, Montgomery, Morgan, Morrow, Muskingum, Noble, Perry, Pickaway, Portage, Preble, Richland, Ross, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Vinton, Warren*, Wayne

Special Jurisdictional Note :

Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe,Morgan,New Lyme,North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Shefield, Trumbull, Wayne, Williamsfield & Windsor)

Butler County: (townships of Fairfield, Hanover, Liberty, Milford, Morgan, Oxford, Ripley, Ross, St. Clair, Union & Wayne) (Lemon & Madison)

Erie County: (post offices & townships of Berlin, Berlin Heights,Birmingham,Florence, Huron, Milan, Shinrock & Vermilion)

Warren County: (townships of: Deerfield, Hamilton, Harlan, Salem, Union & Washington) (Clear Creek, Franklin, Mossie, Turtle Creek & Wayne)

Details :

An Abatement Journeyman is anyone who has more than 600 hours in the Asbestos Abatement field.

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Asbestos Local 8 Heat & Frost Insulators

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Asbestos Worker	3/4/2026	3/4/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Asbestos Insulators	$36.33		$9.74	$9.35	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$60.37	$78.53
Apprentice Rates for those that began BEFORE March 1, 2024	$		$	$	$	$	$	$	$	$	$	$
1st Year	$19.98		$9.74	$5.10	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$39.77	$49.76
2nd Year	$21.80		$9.74	$6.65	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$43.14	$54.04
3rd Year	$23.61		$9.74	$6.65	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$44.95	$56.75
4th Year	$25.43		$9.74	$6.65	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$46.77	$59.48
Apprentice	BHR	Percent										
1st Year	$19.98	$55.00	$9.74	$5.10	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$35.27	$45.26
2nd Year	$21.80	$60.00	$9.74	$6.65	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$38.64	$49.54
3rd Year	$23.61	$65.00	$9.74	$6.65	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$44.95	$56.75
4th Year	$25.43	$70.00	$9.74	$6.65	$0.45	$0.00	$4.50	$0.00	$0.00	$0.00	$46.77	$59.48

(*)Special Calculation Note :

Ratio :

1 Journeyman to 1 Apprentice
2 Journeymen to 2 Apprentices
3 Journeymen to 3 Apprentices
3 Journeymen to 1 Apprentice thereafter

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler*, Clermont, Hamilton, Highland, Warren*

Special Jurisdictional Note :

In Butler County: townships of Fairfield, Hanover, Liberty, Milford, Morgan, Oxford, Ripley, Ross, St.Clair, Union & Wayne.

In Warren County: Townships of Deerfield, Hamilton, Harlan, Salem, Union & Washington.

Details :

All work in connection with Asbestos Removal, Abatement, Encapsulation, Lead Abatement, Hazardous Materials and Fire Stopping which is performed by employees in the Mechanic or Apprentice Classification shall be covered under the terms of this Agreement..

Prevailing Wage Rate
Skilled Crafts

Name of Union: Boilermaker Local 105

Type of Rate: Commercial

Change #: LCN02-2013fb

Craft: Boilermaker

Effective Date: 10/1/2013

Effective Date: 10/1/2013

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Boilermaker	$35.26		$7.07	$13.28	$0.89	$0.00	$3.00	$0.55	$0.00	$0.00	$60.05	$77.68
Apprentice	BHR	Percent										
1st 6 months	$24.69	$70.03	$7.07	$11.30	$0.89	$0.00	$2.10	$0.55	$0.00	$0.00	$46.60	$58.95
2nd 6 months	$26.45	$75.02	$7.07	$11.30	$0.89	$0.00	$2.25	$0.55	$0.00	$0.00	$48.51	$61.74
3rd 6 months	$28.21	$80.00	$7.07	$11.30	$0.89	$0.00	$2.40	$0.55	$0.00	$0.00	$50.42	$64.52
4th 6 months	$29.98	$85.02	$7.07	$11.30	$0.89	$0.00	$2.55	$0.55	$0.00	$0.00	$52.34	$67.33
5th 6 months	$30.86	$87.52	$7.07	$13.28	$0.89	$0.00	$2.63	$0.55	$0.00	$0.00	$55.28	$70.71
6th 6 months	$31.74	$90.03	$7.07	$13.28	$0.89	$0.00	$2.70	$0.55	$0.00	$0.00	$56.23	$72.11
7th 6 months	$32.62	$92.50	$7.07	$13.28	$0.89	$0.00	$2.78	$0.55	$0.00	$0.00	$57.19	$73.49
8th 6 months	$33.50	$95.00	$7.07	$13.28	$0.89	$0.00	$2.85	$0.55	$0.00	$0.00	$58.14	$74.89

(*)Special Calculation Note :

Other is Supplemental Health and Welfare

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Athens, Brown, Butler, Champaign, Clark, Clermont, Clinton, Fairfield, Fayette, Franklin, Gallia, Greene, Guernsey, Hamilton, Highland, Hocking, Jackson, Lawrence, Licking, Madison, Meigs, Miami, Montgomery, Morgan, Muskingum, Noble, Perry, Pickaway, Pike, Preble, Ross, Scioto, Vinton, Warren

Special Jurisdictional Note :

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Bricklayer Local 23 (Cincinnati)

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Bricklayer

Effective Date: 6/1/2025

Effective Date: 6/1/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer	$36.25		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.38	$72.51
Stone Mason	$36.25		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.38	$72.51
Pointer Caulker Cleaner	$36.25		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.38	$72.51
Refractory Workers	$37.25		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$55.38	$74.01
Refractory Worker Hot Pay	$39.25		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$57.38	$77.01
Sawman	$36.50		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.63	$72.88
Layout Man	$36.50		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.63	$72.88
Free Standing Chimney	$36.75		$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$54.88	$73.26
Apprentice	BHR	Percent										
1st 6 months	$25.38	$70.02	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$43.51	$56.20
2nd 6 months	$26.83	$74.02	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$44.96	$58.38
3rd 6 months	$28.28	$78.00	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$46.41	$60.54
4th 6 months	$29.73	$82.02	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$47.86	$62.73
5th 6 months	$31.18	$86.02	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$49.31	$64.90
6th 6 months	$32.63	$90.00	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$50.76	$67.07
7th 6 months	$34.08	$94.02	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$52.21	$69.25
8th 6 months	$35.53	$98.00	$10.44	$6.94	$0.75	$0.00	$0.00	$0.00	$0.00	$0.00	$53.66	$71.42
MASON FINISHER 1-90 Days	$16.31	$45.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16.31	$24.47
90-365 Days	$16.31	$45.00	$10.44	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$26.75	$34.91
366+ Days	$18.13	$50.00	$10.44	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$28.57	$37.64

(*)Special Calculation Note :

**In order to utilize a Pre-Apprentice, you must have 1 Registerd Apprentice in your employ. Mason Trainees Health and Welfare after 180 days

Ratio :

1-2 Journeyman to 1 Apprentice 3-4 Journeyman to 2 Apprentice 5-6 Journeyman to 2 Apprentice 7-10 Journeyman to 3 Apprentice 1 Apprentice permits 1 Mason Trainee 2 Apprentice permits 1 Mason Trainee 3 Apprentice permits 2 Mason Trainees 4 Apprentice permits 2 Mason Trainees For each additional 5 Journeyman to 1 Apprentice, for every 3 additional Apprentices, 1 Mason Finisher may be added

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Preble*, Warren

Special Jurisdictional Note :

In Preble County the following townships are included: (Dixon, Gasper, Graits, Israel, Lanier and Somers)

Details :

MASON FINISHER:duties shall be to work in all aspects of Masonry construction taking direction from the employer and the Journeyman Bricklayer & Stone Mason's working on the job. Mason Finisher's may work on job site only when a registered apprentice is on job and the ratios in table above will strictly be enforced. Refractory work is classified as working with any of the following materials: Acid brick, carbon black brick or carbon black block, firebrick grinding, plastics (with a gun) and any resinous cement. Fifty cents ($0.50) per hour above scale shall be paid to employees working on free standing industrial or institutional chimneys which are completely detached from any building structure.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (A)

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Bricklayer	3/25/2026	3/25/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Sewer Water Works A	$34.56		$10.20	$9.68	$0.56	$0.00	$1.30	$0.00	$0.00	$0.00	$56.30	$73.58
Apprentice	BHR	Percent										
1st year	$24.19	$70.00	$10.20	$9.68	$0.56	$0.00	$1.30	$0.00	$0.00	$0.00	$45.93	$58.03
2nd year	$27.65	$80.00	$10.20	$9.68	$0.56	$0.00	$1.30	$0.00	$0.00	$0.00	$49.39	$63.21
3rd year	$31.10	$90.00	$10.20	$9.68	$0.56	$0.00	$1.30	$0.00	$0.00	$0.00	$52.84	$68.39

(*)Special Calculation Note :

This rate is not for building construction.

This rate applies only to the Cement Masons. All other Bricklaying, PCC, Stone, Tile, Marble, Refractory, Industrial and all other applicable work performed will be performed under the applicable rates for those contracts.

Ratio :

3 Journeymen to 1 Apprentice
6 Journeymen to 2 Apprentice
9 Journeymen to 3 Apprentice
12 Journeymen to 4 Apprentice
15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Geauga, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

Bricklayer Local 23 Heavy Hwy (A): Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

Bricklayer Local 23 Heavy Hwy (B): Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control, Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (B)

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Bricklayer	3/25/2026	3/25/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	$35.56		$10.20	$9.68	$0.57	$0.00	$1.30	$0.00	$0.00	$0.00	$57.31	$75.09
Apprentice	BHR	Percent										
1st year	$24.89	$70.00	$10.20	$9.68	$0.57	$0.00	$1.30	$0.00	$0.00	$0.00	$46.64	$59.09
2nd year	$28.45	$80.00	$10.20	$9.68	$0.57	$0.00	$1.30	$0.00	$0.00	$0.00	$50.20	$64.42
3rd year	$32.00	$90.00	$10.20	$9.68	$0.57	$0.00	$1.30	$0.00	$0.00	$0.00	$53.75	$69.75

(*)Special Calculation Note :

This rate is not for building construction.

This rate applies only to the Cement Masons. All other Bricklaying, PCC, Stone, Tile, Marble, Refractory, Industrial and all other applicable work performed will be performed under the applicable rates for those contracts.

Ratio :

3 Journeymen to 1 Apprentice
6 Journeymen to 2 Apprentice
9 Journeymen to 3 Apprentice
12 Journeymen to 4 Apprentice
15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Geauga, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

Bricklayer Local 23 Heavy Hwy (A): Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

Bricklayer Local 23 Heavy Hwy (B): Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control, Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Bricklayer Local 23 Tile Finisher

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2023ib	Bricklayer	9/1/2023	9/1/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer Tile Marble Terrazzo Finisher	$27.87		$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$44.18	$58.12
Terrazzo Base Grinder	$28.37		$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$44.68	$58.87
Marble Sander Polisher	$27.97		$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$44.28	$58.27
Apprentice	BHR	Percent										
1st 6 months 0-600 hrs	$18.12	$65.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$34.43	$43.48
2nd 6 months 601-1200 hrs	$19.51	$70.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$35.82	$45.57
3rd 6 months 1201-1800 hrs	$20.90	$75.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$37.21	$47.66
4th 6 months 1801-2400 hrs	$22.30	$80.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$38.61	$49.75
5th 6 months 2401-3000 hrs	$23.69	$85.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$40.00	$51.84
6th 6 months 3001-3600	$26.48	$95.00	$9.67	$5.85	$0.54	$0.00	$0.25	$0.00	$0.00	$0.00	$42.79	$56.02
1-30 Days Prior to Entering Apprentice ship	$16.72	$60.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$16.72	$25.08

(*)Special Calculation Note :

Classification title contains "Bricklayer" because contract originates within the Bricklayer Local. Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

1 Journeyman to 1 Apprentice 5 Journeymen to 1 Apprentice 10 Journeymen to 2 Apprentices 15 Journeymen to 3 Apprentices 20 Journeymen to 4 Apprentices 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler, Clermont, Gallia, Hamilton, Lawrence, Preble*, Scioto, Warren, Warren*

Special Jurisdictional Note :

Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

In order to utilize a Pre-Apprentice, you must have 1 Registerd Apprentice in your employ.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Bricklayer Local 23 Tile Mechanic

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2023ib	Bricklayer	9/1/2023	9/1/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer Tile Terrazzo Marble Mason Mechanic	$32.41		$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$48.75	$64.96
Marble Layout Work	$32.91		$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$49.25	$65.71
Swing Scaffold Worker	$33.91		$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$50.25	$67.21
Apprentice	BHR	Percent										
5th/6 Months 0-600 hrs	$22.69	$70.00	$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$39.03	$50.37
6th/6 months 601-1200 hrs	$25.93	$80.00	$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$42.27	$55.23
7th/6 months 1201-1800 hrs.	$27.55	$85.00	$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$43.89	$57.66
8th/6 months 1801-2400 hrs.	$29.17	$90.00	$9.67	$5.85	$0.57	$0.00	$0.25	$0.00	$0.00	$0.00	$45.51	$60.09
.	$	$	$	$	$	$	$	$	$	$	$	$

(*)Special Calculation Note :

Classification title contains "Bricklayer" because contract originates within the Bricklayer Local. Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

1 Journeyman to 1 Apprentice 5 Journeymen to 1 Apprentice 10 Journeymen to 2 Apprentices 15 Journeymen to 3 Apprentices 20 Journeymen to 4 Apprentices 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler, Clermont, Gallia, Hamilton, Lawrence, Preble*, Scioto, Warren

Special Jurisdictional Note :

In Preble County the Townships of Dixon, Israel, Gasper, Lanier, Somers and Gratis.

Details :

In order to utilize a Pre-Apprentice, you must have 1 Registerd Apprentice in your employ.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Carpenter & Pile Driver SW District HevHwy

Type of Rate: Commercial

Change #: LCN01-2026ib

Craft: Carpenter

Effective Date: 5/1/2026

Effective Date: 5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Journeyman	$37.49		$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$62.57	$81.31
Apprentice	BHR	Percent										
1st 6 Months	$26.24	$70.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$51.32	$64.44
2nd 6 Months	$26.24	$70.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$51.32	$64.44
3rd 6 Months	$29.99	$80.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$55.07	$70.06
4th 6 Months	$29.99	$80.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$55.07	$70.06
5th 6 Months	$33.74	$90.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$58.82	$75.69
6th 6 Months	$33.74	$90.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$58.82	$75.69
7th 6 Months	$35.62	$95.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$60.70	$78.51
8th 6 Months	$35.62	$95.00	$10.31	$6.95	$0.80	$0.00	$6.87	$0.15	$0.00	$0.00	$60.70	$78.51

(*)Special Calculation Note :

Other: UBC National Fund

When the Contractor furnishes the necessary underwater gear for the Diver, the Diver shall be paid one and one half (1 & 1/2) times the journeyman rate for the time spent in the water.

Ratio :

1 Journeymen to 1 Apprentice

An employer shall have the right to employ one (1) Apprentice for one (1) Journeyman Carpenter in its employment for the first Apprentice employed, and 1 (1) Apprentice for two (2) Journeyman Carpenter for additional Apprentices employed. Thereafter, every third additional carpenter hired shall be an apprentice, if available, and if practical for the type of work being performed.

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Greene, Hamilton, Logan, Miami, Montgomery, Preble, Shelby, Warren

Special Jurisdictional Note :

Details :

Highway Construction, Airport Construction, Heavy Construction but not limited to: (tunnels, subways, drainage projects, flood control, reservoirs).
Railroad Construction, Sewer Waterworks & Utility Construction but not limited to: (storm sewers, waterlines, gas lines).
Industrial & Building Site, Power Plant, Amusement Park, Athletic Stadium Site, Sewer and Water Plants.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Carpenter & Pile Driver SW Zone 2

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Carpenter

Effective Date: 6/11/2025

Effective Date: 6/11/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter	$33.34		$9.28	$6.95	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$54.17	$70.84
Pile Driver	$33.34		$9.28	$6.95	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$54.17	$70.84
Apprentice	BHR	Percent										
1st 6 Months	$23.34	$70.00	$9.28	$2.00	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$39.22	$50.89
2nd 6 Months	$23.34	$70.00	$9.28	$2.00	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$39.22	$50.89
3rd 6 Months	$26.67	$80.00	$9.28	$5.56	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$46.11	$59.45
4th 6 Months	$26.67	$80.00	$9.28	$5.56	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$46.11	$59.45
5th 6 Months	$30.01	$90.00	$9.28	$6.26	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$50.15	$65.15
6th 6 Months	$30.01	$90.00	$9.28	$6.26	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$50.15	$65.15
7th 6 Months	$31.67	$95.00	$9.28	$6.60	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$52.15	$67.99
8th 6 Months	$31.67	$95.00	$9.28	$6.60	$0.70	$0.00	$3.74	$0.16	$0.00	$0.00	$52.15	$67.99

(*)Special Calculation Note :

Other is for UBC National Fund.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Clinton, Hamilton, Warren

Special Jurisdictional Note :

Details :

Carpenter duties shall include but not limited to: Pile driving, milling,fashioning,joining,assembling,erecting,fastening, or dismantling of all material of wood,plastic,metal,fiber,cork,and composition, and all other substitute materials: pile driving,cutting,fitting,and placing of lagging, and the handling,cleaning,erecting,installing,and dismantling of machinery,equipment,and erecting pre-engineered metal buildings. Pile Drivers work but not limited to: unloading, assembling,erection,repairs,operation,signaling,dismantling, and reloading all equipment that is used for pile driving including pile butts. pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The diver and his tender work as a team and shall arrive at their own financial arrangements with the contractor.Any configuration of wood, steel, concrete, or composite that is jetted, driven, or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary. Driving bracing,plumbing,cutting off and capping of all piling whether wood,metal,pipe piling or composite. loading, unloading, erecting, framing, dismantling, moving, and handling of pile driving equipment. piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams, and the erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves,docks,shipyards, caissons, piers, bridges, pipeline work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed. Rate shall include carpenters, acoustic, and ceiling installers, drywall installers, pile drivers, and floorlayers.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Carpenter Locals 2 & 136 Floorlayer SW

Type of Rate: Commercial

Change #: LCN02-2025sks

Craft: Carpenter

Effective Date: 9/17/2025

Effective Date: 9/17/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Floorlayer	$31.74		$9.24	$6.95	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$52.06	$67.93
Apprentice	BHR	Percent										
1st 6 months	$22.22	$70.00	$9.24	$2.00	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$37.59	$48.70
2nd 6 months	$22.22	$70.00	$9.24	$2.00	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$37.59	$48.70
3rd 6 months	$25.39	$80.00	$9.24	$5.56	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$44.32	$57.02
4th 6 months	$25.39	$80.00	$9.24	$5.56	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$44.32	$57.02
5th 6 months	$28.57	$90.00	$9.24	$6.26	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$48.20	$62.48
6th 6 months	$28.57	$90.00	$9.24	$6.26	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$48.20	$62.48
7th 6 months	$30.15	$95.00	$9.24	$6.60	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$50.12	$65.19
8th 6 months	$30.15	$95.00	$9.24	$6.60	$0.70	$0.00	$3.27	$0.16	$0.00	$0.00	$50.12	$65.19

(*)Special Calculation Note :

Other: UBC National Fund and Install

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Greene, Hamilton, Logan, Miami, Montgomery, Preble, Shelby, Warren

Special Jurisdictional Note :

Details :

Scope of work shall include, but not be limited to: receiving,unloading,handling,distribution and installation of all carpeting materials,carpet padding or matting materials and all resilient materials whether for use on walls, floors,counter, sink,table and all preparation work necessary in connection therewith, including sanding work. the installation of nonstructural under-layment and the work of removing, cleaning waxing of any of the above. Carpeting shall include any floor covering composed of either natural or synthetic fibers that are made in breadths to be sewed, fastened or directly glued to floors or over cushioning sound-proofing materials.Resilient Floors shall consist of and include the laying of all special designs of wood,wood block, wood composition, cork, linoleum, asphalt, mastic, plastic, rubber tile,whether nailed or glued.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Carpenter Millwright Local 1090 SW Zone I

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Carpenter

Effective Date: 9/10/2025

Effective Date: 9/10/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Millwright	$37.37		$9.18	$6.95	$0.72	$0.00	$8.34	$0.19	$0.00	$0.00	$62.75	$81.43
Apprentice	BHR	Percent										
1st 6 months	$26.16	$70.00	$9.18	$4.87	$0.72	$0.00	$5.84	$0.19	$0.00	$0.00	$46.96	$60.04
2nd 6 months	$26.16	$70.00	$9.18	$4.87	$0.72	$0.00	$5.84	$0.19	$0.00	$0.00	$46.96	$60.04
3rd 6 months	$29.90	$80.00	$9.18	$5.56	$0.72	$0.00	$6.67	$0.19	$0.00	$0.00	$52.22	$67.17
4th 6 months	$29.90	$80.00	$9.18	$5.56	$0.72	$0.00	$6.67	$0.19	$0.00	$0.00	$52.22	$67.17
5th 6 months	$33.63	$90.00	$9.18	$6.26	$0.72	$0.00	$7.51	$0.19	$0.00	$0.00	$57.49	$74.31
6th 6 months	$33.63	$90.00	$9.18	$6.26	$0.72	$0.00	$7.51	$0.19	$0.00	$0.00	$57.49	$74.31
7th 6 months	$35.50	$95.00	$9.18	$6.60	$0.72	$0.00	$7.92	$0.19	$0.00	$0.00	$60.11	$77.86
8th 6 months	$35.50	$95.00	$9.18	$6.60	$0.72	$0.00	$7.92	$0.19	$0.00	$0.00	$60.11	$77.86

(*)Special Calculation Note :

Other ($0.19) $0.14 National Fund and National Millwright Fund $0.05

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Clinton, Hamilton, Warren

Special Jurisdictional Note :

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Cement Mason Local 132 (Cincinnati)

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Cement Mason

Effective Date: 6/1/2025

Effective Date: 6/1/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason	$33.60		$8.20	$6.50	$0.80	$0.00	$0.49	$0.06	$0.00	$0.00	$49.65	$66.45
Apprentice	BHR	Percent										
1st Year	$23.52	$70.00	$8.20	$6.50	$0.80	$0.00	$0.49	$0.06	$0.00	$0.00	$39.57	$51.33
2nd Year	$26.88	$80.00	$8.20	$6.50	$0.80	$0.00	$0.49	$0.06	$0.00	$0.00	$42.93	$56.37
3rd Year	$30.24	$90.00	$8.20	$6.50	$0.80	$0.00	$0.49	$0.06	$0.00	$0.00	$46.29	$61.41

(*)Special Calculation Note :

Other: International Training Fund

Ratio :

1 Journeyman to 1 Apprentice 4 Journeymen to 2 Apprentices 7 Journeymen to 3 Apprentices 10 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Highland, Warren

Special Jurisdictional Note :

Details :

*Cement Masons working on silo & slip form work shall receive $.50 per hour over Journeyman scale. *Cement Masons working on swinging scaffolds shall receive $.50 per hour over Journeyman scale. *Cement Masons working on high lifts from 20' and above shall receive $.50 per hour over Journeyman scale.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Cement Mason Local 132 Hev Hwy (Cincinnati)

Type of Rate: Commercial

Change #: LCN01-2026ib

Craft: Cement Mason

Effective Date: 5/1/2026

Effective Date: 5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason	$39.04		$9.35	$7.65	$1.00	$0.00	$2.30	$0.07	$0.00	$0.00	$59.41	$78.93
Apprentice	BHR	Percent										
1st Year	$27.33	$70.00	$9.35	$7.65	$1.00	$0.00	$2.30	$0.07	$0.00	$0.00	$47.70	$61.36
2nd Year	$31.23	$80.00	$9.35	$7.65	$1.00	$0.00	$2.30	$0.07	$0.00	$0.00	$51.60	$67.22
3rd Year	$35.14	$90.00	$9.35	$7.65	$1.00	$0.00	$2.30	$0.07	$0.00	$0.00	$55.51	$73.08

(*)Special Calculation Note :

Other: International Training Fund

Ratio :

1 Journeyman to 1 Apprentice
2 Journeymen to 1 Apprentice thereafter

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Highland, Warren

Special Jurisdictional Note :

Details :

Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work, Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work, Pollution Control, Sewer Plant, Waste & Water Plant, Water Treatment Facilities Construction.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 212 Inside

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Electrical

Effective Date: 7/9/2025

Effective Date: 7/9/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrician	$38.05		$8.05	$10.59	$0.68	$0.00	$3.00	$0.65	$0.00	$0.00	$61.02	$80.04
Apprentice	BHR	Percent										
1st period 0-1000 hrs	$17.12	$45.00	$8.05	$0.51	$0.31	$0.00	$0.35	$0.00	$0.00	$0.00	$26.34	$34.90
2nd period 1000-2000 hrs	$18.26	$48.00	$8.05	$0.55	$0.33	$0.00	$0.35	$0.00	$0.00	$0.00	$27.54	$36.67
3rd period 2000-3500 hrs	$19.03	$50.02	$8.05	$5.30	$0.34	$0.00	$1.80	$0.65	$0.00	$0.00	$35.17	$44.69
4th period 3500-5000 hrs	$19.79	$52.00	$8.05	$5.50	$0.36	$0.00	$1.85	$0.65	$0.00	$0.00	$36.20	$46.09
5th period 5000-6500 hrs	$21.69	$57.00	$8.05	$6.04	$0.39	$0.00	$1.90	$0.65	$0.00	$0.00	$38.72	$49.56
6th period 6500-8000 hrs	$25.87	$68.00	$8.05	$7.21	$0.47	$0.00	$2.20	$0.65	$0.00	$0.00	$44.45	$57.39

(*)Special Calculation Note :

Other: Supplemental Unemployment

Ratio :

1 - 3 Journeyman to 2 Apprentices
4 - 6 Journeyman to 4 Apprentices
7 - 9 Journeyman to 6 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Hamilton

Special Jurisdictional Note :

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 212 Inside Lt Commercial South West

Type of Rate: Commercial

Change #: LCN01-2023ib

Craft: Electrical

Effective Date: 1/1/2024

Effective Date: 1/1/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrician	$34.41		$7.60	$10.03	$0.62	$0.00	$2.65	$0.65	$0.00	$0.00	$55.96	$73.17
CE-3 12,001-14,000 Hrs	$27.05		$6.67	$0.81	$0.88	$0.00	$0.81	$0.00	$0.00	$0.00	$36.22	$49.75
CE-2 10,001-12,000 Hrs	$21.64		$6.67	$0.65	$0.88	$0.00	$0.65	$0.00	$0.00	$0.00	$30.49	$41.31
CE-1 8,001-10,000 Hrs	$19.83		$6.67	$0.59	$0.88	$0.00	$0.59	$0.00	$0.00	$0.00	$28.56	$38.48
CW-4 6,001-8,000 Hrs	$18.03		$6.67	$0.54	$0.88	$0.00	$0.54	$0.00	$0.00	$0.00	$26.66	$35.68
CW-3 4,001-6,000 Hrs	$16.23		$6.67	$0.49	$0.88	$0.00	$0.49	$0.00	$0.00	$0.00	$24.76	$32.88
CW-2 2,001-4,000 Hrs	$15.33		$6.67	$0.46	$0.88	$0.00	$0.46	$0.00	$0.00	$0.00	$23.80	$31.47
CW-1 0-2,000 Hrs	$14.42		$6.67	$0.43	$0.88	$0.00	$0.43	$0.00	$0.00	$0.00	$22.83	$30.04
Apprentice	BHR	Percent										
1st period 0-1000 hrs	$15.48	$45.00	$7.60	$0.46	$0.28	$0.00	$0.35	$0.00	$0.00	$0.00	$24.17	$31.92
2nd period 1000-2000 hrs	$16.52	$48.00	$7.60	$0.50	$0.30	$0.00	$0.35	$0.00	$0.00	$0.00	$25.27	$33.53
3rd period 2000-3500 hrs	$17.21	$50.02	$7.60	$5.02	$0.31	$0.00	$1.60	$0.65	$0.00	$0.00	$32.39	$41.00
4th period 3500-5000 hrs	$17.89	$52.00	$7.60	$5.22	$0.32	$0.00	$1.65	$0.65	$0.00	$0.00	$33.33	$42.28
5th period 5000-6500 hrs	$19.61	$57.00	$7.60	$5.72	$0.35	$0.00	$1.70	$0.65	$0.00	$0.00	$35.63	$45.44
6th period 6500-8000 hrs	$23.40	$68.00	$7.60	$6.82	$0.42	$0.00	$1.95	$0.65	$0.00	$0.00	$40.84	$52.54

(*)Special Calculation Note :

Other is; Supplemental Unemployment

Ratio :

Each Job site shall be allowed a ratio of two (2) Apprentices to every three (3) Journeyman Wireman. 1 to 3 Journeyman to 2 Apprentices 4 to 6 Journeyman to 4 Apprentices Etc. Construction Electrician and Construction Wireman Ratio There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Hamilton

Special Jurisdictional Note :

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 212 Voice Data Video

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Electrical	12/3/2025	12/3/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Installer Technician A	$29.00		$7.10	$6.57	$0.55	$0.00	$2.75	$0.50	$0.00	$0.00	$46.47	$60.97
Electrical Installer Technician B	$27.55		$7.10	$6.53	$0.52	$0.00	$2.75	$0.50	$0.00	$0.00	$44.95	$58.73
JW Installer Technician	$26.10		$7.10	$6.48	$0.50	$0.00	$2.75	$0.50	$0.00	$0.00	$43.43	$56.48
Cable Puller	$15.95		$4.55	$0.00	$0.30	$0.00	$0.25	$0.00	$0.00	$0.00	$21.05	$29.02
Apprentice	BHR	Percent										
1st Period 0-1000 Hours	$17.40	$60.00	$4.55	$3.94	$0.33	$0.00	$1.65	$0.30	$0.00	$0.00	$28.17	$36.87
2nd Period 1001-2000 Hours	$17.40	$60.00	$4.55	$3.94	$0.33	$0.00	$1.65	$0.30	$0.00	$0.00	$28.17	$36.87
3rd Period 2001-3000 Hours	$18.85	$65.00	$7.10	$4.28	$0.36	$0.00	$1.79	$0.33	$0.00	$0.00	$32.71	$42.13
4th Period 3001-4000 Hours	$18.85	$65.00	$7.10	$4.28	$0.36	$0.00	$1.79	$0.33	$0.00	$0.00	$32.71	$42.13
5th Period 4001-5000 Hours	$20.30	$70.00	$7.10	$4.60	$0.39	$0.00	$1.93	$0.35	$0.00	$0.00	$34.67	$44.82
6th Period 5001-6000 Hours	$21.75	$75.00	$7.10	$4.93	$0.41	$0.00	$2.06	$0.38	$0.00	$0.00	$36.63	$47.51
7th Period 6001-7000 Hours	$23.20	$80.00	$7.10	$5.26	$0.44	$0.00	$2.20	$0.40	$0.00	$0.00	$38.60	$50.20
8th Period 7001-8000 Hours	$24.65	$85.00	$7.10	$5.59	$0.47	$0.00	$2.34	$0.43	$0.00	$0.00	$40.58	$52.90

(*)Special Calculation Note :

Other is Health Reimbursment Account.

Ratio :

1 Technician to 2 Apprentices
2 Technicians to 4 Apprentices
3 Technicians to 6 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Hamilton

Special Jurisdictional Note :

Details :

A Journeyman Installer/ Technician "A" shall be an individual with one of the following criteria:
Scenario (1)
- Successfully completed Classroom and OTJ requirements of JA TC Apprentice Program
- Maintain current BICSI Technician certification
Scenario (2) Through organizing or transfer;
- Provide 8,000 hours of documented, verifiable field experience.
- Maintain current BICSI Technician certification

A Journeyman Installer/ Technician "B" shall be an individual with one of the following criteria:
Scenario (1)
- Successfully completed Classroom and OTJ requirements of JA TC Apprentice Program
- Maintain current BICSI - ITS Level 2, Copper & Fiber certifications
SCENERIO (2) Through organizing or transfer;
- Provide 8,000 hours of documented, verifiable field experience.
- Maintain current BICSI - ITS Level 2, Copper & Fiber certifications

A Journeyman Installer /Technician shall be an individual with one of the following criteria:
SCENERIO (1)
- Successfully completed Classroom and OTJ requirements of JATC Apprentice Program
SCENERIO (2) Through organizing or transfer;
- Provide 8,000 hours of documented, verifiable field experience.

An Apprentice/Installer shall be an individual currently participating in the JA TC Administered Apprentice Program completing classroom and OTJ requirements as specified by JATC. BICSI Education courses in support of above classifications will be provided to all Apprentice/Installer students via the JATC.

The work covered by this Agreement shall include the installation, testing, service and maintenance, of all VDV systems which utilize the transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, and low voltage master clock systems.

The following work is excluded from the Teledata Technician work scope:
The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.
The installation of conduit and/or raceways shall be installed by Inside Wireman. On sites where there is no Inside Wireman employed, the Teledata Technician may install raceway or conduit not greater than 10 ft.
Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.
All HVAC control work.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Electrical	1/7/2026	1/7/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Lineman	$54.94		$7.50	$1.65	$0.55	$0.00	$13.19	$1.00	$0.00	$0.00	$78.83	$106.30
Certified Lineman Welder	$54.94		$7.50	$1.65	$0.55	$0.00	$13.19	$1.00	$0.00	$0.00	$78.83	$106.30
Certified Cable Splicer	$54.94		$7.50	$1.65	$0.55	$0.00	$13.19	$1.00	$0.00	$0.00	$78.83	$106.30
Operator A	$49.20		$7.50	$1.48	$0.49	$0.00	$11.81	$1.00	$0.00	$0.00	$71.48	$96.08
Operator B	$43.52		$7.50	$1.31	$0.44	$0.00	$10.44	$1.00	$0.00	$0.00	$64.21	$85.97
Operator C	$34.93		$7.50	$1.05	$0.35	$0.00	$8.38	$1.00	$0.00	$0.00	$53.21	$70.67
Groundman 0-12 months Exp	$27.47		$7.50	$0.82	$0.27	$0.00	$6.59	$1.00	$0.00	$0.00	$43.65	$57.38
Groundman 0-12 months Exp w/CDL	$30.22		$7.50	$0.91	$0.30	$0.00	$7.25	$1.00	$0.00	$0.00	$47.18	$62.29
Groundman 1 yr or more	$30.22		$7.50	$0.91	$0.30	$0.00	$7.25	$1.00	$0.00	$0.00	$47.18	$62.29
Groundman 1 yr or more w/CDL	$35.71		$7.50	$1.07	$0.36	$0.00	$8.57	$1.00	$0.00	$0.00	$54.21	$72.06
Equipment Mechanic A	$43.52		$7.50	$1.31	$0.44	$0.00	$10.44	$1.00	$0.00	$0.00	$64.21	$85.97
Equipment Mechanic B	$39.22		$7.50	$1.18	$0.39	$0.00	$9.41	$1.00	$0.00	$0.00	$58.70	$78.31
Equipment Mechanic C	$34.92		$7.50	$1.05	$0.35	$0.00	$8.38	$1.00	$0.00	$0.00	$53.20	$70.66
X-Ray Technician	$54.94		$7.50	$1.65	$0.55	$0.00	$13.19	$1.00	$0.00	$0.00	$78.83	$106.30
Apprentice	BHR	Percent										
1st 1000 hrs	$32.96	$60.00	$7.50	$0.99	$0.33	$0.00	$7.91	$1.00	$0.00	$0.00	$50.69	$67.17
2nd 1000 hrs	$35.71	$65.00	$7.50	$1.07	$0.36	$0.00	$8.57	$1.00	$0.00	$0.00	$54.21	$72.06
3rd 1000 hrs	$38.46	$70.00	$7.50	$1.15	$0.38	$0.00	$9.23	$1.00	$0.00	$0.00	$57.72	$76.95

4th 1000 hrs	$41.20	$75.00	$7.50	$1.24	$0.41	$0.00	$9.89	$1.00	$0.00	$0.00	$61.24	$81.84
5th 1000 hrs	$43.95	$80.00	$7.50	$1.32	$0.44	$0.00	$10.55	$1.00	$0.00	$0.00	$64.76	$86.74
6th 1000 hrs	$46.70	$85.00	$7.50	$1.39	$0.47	$0.00	$11.21	$1.00	$0.00	$0.00	$68.27	$91.62
7th 1000 hrs	$49.45	$90.00	$7.50	$1.48	$0.49	$0.00	$11.87	$1.00	$0.00	$0.00	$71.79	$96.52

(*)Special Calculation Note :

Other is Health Reimbursement Account

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Delaware, Fairfield, Fayette, Franklin, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Perry, Pickaway, Pike, Portage, Preble, Richland, Ross, Scioto, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

Operator "A": John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
Operator "B": Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
Operator "C": Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Special Notes:

When Cable Splicer helpers are used, they must be a Journeyman Lineman.

Pipe installation, holiday testing, welding, cable splicing operation of vacuum pumps and cable pulling equipment and all work requiring the use of hand tools shall be done by Journeymen and Apprentices. Pipe coating, manhole preparations and conditioning, nitrogen connections and flowmeter installation shall be done by or under the direct supervision of a Journeyman.

At least two (2) Journeyman Linemen in addition to certified lineman welders shall be employed to install high voltage pipe.

When pulling cable, at least six (6) of the workmen shall be no less than Journeyman classifications. When pumping oil, only Journeyman Lineman or equipment operators shall be permitted to operate degasifying and oil pumping equipment

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 71 Outside Cincinnati

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Electrical

Effective Date: 6/4/2025

Effective Date: 6/4/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Lineman	$46.03		$7.50	$1.38	$0.46	$0.00	$9.20	$0.50	$0.00	$0.00	$65.07	$88.09
Traffic Signal & Lighting Journeyman	$44.43		$7.50	$1.33	$0.44	$0.00	$8.89	$0.50	$0.00	$0.00	$63.09	$85.31
Equipment Operator	$40.44		$7.50	$1.21	$0.40	$0.00	$8.09	$0.50	$0.00	$0.00	$58.14	$78.36
Groundman 0-12 months (W/O CDL)	$24.52		$7.50	$0.74	$0.25	$0.00	$4.90	$0.50	$0.00	$0.00	$38.41	$50.67
Groundman 0-21 Months (W/CDL)	$26.78		$7.50	$0.80	$0.27	$0.00	$5.36	$0.50	$0.00	$0.00	$41.21	$54.60
Groundman 1 Year or More (W/CDL)	$29.07		$7.50	$0.87	$0.29	$0.00	$5.81	$0.50	$0.00	$0.00	$44.04	$58.58
Traffic Signal Apprentices	$		$	$	$	$	$	$	$	$	$	$
1st 1,000 hours	$26.66		$7.50	$0.80	$0.27	$0.00	$5.33	$0.50	$0.00	$0.00	$41.06	$54.39
2nd 1,000 hours	$28.88		$7.50	$0.87	$0.29	$0.00	$5.78	$0.50	$0.00	$0.00	$43.82	$58.26
3rd 1,000 hours	$31.10		$7.50	$0.93	$0.31	$0.00	$6.22	$0.50	$0.00	$0.00	$46.56	$62.11
4th 1,000 hours	$33.32		$7.50	$1.00	$0.33	$0.00	$6.66	$0.50	$0.00	$0.00	$49.31	$65.97
5th 1,000 hours	$35.54		$7.50	$1.07	$0.36	$0.00	$7.11	$0.50	$0.00	$0.00	$52.08	$69.85
6th 1,000 hours	$39.99		$7.50	$1.20	$0.40	$0.00	$8.00	$0.50	$0.00	$0.00	$57.59	$77.59
Apprentice	BHR	Percent										
1st 1,000 Hours	$27.62	$60.00	$7.50	$0.83	$0.28	$0.00	$5.52	$0.50	$0.00	$0.00	$42.25	$56.06
2nd 1,000 Hours	$29.92	$65.00	$7.50	$0.90	$0.30	$0.00	$5.98	$0.50	$0.00	$0.00	$45.10	$60.06
3rd 1,000 Hours	$32.22	$70.00	$7.50	$0.97	$0.32	$0.00	$6.44	$0.50	$0.00	$0.00	$47.95	$64.06
4th 1,000 Hours	$34.52	$75.00	$7.50	$1.04	$0.35	$0.00	$6.90	$0.50	$0.00	$0.00	$50.81	$68.07

5th 1,000 Hours	$36.82	$80.00	$7.50	$1.10	$0.37	$0.00	$7.36	$0.50	$0.00	$0.00	$53.65	$72.07
6th 1,000 Hours	$39.13	$85.00	$7.50	$1.17	$0.39	$0.00	$7.82	$0.50	$0.00	$0.00	$56.51	$76.07
7th 1,000 Hours	$41.43	$90.00	$7.50	$1.24	$0.41	$0.00	$8.28	$0.50	$0.00	$0.00	$59.36	$80.07

(*)Special Calculation Note :

Other is Health Reimburstment Account

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Warren

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers,ladders, or work from an elevated platform or bucket truck. No more than three (3) Groundmen shall work alone. Jobs with more that three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator. Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power

Type of Rate: Commercial

Change #: LCN01-2026ib

Craft: Electrical

Effective Date: 1/7/2026

Effective Date: 1/7/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Lineman	$52.03		$7.50	$1.56	$0.52	$0.00	$12.49	$1.00	$0.00	$0.00	$75.10	$101.12
Substation Technician	$52.03		$7.50	$1.56	$0.50	$0.00	$12.49	$1.00	$0.00	$0.00	$75.08	$101.09
Cable Splicer	$54.50		$7.50	$1.64	$0.55	$0.00	$13.08	$1.00	$0.00	$0.00	$78.27	$105.52
Operator A	$46.61		$7.50	$1.40	$0.47	$0.00	$11.19	$1.00	$0.00	$0.00	$68.17	$91.47
Operator B	$41.17		$7.50	$1.23	$0.41	$0.00	$9.87	$1.00	$0.00	$0.00	$61.18	$81.77
Operator C	$33.00		$7.50	$0.99	$0.33	$0.00	$7.92	$1.00	$0.00	$0.00	$50.74	$67.24
Groundman 0-12 months Exp	$26.02		$7.50	$0.78	$0.26	$0.00	$6.24	$1.00	$0.00	$0.00	$41.80	$54.81
Groundman 0-12 months Exp w/CDL	$28.62		$7.50	$0.86	$0.29	$0.00	$6.87	$1.00	$0.00	$0.00	$45.14	$59.45
Groundman 1 yr or more	$28.62		$7.50	$0.86	$0.29	$0.00	$6.87	$1.00	$0.00	$0.00	$45.14	$59.45
Groundman 1 yr or more w/CDL	$33.82		$7.50	$1.01	$0.34	$0.00	$8.12	$1.00	$0.00	$0.00	$51.79	$68.70
Equipment Mechanic A	$41.17		$7.50	$1.23	$0.41	$0.00	$9.87	$1.00	$0.00	$0.00	$61.18	$81.77
Equipment Mechanic B	$37.09		$7.50	$1.11	$0.37	$0.00	$8.90	$1.00	$0.00	$0.00	$55.97	$74.52
Equipment Mechanic C	$33.00		$7.50	$0.99	$0.33	$0.00	$7.92	$1.00	$0.00	$0.00	$50.74	$67.24
Line Truck w/auger	$36.40		$7.50	$1.09	$0.36	$0.00	$8.71	$1.00	$0.00	$0.00	$55.06	$73.26
Apprentice	BHR	Percent										
1st 1000 hrs	$31.22	$60.00	$7.50	$0.94	$0.31	$0.00	$7.49	$1.00	$0.00	$0.00	$48.46	$64.07
2nd 1000 hrs	$33.82	$65.00	$7.50	$1.01	$0.34	$0.00	$8.12	$1.00	$0.00	$0.00	$51.79	$68.70
3rd 1000 hrs	$36.42	$70.00	$7.50	$1.09	$0.36	$0.00	$8.74	$1.00	$0.00	$0.00	$55.11	$73.32

4th 1000 hrs	$39.02	$75.00	$7.50	$1.17	$0.39	$0.00	$9.37	$1.00	$0.00	$0.00	$58.45	$77.96
5th 1000 hrs	$41.62	$80.00	$7.50	$1.25	$0.44	$0.00	$9.99	$1.00	$0.00	$0.00	$61.80	$82.61
6th 1000 hrs	$44.23	$85.00	$7.50	$1.33	$0.44	$0.00	$10.61	$1.00	$0.00	$0.00	$65.11	$87.22
7th 1000 hrs	$46.83	$90.00	$7.50	$1.40	$0.47	$0.00	$11.24	$1.00	$0.00	$0.00	$68.44	$91.86

(*)Special Calculation Note :

Other: Health Reimbursement Account

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Delaware, Fairfield, Fayette, Franklin, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Perry, Pickaway, Pike, Portage, Preble, Richland, Ross, Scioto, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

Operator "A": John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
Operator "B": Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
Operator "C": Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 71 Underground Residential Distribution

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Electrical	1/7/2026	1/7/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
URD Electrican	$39.42		$7.50	$1.18	$0.39	$0.00	$9.43	$1.00	$0.00	$0.00	$58.92	$78.63
Equipment Operator A	$35.24		$7.50	$1.06	$0.35	$0.00	$8.46	$1.00	$0.00	$0.00	$53.61	$71.23
Equipment Operator B	$32.34		$7.50	$0.97	$0.32	$0.00	$7.76	$1.00	$0.00	$0.00	$49.89	$66.06
Directional Drill Locator	$35.24		$7.50	$1.06	$0.35	$0.00	$8.46	$1.00	$0.00	$0.00	$53.61	$71.23
Directional Drill Operator	$32.34		$7.50	$0.97	$0.32	$0.00	$7.76	$1.00	$0.00	$0.00	$49.89	$66.06
Groundman 0-12 months Exp	$25.50		$7.50	$0.77	$0.26	$0.00	$6.12	$1.00	$0.00	$0.00	$41.15	$53.90
Groundman 0-12 months Exp w/CDL	$28.15		$7.50	$0.84	$0.28	$0.00	$6.76	$1.00	$0.00	$0.00	$44.53	$58.60
Groundman 1 yr or more	$28.15		$7.50	$0.84	$0.28	$0.00	$6.76	$1.00	$0.00	$0.00	$44.53	$58.60
Groundman 1 yr or more w/CDL	$33.47		$7.50	$1.00	$0.33	$0.00	$8.03	$1.00	$0.00	$0.00	$51.33	$68.06
Apprentice	BHR	Percent										
1st 1000 hrs	$31.54	$80.00	$7.50	$0.95	$0.32	$0.00	$7.57	$1.00	$0.00	$0.00	$48.88	$64.65
2nd 1000 hrs	$33.51	$85.00	$7.50	$1.01	$0.34	$0.00	$8.04	$1.00	$0.00	$0.00	$51.40	$68.16
3rd 1000 hrs	$35.48	$90.00	$7.50	$1.06	$0.35	$0.00	$8.51	$1.00	$0.00	$0.00	$53.90	$71.64
4th 1000 hrs	$37.45	$95.00	$7.50	$1.12	$0.37	$0.00	$8.99	$1.00	$0.00	$0.00	$56.43	$75.16

(*)Special Calculation Note :

Other: Health Reimburstment Account

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Delaware, Fairfield, Fayette, Franklin, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Perry, Pickaway, Pike, Portage, Preble, Richland, Ross, Scioto, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

This work applies to projects designated for any outside Underground Residential Distribution construction work for electrical utilities, municipalities and rural electrification projects.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Electrical Local 71 Voice Data Video Outside

Type of Rate: Commercial

Change #: LCN02-2024ib

Craft: Electrical

Effective Date: 3/6/2024

Effective Date: 3/6/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Installer Technician I	$35.39		$7.25	$1.06	$0.00	$0.00	$1.77	$0.00	$0.00	$0.00	$45.47	$63.17
Installer Technician II	$33.37		$7.25	$1.00	$0.00	$0.00	$1.67	$0.00	$0.00	$0.00	$43.29	$59.98
Installer Repairman	$33.37		$7.25	$1.00	$0.00	$0.00	$1.67	$0.00	$0.00	$0.00	$43.29	$59.98
Equipment Operator II	$24.98		$7.25	$0.75	$0.00	$0.00	$1.25	$0.00	$0.00	$0.00	$34.23	$46.72
Cable Splicer	$35.39		$7.25	$1.06	$0.00	$0.00	$1.77	$0.00	$0.00	$0.00	$45.47	$63.17
Ground Driver W/CDL	$16.69		$7.25	$0.50	$0.00	$0.00	$0.83	$0.00	$0.00	$0.00	$25.27	$33.62
Groundman	$14.57		$7.25	$0.44	$0.00	$0.00	$0.73	$0.00	$0.00	$0.00	$22.99	$30.28
Apprentice	BHR	Percent										
Trainee F	$17.70	$50.01	$7.25	$0.53	$0.00	$0.89	$0.00	$0.00	$0.00	$0.00	$26.37	$35.22
Trainee E	$20.53	$58.00	$7.25	$0.62	$0.00	$1.03	$0.00	$0.00	$0.00	$0.00	$29.43	$39.69
Trainee D	$23.36	$66.00	$7.25	$0.70	$0.00	$1.17	$0.00	$0.00	$0.00	$0.00	$32.48	$44.16
Trainee C	$26.19	$74.00	$7.25	$0.79	$0.00	$1.31	$0.00	$0.00	$0.00	$0.00	$35.54	$48.63
Trainee B	$29.02	$82.00	$7.25	$0.87	$0.00	$1.45	$0.00	$0.00	$0.00	$0.00	$38.59	$53.10
Trainee A	$31.85	$90.00	$7.25	$0.96	$0.00	$1.59	$0.00	$0.00	$0.00	$0.00	$41.65	$57.58

(*)Special Calculation Note :

Ratio :

1Trainee to 1 Journeyman

Jurisdiction (* denotes special jurisdictional note) :

Adams, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Delaware, Fairfield, Fayette, Franklin, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Perry, Pickaway, Pike, Portage, Preble, Richland, Ross, Scioto, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Vinton, Warren, Washington, Wayne

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber. Installer Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience. Installer Repairman: Perform tasks of repairing, installing, and testing phone and CATV services. Installer Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks. Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license. Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling down guys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience. Groundman: Perform tasks such as: climbing poles, pulling down guys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Elevator Local 11

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Elevator	3/18/2026	3/18/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Elevator Mechanic	$59.92		$16.37	$11.06	$0.85	$4.79	$10.70	$2.26	$0.00	$0.00	$105.95	$135.91
Apprentice	BHR	Percent										
Probationary Apprentice	$29.96	$50.00	$0.00	$0.00	$0.00	$1.80	$0.00	$0.00	$0.00	$0.00	$31.76	$46.74
1st year	$32.96	$55.00	$16.37	$11.06	$0.85	$1.98	$10.70	$1.24	$0.00	$0.00	$75.16	$91.64
2nd year	$38.95	$65.00	$16.37	$11.06	$0.85	$2.34	$10.70	$1.47	$0.00	$0.00	$81.74	$101.22
3rd year	$41.94	$70.00	$16.37	$11.06	$0.85	$2.52	$10.70	$1.58	$0.00	$0.00	$85.02	$105.99
4th year	$47.94	$80.00	$16.37	$11.06	$0.85	$2.88	$10.70	$1.80	$0.00	$0.00	$91.60	$115.57
Helper	$41.94	$70.00	$16.37	$11.06	$0.85	$3.36	$10.70	$1.58	$0.00	$0.00	$85.86	$106.83
Assistant Mechanic	$47.94	$80.00	$16.37	$11.06	$0.85	$3.82	$10.70	$1.80	$0.00	$0.00	$92.54	$116.51

(*)Special Calculation Note :

Other: Holiday Pay

Ratio :

1 Journeyman to 1 Apprentice
1 Journeyman to 1 Helper
1 Journeyman to 1 Assistant Mechanic

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler, Clermont, Clinton, Darke, Greene, Hamilton, Highland, Miami, Montgomery, Preble, Scioto, Shelby, Warren

Special Jurisdictional Note :

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Glazier Local 387

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Glazier	11/19/2025	11/19/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Glazier	$35.85		$6.80	$12.30	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$55.40	$73.33
Apprentice	BHR	Percent										
1st Year	$23.30	$65.00	$6.80	$8.85	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$39.40	$51.05
2nd Year	$26.89	$75.00	$6.80	$9.84	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$43.98	$57.42
3rd Year	$30.47	$85.00	$6.80	$10.82	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$48.54	$63.77
4th Year	$34.06	$95.00	$6.80	$11.81	$0.45	$0.00	$0.00	$0.00	$0.00	$0.00	$53.12	$70.15

(*)Special Calculation Note :

No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Fayette*, Greene, Hamilton, Highland, Miami, Montgomery, Preble, Warren

Special Jurisdictional Note :

Fayette County: Eastern portion of route #41 being the dividing line between locals 372 and 387. Local 387 has jurisdiction of projects built on property which borders route #41 East.

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Ironworker Local 44

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Ironworker

Effective Date: 6/1/2025

Effective Date: 6/1/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Ironworker Reinforcing	$38.27		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$62.17	$81.31
Structural	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Ornamental	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Machine Mover/Rigger	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Conveyer Mechanic	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Maintenance/Heavy Hwy	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Welder A	$38.02		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.92	$80.93
Welder B	$38.27		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$62.17	$81.31
Sheeter	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Fence Erector	$35.88		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$59.78	$77.72
Ironworker	$37.77		$9.50	$9.50	$0.60	$0.00	$4.30	$0.00	$0.00	$0.00	$61.67	$80.56
Apprentice	BHR	Percent										
1st yr A	$22.96	$60.00	$9.50	$9.50	$0.60	$0.00	$1.08	$0.00	$0.00	$0.00	$43.64	$55.12
1st yr B	$24.88	$65.00	$9.50	$9.50	$0.60	$0.00	$1.08	$0.00	$0.00	$0.00	$45.56	$57.99
2nd yr A	$26.79	$70.00	$9.50	$9.50	$0.60	$0.00	$1.08	$0.00	$0.00	$0.00	$47.47	$60.86
2nd yr B	$28.70	$75.00	$9.50	$9.50	$0.60	$0.00	$1.08	$0.00	$0.00	$0.00	$49.38	$63.73
3rd yr A	$30.62	$80.00	$9.50	$9.50	$0.60	$0.00	$2.15	$0.00	$0.00	$0.00	$52.37	$67.67
3rd yr B	$32.53	$85.00	$9.50	$9.50	$0.60	$0.00	$2.15	$0.00	$0.00	$0.00	$54.28	$70.54
4th yr A	$34.44	$90.00	$9.50	$9.50	$0.60	$0.00	$3.23	$0.00	$0.00	$0.00	$57.27	$74.49
4th yr B	$36.36	$95.00	$9.50	$9.50	$0.60	$0.00	$3.23	$0.00	$0.00	$0.00	$59.19	$77.36
4th yr C	$38.27	$100.00	$9.50	$9.50	$0.60	$0.00	$3.23	$0.00	$0.00	$0.00	$61.10	$80.24

(*)Special Calculation Note :

Ratio :

1 Journeymen to 1 Apprentice 2 Journeymen to 2 Apprentice 10 Journeymen to 10 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Adams*, Brown, Butler*, Clermont, Clinton*, Hamilton, Highland*, Warren*

Special Jurisdictional Note :

Adams County Twps included: Bratton, Scott, Winchester, Wayne. Butler County Twps included: Oxford, St. Clair, Fairfield, Morgan, Liberty, Union, Ross, Reily, Hanover, West Chester. Clinton County Twps included: Manchester and South West Borrow. Highland County Twps included: Dotson, Salem, Clay, White Oak, Hamer, New Market, Concord, Jackson, Washington. Warren County Twps included: Harlan, Deerfield, Hamilton.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erecting,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all. Reinforcing Iron Work but not limited to: Any work in commection with field fabrication, handling, racking, sorting, cutting, bending, hoisting, placing, burning, welding and tying of all materials used to reinforce concrete construction, except that loading and unloading by ahdnd and carrying to a centralized point adjacent to or upon site of the project on which such materials arfe to used. Realinging of reinforcing iron, wire mess placing, bricking, pulling and similar reinforcing materiials, placing stell dowels, as well as refastening and resetting same while concrete is being poured. Reinforcing steel and wire mess in roadways and sidewalks in connection with building construction, also erection and fabrication of preconnection with building construction, also erection and fabrication of prestressed and precast joist, beams, columns, and slabs, walls, roofs, tanks, manholes, trenches and covers. The handling and placing of "J" of Jack bars on slip form construction; the placing of all clips, bolts, steel rods and wire fabric or mesh pertaining to gunite construction; the placing of steel-tex or paper-back mesh used for reinforcing and placing wire mesh to reinforce gypsum roof construction. Metal decking similar "corruform" used for floor forms over metal or concrete supports whether welded or clipped. Post tension. All loading and unloading, hosting, placing and tying of all post tensioning cables. Wrecking of cones, wedging of tendons, stressign, cutting and repairing. Ornamental Iron Work but not limited to:all work in connection with field fabrication, handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying, dismantling of all materials used in miscellaneous iron or steel, for stairs, hand railings, rolling doors, rolling gates, rolling shutters,fence,windows,curtain wall, erection and welding of all metal, sash, architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental, steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials . Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Labor HevHwy 3

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Laborer	5/1/2026	5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Laborer Group 1	$38.77		$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$55.87	$75.25
Group 2	$38.94		$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$56.04	$75.51
Group 3	$39.27		$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$56.37	$76.00
Group 4	$39.72		$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$56.82	$76.68
Watch Person	$33.50		$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$50.60	$67.35
Apprentice	BHR	Percent										
0-1000 hrs	$31.02	$80.00	$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$48.12	$63.63
1001-2000 hrs	$32.95	$85.00	$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$50.05	$66.53
2001-3000 hrs	$34.89	$90.00	$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$51.99	$69.44
3001-4000 hrs	$36.83	$95.00	$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$53.93	$72.34
More than 4000 hrs	$38.77	$100.00	$9.45	$4.60	$0.45	$0.00	$2.50	$0.00	$0.10	$0.00	$55.87	$75.25

(*)Special Calculation Note :

Tunnel Laborer rate with air-pressurized add $1.00 to the above wage rate.

Commercial Driver’s License – Any Laborer required to utilize a valid Commercial Driver’s License (CDL), are in compliance with necessary FMCSA regulations and approved by the Contractor to operate a Commercial Motor Vehicle (CMV), shall be paid one dollar ($1.00) per hour above the base rate for the entirety of their working shift.

Ratio :

1 Journeyman to 1 Apprentice
3 Journeymen to 1 Apprentice thereafter

Watchmen have no Apprentices

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Darke, Defiance, Delaware, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Madison, Marion, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Paulding, Perry, Pickaway, Pike, Preble, Putnam, Richland, Ross, Scioto, Seneca, Shelby, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wyandot

Special Jurisdictional Note :

Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1 Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control. *Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2 Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air),Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C) ***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3 Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarner, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4 Miner, Welder, Gunite Nozzle Person A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc. The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Labor Local 265 Building

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2024ib	Laborer	6/20/2024	6/20/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Laborer	$26.80		$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$45.15	$58.55
Apprentice	BHR	Percent										
0-1000 Hours	$21.44	$80.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$39.79	$50.51
1001 - 2000 Hours	$22.78	$85.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$41.13	$52.52
2001 - 3000 Hours	$24.12	$90.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$42.47	$54.53
3001 - 4000 Hours	$25.46	$95.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$43.81	$56.54
More than 4000 Hours	$26.80	$100.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$45.15	$58.55

(*)Special Calculation Note :

No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeymen to 1 Apprentice 3 Journeymen to 1 Apprentice thereafter per project

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Clinton, Hamilton

Special Jurisdictional Note :

Details :

Building & Common Laborer, Asbestos Removal, Cement Mason Helpers, Hand Operated Mechanical Mule, Mechanical Mule, Mechanical Sweeper, Signaler, Flagger Wrecking Laborer, Bottom Man, Pipe Layer, Skid Steer, Industrial Fork Lift Operator, Burning Torch Operator, Jack Hammer, Air Spade, Chipping Hammer, Mechanical & Air Tamper Operator, Mechanical Concrete Buggies, Power Operated Mechanical Mule, Concrete Pump Hose Man, Vibrator Man, CERCLA Trained Hazardous, Material Removal (Levels A,B & C), High Lifts, Lulls and Dingo, Tunnel Laborer.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Labor Local 265A Mason Tender

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2024ib	Laborer	6/20/2024	6/20/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Laborer Mason Tender/ Scaffolding/ Forklift Operator	$25.90		$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$44.25	$57.20
Apprentice	BHR	Percent										
0-1000 Hours	$20.72	$80.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$39.07	$49.43
1001-2000 Hours	$22.02	$85.02	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$40.37	$51.38
2001-3000 Hours	$23.31	$90.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$41.66	$53.32
3001-4000 Hours	$24.61	$95.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$42.96	$55.26
Over 4000 Hours	$25.90	$100.00	$8.40	$9.45	$0.40	$0.00	$0.00	$0.00	$0.10	$0.00	$44.25	$57.20

(*)Special Calculation Note :

Ratio :

1 Journeymen to 1 Apprentice 3 Journeymen to 1 Apprentice thereafter per project

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Clinton, Hamilton

Special Jurisdictional Note :

Details :

TENDERS: The tending of Masons and mixing, handling and conveying of all materials used by Brick or Stone Masons, whether done by hand or by any other procedure including but not limited to, all forklifts or other mechanical means, all heating and drying off all materials used by Brick or Stone Masons and cleaning and clearing of all debris. SCAFFOLDING: The building and dismantling of scaffolding and staging for Masons shall be the work of the Mason Tenders.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone III

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Operating Engineer	5/1/2026	5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Operator Group A	$47.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$64.74	$88.39
Operator Group B	$47.17		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$64.62	$88.20
Operator Group C	$46.13		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$63.58	$86.65
Operator Group D	$44.95		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$62.40	$84.88
Operator Group E	$39.49		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$56.94	$76.69
Master Mechanic	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Lift Director	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Cranes & Mobile Concrete Pumps 150'-180'	$47.79		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.24	$89.14
Cranes & Mobile Concrete Pumps 180'-249'	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Cranes & Mobile Concrete Pumps 249' and over	$48.54		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.99	$90.26
Apprentice	BHR	Percent										
1st Year	$23.65	$50.02	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$41.10	$52.92
2nd Year	$28.37	$60.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$45.82	$60.00
3rd Year	$33.10	$70.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$50.55	$67.10
4th Year	$37.83	$80.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$55.28	$74.19
Field Mechanic Trainee	$	$	$	$	$	$	$	$	$	$	$	$
1st Year	$28.37	$60.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$45.72	$59.91
2nd Year	$33.10	$70.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$50.45	$67.00
3rd Year	$37.83	$80.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$55.18	$74.09
4th Year	$42.56	$90.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$59.91	$81.19

(*)Special Calculation Note :

Other: Education & Safety
Misc: National Training

Note: There will be a 10% increase for the apprentices on top of the percentages listed above provided they are operating mobile equipment.

Ratio :

For every (3) Operating Engineer Journeymen employed by the company there may be employed (1) Registered Apprentice or trainee Engineer through the referral when they are available. An apprenice, while employed as part of a crew per Article VIII, paragraph 77, will not be subject to the apprenticeship ratios in this collective bargaining agreement

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Coshocton, Crawford, Darke, Defiance, Delaware, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Madison, Marion, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wyandot

Special Jurisdictional Note :

Details :

Group A- Barrier Moving Machines; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types); Compact Cranes, track or rubber over 4,000 pounds capacity; Cranes self-erecting, stationary, track or truck (all configurations); Derricks (all types); Draglines; Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Forklift (rough terrain with winch/hoist); Gradalls; Helicopter Operators, hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Horizonal Directional Drill; Hydraulic Gantry (lift system); Laser Finishing Machines; Laser Screed and like equipment; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Operator/Technician(Mechanic Operator/Technician and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms; Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all), used on caissons for foundations and sub-structure; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Trench Machines (over 24” wide); Tug Boats.

Group B - Articulating/end dumps (minus $4.00/hour from Group B rate); Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs.; Bulldozers; CMI type Equipment; Concrete Saw, Vermeer-type; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats;, Rotomills (all), grinders and planers of all types.

Group C - A-Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or Skid Steer Loader with or without attachments; Boilers (15 lbs. pressure and over); All Concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drills - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled), Buck Hoists, Transport Platforms, Construction Elevators; Hydro Vac/Excavator (when a second person is needed, the rate of pay will be “Class E”); Man Lifts; Material hoist/elevators; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie (Inserter/Remover); Rotovator (Lime-Soil Stabilizer); Submersible Pumps (4”and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24” and under); Utility Operators.

Group D - Backfillers and Tampers; Ballast Re-locator; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Mixers, more than one bag capacity; Concrete Mixers, one bag capacity (side loaders); All Concrete Pumps (without boom with 4” or smaller system); Concrete Spreader; Conveyors, used for handling building materials; Crushers; Deckhands; Drum Fireman (in asphalt plants); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators: Gunite Machines; Hydro-seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2”) discharge); Road Widening Trenchers; Rollers (except asphalt); Self-propelled sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepsfoot post roller or grader; VAC/ALLS; Vibratory Compactors, with integral power; Welders.

Group E – Allen Screed Paver (concrete); Boilers (less than 15 lbs. pressure); Cranes-Compact, track or rubber (under 4,000 pounds capacity); Directional Drill “Locator”; Fueling and greasing +$3.00; Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson, Submersible Pumps (under 4” discharge).

Master Mechanics - Master Mechanic

Cranes 150’ – 180’ - Boom & Jib 150 - 180 feet Cranes 180’ – 249’ - Boom & Jib 180 - 249 feet Cranes 250’ and over - Boom & Jib 250 feet or over

Prevailing Wage Rate
Skilled Crafts

Name of Union: Operating Engineers - HevHwy Zone II

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Operating Engineer	5/1/2026	5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Operator Class A	$47.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$64.74	$88.39
Operator Class B	$47.17		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$64.62	$88.20
Operator Class C	$46.13		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$63.58	$86.65
Operator Class D	$44.95		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$62.40	$84.88
Operator Class E	$39.49		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$56.94	$76.69
Master Mechanic	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Lift Director	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Crane and Mobile Concrete Pump 150' - 179'	$47.79		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.24	$89.14
Crane and Mobile Concrete Pump 180' - 249'	$48.29		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.74	$89.89
Crane and Mobile Concrete Pump 250' and Ove	$48.54		$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$65.99	$90.26
Apprentice	BHR	Percent										
1st Year	$23.64	$50.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$41.09	$52.91
2nd Year	$28.37	$60.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$45.82	$60.00
3rd Year	$33.10	$70.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$50.55	$67.10
4th Year	$37.83	$80.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.10	$55.28	$74.19
Field Mech Trainee	$	$	$	$	$	$	$	$	$	$	$	$
1st year	$28.37	$60.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$45.72	$59.91
2nd year	$33.10	$70.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$50.45	$67.00
3rd year	$37.83	$80.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$55.18	$74.09
4th year	$42.56	$90.00	$10.01	$6.25	$1.00	$0.00	$0.00	$0.09	$0.00	$0.00	$59.91	$81.19

(*)Special Calculation Note :

Other: Education & Safety Fund
Misc: National Training

**Apprentices wilt receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment.

Ratio :

For every (3) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice or Trainee Engineer through the referral when they are available. An Apprentice, while employed as part of a crew per Article VIII, paragraph 68 will not be subject to the apprenticeship ratios in this collective bargaining agreement

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Coshocton, Crawford, Darke, Defiance, Delaware, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Lucas, Madison, Marion, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

Class A - Air Compressors on Steel Erection; Asphalt Plant Engineers (Cleveland District Only); Barrier Moving Machine; Boiler Operators, Compressor Operators, or Generators, when mounted on a rig; Boom Trucks (all types); Cableways; Cherry Pickers; Combination- Concrete Mixers & Towers; Concrete Plants (over 4 yd capacity); Concrete Pumps; Cranes (all types); Compact Cranes track or rubber over 4,000 pounds capacity; Cranes self-erecting stationary, track or truck; Derricks (all types); Draglines; Dredges dipper, clam or suction; Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines; Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial-type Tractors; Jet Engine Dryer (D8 or D9) diesel Tractors; Locomotives (standard gauge); Maintenance Operators/Technicians (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Rotary Drills, on caisson work; Rough Terrain Fork Lift with winch/hoist; Side Booms; Slip Form Pavers; Survey Crew Party Chiefs; Tower Derricks; Tree Shredders; Trench Machines (over 24” wide); Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators.

Class B - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or Skid Steer Loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Concrete Saws, Vermeer type; Endloaders; Horizontal Directional Drill (50,000 ft. lbs. thrust and over); Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Maintenance Operators/Technicians, Class B; Material Transfer Equipment (shuttle buggy) Asphalt; Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Rotomills (all), Grinders and Planners of all types, Groovers (excluding walk-behinds); Trench Machines (24 inch wide and under).

Class C - A-Frames; Air Compressors, on tunnel work (low Pressure); Articulating/straight bed end dumps if assigned (minus $4.00 per hour); Asphalt Plant Engineers (Portage and Summit Counties only); Bobcat-type and/or skid steer loader with or without attachments; Drones; Highway Drills (all types); HydroVac/Excavator (when a second person is needed, the rate of pay will be “Class E”); Locomotives (narrow gauge); Material Hoist/Elevators; Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Power Boilers (over 15 lbs. pressure); Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rollers, Asphalt; Rotovator (lime-soil Stabilizer); Switch & Tie Tampers (without lifting and aligning device); Utilities Operators, (small equipment); Welding Machines and Generators.

Class D – Backfillers and Tampers; Ballast Re-locator; Bar and Joint Installing Machines; Batch Plant Operators; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yds. and under); Concrete Saws (multiple); Conveyors (highway); Crushers; Deckhands; Farm type tractors, with attachments (highway); Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway), except masonry; Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers (hydraulic or cable); Plant Mixers; Post Drivers; Post Hole Diggers; Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Steam Firemen; Survey Instrument men; Tractors, pulling sheepsfoot rollers or graders; Vibratory Compactors, with integral power.

Class E - Compressors (portable, Sewer, Heavy and Highway); Cranes-Compact, track or rubber under 4,000 pound capacity; Drum Firemen (asphalt plant); Fueling and greasing (Primary Operator with Specialized CDL Endorsement Add $3.00/hr); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oil Heaters (asphalt plant); Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson; Survey Rodmen or Chairmen; Tire Repairmen; VAC/ALLS.

Master Mechanic - Master Mechanic

Cranes and Mobile Concrete Pumps 150' -179' - Boom & Jib 150 - 179 feet Cranes and Mobile Concrete Pumps 180' - 249' - Boom & Jib 180 - 249 feet Cranes and Mobile Concrete Pumps 250' and over - Boom & Jib 250 feet or over

Prevailing Wage Rate
Skilled Crafts

Name of Union: Painter Local 123 & 238 Commercial & Industrial

Type of Rate: Commercial

Change #: LCN01-2024ib

Craft: Painter

Effective Date: 5/1/2024

Effective Date: 5/1/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Brush Roll	$28.29		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$42.30	$56.45
Paper Hanger	$28.29		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$42.30	$56.45
Spray Painter	$28.79		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$42.80	$57.20
Sand Blaster Water Blaster	$29.04		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$43.05	$57.57
Elevated Tanks	$29.29		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$43.30	$57.95
Apprentice	BHR	Percent										
1st Year	$18.39	$65.00	$6.50	$2.30	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$27.50	$36.69
2nd Year	$19.80	$70.00	$6.50	$2.30	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$28.91	$38.81
3rd Year	$22.63	$80.00	$6.50	$2.30	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$31.74	$43.06
4th Year	$25.46	$90.00	$6.50	$2.30	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$34.57	$47.30

(*)Special Calculation Note :

Apprentices shall be paid the proper % of the classification above.

Ratio :

(1) Journeymen to (1) Apprentice per jobsite

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Clinton, Hamilton, Warren

Special Jurisdictional Note :

Details :

Industrial Work paid as commercial work above for each class which includes, Industrial Plants, repair garages,processing plants,storage tanks,warehouses,skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates.Heavy & Highway Bridges-GuardRails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a $1.00 per hour above the industrial rate.Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Painter Local 123 & 238 Drywall

Type of Rate: Commercial

Change #: LCN02-2026ib

Craft: Painter

Effective Date: 5/1/2026

Effective Date: 5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Drywall Finisher	$35.24		$7.30	$7.50	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$50.35	$67.97
Apprentice	BHR	Percent										
1st Year	$26.43	$75.00	$7.30	$2.60	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$36.64	$49.85
2nd Year	$29.95	$85.00	$7.30	$2.60	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$40.16	$55.13
3rd Year	$33.48	$95.00	$7.30	$2.60	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$43.69	$60.43

(*)Special Calculation Note :

High Pay – Over 60ft add $1.00 an hour

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Clinton, Hamilton, Warren

Special Jurisdictional Note :

Details :

Industrial Work paid as commercial work above for each class which includes: Industrial Plants, repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges - Guard Rails - Light Poles.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Painter Local 123 & 238 Hvy Hwy

Type of Rate: Commercial

Change #: LCN01-2024ib

Craft: Painter

Effective Date: 5/1/2024

Effective Date: 5/1/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Bridge Class 1	$38.68		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$52.69	$72.03
Bridge Painter, Rigger, Containment Builder, Spot Blaster Class 2	$31.68		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$45.69	$61.53
Equipment Operator/ Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control, Boat Person Class 3	$31.68		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$45.69	$61.53
Concrete Sealing, Concrete Blasting/Power Washing, Etc. Class 4	$31.68		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$45.69	$61.53
Quality Control/Quality Assurance, Traffic Safety, Competent Person Class 5	$31.68		$6.50	$7.20	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$45.69	$61.53
Apprentice	BHR	Percent										
1st Year	$25.14	$65.00	$2.30	$6.50	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$34.25	$46.82
2nd Year	$27.08	$70.00	$2.30	$6.50	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$36.19	$49.72
3rd Year	$30.94	$80.00	$2.30	$6.50	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$40.05	$55.53
4th Year	$34.81	$90.00	$2.30	$6.50	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$43.92	$61.33

(*)Special Calculation Note :

Apprentices shall be paid proper % of the classification above..

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Clinton, Hamilton, Warren

Special Jurisdictional Note :

Details :

Industrial Work paid as commercial work above for each class which includes, Industrial Plants, repair garages,processing plants,storage tanks,warehouses,skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates.Heavy & Highway Bridges-GuardRails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a $1.00 per hour above the industrial rate.Steeplejack rate to apply to bridges where highest point of clearance is 60 feet. Class 1 – Abrasive blasting of any kind. Class 2 – Bridge painting, coating application of any kind. All steel surface preparation other than abrasive blasting. All necessary rigging and containment building. All remedial/ spot blasting. Class 3 – Tend to all equipment including but not limited to abrasive basting, power washing, spray painting, forklifts, hoists, trucks, etc. Load and unload trucks, handle materials, man safety boats, handle traffic control, clean up/ vacuum abrasive blast materials and related tasks. Class 4 – All aspects of concrete coating/ sealing including but not limited to preparation, containment, etc. Class 5 – Verify and record that all work is completed according to job specifications. Assure that all health and safety standards are adhered to. Assure all traffic is safely handled.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Painter Local 639 Sign and Display

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Painter	6/18/2025	6/18/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Top Mechanic Class A	$27.53		$4.50	$0.00	$0.00	$0.00	$0.00	$1.45	$0.00	$0.00	$33.48	$47.25
Top Mechanic Class B	$27.53		$4.50	$0.75	$0.00	$0.53	$0.00	$1.45	$0.00	$0.00	$34.76	$48.53
Top Helper Class A	$22.33		$4.50	$0.00	$0.00	$0.00	$0.00	$1.20	$0.00	$0.00	$28.03	$39.20
Top Helper Class B	$22.33		$4.50	$0.75	$0.00	$0.43	$0.00	$1.20	$0.00	$0.00	$29.21	$40.38
Helper Class A	$17.19		$4.50	$0.00	$0.00	$0.00	$0.00	$0.90	$0.00	$0.00	$22.59	$31.19
Helper Class B	$17.19		$4.50	$0.75	$0.00	$0.30	$0.00	$0.90	$0.00	$0.00	$23.64	$32.24
New Hire (90 Days)	$15.75		$4.50	$0.00	$0.00	$0.00	$0.00	$0.55	$0.00	$0.00	$20.80	$28.68
Apprentice	BHR	Percent										

(*)Special Calculation Note :

Other: Sick, Personal & Holiday Pay Swing Stage Rate: Employees shall receive a differential of $1.50 per hour for all hours worked on scaffolds four sections or higher, including any boom lifts and swing stage scaffolds. In addition, the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work of a single employee will qualify for $1.50 differential, will be paid to a single lead Top Mechanic or single lead Top Helper on any given swing stage job, even when it includes multiple running rigs on a single jobsite.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Geauga, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lake, Lawrence, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

The work performed by employees covered by this rate shall include cleaning and refinishing of architectural metals using chemicals, solvents, coatings and hand-applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces during the course of the restoration and maintenance of architectural metals, and other specialty metal finishing work, and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding. Class A: Less Than 1 Year of Service Class B: More Than 1 Year of Service Top Mechanic: Top Mechanic shall be responsible for ensuring the highest quality of workmanship by Helpers, and be highly competent and knowledgeable in the following areas: coatings, both solvent and waterborne, spraying ability, stainless steel, aluminum and bronze finishing, scaffolding and swing stage work. The Top Mechanic shall also be responsible for providing necessary training of employees in lower classifications and for directing all employees in his/her crew to perform their responsibilities in a productive and efficient manner. Top Helper: For existing Top Helpers at the time of this Agreement shall, in addition to performing the responsibilities of a Helper, be responsible and accountable for the setup, breakdown, safety and quality of the Company's product. Helper: A Helper shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, setting up and breaking down scaffolding and swing stages, preparing surfaces for refinishing, including but not limited to masking and stripping, cleaning, oxidizing, polishing and scratch removal on various finishes.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Painter

Effective Date: 5/28/2025

Effective Date: 5/28/2025

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Painter Sign Journeyman Tech/Team Leader Class A	$26.56	$3.36	$0.21	$0.00	$0.00	$0.00	$0.72	$0.00	$0.00	$30.85	$44.13
Painter Sign Journeyman Tech/Team Leader Class B	$26.56	$3.36	$0.21	$0.00	$0.51	$0.00	$0.72	$0.00	$0.00	$31.36	$44.64
Painter Sign Journeyman Tech/Team Leader Class C	$26.56	$3.36	$0.21	$0.00	$1.02	$0.00	$0.72	$0.00	$0.00	$31.87	$45.15
Painter Sign Journeyman Tech/Team Leader Class D	$26.56	$3.36	$0.21	$0.00	$1.53	$0.00	$0.72	$0.00	$0.00	$32.38	$45.66
Sign Journeyman Class A	$26.27	$3.36	$0.21	$0.00	$0.00	$0.00	$0.71	$0.00	$0.00	$30.55	$43.69
Sign Journeyman Class B	$26.27	$3.36	$0.21	$0.00	$0.51	$0.00	$0.71	$0.00	$0.00	$31.06	$44.20
Sign Journeyman Class C	$26.27	$3.36	$0.21	$0.00	$1.01	$0.00	$0.71	$0.00	$0.00	$31.56	$44.70
Sign Journeyman Class D	$26.27	$3.36	$0.21	$0.00	$1.52	$0.00	$0.71	$0.00	$0.00	$32.07	$45.21
Tech Sign Fabrication/ Erector Class A	$20.67	$3.36	$0.21	$0.00	$0.00	$0.00	$0.56	$0.00	$0.00	$24.80	$35.14
Tech Sign Fabrication/ Erector Class B	$20.67	$3.36	$0.21	$0.00	$0.40	$0.00	$0.56	$0.00	$0.00	$25.20	$35.54

Tech Sign Fabrication/ Erector Class C	$20.67		$3.36	$0.21	$0.00	$0.80	$0.00	$0.56	$0.00	$0.00	$25.60	$35.94
Tech Sign Fabrication/ Erector Class D	$20.67		$3.36	$0.21	$0.00	$1.19	$0.00	$0.56	$0.00	$0.00	$25.99	$36.33
Apprentice	BHR	Percent										

(*)Special Calculation Note :

Other is for paid holidays.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Auglaize, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Greene, Hamilton, Hancock, Hardin, Henry, Highland, Holmes, Huron, Jackson, Knox, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Mercer, Miami, Montgomery, Morrow, Muskingum, Ottawa, Paulding, Perry, Pickaway, Pike, Preble, Putnam, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Trumbull, Tuscarawas, Union, Van Wert, Warren, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

Class A: less that 1 year. Class B: 1-3 years. Class C; 3-10 years. Class D: More than 10 years.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Plasterer Local 132 (Cincinnati)

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2024ib	Plasterer	7/1/2024	7/1/2024

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Plasterer	$30.40		$6.10	$8.47	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$46.73	$61.93
Apprentice	BHR	Percent										
1st 900 hours	$21.28	$70.00	$6.10	$0.00	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$29.14	$39.78
2nd 900 hours	$22.50	$74.00	$6.10	$0.00	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$30.36	$41.60
3rd 900 hours	$23.71	$78.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$39.31	$51.17
4th 900 hours	$24.93	$82.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$40.53	$52.99
5th 900 hours	$26.14	$86.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$41.74	$54.82
6th 900 hours	$27.36	$90.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$42.96	$56.64
7th 900 hours	$28.58	$94.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$44.18	$58.46
8th 900 hours	$29.79	$98.00	$6.10	$7.74	$0.70	$0.00	$1.00	$0.06	$0.00	$0.00	$45.39	$60.29

(*)Special Calculation Note :

No special calculations for this skilled craft wage rate are required at this time. *Other is International Training

Ratio :

1 Journeyman to 1 Apprentice 4 Journeyman to 2 Apprentice 7 Journeyman to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Highland, Warren

Special Jurisdictional Note :

Details :

Apprentice and Shop Hand Pension are $1.00 less than Journeyman.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Plumber Pipefitter Local 392

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Plumber Pipefitter	6/11/2025	6/11/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Plumber Pipefitter	$43.30		$11.33	$14.25	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$70.70	$92.35
Plumber Helper	$28.15		$11.23	$7.50	$1.09	$0.00	$0.00	$0.00	$0.00	$0.00	$47.97	$62.05
Apprentice	BHR	Percent										
1st Year	$22.52	$52.00	$11.13	$1.25	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$36.72	$47.97
2nd Year	$23.82	$55.00	$11.13	$1.25	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$38.02	$49.92
3rd Year	$25.11	$58.00	$11.13	$8.00	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$46.06	$58.62
4th Year	$26.85	$62.00	$11.13	$8.00	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$47.80	$61.22
5th Year	$32.48	$75.02	$11.13	$14.25	$1.09	$0.00	$0.00	$0.73	$0.00	$0.00	$59.68	$75.93

(*)Special Calculation Note :

OTHER: SUPPLEMENTAL UNEMPLOYMENT BENEFITS.

Ratio :

1 Journeymen to 1 Apprentice 2 Journeymen to 4 Apprentices 3 Journeymen to 6 Apprentices When more than Sixteen (16) Journeymen are employed additional apprentices may be acquired at a ratio of one (1) apprentice to four (4) journeymen. Helper Ratio: 1 Journeyman to 2 Helpers

Jurisdiction (* denotes special jurisdictional note) :

Brown, Butler, Clermont, Hamilton, Warren

Special Jurisdictional Note :

Details :

Helpers shall be permitted to work on ONLY: Exterior Sewers, Concrete, Vitrified Clay or PVC Pipe and Digging and Backfilling for Piping Work

Prevailing Wage Rate
Skilled Crafts

Name of Union: Roofer Local 42

Type of Rate: Commercial

Change #: LCN01-2025ib

Craft: Roofer

Effective Date: 11/26/2025

Effective Date: 11/26/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Roofer	$34.38		$8.70	$8.78	$0.60	$0.00	$1.85	$0.29	$0.00	$0.00	$54.60	$71.79
Tradesman	$27.50		$6.96	$7.02	$0.00	$0.00	$1.85	$0.09	$0.00	$0.00	$43.42	$57.17
Apprentice	BHR	Percent										
1st Period	$22.35	$65.00	$8.70	$5.71	$0.00	$0.00	$1.85	$0.00	$0.00	$0.00	$38.61	$49.79
2nd Period	$24.07	$70.00	$8.70	$6.15	$0.00	$0.00	$1.85	$0.00	$0.00	$0.00	$40.77	$52.81
3rd Period	$27.50	$80.00	$8.70	$7.02	$0.00	$0.00	$1.85	$0.00	$0.00	$0.00	$45.07	$58.82

(*)Special Calculation Note :

Other is for Training Fund

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Brown, Butler, Clermont, Hamilton, Highland, Pike, Warren

Special Jurisdictional Note :

Details :

Any Tradesman Worker completing 2,000 hours in (2) years may move to Journeyman status by utilizing the Training Yard to improve their skills. Tradesman Workers will be tested at these yards to determine their competency for Journeyman status. Tradesman Workers must schedule and successfully complete the industry test battery in order to gain journeyman status.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Sheet Metal Local 24 (Cincinnati)

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2025ib	Sheet Metal Worker	11/19/2025	11/19/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sheet Metal Worker	$37.57		$8.48	$14.46	$1.13	$0.00	$0.00	$1.20	$0.00	$0.00	$62.84	$81.63
Apprentice	BHR	Percent										
1st Year	$20.66	$55.00	$8.48	$6.10	$1.13	$0.00	$0.00	$0.85	$0.00	$0.00	$37.22	$47.55
2nd Year	$22.54	$60.00	$8.48	$7.48	$1.13	$0.00	$0.00	$0.85	$0.00	$0.00	$40.48	$51.75
3rd Year	$25.17	$67.00	$8.48	$8.85	$1.13	$0.00	$0.00	$0.85	$0.00	$0.00	$44.48	$57.06
4th Year	$27.05	$72.00	$8.48	$10.06	$1.13	$0.00	$0.00	$0.85	$0.00	$0.00	$47.57	$61.09
5th Year	$30.06	$80.00	$8.48	$12.45	$1.13	$0.00	$0.00	$0.85	$0.00	$0.00	$52.97	$68.00

(*)Special Calculation Note :

OTHER: Supplemental Unemployment Benefits

Ratio :

1 Journeymen to 1 Apprentice
4 Journeymen to 2 Apprentices
7 Journeymen to 3 Apprentices
10 Journeymen to 4 Apprentices
3 Journeymen to 1 Apprentice Thereafter

Jurisdiction (* denotes special jurisdictional note) :

Brown, Clermont, Hamilton, Highland

Special Jurisdictional Note :

Details :

Prevailing Wage Rate
Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCR01-2025ib	Sprinkler Fitter	8/6/2025	8/6/2025

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sprinkler Fitter	$48.28		$12.40	$7.40	$0.54	$0.00	$7.74	$0.00	$0.00	$0.00	$76.36	$100.50
Apprentice	BHR	Percent										
CLASS 1	$24.14	$50.00	$9.03	$0.00	$0.54	$0.00	$0.00	$0.00	$0.00	$0.00	$33.71	$45.78
CLASS 2	$27.04	$56.00	$9.03	$0.00	$0.54	$0.00	$0.00	$0.00	$0.00	$0.00	$36.61	$50.13
CLASS 3	$29.45	$61.00	$12.40	$7.40	$0.54	$0.00	$1.15	$0.00	$0.00	$0.00	$50.94	$65.66
CLASS 4	$31.38	$65.00	$12.40	$7.40	$0.54	$0.00	$1.15	$0.00	$0.00	$0.00	$52.87	$68.56
CLASS 5	$33.31	$69.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$55.05	$71.70
CLASS 6	$36.21	$75.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$57.95	$76.05
CLASS 7	$38.14	$79.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$59.88	$78.95
CLASS 8	$40.56	$84.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$62.30	$82.58
CLASS 9	$42.97	$89.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$64.71	$86.19
CLASS 10	$44.90	$93.00	$12.40	$7.40	$0.54	$0.00	$1.40	$0.00	$0.00	$0.00	$66.64	$89.09

(*)Special Calculation Note :

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.

Prevailing Wage Rate
Skilled Crafts

Name of Union: Truck Driver Locals 20,40,92,100,175,284,348,377,637,697,908,957 - Bldg & HevHwy Class 1

Type of Rate: Commercial

Change #:	**Craft:**	**Effective Date:**	**Effective Date:**
LCN01-2026ib	Truck Driver	5/1/2026	5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 1	$34.90		$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$55.75	$73.20
Apprentice	BHR	Percent										
First 6 months	$27.92	$80.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$48.77	$62.73
7-12 months	$29.67	$85.02	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$50.52	$65.36
13-18 months	$31.41	$90.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$52.26	$67.97
19-24 months	$33.16	$95.02	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$54.01	$70.59
25-30 months	$34.90	$100.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$55.75	$73.20

(*)Special Calculation Note :

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

CLASS 1: Drivers on trucks, including but not limited to: 4-wheel service trucks; 4-wheel dump trucks; batch trucks; drivers on tandems; truck sweepers (not to include power sweepers and scrubbers) Drivers on tractor – trailer combinations including but not limited to the following: Semi-tractor trucks; pole trailers; ready-mix trucks; fuel trucks; all trucks five (5) axle and over; drivers on belly dumps; truck mechanics (when needed).

Prevailing Wage Rate
Skilled Crafts

Name of Union: Truck Driver Locals 20,40,92,100,175,284,348,377,637,697,908,957 - Bldg & HevHwy Class 2

Type of Rate: Commercial

Change #:
LCN01-2026ib

Craft:
Truck Driver

Effective Date:
5/1/2026

Effective Date:
5/1/2026

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 2	$35.91		$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$56.76	$74.72
Apprentice	BHR	Percent										
First 6 months	$28.72	$79.99	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$49.57	$63.93
7-12 months	$30.52	$85.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$51.37	$66.63
13-18 months	$32.32	$90.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$53.17	$69.33
19-24 months	$34.11	$95.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$54.96	$72.02
25-30 months	$35.91	$100.00	$10.75	$9.60	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$56.76	$74.72

(*)Special Calculation Note :

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler, Carroll, Champaign, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Gallia, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Henry, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lawrence, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington, Wayne, Williams, Wood, Wyandot

Special Jurisdictional Note :

Details :

CLASS 2: Drivers on articulated dump trucks; rigid-frame rock trucks; distributor trucks; low boys/drag driver on the construction site only and heavy duty equipment (irrespective of load carried) when used exclusively for transportation on the construction site only.

SECTION 005000

AGREEMENT FORM

1. The Contract Form for this project will be AIA A132-2019 .

END OF SECTION

AIA® Document A132® – 2019 (Amended and Modified)

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

AGREEMENT made as of the ____ day of _____ in the year 2026
(In words, indicate day, month, and year.)

BETWEEN the Owner:
(Name, legal status, address, and other information)

Board of County Commissioners, Hamilton County, Ohio
603 County Administration Building
138 East Court Street
Cincinnati, Ohio 45202

and the Contractor:
(Name, legal status, address, and other information)

for the following Project:
(Name, location, and detailed description)

Hamilton County Paycor Stadium
ITB #037-26
BP#3-South Vertical Transportation Towers
TC-
1 Paycor Stadium
Cincinnati, Ohio 45202

The Construction Manager:
(Name, legal status, address, and other information)

Messer Construction Co.
643 West Court Street
Cincinnati, Ohio 45203

The Architect:
(Name, legal status, address, and other information)

KZF Design, Inc.
700 Broadway
Cincinnati, Ohio 45202

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

AIA Document A232™–2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions, including the General Conditions of the Contract for Construction, AIA A232-2019, as modified and attached hereto), Drawings, Specifications, Addenda issued prior to execution of this Agreement, the Contractor's Construction Schedule (as defined in Paragraph 3.10 of the General Conditions and as modified from time to time), the Schedule of Values (as defined in Paragraph 9.2 of the General Conditions and as modified from time to time), the Project Schedule (as defined in Paragraph 3.10 of the General Conditions and as modified from time to time), and other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9. All references in this Agreement to the AIA A232-2019 shall be to the AIA A232-2019 as modified and attached hereto. In the event of a conflict or inconsistency in or among the Contract Documents, the Contractor shall, unless directed otherwise in writing by the Owner, provide the greatest quantity, highest quality, highest degree of safety, and most stringent material, equipment or Work.

ARTICLE 2 THE WORK OF THIS CONTRACT

§ 2.1 The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

§ 2.2 Contractor's Work shall include all construction services necessary to result in the timely and proper construction of the completed Project in accordance with the Contract Documents.

§ 2.3 The Work includes all items that would be reasonably inferable from the Contract Documents by contractors in similar situations as necessary to produce the results intended; provided, however, if it appears that any reasonable inferences would conflict with the Drawings and Specifications, then Contractor shall obtain direction before proceeding with such Work.

§ 2.4 Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and Construction Manager and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Contractor shall furnish only skilled and properly trained and qualified personnel for the performance of the Work. Notwithstanding the foregoing, it is hereby acknowledged that the Contractor is an independent contractor and is not an employee, joint venturer, or agent of the Owner.

§ 2.5 The Contractor shall perform and complete its obligations under this Contract through the exercise of care, diligence

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and skill expected of a contractor (i) that is experienced and skilled in construction of the quality, complexity, size, nature, site and location comparable to the Project, and (ii) that is highly familiar with (a) the site upon which the Project is to be constructed and (b) local conditions under which the Work is to be performed (such care, diligence, and skill is the "Standard of Care").

ARTICLE 3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[ ] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Omitted

§ 3.4 When the Work of this Contract, or any Portion Thereof, is Substantially Complete

§ 3.4.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall substantially complete the entire Work of this Contract:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

[ ] By the following date:

Final Completion of the Work shall be achieved not later than thirty (30) days after the date of Substantial Completion ("Final Completion Date"). Final Completion is the stage of the Project where the Work has been completed in its entirety, including but not limited to achieving Substantial Completion, completing the Punchlist, issuance of the Architect's final Certificate for Payment, and completing all obligations and conditions in **§ 9.10** of the General Conditions.

§ 3.4.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of this Contract are to be substantially complete prior to when the entire Work of this Contract shall be substantially complete, the Contractor shall substantially complete such portions by the following dates:

Portion of Work	Date to be substantially complete

§ 3.4.3 If the Contractor fails to substantially complete the Work of this Contract, or portions thereof, as provided in this Section 3.4, damages shall be assessed as set forth in Section 4.5.

§ 3.5 Time is of the essence to the Contract Documents and all obligations thereunder. The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of the completed Work as of Substantial Completion.

§ 3.6 If, in the reasonable judgment of the Owner, the Contractor is unlikely to achieve Substantial Completion of the entire Work as required by the Contract Documents, then the Owner may require the Contractor to promptly furnish a "Recovery Plan" to demonstrate the manner and time period, not to exceed seven (7) days, in which the Contractor shall restore the

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progress and completion of the Work in compliance with that required by the Contract Documents. If the Owner is not satisfied with the Recovery Plan, the Owner shall have the right, but not the obligation, to direct the Contractor to accelerate the Work as necessary to achieve the progress and completion of the Work to the reasonable satisfaction of the Owner. Any acceleration required under this Section shall be performed without adjustment to the Contract Sum; provided, however, if the Owner requires an acceleration due to causes that would otherwise entitle the Contractor to an equitable adjustment in the Contract Time per **§8.3** of the General Conditions, then the Contract Sum shall be equitably adjusted, pursuant to a Change Order. If the Contractor fails to accelerate the Work adequately following a demand by the Owner to do so pursuant to this Section, and after having provided the Contractor written notice and a reasonable opportunity to cure of not less than ten (10) days, and without waiving any other rights or remedies, then the Owner (i) shall have the right, but not the obligation, to take appropriate action to accelerate the Work, with its own forces or through separate contractors, and (ii) may deduct from any payment due the Contractor, amounts as reasonably necessary to cover the costs associated with such acceleration.

§ 3.7 Whenever acceleration is required by the Owner under any provisions of the Contract Documents, the Contractor shall determine how best to accelerate performance of the Work and comply with all other obligations of Contractor under the Contract. The Contractor may consider, among other methods of acceleration, providing additional labor, expediting deliveries of materials, performing overtime or re-sequencing the Work. Notwithstanding the Owner's exercise of any of its rights to accelerate the Work pursuant to the Contract Documents, in no event shall the Owner be deemed to have any control over, charge of, or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work.

§ 3.8 The Contractor shall adhere strictly to its most recent Construction Schedule approved by Owner, Construction Manager and Architect for its Work and incorporated into the Project Schedule. The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Substantial Completion Date, subject to the terms and conditions of the Contract Documents.

§ 3.9 If Contractor does not accomplish Final Completion by the Final Completion Date, Owner may thereafter engage other contractors to complete the remaining Work. Owner may deduct its resulting costs and expenses from amounts otherwise payable to Contractor, and Contractor shall reimburse Owner for any expenses that Owner does not deduct within ten (10) days after demand.

§ 3.10 Contractor shall (1) assist the Architect and Construction Manager in determining when the Work or a designated portion or phase thereof has reached Substantial Completion and prepare for the Architect, Construction Manager and Owner a punch list of incomplete or unsatisfactory items and a schedule for their completion; (2) assist the Architect, Construction Manager and Owner in conducting inspections; (3) after the Architect and Construction Manager certify the date of Substantial Completion of the Work, coordinate the correction and final completion of such Work; and (4) when the Work is finally completed, provide written notice and certification to the Owner, Construction Manager and the Architect that the Work is completed and ready for final inspection and acceptance, and on Final Completion, secure and transmit to the Owner all required warranties, guarantees, affidavits, releases, bonds and waivers and turn over to the Owner all keys to the Project in its possession.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be a Stipulated Sum, in accordance with Section 4.2 below

§ 4.2 Stipulated Sum

§ 4.2.1 The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents. **In recognition of the Owner's decision to initiate an Owner-Controlled Insurance Program (OCIP) providing General Liability and Excess Liability insurance, as more fully described in the OCIP Manual, the Contractor warrants that the Contract Sum does not include any fees or expenses for Contractor and Subcontractors of any tier for General Liability and Excess Liability insurance for on-site exposures on the Project.**

§ 4.2.2 Alternates

§ 4.2.2.1 Alternates, if any, accepted by Owner and included in the Contract Sum:

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Item	Price

§ 4.2.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.2.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

The Allowance shall be used as directed by the Owner. The unused portion of the Allowance shall be credited to the Owner via a deduct Change Order at Project completion.

§ 4.2.4 Unit prices, if any:

Item	Units	Price per Unit ($0.00)

§ 4.2.4.1 Where the Work involved is covered by unit prices contained in the Contract Documents, the value of any Work covered by a Change Order or Claim for an adjustment in the Contract Sum will be determined by application of such unit prices to the actual quantities of each scheduled item.

§ 4.2.4.2 The Construction Manager will determine the actual quantities and classifications of Unit Price Work performed by the Contractor. The Construction Manager will review with Contractor the Construction Manager's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). The Construction Manager's written decision thereon will be final and binding (except as modified by the Construction Manager to reflect changed factual conditions or more accurate data) upon Owner and Contractor.

§ 4.2.4.3 Each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's overhead and profit for each separately identified item.

§ 4.3 Omitted

§ 4.4 Omitted

§ 4.5 Liquidated Damages, if any

§ 4.6 Other
(Insert provisions for bonus, cost savings or other incentives, if any, that might result in a change to the Contract Sum.)

N/A

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon complete Applications for Payment submitted to the Construction Manager and Owner by the Contractor in accordance with the requirements set forth herein, and Certificates for Payment issued by the Construction Manager and

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Architect, the Owner shall make progress payments of approved amounts on account of the Contract Sum, to the Contractor, as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 Provided that an Application for Payment and all required supporting documentation are received by the Construction Manager not later than the 5th day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 5th day of the following month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner not later than thirty (30) days after the Construction Manager receives the Application for Payment.

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 Each Application for Payment shall be based on the most recent Schedule of Values submitted by the Contractor and approved by the Owner in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work. The Schedule of Values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Construction Manager and Architect may require. This Schedule of Values, unless objected to by the Construction Manager, Architect or Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 In accordance with the General Conditions, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.4.3.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.4.3.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of the General Conditions;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of the General Conditions; and
- **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.5 Omitted

§ 5.1.6 Omitted

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to when the Work of this Contract is substantially complete, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

«**.1** For labor performed prior to Substantial Completion of the Work, the progress payment shall be reduced by four percent (4%) and made at the rate of ninety-six percent (96%) of the Schedule of Values prepared

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by the Contractor and approved by the Architect and Construction Manager and

.2 Provided the materials have been inspected and found to meet the specifications, the progress payment for materials delivered to and suitably stored at the Project site shall be reduced by eight percent (8%) and made at the rate of ninety-two percent (92%) of the Schedule of Values prepared by the Contractor and approved by the Architect and Construction Manager. The retained balance shall be paid when such material is incorporated into and becomes a part of the Project.

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

N/A

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to when the entire Work of this Contract is substantially complete, including modifications for completion of portions of the Work as provided in Section 3.4.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, when the Work of this Contract is substantially complete, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted when the Work of this Contract is substantially complete shall not include retainage as follows:
(Insert any other conditions for release of retainage when the Work of this Contract is substantially complete, or upon Substantial Completion of the Work of all Contractors on the Project or portions thereof.)

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of the General Conditions, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect.

§ 5.2.1.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment.

§ 5.2.2 Omitted

§ 5.3 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below.
(Insert rate of interest agreed upon, if any.)

0.00 %

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Article 15 of the General Conditions.

§ 6.2 Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of the General Conditions, either party may commence litigation in a court of competent jurisdiction in Hamilton County, Ohio.

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ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of the General Conditions.

§ 7.1.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of the General Conditions, then the Owner shall pay the Contractor as follows:

The Contractor shall be entitled to receive payment for the direct costs of the Work properly executed; direct and actual reasonable costs incurred by reason of the termination, including direct costs attributable to termination of Subcontracts.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of the General Conditions.

§ 7.2 Omitted

§ 7.3 Suspension

The Work may be suspended by the Owner as provided in Article 14 of the General Conditions; in such case, and only if such suspension was not caused by the Contractor or its subcontractors, suppliers, laborers or vendors, the Contract Sum and Contract Time shall be increased as provided in Article 14 of the General Conditions.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of the General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

Joe Paul
Director of Stadia and Parking
3 Paycor Stadium
Cincinnati, Ohio 45202

§ 8.3 The Contractor's representative:

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in the General Conditions and the OCIP.

§ 8.5.2 The Contractor shall provide bonds as set forth in the General Conditions and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of the General Conditions, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

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§ 8.7 Omitted

§ 8.8 Other provisions

§8.8.1 The Contractor must verify all materials, equipment and labor entering into the Work for conformance with the Contract Documents and must keep such full and detailed accounts as may be necessary for proper financial management under the Contract. The system and method of accounting is subject to Construction Manager's and Architect's approval. Architect, Construction Manager and Owner, and their agents and employees, will be afforded access to all the Contractor's records, books, correspondence, instructions, receipts, vouchers, memoranda, and similar data relating to the Contract, and the Contractor must preserve all such records and provide such access for a period of three (3) years after the date of Substantial Completion.

§8.8.2 The Contractor represents and warrants to the Owner the following (in addition to any other representations and warranties contained in the Contract Documents), as an inducement to the Owner to execute this Agreement, which representations and warranties shall survive the execution and delivery of this Agreement, any termination of this Agreement and the final completion of the Work:

.1 The Contractor is, and throughout the performance of the Work shall remain, financially solvent, able to pay all debts as they mature and possessed of sufficient working capital to complete the Work and perform all obligations hereunder;

.2 The Contractor can furnish the plant, tools, materials, supplies, equipment, services and labor required to complete the Work and perform its obligations hereunder and has sufficient experience and competence to do so;

.3 The Contractor is qualified to do business in the state of Ohio and is properly licensed by, and registered with, all necessary governmental, public and quasi-public authorities having jurisdiction over the Contractor, the performance of the Work and the Project; and

.4 Execution of this Agreement and performance thereof is within the duly authorized powers of the Contractor and all resolutions or other authorization necessary for the Contractor to enter into this Agreement and for the signatory to sign this Agreement on behalf of the Contractor have been duly obtained and are currently in full force and effect.

§8.8.3 To the extent any preconstruction or other services have been provided by the Contractor before the execution of this Agreement, the Owner and Contractor nevertheless agree that this Agreement shall control the rights and responsibilities of the parties hereto. For the avoidance of doubt, all payments made by the Owner to Contractor related to the Project prior to the execution of this Agreement shall be considered payments made under this Agreement.

§8.8.4 The provisions of this Agreement that by their nature extend beyond the termination of this Agreement will survive termination, completion or expiration of this Agreement.

§8.8.5 If any portion of this Agreement shall be found invalid for any reason, such portion shall be severed from this Agreement, and all remaining provisions shall remain in full force and effect.

§8.8.6 The parties expressly agree that this Agreement was jointly drafted, and they both had opportunity to negotiate its terms and to obtain the assistance of counsel in reviewing its terms prior to execution. Therefore, this Agreement shall be construed in a neutral manner.

§8.8.7 This Agreement may be executed in separate counterparts and delivered by facsimile or electronic scanned format, with the parties hereby acknowledging that each separately executed counterpart will be afforded the same force and effect as a duly signed original document, even if an executed counterpart is delivered only via facsimile copy or electronic scanned format. »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

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.1 This AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, as modified and amended.

.2 AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, as modified and amended ("General Conditions"), a copy of which is attached hereto.

.3 The following Drawings as may be revised and re-issued by the Architect:

Number	Title	Issue Date

.4 Specifications contained in the Project Manual and Addenda for the Project:

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Section	Title	Issue Date	Pages

.5 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.6 Other documents listed below:

The following documents contained in the Project Manual for the Project: »

Number	Title	Pages
000125	Project Directory	1
001000.18	Tax Exempt Statement	1

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001000.23	Prevailing Wages	
007319	Health and Safety Requirements	10
007319A	Safety, Health and Environmental Requirements	35
008260	Minority, Women and Small Business Enterprise Program	28
008270	Responsible Bidder Requirements	4
	OCIP Manual, Version 2 dated March 18, 2026, as may be amended	24
009000	Contract Construction Management Forms (including Change Order Form AIA G701/CMa as amended and modified. Application and Certificate for Payment Form AIA G702/CMa as amended and modified. Continuation Sheet AIA G703CMa as amended and modified, Certificate of Substantial Completion Form AIA G704/CMa as amended and modified, Contractor's Affidavit of Payment of Debts and Claims Form AIA G706/CMa as amended and modified, Contractor's Affidavit of Release of Liens Form AIA G706A/CMa as amended and modified, Consent of Surety to Final Payment Form AIA G707 as amended and modified, Contractor's Affidavit, and Construction Change directive Form AIA G714/CMa as amended and modified.	

The following documents executed and submitted by Contractor for the Project: »

Number	Title	Pages
001000.4	Bid Form	
001000.5	Bid Guaranty and Contract Bond	4
001000.6	Certificate of Compliance	1
001000.7	Non-Collusion Affidavit of Contractor	1
001000.8	Bidder's Certifications Concerning EEO Requirements	1
001000.9	Personal Property Tax Statement	1
001000.10	Subcontractor and Material Supplier List	1
001000.15	Warranty Against an Unresolved Finding for Recovery	1
001000.17	Responsible Bidder Certifications	3
001000.22	Registration Form	1
	Contractor's MBE/WBE/SBE Goal Compliance Plan	

The following Project documents: »

Number	Title	Pages
	Contractor's Construction Schedule, as modified	
	Contractor's Schedule of Values, as modified	
	Project Schedule as approved by Owner	
	Post Bid Review Notes dated [ ]	

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This Agreement is entered into as of the day and year first written above.

Board of County Commissioners,
Hamilton County, Ohio

OWNER *(Signature)*

(Printed name and title)

CONTRACTOR *(Signature)*

(Printed name and title)

As required by Ohio Revised Code § 153.44, this Contract is found to be in accordance with §§ 153.01 to 153.60, inclusive, of the Ohio Revised Code:

Assistant Prosecuting Attorney
Hamilton County, Ohio

Recommended By:

Joe Paul, Director of Stadium and Parking

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SECTION 006100

CONTRACT BOND

(Section 153.57 Ohio Revised Code)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____

_____

(Here insert full name and address or legal title of Contractor)

as Principal and _____

(Here insert full name or legal title of Surety)

as Surety, are hereby held and firmly bound unto The Board of County Commissioners Hamilton County ("Primary Obligee") and Ohio and Messer Construction Co. ("Additional Obligee"), collectively, the Obligees, in the penal sum of

_____dollars ($_____),

for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above Principal did on the ____day of __, 20___, enter into a contract with the Primary Obligee, which said contract is made a part of this bond the same as though set forth herein;

NOW, if the said Principal shall well and faithfully do and perform each and every condition of such contract; and indemnify the Obligees against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications and bills of material therefor; and pay all lawful claims of subcontractors, materials suppliers and laborers, for labor performed and materials furnished in carrying forward, performing or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, material supplier or laborer having a just claim, as well as for the Obligees herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of said contract or in or to the plans and specifications therefor shall in any wise affect the obligations of said Surety on this bond, and does hereby waive notice of any modifications, omissions, or additions to the terms of the contract or to the work or to the specifications.

The Surety shall not be liable to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract to the Surety) strictly in accordance with the terms of said Contract as to payments and shall perform all other obligations to be performed under said Contract at the time and in the manner therein set forth; and

PROVIDED, FURTHER that the aggregate liability of the Surety under said Bond to any or all of the Obligees, as their interests may appear, is limited to the penal sum of said Bond, and that the Additional Obligee's rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and that the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under said Contract.

SIGNED AND SEALED This _____ day of _____, 20____

_____
Principal

By:_____

Title:_____

_____
Surety

By:_____
Attorney-in-Fact

_____
Surety company address

_____

_____
Surety Agent's name and address

_____

_____

SECTION 006150
ESCROW AGREEMENT

Agreement made on _____, _____, between The Board of County Commissioners, Hamilton County, Ohio, hereinafter called County, and _____, hereinafter called escrow agent.

WHEREAS, the County and _____, hereinafter called contractor, have entered into a contract identified as _____; and,

WHEREAS, Section 153.12, et. seq., Ohio Revised Code, requires the County to retain certain funds due to the Contractor in order to assure completion of the project which is the subject of the above mentioned contract; and,

WHEREAS, Section 153.63, Ohio Revised Code, provides for the placement of funds retained by the County in an escrow account;

NOW, therefore, it is agreed that:

1. County and Contractor agree to employ _____, to act as escrow agent in connection with funds retained by the County pursuant to the provisions of the contract identified as _____.

2. The escrow account shall be opened on or before _____, _____, with the deposit by the County with the escrow agent, the sum of _____ dollars. The escrow agent shall deposit such funds with the _____
(Bank) (Savings & loan)
in an interest earning savings account.

3. The escrow agent shall hold the escrowed principal and income until receipt of notice from the County and the Contractor, or until receipt of an arbitration order specifying the amount of the escrowed principal to be released and the person to whom it is to be released. Upon receipt of the notice or order, the agent shall promptly pay such amount of principal and a proportionate amount of the escrowed income to the person indicated.

4. The escrow agent may commingle the escrowed funds with funds held pursuant to other escrowed agreements.

5. The escrow agent shall be paid nothing, for its services.

IN WITNESS WHEREOF, the parties have executed this agreement at _____ on the _____ day of _____, _____.

The Board of County Commissioners, Hamilton County, Ohio

By:_____
County Administrator

_____
Witness

_____
Witness

By:_____
Contractor

_____
Witness

_____
Witness

_____hereby accepts employment as escrow and hereby agrees to meet the obligations and perform the duties of escrow agent as set forth in the foregoing agreement.

Date: _____

_____
Escrow Agent

SECTION 007200

GENERAL CONDITIONS

1. General Conditions AIA A232-2019 amended is included and attached.

END OF SECTION

AIA® Document A232® – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

Hamilton County Paycor Stadium
ITB # 037-26
BP#3-South Vertical Transportation Towers
TC-__
1 Paycor Stadium
Cincinnati, Ohio 45202

THE CONSTRUCTION MANAGER:
(Name, legal status, and address)

Messer Construction Co.
643 West Court Street
Cincinnati, Ohio 45203

THE OWNER:
(Name, legal status, and address)

Board of County Commissioners, Hamilton County, Ohio
603 County Administration Building
138 East Court Street
Cincinnati, Ohio 45202

THE ARCHITECT:
(Name, legal status, and address)

KZF Design, Inc.
700 Broadway
Cincinnati, Ohio 45202

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5 SUBCONTRACTORS

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, the Contractor's Construction Schedule (as defined in Paragraph 3.10 of the General Conditions and as modified from time to time), the Schedule of Values (as defined in Paragraph 9.2 of the General Conditions and as modified from time to time), the Project Schedule (as defined in Paragraph 3.10 of the General Conditions and as modified from time to time), and other documents listed in Paragraph 9.6 of the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their duties.

§ 1.1.3 The Work. The term "Work" means the construction, supervision and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, inspections, testing, tools, supplies, fuel, transportation, installation, temporary facilities, supervision, clean-up and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. The Contractor shall pay all costs of the performance of all its obligations under the Agreement, even if such costs exceed the Contract Sum.

§ 1.1.4 The Project. The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 The Drawings. The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.8 The Specifications. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.9 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

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§ 1.1.10 Initial Decision Maker. The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The Contract Documents are to be read and interpreted as a whole. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work and to require Contractor to provide the highest quality and greatest quantity consistent with the Contract Documents. The terms and conditions of this Section 1.2.1 shall not relieve the Contractor of any of its obligations as set forth in any other Section of these General Conditions.

- **.1** On the Drawings, given dimensions shall take precedence over scaled measurements and large-scale drawings over small-scale drawings.
- **.2** Before ordering any materials or doing any Work, the Contractor shall verify measurements at the site and shall be responsible for the correctness of such measurements. No extra charges or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference that may be found shall be submitted to the Architect and Owner for resolution before proceeding with the Work.
- **.3** If a minor change in the Work is necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure to the Architect and Owner for written approval before making the change.

The Owner shall not be required to make any adjustment to either the Contract Sum or Contract Time because of any failure by the Contractor to comply with the requirements of this Section 1.2.1. Actual or alleged conflicts or inconsistencies between the Drawings and Specifications or other Contract Documents shall be brought to the Architect's and Owner's attention in writing, prior to performing the affected Work.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 The Contractor and each of its Subcontractors shall evaluate and satisfy themselves as to the conditions and limitations under which the Work is to be performed, including without limitation (1) the location, condition, layout, and nature of the site and surrounding areas, (2) prevailing climatic conditions, (3) available labor supply and cost, (4) availability and cost of materials, tools, and equipment, and (5) other similar situations. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or Contract Time in connection with any failure by the Contractor or any Subcontractor to comply with the requirements of this Section 1.2.4.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

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§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The ownership and intellectual property interests in the Drawings, Specifications and other documents prepared for the Project shall be governed by the terms and conditions of the Agreement between Owner and Architect'. The Contractor, Subcontractors, sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Owner's, Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.3 Contractor acknowledges that any information other than the Contract Documents furnished by the Owner to the Contractor is for informational purposes only and does not constitute a representation by the Owner as to any of these items. Contractor acknowledges that any such information may be incomplete or inaccurate and that it has taken such additional steps as may be necessary to satisfy itself as to actual conditions.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery. For the sake of clarity, electronic transmission is not an acceptable means of delivery for notice of Claims pursuant to Section 15.1 and does not comply with the notice requirements for Section 15.1.

§ 1.7 Digital Data Use and Transmission

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.2 Omitted

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including

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those required under Section 3.7.1 or otherwise provided under the Contract Documents, the Owner, with the assistance of the Contractor and/or Construction Manager, shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall compare such information with observable physical conditions and the Contract Documents and, on the basis of review, promptly report to the Owner in writing any apparent conflicts, errors, or omissions.

§ 2.3.6 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.7 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents, fails to make submissions in accordance with the Contract Documents, fails to carry out Work in accordance with the Contract Documents, fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials or equipment so as to be able to complete the Work within the Contract Time, or fails to promptly remove and discharge any lien filed upon Owner's property by anyone claiming by, through or based on the requirements of the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, immediately and without further notice, without prejudice to other remedies the Owner may have, correct such default or neglect. The Construction Manager or Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.6 When the services of the Architect, Construction Manager, Owner's Representative, testing and inspection

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agencies or others are required because of defective Work, neglect, failure, deficiency, or default by the Contractor or anyone employed under or hired by the Contractor, such services of the Architect, Construction Manager, Owner's Representative, testing and inspection agencies or others along with other costs, damages and liabilities incurred by Owner shall be the basis for adjusting the Contract Sum by a Change Order or Construction Change Directive, to compensate Owner for the additional services and such costs, damages and liabilities. This Section 2.6 shall be in addition to any other rights or remedies of the Owner as set forth in this Agreement or provided by law.

§ 2.7 Extent of Owner's and/or Construction Manager's Rights

§ 2.7.1 The rights stated in this Article 2 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights or remedies of the Owner granted in the Contract Documents, at law or in equity.

§ 2.7.2 In no event shall the Owner or Construction Manager be deemed to have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner or Construction Manager in the Contract Documents. The Owner shall not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents, or for the acts or omissions of the Contractor, Subcontractors, any of their respective agents or employees, or any other persons performing any of the Work.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has (i) conducted a thorough investigation of the Project site, the Contract Documents and other documents made available to the Contractor by the Owner, (ii) carefully investigated and considered the need to coordinate the Work with the work of other contractors, the possibility of delay in the various components of the Work, the possibility of obstacles and conditions not identified by the Owner (and the cost to the Contractor and impact on its schedule of such unidentified items), conditions relating to the transportation, handling and storage of materials, availability of labor, the effect of any labor agreements, weather, applicable provisions of law and the character and availability of equipment, material and facilities needed before and during the prosecution of the Work, (iii) reviewed all plans, specifications, drawings, reports and other materials with respect to the Project and its systems, (iv) considered staging, access and materials and equipment delivery issues, and (v) evaluated all other matters and conditions of the Project site which may affect the provision of Contractor's services and completion of the Work. In connection with the foregoing, and having visited the Project Site, the Contractor acknowledges and declares that it has no knowledge of any discrepancies, omissions, ambiguities or conflicts in the Contract Documents and that if it becomes aware of any such discrepancies, omissions, ambiguities or conflicts, it will promptly notify Owner and Architect of such fact.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.5, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Owner, Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Owner and Construction Manager in such form as the Owner,

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Construction Manager and Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. It is the intent of the Contract Documents to have all systems complete and in proper operation upon completion of the Project. Even if terms required for completion or proper operation of systems are missing from the Drawings or Specifications, such items must be included in the Work.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner, Construction Manager and Architect in writing any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 3.2.4 If any Work deviates from the requirements of the Contract Documents, the Contractor shall be solely responsible for all resulting costs, damages and expenses. No claim by Contractor (a) that the Work indicated was not constructible, or (b) that performing the Work in accordance with the Contract Documents would have caused or resulted in damages, shall be available to Contractor as a defense or a claim to reduce Contractor's liability, or to increase Contractor's compensation or the Contract Time, except to the extent such defense or claim is expressly permitted elsewhere in the Contract Documents. This provision does not limit any other rights of Owner or Architect or other obligations of the Contractor'.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner, the Construction Manager, and the Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work. The Contractor shall promptly report deficient conditions in the Work in writing to the Owner and Construction Manager and shall not begin any subsequent Work until deficient conditions are corrected. The Contractor shall allow a reasonable period of time for such corrections. Commencing any such subsequent Work shall be deemed to be an admission by the Contractor that such portions of the Project were in proper condition to receive such Work and the Contractor shall be deemed to have expressly waived any claims it may otherwise have had with respect to such condition.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

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§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. The Contractor shall use its best efforts and judgment as an experienced contractor to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes or strikes where reasonably possible.

§ 3.4.4 The Contractor shall be responsible for all materials including, without limitation, materials which Owner has purchased, and which are or will be integrated into Contractor's Work and shall ensure that such materials are moved to a secure location so as to avoid damage or theft.

§ 3.5 Warranty

§ 3.5.1 In addition to any warranties implied by law or any special warranties with respect to particular equipment or systems, the Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of products, systems, materials and equipment provided by the Contractor and/or its subcontractors or suppliers.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4. The Contractor shall perform the Work in such manner as to preserve all manufacturer's warranties.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing, or if a contractor of similar experience should have known, it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for correction of such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide written notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, determines

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that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner, Construction Manager, and Contractor, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall immediately notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2. It is expressly agreed and understood however that the Contract Sum shall never be exceeded unless the Owner agrees in writing.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall be satisfactory to the Owner so long as the superintendent remains employed by the Contractor or any related entity. The Superintendent shall not be replaced without the Owner's prior written consent. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect, through the Construction Manager, of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor, stating whether the Owner, the Construction Manager, or the Architect (1) has reasonable objection to the proposed superintendent or (2) require additional time for review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager, or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project schedule, a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an

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apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

.1 The Contractor's Construction Schedule shall utilize Critical Path Method analysis ("CPM") for all major elements and phases of construction of the Work if required by the Owner, Construction Manager or Architect. The Construction Schedule shall identify, consider and coordinate the purchase of materials and equipment requiring long lead time procurement. Construction schedules submitted to the Owner, Construction Manager and Architect shall be in format acceptable to the Owner, Construction Manager and Architect.

.2 Contractor shall prosecute its Work promptly and diligently in accordance with the Project Schedule approved by the Owner, Construction Manager and Architect, as said Project Schedule may be revised or modified from time to time by written approval of Owner. Contractor, at its own expense, shall provide all necessary means (i.e., shift work, overtime, additional crews, equipment, etc.) to maintain or return to schedule if Owner, Construction Manager or Architect determines that Contractor is behind schedule because of Contractor's fault, lack of performance or coordination. If Contractor does not provide such necessary means or does not achieve acceptable results within ten (10) business days, Owner may provide supplemental workforces or direct others to perform work to return to schedule. The cost of such supplemental workforces, including additional services of the Owner's Representative, Construction Manager and Architect resulting therefrom, shall be charged to Contractor.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Owner's, Construction Manager's and Architect's approval. The Owner, Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Owner, Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall submit with each monthly payment application an updated Construction Schedule revised to reflect the current status of the Work, said updates being subject to the Owner, Construction Manager and Architect's review and approval. Receipt of these monthly updates shall be a condition precedent to any obligation of the Owner hereunder to make monthly progress payments to the Contractor. All updates to the Contractor's Construction Schedule shall conform to the Project Schedule. The Contractor shall perform the Work in accordance with the most recent schedules approved by the Owner, Construction Manager, and Architect, and incorporated into the approved Project schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed. The Contractor shall pay all costs incurred by the Architect, Construction Manager and Owner for attendant delay, interference, hindrance or disruption of the Project due to excessive re-submittals without fault of the Architect, Construction Manager, separate Contractors or the Owner. Unless otherwise provided in the Contract Documents, re-submittals in excess of two without fault of the Architect, Construction Manager or Owner shall be deemed excessive. If the Shop Drawings or other submittals show variations from the requirements of the Contract Documents, the Contractor shall specify such variations in the Contractor's letter of submittal to the Architect

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accompanying the submittal.

§ 3.12 Shop Drawings, Product Data, and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action. All Shop Drawings (i) shall comply with applicable performance specifications and (ii) comply with all applicable laws and regulations. Shop Drawings shall be modified at no cost to the Owner as necessary to obtain any permits or approvals, and as required to comply with any applicable laws and regulations or requirement of the Contract Documents.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Owner, Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof. The issuance of any submittal by the Contractor constitutes a certification by the Contractor that each item has been reviewed in detail and is in full conformance with the Contract Documents unless expressly noted otherwise in writing by Contractor. Review or approval of submittals by the Owner, Construction Manager or Architect does not relieve the Contractor of responsibility for full compliance with all Contract Documents and other contract requirements, unless the Owner, Construction Manager and Architect have given separate written approval to any specific variation. Any variation from the Contract Documents shall be noted prominently and in sufficient detail on both the transmittal document and on the submittal itself. The Contractor shall set forth, in writing, the reason for and description of the variation. If no variations are noted, issuance of the submittal shall constitute a representation by the Contractor to the Owner, Construction

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Manager and Architect that the submittal complies in all respects with the Contract Documents. The purpose of submittals is to demonstrate, for those portions of the Work for which submittals are required, the way Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Owner, Construction Manager or Architect is subject to the limitations of the Contract Documents. Architect, Construction Manager and Owner's review of submittals shall not relieve Contractor of its responsibility for errors or omissions in Shop Drawings, Product Data or Samples.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Construction Manager and Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner, the Architect, and the Construction Manager shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site. The Contractor shall perform the Work so as not to unreasonably interrupt or interfere any operations of the Owner or its Separate Contractors on the site.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents. Existing structures and facilities, including but not limited to buildings, utilities, topography, streets, curbs, walks, landscape materials, and other improvements that are damaged or removed due to required excavations or Contractor's Work, shall be patched, repaired or replaced by the Contractor to the satisfaction of the Architect, the owner of such structures and facilities, and authorities having jurisdiction as required by the Plans and Specifications. In the event that a local authority having jurisdiction requires that such repairing and patching be done with its own labor and/or materials, the Contractor shall abide by such regulations and pay for such work.

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§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 The Contractor shall, at its own cost and expense, (1) keep its own work area within the Project Site reasonably free and clear of all waste materials and other rubbish accumulated in connection with the execution of its Work, (2) clean and remove from its own Work and from all contiguous work of others any soiling, staining, mortar, plaster, concrete or dirt caused by the execution of its Work and make good all defects resulting therefrom, (3) at the completion of its Work in each area, perform such cleaning as may be required to leave the area "broom clean", and (4) upon final completion of its Work, remove all of its tools, equipment, scaffolds, shanties and surplus materials. The Contractor's Work Site shall be kept reasonably neat and clean at all times to eliminate hazards, reduce hazard from fire, and to allow easy circulation for workers and materials. Any sidewalk, roadway, or temporary passageway used by the public must be kept clean and safely usable at all times. In the event Contractor fails to clean up as required, Owner, Construction Manager or Architect may give twenty-four (24) hours' notice, which shall be considered given when submitted in writing to the Contractor's field supervisor. After twenty-four (24) hours, if the deficiency has not been remedied to the Owner's satisfaction, the Owner may proceed with the required clean up and deduct the cost thereof, including the cost of additional services of the Owner's Representative, from any amounts due Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner, Construction Manager, and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Owner and Architect through the Construction Manager, specifically setting forth Contractor's reason for such belief. In the event of an infringement of any copyright or patent by Contractor, the Contractor shall use its best efforts, at its sole expense and option, to (i) obtain for Owner the right to continue using such materials, equipment or software; or (ii) modify the item(s) in question so that it is no longer infringing; or (iii) replace such item(s) with a non-infringing functional equivalent reasonably acceptable to Owner.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, Cincinnati Bengals , Inc., Paul Brown Stadium LTD, Construction Manager, Architect, Construction Manager's and Architect's consultants, and their respective affiliates, officers, directors, shareholders, partners, successors-in-interest, agents and employees of any of them from and against claims, damages, agreed judgments, settlements, default judgments, other judgments, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work or relating to or arising from this Agreement to the extent caused by the negligent and/or intentional acts or omissions or other fault of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce

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other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Construction Manager, Architect, and Contractor. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent Project schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications. The Owner shall communicate with the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. Communications by and with the Architect's consultants shall be through the Architect.

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Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Construction Manager or Owner. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols. The Contractor shall copy the Owner on all correspondence the Contractor sends to the Architect. The Architect shall copy the Owner on all correspondence the Architect sends to the Contractor.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9. The Construction Manager and/or Architect's certification for payment shall not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) verified the requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 4.2.8 The Architect, Owner and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Construction Manager and Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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§ 4.2.13 The Construction Manager, Owner or Contractor will prepare Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of Final Completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.18 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of the Construction Manager, Owner, or Contractor through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.19 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Owner's decisions, after consultation with the Architect, on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.21 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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§ 5.1.3 "Subcontractors of all tiers" shall mean collectively Subcontractors and Sub-subcontractors.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable, but not later than five (5) business days, after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager and Architect, of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Construction Manager or Owner may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager or Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work and unreasonably objected, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.2.5 The Contractor understands and agrees that the Contractor alone is responsible to the Owner for all of the Work under the Contract Documents and that any review of Subcontractors or Sub-subcontractors by the Owner, Construction Manager or Architect will not in any way make the Owner responsible to any Subcontractor or Sub-subcontractor or make the Owner responsible for the actions or omissions of any Subcontractor or Sub-subcontractors.

§ 5.3 Subcontractual Relations

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. All subcontracts between Contractor and Subcontractor shall be in writing and shall be made available to the Owner upon request.

§ 5.3.2 All subcontracts shall specifically provide that:

- **.1** the Owner is an intended third-party beneficiary of the subcontract;
- **.2** the Subcontractor maintain the insurance coverages that are consistent with industry standards for subcontracts of the same or similar type, complexity and compensation amount;
- **.3** the Subcontractor submit waivers of liens for Work completed by it and by its Sub-subcontractors as a condition precedent to any payment for Work completed;

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.4 the Subcontractor furnish to the Contractor in a timely fashion all information necessary for the preparation and submission of the reports required by the Contract Documents,

.5 the Subcontractor continue to perform under its subcontract in the event the Contractor is terminated and the Owner, at its option, may assume the subcontract;

.6 in the event the Subcontractor's performance of the Work is delayed or interfered with by acts of the Owner, Contractor or other subcontractors, Subcontractor may request an extension of time for the performance of same, as herein provided, but shall not be entitled to any increase in the subcontract price or to damages or additional compensation as a consequence of such delays or interference, except to the extent the prime contract entitled the Contractor to compensation for such delays, and then only to the extent of any amounts that the Contractor may, on behalf of the Subcontractor, recover from the Owner for such delays;

.7 the dispute resolution provisions in Article 15 of this Agreement shall govern all disputes related to the Work; and

.8 no other agreement by Subcontractor in connection with the Work shall contain provisions inconsistent with any of the foregoing Sections (1) through (8) of this Section 5.3.2.

The Contractor shall defend, indemnify and hold harmless the Owner from and against all claims, damages, losses and expenses arising out of or resulting from the Contractor's failure to fulfill the requirements of this Section. In addition, the Owner will have the right to review all subcontracts and reject any which do not comply with the requirements of this Section.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension. Notwithstanding the foregoing, the Subcontractor shall not be entitled to any equitable adjustment if the Subcontractor is solely, partially, or concurrently responsible for the suspension of the Work or any delay to the Project Schedule.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the

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Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to Separate Contractors, other Contractors, the Architect, the Construction Manager or any other party to which the Owner may be liable, because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for reasonable and actual costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces, Separate Contractors, or other Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction, or to property of the Owner, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, other Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. Owner may make changes in the Work by altering, adding to or deducting from the Work. The Contract Sum shall not be decreased or increased as a result of changes in the Work, except as expressly provided for in Section 7.3.3 or unless evidenced by a Change Order. All changes in the Work shall be requested and authorized before commencing such changes by use of written Change Order which shall not be deemed authorized and agreed upon until Change Orders have been signed and executed by Owner, Construction Manager, Architect and Contractor. Change Order procedures set forth herein shall be the exclusive means to effect a change in the Work including (without limitation) changes in the Work requiring an adjustment in the Contract Sum or the Contract Time. Refinements of the Drawings and Specifications shall not be considered changes in the Work. In no event shall the Contract Sum be adjusted in connection with any change resulting from any defect in the Work or a correction or replacement that is attributable (or needed as a result of) the fault of Contractor or any Subcontractor, supplier or materialmen.

§ 7.1.2 A Change Order shall be based upon agreement between the Owner and Contractor. A Construction Change Directive does not require agreement by the Contractor. An order for a minor change in the Work may be issued by the Architect as provided in Section 7.4.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 Except as provided in Section 7.3 and Article 9, a change in the Contract Sum and the Contract Time shall be accomplished only by a Change Order. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by an

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alteration or addition to the Work, whether or not there is any unjust enrichment to the Work, shall be the basis of any claim for an increase in any amounts due under the Contract Documents or a change in any time period provided in the Contract Documents. The Contractor specifically agrees that if it proceeds on an oral order to change the Work, it shall waive any claim for additional compensation or additional time for such work and the Contractor shall not be excused from compliance with the Contract Documents.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3.

§ 7.2.3 Change Orders shall be executed on modified AIA Form G701/CMa.

§ 7.2.4 The Contractor's signature on a Change Order shall constitute a full, final, and complete waiver and settlement of any and all claims, demands, and causes of action that Contractor has, or may have in the future, arising out of or relating to the Change Order and the occurrences, acts, omissions, or events upon which the Change Order is based. No "reservation of rights" or other attempt by Contractor to preserve, notwithstanding Contractor's signature on the Change Order, present or future claims arising out of or relating to the Change Order (or arising out of or relating to the cumulative effect of the Change Order in combination with other change orders) shall be effective unless Owner and Contractor shall both agree, in a separate writing signed by both parties contemporaneously with Contractor's execution of the Change Order, to the specific terms, conditions, scope, and duration of such reservation of rights.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager or Owner and signed by the Owner, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one or a combination of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

§ 7.3.4.1 The actual and reasonable costs incurred in the performance of the Work supported by invoices, including the following maximum allowances for overhead, supervision and profit. The actual costs shall be limited as follows:

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.1 wages paid for labor in the direct employ of Contractor in the performance of the Work in the field or in the fabrication shop under applicable collective bargaining agreements or under a salary or wage schedule prevailing in the area plus a markup to cover all overhead items applicable to payroll, such as insurance, taxes, F.I.C.A., workers' compensation, unemployment taxes, and union benefits;

.2 cost of materials, supplies and equipment incorporated in the Work at Contractor's net cost and out of stock unit values and equipment at net cost FOB Project Site;

.3 cost, including maintenance, of all materials, supplies, equipment and temporary facilities, which are consumed in the performance of the changed Work, and cost less salvage value on such items used but not consumed which remain the property of the Contractor;

.4 third party rental charges of all necessary machinery and equipment, exclusive of hand tools, used in performing the changed Work, including installation, minor repairs and replacements, dismantling, removal, transportation and delivery costs thereof at rental charges consistent with those prevailing in the area. Total third-party rental charges on machinery or equipment rented under an agreement containing a purchase option clause shall not exceed seventy-five (75%) of the option purchase price. Contractor owned machinery and equipment used on the Project shall be charged at fifty percent (50%) AED Green Book rates. Rental shall only accrue to a maximum of the current market value of the equipment when brought on the Project Site. At that time, the equipment shall become the property of the Owner and rental charges cease. Upon completion of the Work, arrangements may be made to resell the equipment to the Contractor at salvage value;

.5 cost of additional premiums for all bonds and insurance which the Contractor is required by Owner or the Contract Documents to purchase and maintain and which is incurred as a result of performing the changed Work;

.6 permit fees, royalties, damages for infringement of patents and costs of defending suits therefore, and deposits lost for causes other than Contractor's negligence or fault;

.7 cost of "drayage", exclusive of any drayage between shop and Project Site, only when the Contractor must hire an independent trucking firm and driver to perform special drayage services in performance of the changed Work for which Contractor's skills, manpower and vehicles are inadequate. "Drayage" does not include transportation performed or which could have been performed by Contractor's driver or vehicles but for their use on another project;

.8 other costs incurred in the performance of the changed Work if and to the extent approved in writing in advance in writing by Owner; and

.9 reasonable costs of Subcontractors in performing the Changed Work.

§ 7.3.4.2 Actual costs of the changed Work shall exclude the following for the Contractor and any affected Subcontractors:

.1 salaries or other compensation for officers, executives, general managers, project managers, estimators, engineers, timekeepers, surveyors, mechanics, warehouse staff, auditors, accountants, purchasing and contracting agents, draft persons, stenographers, receptionists, and other staff employees, whether or not employed at Contractor's or Subcontractor's principal office, branch office or field office at Project Site;

.2 expenses of principal offices, branch offices, or Project Site field offices, including without limitation the expenses for pick-up trucks, office trailers, storage trailers, rental of office or storage space, telephone, heat, lights, etc. are considered part of overhead;

.3 ownership cost or maintenance expenses for owned and rented equipment, including without limitation all construction equipment, trucks and vehicles, machines and all other owned equipment, required for performance of the changed Work;

.4 cost for purchase and maintenance of tools and major repairs to rental equipment, materials, supplies and facilities not consumed during construction or incorporated in the changed Work;

.5 capital expense, including interest on capital employed for the changed Work;

.6 overhead or general expenses of any kind, including but not limited to office or fabrication shop overhead or drafting and printing costs;

.7 costs due to the negligence of Contractor, Subcontractors, anyone directly or indirectly employed by any of them, or for whose acts any of them may be liable, including but not limited to injury or damage to persons or property, the correction and/or removal of defective or nonconforming Work, disposal of materials and equipment wrongly supplied, or making good damage to property;

.8 cost of items not specifically and expressly included in Section 7.3.4.1; and

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.9 cost of "additional supervision" at the Project Site, which is being conducted by the current Project Site staff.

§ 7.3.4.3 The allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

.1 For the Contractor, for work performed by Contractor's own forces, ten percent (10%) of the cost.

.2 For the Contractor, for work performed by Contractor's Subcontractor, five percent (5%) of the amount due to the Subcontractor.

.3 For each Subcontractor or Sub-subcontractor involved, for work performed by the Subcontractor's or Sub-subcontractor's own forces, five percent (5%) of the cost.

.4 For each Subcontractor, for work performed by the Subcontractor's Sub-subcontractors, five percent (5%) of the amount due the Sub-subcontractor.

.5 Costs to which overhead and profit are to be applied shall be determined in accordance with Section 7.3.4.1.

.6 In order to facilitate checking quotations for extras or credits, all proposals, except where waived by the Owner, shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontracts, they shall be itemized also.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager and Owner of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 The Owner, or its designees, shall have the right to examine, inspect, copy and audit the books and records of Contractor and any Subcontractor with respect to all changed Work to be compensated on a cost reimbursable basis in order to verify the accuracy, correctness, completeness and propriety of all costs and allowances allowed.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the

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Contract Sum or Contract Time, the Contractor shall notify the Construction Manager and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion and Final Completion within the Contract Time.

§ 8.2.4 All Work shall be completed in sufficient time to allow for clean-up prior to the date of Substantial Completion of the Work.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is materially delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 If critical path operation or operations (as defined in .1 below) of the Contractor is delayed or accelerated by an Unavoidable Delay (as defined in .2 below), then subject to the conditions set forth in .1 through .7 below, the Contract Time shall be extended by the time determined by the Owner to be sufficient to compensate for the delay, after consultation with the Architect.

.1 "Critical path operation or operations" shall mean any element of the Work considered at the time by the Owner, after consultation with the Architect, as one which, if delayed, disrupted or accelerated will adversely affect the time of achievement of Substantial or Final Completion of the Project or otherwise impacts the critical path of the Project Schedule. Critical path operation or operations shall be determined from such factors as Contractor's Construction Schedule, the nature of the Work being performed, the Contract Documents, such other information as may be timely submitted by Contractor, and the Contract completion dates.

.2 "Unavoidable Delay" shall mean the act, neglect or default of Architect or Owner or any other contractor employed by Owner, force majeure, physical damage to the Project through no fault of the Contractor, unusually severe weather conditions that could not reasonably be anticipated and any other event or occurrence

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beyond the reasonable control of Contractor or its Subcontractors or suppliers at any tier. The determination of whether a claimed delay is an Unavoidable Delay, and if so, its effect on completion and the time extension to be granted, shall be made by the Owner after consultation with the Architect.

.3 "Non-Excusable Delay" shall mean delays caused by or attributable to Contractor, its Subcontractors, Sub-subcontractors, or suppliers or caused by or attributable to Anticipated Conditions (as defined and further explained in Section 8.4 herein). No time extension shall be granted for a Non-Excusable Delay. Examples of such Non-Excusable Delays include but are not limited to Contractor's poor planning, slow mobilization, failure to provide sufficient workers or adequate equipment, failure to procure necessary materials, failure to coordinate or supervise the Work, poor workmanship, accidents, or inadequate financial or other resources.

.4 An extension of time shall not be granted for an Unavoidable Delay unless the Contractor gives written notice to the Owner, with a copy to the Architect, of the claimed delay within ten (10) business days of its commencement and requests, in the written notification, the extension of time that it seeks. Owner and Architect may require Contractor to document the impact and duration of an excusable event and to demonstrate that all reasonable means have been used to minimize the effect of the delay as a condition to the granting of an extension of time.

.5 If in the opinion of the Owner or Architect, the Contractor is not proceeding with the prosecution of the Work as scheduled, and such failure to proceed is due to the act, omission or negligence of Contractor, or Subcontractor, Sub-subcontractor or any materialman or supplier, or the employees or agents of any of the above, upon receipt of written notice and failure to remedy the delay within ten (10) business days, Contractor shall, immediately and at no additional cost, work such overtime, additional shifts, Sundays or holidays as may be required to correct said delays and to ensure no further delays to the completion of the Work.

.6 If the Work, Substantial Completion or Final Completion is delayed by Unavoidable Delays, the Contractor's sole remedy shall be an extension of time equal to the actual delay to Contractor's Work.

.7 If an Unavoidable Delay and Non-Excusable Delay are concurrent, the delay shall be treated as a Non-Excusable Delay.

§ 8.3.4 Nothing in the Contract Documents, including anything contained in this Section 8.3, shall preclude the Owner's recovery of damages for Non-Excusable Delays, including without limitation the cost of Architect and Owner's Representative's additional services that are incurred as a result thereof.

§ 8.4 Anticipated Conditions and Escalation

Notwithstanding anything contained in the Contract Documents to the contrary, Contractor acknowledges that (i) the Contract Sum and Contract Time were agreed upon based on its evaluation of the Work and Project, including any potential issues and conditions that may arise during the time that Contractor is performing the Work and (ii) the Contract Sum and Contract Time include amounts for delay, supply chain disruptions, material cost escalations and other effects directly or indirectly resulting from known or reasonably foreseeable conditions, including, but not limited to, current supply chain and market conditions whether existing as of the date of this Contract or reasonably foreseeable to a prudent general contractor as of the date of this Agreement (collectively, the "Anticipated Conditions"). Contractor agrees that it shall not be entitled to a change in the Contract Sum and/or Contract Time from the Owner arising from or in connection with any Anticipated Conditions unless Owner approves the same in accordance with the terms and conditions of the Contract Documents. Contractor acknowledges the Contract Sum anticipates all potential material cost escalations which may occur prior to Substantial Completion and, accordingly, Contractor agrees it is not entitled to any increase in Contract Sum for such price escalation but may be entitled to extension of the Contract Time if not the result of Anticipated Conditions.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule

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of values to the Construction Manager and Owner, before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. The Schedule of Values and the Application for Payment shall indicate labor and material for each line item with the Contractor's fee listed separately.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, and releases of waivers of lien from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Neither final acceptance of the Work, nor payment therefore, nor any provision in the Contract Documents shall relieve Contractor of responsibility for defective or deficient materials or workmanship.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the Project site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. The Contractor shall notify the Owner and Construction Manager in writing of the location of any off-site storage. The Owner, Construction Manager and Architect shall have the right to visit the off-site storage location and to inspect the items stored there. The Contractor's insurance policies required hereunder shall include all equipment and materials stored off site. The Contractor shall provide the Owner and Construction Manager with written proof, reasonably satisfactory to the Owner, that title to the materials and equipment stored off site are vested in the Owner, that the materials are properly labeled as belonging to the Project, and the materials are segregated from other materials at the storage location.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

§ 9.3.4 Included with each monthly Application for Payment, Contractor shall submit statements and waivers of lien covering all portions of the Work for which disbursement is requested to a date specified therein and covering all Work to a reasonably current date, all in compliance with the Mechanic's Lien Laws of the State where the Project is located and with the requirements of Owner and any financing requirements of the Project, together with invoices and other supporting data, including but not limited to statements and waivers of lien from all lower tier subcontractors, sub-subcontractors and material suppliers invoicing an amount in excess of $10,000.00, as Owner or Architect or any

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Project lender or title insurance company may require to satisfy each that all monies due any person or party are known and paid, and that any lien or claim for the Work to such date is waived or released, and that the Project remains lien free and claim free.

§ 9.3.5 If the Owner has made all payments to the Contractor due in accordance with the Agreement, Contractor shall hold Owner harmless from and against all liens, claims of liens, and notices of personal liability for materials, equipment, labor, and other costs, or any of them, filed against the Work or the site of the Project, or any part thereof, and from and against all expenses and liability in connection therewith including, but not limited to, the court costs and attorneys' fees resulting or arising therefrom. Should any such liens or notices be received by Owner or filed of record, Contractor shall promptly, but no more than fourteen (14) days after Contractor acquires notice or knowledge of the lien, pay or discharge the same and cause the same to be released of record, or shall furnish Owner with appropriate bond in the form and amount satisfactory to Owner. Assuming the Owner is current in its payments to the Contractor, yet the Contractor fails to promptly pay or discharge such lien or notice, the Owner shall have the right to retain an additional amount from any payment then or thereafter due Contractor sufficient to satisfy and defend such lien or notice, including all attorneys' fees and expenses, and the Contract Sum shall be reduced by such amount. If the remaining portion of the Contract Sum not yet paid to the Contractor is insufficient to satisfy and defend such lien or notice, the Contractor shall be liable for and shall immediately reimburse the Owner for such amounts, including all attorneys' fees and expenses. The obligations of the Contractor and the rights of the Owner under this paragraph are subject to and conditioned upon the Owner having made payment to the Contractor as required under the Contract Documents.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract

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Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- **.1** damaged or defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum or completed within the Contract Time;
- **.5** damage to the Owner or a Separate Contractor or other Contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual damages for the anticipated delay;
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents;
- **.8** failure of Contractor to submit a Schedule of Values in accordance with the Contract Documents;
- **.9** failure of Contractor to maintain a record of changes on drawings and documents;
- **.10** Contractor's neglect or unsatisfactory prosecution of the Work, including failure to clean up; or
- **.11** failure of Contractor to comply with any provision of the Contract Documents.

§ 9.5.2 The Owner shall not be deemed to be in default of the Contract by reason of withholding payment while any of the foregoing grounds remain uncured. When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

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§ 9.5.4 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. No Subcontract shall be paid at a rate lower than the rates set forth in Section 9.3.4 of the Agreement being paid to Contractor by the Owner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.6.9 Notwithstanding any other provision to the contrary, the Owner reserves the right to make payment directly to any Subcontractor of the Contractor (or jointly to the Contractor and Subcontractor) in such amounts as the Owner determines to protect the Owner's interest and the Owner's property from a lien or asserted lien or other claim, and the amount owed the Contractor shall be reduced by the amount of any such payment by the Owner. Exercise of this option shall not create any claims or rights by any Subcontractor or any other party against the Owner or the Owner's funds.

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This right may also be exercised through the Owner's title company or lender making any such payments.

§ 9.7 Failure of Payment

§ 9.7.1 If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's receipt of the Contractor's Application for Payment, or if the Owner does not pay amounts properly due and owing to the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately.

§ 9.7.2 If the Owner is entitled to reimbursement or payment from the Contractor pursuant to the Contract Documents, the payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or if the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to (1) deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when (i) the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use; (ii) the Punchlist has been prepared pursuant to standard industry practice; (iii) the Architect and Owner have determined that the Work has been substantially completed in accordance with this Contract; and (iv) the Contractor has obtained approval from the local governmental authority permitting occupancy, if applicable.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the list, the Architect and Owner, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's or Owner's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect and Owner, assisted by the Construction Manager, to determine Substantial Completion. If after notification by the Contractor that all items of the Substantial Completion list have been completed it becomes necessary for the Architect, Construction Manager or their consultants to make additional trips, due to the Contractor's failure to fully complete or correct the Work, the cost to the Owner for these additional trips will be deducted from the final payment due the Contractor.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, and if there exists no other reason to withhold retainage, the Owner shall make payment of retainage applying to the Work or designated portion thereof and accrued interest thereon within thirty (30) days of the date of Substantial

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Completion. Owner may withhold from the retainage payment that amount reasonably necessary to assure final completion of the Work in accordance with the Contract Document requirements. Any retained funds withheld after the date of Substantial Completion and pending final completion of the Work, and interest thereon accrued, shall be paid to Contractor not later than thirty (30) days after the issuance of the Architect's final Certificate for Payment.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable ("Final Completion"). The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager and Owner in form and substance reasonably satisfactory to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable

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attorneys' fees. In addition, as a condition to final payment, Contractor will submit to Owner (a) all maintenance and operating manuals, (b) a complete set of the as-built drawings, (c) copies of all warranties and guarantees from Subcontractors, suppliers and equipment manufacturers and (d) a complete list of the names, addresses and phone numbers of all Subcontractors and any company providing a warranty or guarantee. Contractor will provide final unconditional lien waivers from such subcontractors, sub-subcontractors and material suppliers within 21 days of receipt of payment from Owner following final completion of the Project.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 Omitted.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor;
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- **.4** construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of

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properly qualified personnel and give the Owner reasonable advance notice, and shall not commence, use, or store until authorized in writing by the Owner.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner, Construction Manager and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 Omitted.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

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§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred. Notwithstanding the foregoing, advance prior written notice from Owner to commence such remediation shall be a condition precedent to Contractor's entitlement to such remediation costs and expenses.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. Nothing in this Section shall be construed as relieving the Contractor from the cost and responsibility for emergencies covered hereby, which with normal diligence, planning, and the close supervision of the Work as required under the Contract, could have been foreseen or prevented.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds and Owner-Controlled Insurance Program

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability described below, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the State of Ohio. **The Owner will provide an Owner-Controlled Insurance Program ("OCIP") for the Project, as further described in the OCIP Manual, Version 2, dated March 18, 2026 (and as may be revised by Owner) and included as a part of the Contract Documents. The coverages listed below in Section .1, *Commercial General Liability Insurance* and Section .3 *Umbrella and Excess Liability Insurance* shall be included in the OCIP for "Enrolled" Contractors and "Enrolled" Subcontractors of all tiers performing Work "On-Site".**

Enrolled Contractor and Enrolled Subcontractors of all tiers shall provide evidence of coverage for all "Off-Site" Work as listed below in Section .1, *Commercial General Liability Insurance* and Section .3, *Umbrella and Excess Liability Insurance*.

If Contractor and/or Subcontractors are "Enrolled" under the OCIP, each shall provide evidence of coverage for all remaining provisions under Section § 11.1.1, including: Commercial Automobile Liability Insurance; Workers' Compensation and Employer's Liability; Contractor's Equipment/Installation Floater Liability Insurance (Inland Marine); Contractors' Pollution Liability Insurance; Contractors Professional Liability Coverage; and the General Insurance Requirements.

Finally, Contractors and Subcontractors of all tiers that are "Excluded" from the OCIP must comply with <u>all</u> provisions of Section § 11.1.1.

No Contractor or Subcontractor will be permitted "On-Site" until approved by the OCIP administrator.

.1 Commercial General Liability Insurance

(a) Contractor shall maintain Comprehensive/Commercial General Liability insurance on an occurrence basis written on Insurance Service Office (ISO) form CG 0001 or its equivalent with limits not less than those indicated below covering all operations by or on behalf of Contractor providing insurance for bodily injury liability and property damage liability including coverage for:

1. Premises operations

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2. Products and completed operations - must be maintained through the applicable Statute of Repose after Substantial Completion of the Project for Contractor and all Additional Named Insureds listed below. For Contractors and Subcontractors of all tiers that are "Excluded" from OCIP, the products and completed operations coverage shall define an occurrence and expressly cover damages caused by defective work of a Subcontractor. The term "occurrence" shall be specifically defined in such endorsement to include acts, errors, or omissions that cause: (A) "bodily injury" and/or "property damage" resulting from "your work," whether or not included within the "products-completed operations hazard;" or (B) "property damage" included within the "products-completed operations hazard" to "your work," but only if the work out of which the damage arises or arose was performed on Contractor's behalf by a Subcontractor. An acceptable endorsement would be (i) Zurich Insurance's "Resulting Damage to Your Work" endorsement (U-BL-1344-C CW), (ii) Cincinnati Insurance Agency's "Injury or Damage to or Resulting from Your Work and Injury or Damage Resulting from Your Product" endorsement (GA 4315 03 12), or (iii) a substantially similar endorsement approved in writing by the Owner prior to the commencement of the Work.

3. Blanket contractual liability

4. Broad form property damage (including completed operations)

5. Personal and advertising injury liability

6. Explosion, collapse, underground and subsidence hazards (no XCU exclusions are acceptable)

7. Independent contractor liability

8. Exterior Insulation and Finish Systems (EIFS) (applicable only if Contractor is providing this scope of work)

9. Incidental Medical Malpractice (applicable only if Contractor is providing incidental healthcare services)

10. Severability of interests

11. Waiver of subrogation (CG 24 04 (or equivalent))

12. Additional insured – Ongoing Operations (CG 20 10 (04/13) or equivalent)

13. Additional insured – Completed Operations (CG 20 37 (04/13) or equivalent)

14. Primary and Noncontributory (CG 20 01 (or equivalent))

15. No residential exclusion/no communicable disease conclusion if it would materially restrict coverage for the Project

(b) The limits of liability shall not be less than these amounts:

1. $2,000,000 Each Occurrence (combined single limit for bodily injury and property damage)

2. $1,000,000 Personal Injury

3. $2,000,000 Products-Completed Operations Aggregate

4. $4,000,000 General Aggregate - shall apply on a per project basis to Contractor's Work under the Contract Documents per CG 25 03 or equivalent

5. $100,000 Fire Damage (any one fire)

.2 Commercial Automobile Liability Insurance

(a) Contractor shall maintain Commercial Automobile Liability insurance written on ISO form CA 00 01 or its equivalent covering liability arising out of any auto (whether owned, hired, borrowed, scheduled or non-owned) and providing insurance for bodily injury liability and property damage liability including coverage for:

1. Contractual liability insuring the obligations assumed by Contractor in the Contract Documents

2. Waiver of subrogation

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3. If the Work requires the removal and transportation of hazardous materials from the Project Site, Automobile liability coverage must include pollution liability coverage applicable to all hazardous waste hauling vehicles including the MCS90 endorsement

(b) The limits of liability of not less than $1,000,000 combined single limit for bodily injury and property damage – each accident

.3 Umbrella and Excess Liability Insurance

(a) Contractor shall maintain Umbrella and Excess Liability insurance on an occurrence basis in excess of the Commercial Liability insurance and Business Automobile Liability insurance, which is at least as broad as each of the underlying policies. The Umbrella and Excess Liability insurance shall contain coverage for:

1. Pay on behalf of wording

2. Concurrency of effective dates with primary policies

3. Blanket contractual liability

4. Punitive damages coverage (where not prohibited by law)

5. Aggregates; apply where applicable in primary

6. Care, custody and control

7. Follow form primary

8. Drop down feature

9. Waiver of subrogation

(b) The limits of liability shall not be less than:

1. $3,000,000 Each Occurrence

2. $3,000,000 Aggregate

.4 Workers Compensation and Employer's Liability

(a) Workers Compensation -State of Ohio Statutory Limits and requirements as defined in Ohio Revised Code 4123

(b) This Work is performed in Ohio and is a State of Ohio project, therefore an Ohio Bureau of Workers' Compensation (OBWC) approved Drug Free Workplace policy is required.

(c) Ohio Employer's Liability (Ohio Stop Gap) – In addition to the above requirements, carry Ohio Employer's Liability (Ohio Stop Gap) coverage with limits of not less than $1,000,000 per accident, $1,000,000 per disease and $1,000,000 policy limits on diseases. Such coverage must not contain any exclusionary language that removes coverage for "substantially certain to occur" claims.

(d) If the Work involves ANY employment on or adjacent to navigable waterways, then the workers' compensation policy must be endorsed to include U.S. Longshore and Harborworkers (USL&H) and Jones Act coverages as applicable.

(e) Contractor shall provide Owner with copy of current OBWC Certificate of Premium Payment prior to commencement of Work and upon each renewal date.

.5 Contractor's Equipment/Installation Floater Insurance (Inland Marine)

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(a) Contractor shall maintain Contractor's Equipment/Installation Floater Insurance (Inland Marine) for replacement cost for tools, equipment and materials in transit/temporary storage with limits not less than the full value of equipment to be installed/stored on-site. Coverage must include theft coverage.

.6 Contractors' Pollution Liability Insurance

(a) If Contractor's and/or its Subcontractor's Work involves removal or treatment of hazardous materials Contractor is required to provide and maintain Contractors Pollution Liability Insurance that will be primary and non-contributory to any Pollution Coverage provided by the OCIP. Such coverage will specifically schedule the type of Work in the Contract. Owner will determine limits based on the nature of the Work and the risk involved.

.7 Contractors Professional Liability Insurance

(a) If Contractor is required by the Contract Documents to furnish engineered drawings and calculations stamped by a qualified and licensed design professional, Contractor shall maintain Contractors Professional Liability Insurance with a retroactive date that shall be no later than the date of first service from Contractor on the Project. Contractor is required to maintain coverage for a term extending through the full Statute of Repose.

(b) The limits of liability shall not be less than:

1. $2,000,000 Each Occurrence

2. $2,000,000 Annual Aggregate

3. $25,000 Maximum Deductible Permissible

(c) Subcontractor shall provide proof of Professional Liability coverage for Design Errors and Omissions with limits of not less than $1,000,000 per claim and $1,000,000 annual aggregate, or limits carried, whichever are greater. The Professional Liability coverages shall be maintained continuously in effect during the Term of this Agreement through the applicable Statute of Repose.

.8 General Insurance Requirements

(a) Certificate Holder shall be Board of County Commissioners of Hamilton County Ohio and certificate of insurance is to be mailed to Hamilton County, Risk Manager, Room 707, 138 East Court Street, Cincinnati, OH 45202. The name of the Project shall be placed on the certificate. Copies of the certificate and supporting forms showing compliance with the insurance requirements must be provided prior to execution of the Agreement. Certificate shall be reissued when any insurance coverage contained therein is renewed.

(b) The Board of County Commissioners, Hamilton County, Ohio, the Cincinnati Bengals, Inc. ("Team"), Paul Brown Stadium Ltd. ("Manager"), the Architect and the Architect's consultants, the Construction Manager and the Construction Manager's consultants and each of their respective officials, members, employees, agents and volunteers (collectively, the "Additional Named Insureds") shall be named as additional insureds under the Contractor's CGL/Umbrella, Automobile, and Contractors' Pollution Liability Insurance policies for any liability arising out of the performance of the Work. Coverage under the CGL for all required Additional Insureds shall be provided by a policy provision or by an endorsement providing coverage at least as broad as Additional Named Insured endorsement form GC 20 10 (Form B) as published by ISO. A copy of the endorsement form must accompany the certificate furnished to Owner's Risk Manager. Forms deemed by Owner's Risk Manager as equivalent will be accepted but must include additional insured status for ongoing operations and completed operations. Certificates of insurance will reflect the Additional Named Insureds as additional insured and will indicate a waiver of subrogation in favor of the Owner, Team and Manager.

(c) Contractor's policies shall be endorsed to provide that there will be no cancellation or reduction in coverage without thirty (30) days prior written notice to Owner's Risk Manager.

(d) Contractor shall ensure that all tiers of their Subcontractors shall procure and maintain insurance in like form and adequate amounts including Additional Named Insured requirements, all as set forth in this Article 11.

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(e) Contractor's insurance shall be primary insurance with respect to any insurance or self-insurance programs carried by Owner or any of the Additional Named Insureds.

(f) Umbrella Excess Liability in combination with primary liability coverages and limits as outlined above to satisfy the required limits of liability is acceptable.

(g) Umbrella / Excess liability coverage used in conjunction with primary policies shall have concurrency of effective dates with underlying policies; drop down feature, and; "Pay on behalf of" wording.

(h) All insurance coverage procured by the Contractor shall be provided by insurance companies rated A minus VII or better by the current Best's Key Rating Guide, latest edition in effect as of the date of the Agreement, and subsequently in effect at the time of renewal of any policies required by the Contract Documents.

(i) If the Owner is damaged by the failure of the Contractor to purchase or maintain insurance required under Section 11.1, then the Contractor shall bear all reasonable costs (including attorneys' fees and court and settlement expenses) properly attributable thereto.

§ 11.1.2 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in Ohio such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract Documents and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 claims under workers compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;

.2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person because of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;

.5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and

.7 claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.3 The insurance required by Section 11.1 shall be written for not less than limits of liability specified herein or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment. If any insurance required herein is to be issued or renewed on a claims-made form as opposed to the occurrence form, the retroactive date for coverage shall be no later than the commencement date of the Project. Further, the policy shall state that in the event of cancellation or non-renewal, claim discovery period or "tail coverage" shall be 1 year beyond the cancellation or non-renewal date.

§ 11.1.4 Certificates of insurance required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner's Risk Manager. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Section 9.10.2.

§ 11.2 Property Insurance

(Check one of the following boxes)

☒ **The Owner intends to purchase and maintain the property insurance set forth in this Section 11.2.1.**

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☐ **The Owner does not intend to purchase and maintain the property insurance set forth in this Section 11.2.1**

§ 11.2.1 Unless otherwise provided, the Owner, at the Owner's option, may purchase and maintain, in a company or companies lawfully authorized to do business in Ohio, property insurance written on a builder's risk policy or on a property policy form that provides equal or greater coverage than a builder's risk policy form, on a replacement cost basis in at least the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.2 to be covered, whichever is earlier. This insurance shall include interests of the Owner, Contractor, Subcontractors of all tiers in the Work.

§ 11.2.1.1 Property insurance shall be on an "all-risk" policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's services and expenses required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise provided in the Contract Documents. Property insurance provided by the Owner shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring and other similar items commonly referred to as construction equipment, which may be on the site and the capital value of which is not included in the Work. The Contractor shall make its own arrangements for any insurance it may require on such construction equipment. Any such policy obtained by the Contractor under this Section 11.2.1 shall include a waiver of subrogation in accordance with the requirements of Section 11.2.6.

§ 11.2.1.2 If the Owner does not intend to purchase such property insurance required by the Contract Documents and with all of the coverages in the amount described above, the Contractor may then effect such insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner.

§ 11.2.1.3 If the property insurance requires minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles.

§ 11.2.1.4 Unless otherwise provided in the Contract Documents, this property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval and also portions of the Work in transit.

§ 11.2.2 Boiler and Machinery Insurance. If applicable, the Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.2.3 Loss of Use Insurance. The Owner, at the Owner's option and for the Owner's benefit, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused, to the extent (1) of actual recovery of any insurance proceeds under the policies obtained pursuant to Section 11.2.3 and (2) permitted by applicable policies of insurance.

§ 11.2.4 If the Contractor requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.2.5 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of the certificate of insurance that evidences each such insurance coverages required by this Section 11.2. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Contractor.

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§ 11.2.6 Waivers of Subrogation. The Owner and the Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other; (2) the Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors; and (5) Separate Contractors, if any, and any of their respective subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent those losses are covered by property insurance required by Section 11.2 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner in good faith. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, Construction Manager, Construction Manager's consultants, Separate Contractors and other Contractors, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies of insurance purchased and maintained by each party pursuant to Article 11 shall not prohibit waivers of subrogation but provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.2.7 A loss insured under Owner's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner in good faith for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.2.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.2.8 If required in writing by a party in interest, the Owner in good faith shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received in good faith. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made, replacement of damaged property shall be covered by appropriate Change Order.

§ 11.2.9 The Owner in good faith shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five (5) days after occurrence of loss to the Owner's exercise of this power; if such objection be made, an arbitrator mutually acceptable to the parties in interest and the Owner shall be promptly chosen. The Owner, as trustee, shall in such case make settlement with the insurers in accordance with the directions of such arbitrator. If distribution of the insurance proceeds by arbitration is required, the arbitrators shall direct such distribution.

§ 11.2.10 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3 Bid Guaranty and Contract Bond

§ 11.3.1 The Owner shall require the Contractor to furnish either a Bid Guaranty and Contract Bond in accordance with Section 153.571 of the Ohio Revised Code or a Performance Bond in accordance with Section 153.57 of the Ohio Revised Code covering faithful performance of the Contract and payment of obligations arising thereunder as set forth in the Contract Documents. Including specifically:

.1 Except as otherwise required by statute, the form and substance of such bonds shall be satisfactory to the Owner in the Owner's sole judgment;

.2 Bonds shall be executed by a responsible surety licensed in Ohio, with a Best's rating of no less than A/XII and shall remain in effect for a period not less than two (2) years following the Date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer;

.3 The Bond shall be in an amount equal to the Contract Sum;

.4 The Contractor shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power;

.5 Every Bond under this Section 11.3.1 must display the Surety's Bond Number; and

.6 The Board of County Commissioners, Hamilton County, Ohio and Messer Construction Co. shall be named as Obligees on the Bid Guaranty and Contract Bond.

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§ 11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 11.3.3 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform surety of the progress of the Work and obtain consent as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Work.

§ 11.3.4 If the Surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Ohio or it ceases to meet the requirements of the preceding paragraph, Contractor shall within ten (10) days thereafter, substitute another bond and surety, both of which must conform to the requirements of the Project Manual and be otherwise acceptable to Owner.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Owner's, Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's expense without change in the Contract Time or Contract Sum.

§ 12.1.2 If a portion of the Work has been covered that the Owner, Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Owner, Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion, and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, without change in the Contract Time.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall begin to correct it promptly (but not later than five (5) business days) after receipt of notice from the Owner to do so, and proceed with prompt diligence, at Contractor's expense, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct such nonconforming Work as provided above, the Owner, without prejudice to any of its rights or remedies and without further notice, may correct it. The Contractor, upon written notice from the Owner, shall pay the Owner, within ten (10) days after the date of such notice, all of the Owner's costs and expenses incurred in connection with such correction, including without limitation the Owner's administrative, legal and consulting expenses.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The Contractor's warranties shall not be affected, diminished, or restricted by the limitations, restrictions or

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conditions of a manufacturer, supplier or installer's warranty, including the expiration of any Uniform Commercial Code statute of limitations. Inability or refusal of a Subcontractor, supplier or installer responsible for defective Work to correct or warrant such Work shall not relieve Contractor from performing under the warranty.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner, Separate Contractors, or other Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

§ 12.4 If the Contractor, a Subcontractor, or anyone for whom either is responsible damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such damage to be repaired at no expense to the Owner.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located excluding that jurisdiction's choice of law rules, and the venue for any dispute shall be the County where the Project is located.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives for such other party in respect to the covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents

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and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Owner, Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Owner, Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Construction Manager, Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Owner, Construction Manager and Architect of when and where tests and inspections are to be made so that the Owner, Construction Manager and Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's, Construction Manager's and Architect's services and expenses, shall be at the Contractor's expense, without change to the Contract Time.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 If substitute materials or equipment are proposed by the Contractor, it shall pay the cost of all tests which may be necessary to satisfy the Architect and Owner that specification requirements are met.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree in the Agreement between Owner and Contractor.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- **.3** Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated

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suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner, Construction Manager and Architect, and failure of the Owner to begin to cure the condition during the seven (7) day period, terminate the Contract and recover from the Owner payment for Work properly executed, as well as reasonable overhead and profit on Work executed, and costs incurred by reason of such termination, but not to exceed the Contract Sum.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents;
- **.5** is adjudged bankrupt, or if Contractor made a general assignment for the benefit of creditors or if a receiver is appointed on account of such insolvency;
- **.6** fails to furnish the Owner with reasonable assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract Documents; or
- **.7** fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished and shall otherwise remain liable to the Owner for all damages incurred as a result of the breach, if any, of this Agreement.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner, including attorneys' fees, and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner within ten (10) days of written notice by the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

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§ 14.3.2 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate, in whole or in part, the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders (except those subcontracts or purchase orders subject to assignment pursuant to Section 5.4) and enter into no further subcontracts and purchase orders;

.4 where directed by Owner, immediately transfer to Owner all materials, supplies and work in progress acquired by Contractor in connection with the performance of the Work; and

.5 immediately deliver all plans, drawings, specifications and other necessary information to the Owner.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for the direct costs of the Work properly executed; direct and actual reasonable costs incurred by reason of the termination, including direct costs attributable to termination of Subcontracts.

§ 14.4.4 Upon a determination that a termination of this Contract by Owner other than a termination for convenience under this Section 14.4 was wrongful or improper for any reason, such termination shall automatically be deemed converted to a convenience termination under this Section 14.4, and the Contractor's remedy for such wrongful termination shall be limited to the recoveries specified under Section 14.4.3.

§ 14.4.5 All obligations of the Contractor under the Agreement with respect to completed Work, including but not limited to all warranties, guarantees, and indemnitees, shall apply to all Work completed or substantially completed by the Contractor prior to a convenience termination by the Owner. Notwithstanding the foregoing, any convenience termination by the Owner or payments to the Contractor shall be without prejudice to any claims or legal remedies that the Owner may have against the Contractor for any cause.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the dispute resolution method selected in the Agreement and within the period specified by applicable law. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Construction Manager and Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be

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initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents (other than any payment for Work which may be in dispute).

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4. Such notice shall include, to the extent then known by Contractor, full details and substantiating data to permit evaluation by the Owner, Architect and Construction Manager. If further, or other, information subsequently becomes known to the Contractor, it shall be promptly furnished to the Owner in writing. No Claims for increased costs, charges, expenses or damages of any kind shall be made by the Contractor against the Owner for any delays or hindrances from any cause whatsoever; provided that the Owner, in the Owner's discretion, may compensate the Contractor for any said delays by extending the time for completion of the Work as specified hereunder. Should the Contractor sustain any damage through any act or omission of any other contractor having a contract with the Owner or through any act or omission of any Subcontractor of said other contractor, the Contractor shall have no claim against the Owner for said damage.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor waives its Claims against the Owner for consequential damages arising out of or relating to this Contract. This waiver includes, but is not limited to, damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten (10) days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) submit a schedule to the parties indicating when the Initial Decision Maker expects to take

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action, (3) reject the Claim in whole or in part, stating reasons for rejection, (4) recommend approval of the Claim by the other party, or (5) suggest a compromise. The Initial Decision Maker may also, but is not obligated to, notify the Contractor's surety, if any, of the nature and amount of the Claim.

§ 15.2.3 Omitted.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten (10) days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject the Claim in whole or in part or recommend approval of the Claim by the other party.

§ 15.2.5 If a Claim has been resolved, the Initial Decision Maker will prepare or obtain appropriate documentation.

§ 15.2.6 If a Claim has not been resolved, the party making the Claim shall, within ten (10) days after the Initial Decision Maker's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested by the Initial Decision Maker, (2) modify the initial Claim or (3) notify the Initial Decision Maker that the initial Claim stands.

§ 15.2.7 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Initial Decision Maker, the Initial Decision Maker, will notify the parties in writing that the Initial Decision Maker's decision will be made within seven (7) days. Prior to expiration of such time period, the Initial Decision Maker will render to the parties the Initial Decision Maker's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both. If there is a surety and there appears to be a possibility of a Contractor default, the Initial Decision Maker may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

15.2.8 Omitted.

§ 15.2.9 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.10 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Alternative Dispute Resolution

§ 15.3.1 All Claims, disputes and other issues in question between (a) Contractor and (b) Owner and/or Construction Manager shall, except as otherwise expressly provided herein, as a condition precedent to litigation, first be subject to alternative dispute resolution ("ADR Procedures") as provided in this Section 15.3 regardless of (i) whether such matters relate to execution and progress of Work, or (ii) the extent to which the Work has been completed. Following receipt of a claim regarding a Dispute (as defined in Subparagraph 15.3.3.1 herein), Architect may comment on, and suggest a solution for, the Dispute. To assist Architect in this role, Owner and Construction Manager shall furnish information relating to the claim to the Architect, if requested by Architect, within ten (10) days of notification of the Dispute.

§ 15.3.2 ADR Procedures. Contractor, Owner and Construction Manager agree to exercise good faith efforts to resolve Disputes amicably and in a timely matter in accordance with a cooperative approach to problem-solving and, if mutual agreement is not achieved, by using negotiations and Mediation prior to submitting a Dispute to litigation, subject to the limitations described herein. If a Dispute is resolved by the cooperative process or an ADR Procedure, Architect will prepare or obtain appropriate documentation.

§ 15.3.3 Initial ADR Procedures. The parties agree to proceed with dispute resolution as provided herein:

.1 Definitions; Disputes Governed by this Paragraph 15.3; Priorities. A "Dispute" is a written demand that seeks

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relief in any form arising out of or relating to this Agreement, the Contract Documents or the Work, including, without limitation, all contract Disputes, statutory Disputes, equitable Disputes, and Disputes for extension of time.

.2 Procedure for Submitting a Dispute for Resolution; Time Limits. The Contractor, Owner or Construction Manager (as appropriate, the "Initiating Party") shall follow the procedure provided below in submitting a Dispute for resolution against the other party or parties (the "Responding Party"):

.1 The Initiating Party shall give written notice to the Responding Party of the basis for the Dispute within thirty (30) days after the Initiating Party first recognizes the condition giving rise to the Dispute, provided, however, that the Initiating Party shall use its best efforts to furnish the Responding Party and the other parties, as expeditiously as possible, with notice of any Dispute including, without limitation, those in connection with concealed or unknown conditions, once such Dispute is recognized, and shall cooperate with the Responding Party in an effort to mitigate the alleged or potential damages, delay or other adverse consequences arising out of the condition which is the cause of such a Dispute.

.2 The Initiating Party shall, within thirty (30) days after giving written notice to the Responding Party of the basis for the Dispute, prepare and provide the Responding Party with a written, detailed summary of the basis for the Dispute, together with all facts, documents, backup data, and other information supporting the Dispute.

.3 The Initiating Party shall designate and make any of its employees or agents having knowledge of the Dispute available to the Responding Party for questions, if and to the extent that the Initiating Party has control over such employees or agents.

.4 Within fourteen (14) days after receipt of the notice of Dispute, executives of the Initiating Party and the Responding Party who have authority to settle the Dispute and are senior to those persons who have direct responsibility for the matter outlined in the Dispute, along with other parties having knowledge of or an interest in the Dispute, shall meet at a mutually acceptable time and place in Cincinnati, Ohio, in a good faith effort to compromise and settle the Dispute.

.5 Failure or refusal of a party to follow the procedure for submitting a Dispute for resolution constitutes a waiver of the right to make a claim for the Dispute.

.3 Mediation. Unless delay in initiating or prosecuting a claim in litigation would irrevocably prejudice the Initiating Party or the Responding Party, any Dispute which is not resolved by direct discussions and negotiations as provided in Subsection 15.3.3.2 shall be submitted to Mediation under the Construction Industry Mediation Rules of the American Arbitration Association or such other rules as the parties may promptly agree to utilize. If the Initiating Party and the Responding Party cannot agree on the selection of a mediator within ten (10) days of the request for mediation, either party may immediately request the appointment of a mediator in accordance with the governing mediation rules. Mediation shall occur at any location to which the parties and mediator agree or, in the absence of agreement, at the location of the Project. Each party shall be responsible for an equal share of the mediation expenses.

.4 Timely Resolution. The parties agree to conduct and conclude Mediation proceedings under this Section 15.3 within sixty (60) days from the designation of the mediator. In the event that mediation proceedings do not resolve the claim within such period, either party may initiate other means of dispute resolution with respect to the Claim or Dispute. Notwithstanding any other provision herein, no Dispute shall be subject to any form of arbitration.

§ 15.3.4 No Prejudice to Rights or Remedies. Provided the parties have complied with the requirements for giving notice of the existence of a Dispute, no delay in disposing of such Dispute while the parties pursue resolution as provided by this Section shall prejudice the rights of either party; however, nothing contained in this Section shall be deemed to relax any requirement contained elsewhere in the Agreement for the giving of notice between the parties.

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§ 15.3.5 Jurisdiction and Venue. Owner and Contractor agree that, subject to those claims, counterclaims, disputes and other matters in question between the parties that are resolved pursuant to Sections 15.3.1 thru 15.3.5, all other actions or proceedings arising in connection with this Agreement shall be tried and litigated only in state courts located in the County of Hamilton, State of Ohio having subject matter jurisdiction over the matter in controversy. The parties further agree that this choice of venue is to be considered mandatory, and not permissive in nature, thereby precluding the possibility of litigation in any venue or jurisdiction other than that specified in this Section 15.3.5. The parties agree that any final judgment rendered in any such action or such proceeding as provided herein shall be conclusive as to the subject matter of such final judgment, subject only to any right of appeal provided by the laws of the State of Ohio, and that once any such right of appeal has been exhausted or waived, such final judgment may be enforced in other jurisdictions in any manner provided by law.

ARTICLE 16 SUPREMACY OF APPLICABLE LAW; REFORMATION OF CONTRACT DOCUMENTS

§ 16.1 It is the intent of Owner and Contractor that the Contract Documents comply, in all manners of form and substance, with the requirements of Chapter 153 of the Ohio Revised Code and other applicable law with respect to contracts for public improvements. In the event of any ambiguity, inconsistency or conflict between the any provision contained herein or in the Contract Documents and the requirements of applicable governing law, the requirements of applicable governing law shall control in all respects, and any such offending provision contained in the Contract Documents shall be deemed redrafted and reformed to the extent necessary to comply with applicable governing law.

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SECTION 00 73 19 - HEALTH & SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 The following provides a summary of Contractor's Safety Program requirements regarding worker safety and/or project safety.

1.2 This summary should in no way be construed as being all-inclusive. It is issued as a guide to aid each Subcontractor in their understanding of the safety expectations on this project.

1.3 Subcontractors must abide by the Messer Safety, Health and Environmental Requirements, latest revision.

PART 2 - SITE SPECIFIC SAFETY PLAN AND PRECONSTRUCTION SAFETY MEETING

2.1 A project specific safety plan will be developed by the Contractor and provided to Subcontractors that will reference, more directly, site safety requirements and provide the Emergency Action Plan, Site Requirements and General Requirements.

2.2 All Subcontractors will be required to provide, to Contractor, a site specific safety plan for review and approval before any work is to begin on site. This plan must be completed using the provided template and describe the means and methods that the Subcontractor will be using to safely perform all work on site, and comply with all federal, state and local safety requirements. This site specific plan will be provide to the Contractor for review and approval before any work activities are to begin onsite.

2.3 As part of this plan, Subcontractors will provide all SDS sheets (safety data sheets) for any and all chemicals that will be used on site, to be stored at the project operations office in a predetermined place, to ensure access for all.

2.4 Prior to beginning work onsite, the site-specific safety plan and associated documentation must be reviewed and discussed with Messer project management and safety personnel in a scheduled Preconstruction Safety Meeting. Site specific safety requirements and processes will also be reviewed in this meeting. Subcontractor attendees must include, at a minimum: Project Manager, site-based leader (Foreman and/or Superintendent) and Safety Representative.

PART 3 - NEW WORKER SAFETY ORIENTATION

3.1 All workers (craft, management, etc.) are required to attend a jobsite safety orientation prior to the start of work. This orientation will address safety, risk analysis, and infection control requirements on this project. It is anticipated that this orientation will take approximately one hour to complete.

PART 4 - SPECIFIC SAFETY REQUIREMENTS

4.1 Hard hats are required to be worn at all times.

4.2 Every Subcontractor, including lower tier subcontractors, shall provide, and require its employees to utilize, eye protection at all times on this project. This requirement applies to all employees at

all times while on site except during scheduled breaks away from potential eye hazards or while in a trailer performing office functions.

4.3 Gloves are required for anyone entering or working on the jobsite. Every Subcontractor, including lower tier subcontractors, is required to provide appropriate hand protection for their employees with glove selection based on task hazards presented for work performed.

4.4 High-visibility vests or clothing is required at all times. In addition, any persons directing traffic along roadways are to have reflective signage to direct traffic in addition to the other PPE requirements.

4.5 100% fall protection at or above 6' for all personnel is required.

4.6 Guardrails are required on the perimeter all rooftops until final finish components need to be install at the perimeter.

4.7 Any barricade or safety device removed by a Subcontractor's employee(s) in order to perform the work shall be immediately re-erected as soon as that work activity is complete. Temporary barricades and controlled access zones must be established while the barricade is down. If the Subcontractor does not perform this in a timely manner, Contractor or designee will perform and back charge the Subcontractor.

4.8 Use of platform style step ladders are required on this project. Regular step ladders will not be permitted.

4.9 100% tie-off is required while using all forms of lifts, including scissors lifts.

4.10 All Subcontractors performing any hot work (grinding, welding, burning, etc.) are required to provide a fire watch person. Fire blankets are also required where necessary.

4.11 All Subcontractors preforming any overhead work will have approved plan to protect entire site from overhead hazards or falling objects before work is to begin.

4.12 Weekly Safety Meetings with all employees of this Subcontractor, documented by attendance sheets, typed safety topics (Tool Box Talks), a copy of the agenda, and minutes. This documentation is to be filed with Contractor on a weekly basis.

4.13 Weekly Safety Walk-Through of the jobsite by each Subcontractor's Superintendent and Contractor's onsite personnel documented by a listing of deficient items found, methods of correction, and date of correction. This documentation is to be filed with Contractor on a weekly basis.

4.14 Subcontractors will be required to complete a job safety analysis (JSA) for each work activity that they will perform. This documentation is to be filed with Contractor on a daily basis. Each Subcontractor employee shall attend the site wide morning huddle every morning at the location determined by the project team. After the site wide huddle, each Subcontractor shall conduct a huddle meeting prior to every work shift to discuss the activities of the shift, review JSA(s) and to establish a safe plan of action to accomplish the work. This meeting shall be conducted with all employees working on site by the on-site leader for each Subcontractor. Any changes to the established plan shall be communicated throughout the shift to affected employees.

4.15 Subcontractors will be required to address any site safety issues noted through FieldView or the current Messer safety tracking application within 24 hours after the issue has been noted.

PART 5 - MESSER SAFETY 4-SITE PROGRAM

5.1 The Messer Safety4Site Program (the "Program") has been established by Messer with the objective of reducing unsafe conditions which could cause accidents on Messer projects. It is applicable to all Messer employees; and subcontractors, sub tier contractors and material suppliers of all tiers (all of the foregoing being referred to in this document as "Subcontractors") in addition to the obligation of all Subcontractors, under the Subcontract Documents, to comply with all

applicable federal, state, and local occupational safety and health laws including, but not limited to, standards, regulations, and requirements under the Occupational Safety and Health Act ("OSHA"). The Program does not create a Messer duty or assurance of safety to any Subcontractor or Subcontractor's employee (see Additional Terms, below).

Each Subcontractor and Messer employee shall be subject to specific remedies set forth below in case of violation of the OSHA Focus 4 Hazards (falls, electrical, struck by, caught in/between) by its employees. Messer reserves the right to escalate directly to higher level consequences for egregious fall protection violations. Egregious violations are defined as an exceptionally severe circumstance where there is an immediate and substantial risk of a person falling from an elevated position, leading to grave injury or loss of life. These include, but are not limited to, the examples outlined in the Non-Negotiable Behavior chart.

For covered violations (either actions or omissions) related to the OSHA Focus 4 Hazards, the following shall apply:

A. First Violation by an Employee or Subcontractor
   1. Upon investigation and notification by Messer of the violation, Subcontractor shall remove the employee or Messer shall remove its employee from the site for the remainder of that working day (and for the next working day also if removal occurs in the second half of the employee's shift). If the employee is a supervisor or if Subcontractor's supervisor is not readily available, Messer may direct the employee to leave the site and the incident shall be reported to Subcontractor's management.
   2. Immediately following S4S event, Messer Safety Manager and Project Manager or other designated person shall meet with employee and supervisor to review S4S incident and define immediate corrective actions
      For fall protection violations - determination will be made at this time if the violation is egregious. Messer Safety Department leadership will be involved in the determination. Egregious fall protection violations will result in the following:
      a. **Subcontractor employee:** escalation to Second Violation level consequences as outlined in the following section of this program, including removal from Messer projects for a period of one year.
         Messer employee: suspension, without pay, for a minimum of 5 days and completion of fall protection retraining prior to returning onsite.
   3. The Senior Project Executive (SPE) or other designated Messer manager will notify Subcontractor executive management of the S4S violation. Notification will request that Subcontractor contact SPE to define how future S4S violations will be prevented.
   4. Upon return, the Subcontractor (or Messer if a Messer employee is involved) shall give the employee a one-page handout on the Focus 4 Hazards. Employee must read, sign and date. Subcontractor or Messer must discuss the violation and corrective actions taken at the next huddle meeting.
   5. S4S Incident will be reviewed at the following days Site Wide Morning Huddles and/or Plan of the Day (POD) meeting (or other) to reinforce actions and requirements.

B. Second Violation by the same Employee
   This section applies in case of violation by an employee (of a subcontractor or Messer) of the same Focus 4 Hazard within one year, or a different Focus 4 hazard within a three month

timeframe, or any egregious fall protection violation by a subcontractor; otherwise a subsequent violation by the same employee is treated as a First Violation by that individual.

1. Initial actions will Follow Steps 1-3 above
2. A subcontractor employee will not be permitted to work on any Messer project for a period of one year. Prior to return to work on Messer projects, the employee must complete the 10-hour OSHA training program and Subcontractor must provide an action plan to Messer project management for approval prior to employee return.
3. A Messer employee will be terminated and will not be eligible for re-hire for 30 days and the employee must complete a 30-hour OSHA training program, retraining on the subject matter relative to the violation(s) as determined by the Safety and Craftforce Development, whether previously taken or not.
4. Subcontractor or Messer must discuss the violation and actions taken at the next Site Wide Morning Huddle meeting and/or Plan of the Day (POD) meeting.
5. Messer Safety Department will ensure that tracking of these individuals is documented and available to project sites.

C. Second and/or Multiple Violations by a Subcontractor

This section applies in cases of a second violation by a Subcontractor's employees on a specific project or multiple violations on a project (whether the same or different employees are involved in the two incidents). or if a Subcontractor incurs a total of three or more covered violations on any other Messer projects collectively, during any 12-month period. This section also applies to first violations of any fall protection category violation if it is determined to be egregious.

1. Upon second violation at the specific project site or multiple violations at any Messer site over a 12-month period, Messer will require the following actions be taken before any work will continue:
   a. Subcontractor Executive Management will meet with Messer to determine future remedial actions to be taken to prevent further violation.
   b. Subcontractor shall provide a written corrective/remediation action plan. This plan must be approved by Messer Safety Department and any necessary resources, or requirements needed must be put in place prior to resumption of work activities.
2. Upon second (or multiple) violation, Messer Safety Department will determine requirement for a full-time and qualified safety representative to the project to supervise the communication and the work activities of the Subcontractor. The safety representative must be approved by Messer Safety department and provided at no additional cost to the Owner or to Messer. If required, this safety person must be on site whenever the Subcontractor is performing work on the project, until such time that Subcontractor has demonstrated to Messer's satisfaction that a significant improvement with the Subcontractor's safety performance has occurred.
3. If the Subcontractor has a direct contract with Messer, Messer may terminate those contracts for cause without further notice or opportunity to cure, and thereafter pursue all other available remedies for such default. If the Subcontractor does not have a direct contract with Messer, Messer may direct the Subcontractor under which the violating Subcontractor is working to remove the violating Subcontractor permanently from the project; in that event, the higher-tier Subcontractor has the responsibility of fulfilling the violating Subcontractor's work by other means at no additional cost to the Owner or Messer. If Messer elects not to terminate, Messer may impose other reasonable sanctions including additional safety assurance requirements.

D. Additional Terms

1. This Program is subject to change by Messer from time to time with notice to Subcontractor; however, Subcontractor is not required to accept material increases in its obligations or liability under the Program without its consent.
2. It is the intention of the Program to cover violations related to Focus 4 Hazards which are of a significant nature. Messer's good faith determination as to whether it is a covered violation or not shall be final. Every identified violation will be reviewed by the supervisor of the site manager to ensure consistency of interpretation of a violation of the Focus Four Non-negotiables.
3. In Messer's discretion, a group of related individual violations may be treated as a single violation at the Subcontractor level. For example, if several Subcontractor employees engaged in related work are failing to use required fall protection, each such employee will be charged with an individual violation when the situation is discovered by Messer but if Subcontractor has no previous violations on this project, Messer may treat the incident as a single violation for Subcontractor and not impose Second Violation or Multiple Violation sanctions on Subcontractor.
4. For purposes of Multiple Sanctions, "Messer projects" include all projects in which Subcontractor is a subcontractor or material supplier of any tier under Messer, and all projects in which Messer provides construction management services covering Subcontractor pursuant to an agreement with the Owner.
5. It is not Messer's intention to interfere in Subcontractor's relationship with its employees. When feasible, significant actions under the Program such as excluding an employee from the project site will be notified by Messer to a supervisory employee of the Subcontractor for the Subcontractor to put into effect immediately, but Messer reserves the right to take immediate action to rectify unsafe situations, and to direct a Subcontractor employee to leave the site if Subcontractor management personnel are not on site. If Subcontractor is directed to remove an employee from the site, the disposition of the employee after leaving the site and any resulting compensation issues for the employee are solely between the Subcontractor and the employee, and the Program does not require that the Subcontractor withhold pay from the employee for the time that the employee is barred from the site, but there shall be no additional cost to the Owner or Messer for the Work as a result of exclusion of an employee or any other action taken pursuant to the Program.
6. Messer and the Owner do not assume any responsibility whatsoever to Subcontractor, to its employees, or to third parties, for supervising or monitoring the safety precautions or compliance of the Subcontractor and its employees; Subcontractor remains solely responsible for these matters and shall defend and fully indemnify the Owner and Messer, as provided in the Subcontract Documents, against any claims or damages resulting from safety violations or other negligence of Subcontractor employees. Messer assumes no duty to anyone to detect and require correction of violations. Messer may, but is not required to, make periodic inspections of the project site. By establishing the Program and conducting other safety-related activities on the project, Messer is not undertaking any duty to Subcontractor, to Subcontractor's employees, or to third parties concerning safety on the project and any such duty is expressly disclaimed.
7. Sanctions provided under the Program for individuals and the Subcontractor are not exclusive and Messer reserves all other remedies provided under the Subcontract Documents or by law.
8. The Owner and Messer shall have no liability whatsoever to any Subcontractor or Subcontractor's employee or any third party for actions taken by Messer pursuant to the Program in good faith, even if it is later determined that such action was factually or legally unjustified.

9. A Subcontractor is not charged with a violation under the Program for any violation committed by an employee of a Lower tier subcontractor or material supplier to that Subcontractor, as long as the Subcontractor's supervisory personnel had communicated the program requirements and did not direct the activities leading to the violation being observed by Messer. Each Subcontractor must take all necessary actions to make the Program binding on its lower tiers and to cooperate with Messer in implementing any applicable sanctions against its lower tiers. Lower tier subcontractors shall be entities with written agreements that include similar terms and conditions as those of Subcontractors with direct contracts with Messer. In the absence of such written agreements, Lower tier subcontractor employees and representatives shall be treated as employees of the Subcontractor.

Rev. March 1, 2024

Safety4Site
Non-Negotiable Behavior

Falls	Struck-By	Caught-In-Between	Electrical / Utility
Working 6 feet or greater with no fall protection (100% fall protection at 6 feet or greater).	Disregard or crossing of designated controlled access zones without prior authorization from the controlling/installing contractor.	Entering an unprotected trench or excavation 5 ft deep or greater, without proper cave-in protection – shoring, sloping/benching, trench box	Operating equipment or working within 10 feet from overhead power lines. (Equipment, ladders, scaffolding, tools, etc.) Note: In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50kV.
Exposed holes large enough for a human to pass through, and is 6 feet or greater in depth, left unprotected or improperly protected.	Exposing workers to overhead struck-by hazards - Failure to properly plan and execute overhead work that potentially exposes person(s) below (e.g. masonry work, roofing, welding, demolition, steel erection, formwork, deck penetrations, etc.). Dropping debris off building without proper chutes or alternate procedures approved by Messer.	Entry into a confined space without proper training, permits, equipment or safety processes in place	Exposing oneself or others to live bare electrical conductors (i.e. open electrical panels, junction boxes, missing knock outs, etc.) greater than 50 volts.
Blatant, clear and/or intentional misuse of fall protection equipment or fall protection systems including: Altering removing or disabling any component of a fall protection system.-May include but not limited to: taking down a guardrail or warning line and not replacing it; altering someone's PFAS without permission.	Riding on equipment not designed for multiple passengers or open back pickup trucks (catching a ride).	Failure by operator to barricade/protect potential crush or pinch point hazards between equipment being operated and adjacent structures or other equipment. Failure by operator to barricade/protect the swing radius of stationary equipment (e.g. cranes). Exposing oneself to a caught-between hazard by disregarding barricading/protection without prior authorization from the controlling/installing contractor.	Working on live electric without the proper planning/approval, PPE and procedures. All live work must be discussed with Messer prior to the work being performed.
Failure to tie off in any Mobile Elevated Work Platform (MEWP) (boom lift, Scissor lift, etc)	Using damaged equipment that may inadvertently fire (i.e. nail guns, etc.). Altering the equipment where the safety is by-passed. This may include but not limited to: disabling a guard on a chop saw; removing the guard on a hand grinder; disabling the safety muzzle of a pneumatic nailer or powder actuated tool; etc.	Operator exposing employee(s) to an overhead load while working in an excavation. This may include but not limited to: loaded excavator bucket; empty excavator bucket; load that is strapped to an excavator bucket; etc.	The unauthorized altering, by-passing or removing any guards, locks, tags, or any other safety device protecting persons from live electric.
Improper use of ladders. (e.g) 1. Standing on very top cap. 2. Straddling or sitting on top of ladder.	Rigging without proper training or blatant, clear and/or intentional misuse of rigging equipment.	Reckless operation of equipment (i.e. horseplay, operation within 2' of a trench, exceeding the limitations of the machine, bypassing any safety devices, etc.). Operating in tight confines with out a spotters or operating without proper training	Failure by competent person or operator to survey for utilities, before digging, core drilling, cutting or demolition Failure by competent person or operator to follow established protocols for re-marking, hand digging, pot-holing, etc. within established tolerance zones

Egregious fall protection violations will result in higher level accountability as outlined in the program language. These are defined as an exceptionally severe circumstance where there is an immediate and substantial risk of a person falling from an elevated position, leading to grave injury or loss of life.

Examples include, but are not limited to:
- Working within reach of an open edge with no fall protection
- Standing on the top rails of a MEWP without any PFAS
- Standing on the top rail of a platform ladder
- Working on a wall, column or other vertical surface without any fall protection

PART 6 – SUBCONTRACTOR FOREMAN ROLES AND RESPONSIBILITIES

A. The above items are required for each project and the expectation is that each Subcontractor Foreman carry out these commitments and fulfill each requirement to the fullest extent. In summary, each Foreman is responsible for the following:
   1. Completion and/or Execution of their Site Specific Safety Plan
      a. The Site Specific Safety Plan shall be reviewed periodically as the project changes to ensure new hazards are being identified and a plan put in place to prevent.
      b. Updates to the Site Specific Safety Plan shall be provided to Messer in a timely manner.
   2. Completion, submission, and review of their JSA's on a daily basis.
   3. Completion, submission, and implementation of a 5S Plan that follows the guidelines of Messer's 5S program. Each topic is to be addressed in this plan and that plan shall be executed by the Foreman and their crew.
      a. Sort: Just-in-time deliveries
      b. Straighten: Organized material and equipment storage
      c. Shine: Continuous Daily Clean-Up
      d. Standardize: Color Coded Delivery
      e. Sustain: Composite Clean-Up Crews (Messer has the right to invite Foreman to participate in the composite clean-up crew)
   4. Hold their crew accountable for wearing proper PPE and provide their crew with proper PPE.
   5. Complete Messer permits and turn them in prior to starting work.
   6. Identify competent people for each hazard and hold them accountable to their role.
   7. Identify certified riggers/signal person(s) and hold them accountable to their role.
   8. Identify hazards and formulate a plan to eliminate or avoid those hazards.

PART 7 – DROPPED OBJECT PREVENTION AND OVERHEAD PROTECTION

A. Overhead risks and controls shall be identified for key scopes of work and addressed in the Subcontractor Site-Specific Safety Plan. Daily JSA's shall be used to identify area-specific risks and controls for each day's work activities. Controls identified on the daily JSA must be in accordance with minimum controls identified within the following requirements, Messer's risk assessment and site-specific safety plan and the subcontractor's approved site-specific safety plan.

   1. Primary control measures shall be the preferred method of protection. Secondary control measures must be utilized where the primary control measures for dropped object prevention are not feasible or will not provide complete protection. Most overhead work activities will require a combination of primary and secondary controls.

      a. Primary Control (Dropped Object Prevention) measures are focused on preventing an object from falling. These measures may include; tool lanyards/tethers, rated tool bags with closure, guardrails with netting, sloped roof protection, material storage and securement/tethering.

      b. Secondary Control (Dropped Object Protection/Overhead Protection) measures are focused on preventing a dropped object from causing injury to persons or damage to

property, but do not prevent an object from falling. These measures may include; protective canopies, horizontal debris nets, and controlled access zones.

B. Mesh or netting is required on all perimeter guardrails installed at heights above 10' as well as on rail systems around elevator shafts, mechanical chases, stairwells or similar openings inside buildings where employees will perform work.

C. Sloped roofs shall have slide guards, debris netting or other means of primary dropped object prevention in place at all times when employees, tools or materials are present on the roof. If not feasible for the activity, an alternate plan for protection must be submitted and approved.

D. All buildings with exterior elevated work ongoing shall have designated, protected access/egress points from the building. This may be accomplished by walk through scaffolding, connex boxes, canopy structures or other equivalent means. Additionally, measures must be put in place to restrict use of non-designated access/egress points. Emergency egress needs must be taken into consideration when planning.

E. Controlled access zones (CAZ) shall be established for all overhead work activities where there is potential for unauthorized individuals to enter the area below. Barricades should be sized such that a dropped object will not deflect and bounce beyond the barricade. If barricades cannot be sized to fully contain deflected objects, primary protection measures must be used in addition to controlled access zones. Additionally, primary protection measures must be used when authorized ground personnel are potentially exposed to overhead hazards in the barricaded area.

1. Danger or caution tape (including reinforced tapes) shall not be used for overhead protection CAZs. Only hard barricade material may be used (e.g., snow fence, cones and bones, jersey barriers). Flagged rope or chain may be utilized for short-term barricades.

2. Barricades must have signage or tags indicating the risk and ownership of the barricade.

F. Material storage and waste/debris containment and disposal shall be managed per Messer's 5S program to limit potential falling or windborne objects. No materials shall be stacked/stored higher than guardrail protection if stored adjacent to perimeter or shaft guardrails. Sheet goods (including plywood, metal decking, insulation board, etc.) and other loose materials stored on open decks or roofs shall be positively secured when not actively being used and at the end of each shift. Acceptable securement may include straps, banding, pallet wrap, etc.

G. Failure to implement these procedures or use required drop prevention systems/overhead protection will be considered a violation of Messer's Safety4Site program and will result in removal from the project site.

PART 8 – FALL PROTECTION PLANNING

A. Guardrail systems shall be the preferred choice of protection for all elevated work activities. If the contractor/supplier can prove that guardrails are infeasible or create a greater hazard, as defined in Subpart M of the OSHA Construction Standards, it may, where permitted by a Messer Safety Leadership, implement the following alternative systems in response to the fall hazards:

1. Personal fall arrest systems;

2. Warning lines;
   a. Required to be a minimum of 15 feet back from leading edges for all trades, excluding roofers.
3. Controlled access zones;
4. Safety net systems
5. Safety monitoring systems will not be permitted.

B. These alternative systems may be utilized, with approval, in controlled work environments provided the following is established:

1. Explanation in writing is submitted to the Messer Safety Department as to why the use of guardrail systems is infeasible or creates a greater hazard/harm to the individuals involved.
2. Development of a written fall protection plan, utilizing the Messer Fall Protection Plan template, which outlines all elements involved with the usage of personal fall arrest systems, warning lines, controlled access zones, and
3. Orientation process, which communicates this information to the individuals involved with the work activity, prior to beginning work.

C. The purpose of this extensive pre-planning is to ensure that the most effective and appropriate fall protection systems are used whenever possible. It is also designed to ensure that those individuals involved with the usage of personal fall arrest systems, warning lines and controlled access zones truly understand the detail and organization required. Finally, the pre-planning will also highlight who is permitted (due in part to thorough training and communication) to work with these systems.

END OF SECTION 00 73 19

Safety Requirements

Messer
WeAreBuilding.

Updated February 15, 2024

zero injury

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1.0 Introduction, Purpose and Scope

1.1 CEO Statement

1.1.1 Messer's safety goal is zero injuries on our projects. Our core safety values are:

1.1.1.1 We believe no job, task or schedule is more important than the health and safety of people on or near our jobsites

1.1.1.2 We are responsible for and take action to ensure our own safety and the safety of those around us

1.1.1.3 We will return every person home to their families safely each day

1.1.2 When our decisions and actions are guided by these core values, accidents will be nonexistent.

1.1.3 We are a company of builders who respect not only each other but our business partners. We have a strong passion to keep everyone safe and are committed to building a zero injury culture.

1.1.4 Creating and maintaining a culture of zero injuries takes every person working together to positively influence safety and health decisions, processes and policies. The continued growth of that safety culture will be greatly influenced by example. So, it is expected that Messer leaders, senior managers and our business partner's leadership model the safety behavior expected. However, it is imperative that all employees and workers on our sites make solid safety decisions, as well as hold all levels of management accountable for making safety a component of their leadership and supervision.

1.1.5 All contractor, temporary and/or full-time employees have the authority to suspend a work task or group orientation when the control of safety or environmental risk is not clearly established or understood.

1.1.6 Stop Work Authority is in place to ensure the right thing is done the right way.

1.1.7 This program manages risk and protects personnel, the environment and various assets. Any intervention will be supported by the Company Management and there will be no repercussions for using the Stop Work Authority.

1.1.8 This commitment will keep our construction sites and all of our work environments accident free.

1.2 Purpose

1.2.1 The purpose of this Safety Requirements is to define minimum safety requirements for all Messer projects, Employees, Subcontractors, and other companies engaged in services on a Messer project. The requirements identify key points of Messer's Safety, Health and Environmental Management Plan to be undertaken during all construction activities.

1.2.2 These requirements are built upon Messer's philosophy that every incident is preventable. This forms the basis for our safety processes, procedures, and requirements that will be implemented on all Messer projects. The aim of this program is to provide personnel with the required information and knowledge to do the right things, the right way, every time to achieve our goal of Zero Injuries on our projects.

1.3 Scope

1.3.1 This plan applies to all personnel associated with any Messer project and any other location or task associated with a Messer project, including corporate headquarters, regional offices and the Rental Division.

1.3.2 All Messer employees, sub-contractors and visitors shall comply with the requirements specified in this document as part of the contract conditions during execution of the service. Exceptions are only allowed upon approval by Messer via formal requests. If any conflicts are found the more stringent requirement shall apply. This document sets out the requirements to verify that safe work practices are established, appropriately supervised, with proper training and management so as to help prevent incidents such as personal injury, injury to others, environmental damage/impacts, or property damage.

2.0 General Requirements

2.1 Safety and Health Program

2.1.1 Each contractor (and supplier when applicable) shall submit a copy of its site-specific safety program to Messer before its work begins. This plan must include the criteria and topics outlined in the Messer Subcontractor Site-Specific Safety Plan template. The contractor/supplier shall ensure that their plan meets or exceeds the safety requirements for the project.

2.1.2 The contractor/supplier is required to submit its fall protection plan (if applicable), any applicable training certification such as crane operator training, and any other site-specific paperwork associated with the project, before work begins.

2.1.3 Prior to beginning work onsite, the site-specific safety plan and associated documentation must be reviewed and discussed with Messer project management and/or safety personnel in a Preconstruction Safety Meeting.

2.1.4 Each contractor/supplier shall maintain an effective Company safety and health program, which will provide systematic policies, procedures and practices that are adequate to identify and protect their employees from occupational safety and health hazards. The contractor/supplier safety and health program shall, at a minimum, include:

2.1.4.1 Management commitment and employee involvement;

2.1.4.2 Documented work site analysis and hazard assessment;

2.1.4.3 Hazard prevention and control procedures; and

2.1.4.4 Safety and health training.

2.2 Reporting

2.2.1 The contractor/supplier shall notify the Messer representative immediately in the event of an injury, first aid case, near miss, property damage, or environmental incident, such as a spill or release of hazardous material.

2.2.2 The contractor/supplier shall submit a completed Messer accident/incident report to the Messer representative within 24 hours of the occurrence of the injury, incident, etc.

2.2.2.1 The report shall include, as a minimum, the nature and extent of the injury, first aid case, near miss or incident, causes of the injury etc., and corrective actions needed to prevent a recurrence.

2.2.2.2 Any follow-up information on personal injuries (doctor's reports, insurance or worker's compensation reports etc.) shall be forwarded to the Messer representative as soon as it becomes available.

2.2.3 As required by federal, state, or local laws or ordinances, the contractor/supplier shall report certain injuries, illnesses, or environmental incidents to the appropriate agencies.

2.2.4 The contractor/supplier shall be knowledgeable of these reporting requirements, and shall inform and copy Messer when any such report is necessary or is made.

2.3 Potential Hazards and Emergencies

2.3.1 The contractor/supplier shall inform its employees of potential hazards, take appropriate steps to reduce exposure to potential hazards, and be prepared to respond to emergency situations.

2.3.2 The contractor/supplier shall provide emergency response procedures for the jobsite, and shall communicate such procedures to its employees. Emergency response procedures shall include the identification of any emergency alarms and warning systems, a list of emergency phone numbers, identification of emergency evacuation assembly areas, placement and use of emergency equipment and procedures for notification of local authorities, agencies, and the Messer representative.

2.3.3 Each contractor/supplier shall have at least one certified person trained in first aid and CPR available on site. The contractor/supplier shall have readily available the names and locations of off-site medical personnel to handle major occurrences. Adequate first aid and emergency medical equipment shall be provided as necessary. The name(s), contact number(s) and copies of the first aid and CPR cards must be submitted upon request.

2.3.4 The contractor/supplier shall obtain Safety Data Sheets (SDS) and other appropriate information, and shall inform its employees and Messer of any potentially hazardous materials they may be exposed to while in performance of the work. At the contractor's/supplier's request, Messer shall provide this information for products or materials that are supplied by Messer or are under the control of Messer.

2.3.5 The contractor/supplier shall immediately rectify any situation or condition occurring as a result of the work, that could result in injury or illness to personnel at the site, or that could cause an environmental hazard. If such a condition cannot be corrected immediately, the contractor/supplier shall provide temporary barricades and appropriate warning signs and devices necessary for the protection of people, equipment, and property.

2.4 Employee Qualifications and Conduct

2.4.1 The contractor/supplier shall employ or cause to be employed only persons who are fit, qualified, and skilled in the work to be performed. They shall also ensure that employees receive and successfully complete the necessary safety training, and are capable of performing work activities in a safe manner. Documentation of such training shall be available upon request. Additional training may be required when individuals are considered competent personnel on the jobsite. It is the responsibility of the employer to ensure that these individuals receive this training.

2.4.2 Contractor/supplier personnel shall confine their activities to the assigned work areas.

2.4.3 Contractor/supplier personnel shall use only facilities designated by Messer for non-work activities such as smoking, eating, or using the restroom.

2.4.4 Prior to commencing work, the contractor/supplier shall designate a competent person or persons who is capable of identifying existing and potential hazards in the surroundings or working conditions and have the authority to correct any deficiencies. Upon request, the contractor shall provide documented training identifying why this person has been deemed competent. The competent person must be on the jobsite at all times. The Messer representative must be notified of any changes in the competent person status.

2.4.5 If employees are not proficient in English, the Contractor must, at all times provide an interpreter to effectively communicate safety requirements including, but not limited to verbal commands, written notices, signage, alarms and loudspeaker announcements. The interpreter, when necessary, shall ensure that employees understand rules, regulations, and procedures issued by Messer for the jobsite. If it is determined that any Contractor employees are in violation of these requirements, Contractor and its employees may be removed from the jobsite.

2.4.6 The contractor/supplier shall ensure that no firearms, weapons, controlled or illegal substances, or alcoholic beverages are brought onto the jobsite by contractor employees, except as specifically authorized by the Messer representative.

2.4.7 No contractor/supplier employee shall report to work or shall work impaired by any substance, drug, or alcohol, lawful or unlawful. "Impaired" means under the influence of a substance such that the employee's motor senses (i.e., sight, hearing, balance, reaction, reflex), or judgment either are or may be reasonably assumed to be affected. Any violation of this policy may result in removal from the jobsite.

2.4.8 Contractor/supplier employees taking prescription medication that warns against driving or operating machinery shall inform their foremen or safety representative of such.

2.4.9 When vehicles of contractor/supplier employees are on the client's premises or any area associated with the jobsite, the contractor/supplier shall enforce the rules for safe vehicle operation. Drivers shall obey all signs and posted speed limits. Drivers and passengers in vehicles shall wear seat belts.

2.4.10 Employees shall not restrict their ability to hear alarm notifications or other work taking place in the area that may be hazardous, i.e. whistles for crane loads overhead etc., by use of ear buds or headphones.

2.4.11 Threatening, intimidating, coercive, or other unsafe or disruptive behavior such as fighting and horseplay is prohibited.

2.4.12 Sleeping and gambling on Messer jobsites are prohibited.

2.4.13 Contractor/Supplier employees shall confine their activities to areas expressly authorized to them for such use. Activities include: entering the work site premises, parking vehicles, taking breaks, eating, drinking, smoking, and using lavatory facilities. Under no circumstances shall contractor/supplier personnel be allowed to enter, walk through, or loiter in occupied areas or other areas not authorized for their use or entry.

2.5 Safety Processes

2.5.1 All employees working onsite are required to attend the site-specific orientation prior to accessing the site. Project-specific hardhat stickers shall be required for all personnel onsite, and will be issued once their site-specific safety orientation has been completed. The contractor/supplier shall not permit visitors on the jobsite unless they have checked in at the Messer project office and have been given express permission to be present. They are to be accompanied at all times by an authorized contractor/supplier representative.

2.5.2 The contractor/supplier shall orient all authorized visitors to the jobsite concerning safety rules and site hazards. Requirements associated with personal protective equipment and all rules of conduct shall pertain to all visitors.

2.5.3 Site safety inspections shall be conducted by the Messer representative on a regular basis and deficiencies will be logged in Autodesk. Immediate on-the-spot corrections of safety deficiencies shall be performed as necessary. The contractor shall be responsible for conducting their own daily safety inspections of its work activities.

2.5.4 The contractor/supplier shall complete a documented Job Safety Analysis (JSA) for each activity. The JSAs shall be submitted to Messer as required.

2.5.5 Each contractor employee shall attend the site wide morning huddle every morning at the location determined by the project team. After the site wide huddle, each contractor shall conduct a huddle meeting prior to every work shift to discuss the activities of the shift, review JSA(s) and to establish a safe plan of action to accomplish the work. This meeting shall be conducted with all employees working on site by the onsite leader for each contractor. Any changes to the established plan shall be communicated throughout the shift to affected employees.

2.5.6 The contractor/supplier (if on site more than sporadically) shall conduct weekly "tool box" safety meetings with its personnel. The topics for the meeting shall be relevant to the work activity and/or jobsite conditions. It shall provide copies of all such documentation to the Messer representative immediately after the meeting. Everyone on site must attend any scheduled project-wide safety meetings.

2.5.7 The contractor/supplier shall attend a scheduled Preconstruction Safety Meeting before the contractor's/supplier's work begins on the jobsite. Messer reserves the right to require sub-tier contractors/suppliers to participate in this orientation activity. Prior to this meeting the contractor/supplier shall develop a Site-specific Safety Plan detailing the hazards and preventative measures associated with their scope of work. This plan will be reviewed with all necessary parties during the Preconstruction Safety Meeting.

2.5.8 The contractor/supplier shall contact the Messer representative immediately when an OSHA compliance officer arrives at the jobsite. The contractor/supplier shall inform the Messer representative of any employee complaint, incident, etc. that results in or may result in an OSHA inspection.

2.5.9 The contractor/supplier and its employees shall direct all public media inquiries to the Messer representative. At no time shall the contractor/supplier or its sub-tier contractors/suppliers allow or permit media to enter the jobsite without expressed authorization from the Messer representative.

2.6 Housekeeping and Sanitation

2.6.1 **Sort – Just in time Deliveries:** Materials are only allowed to be delivered to the site if they will be installed within a one week time period of delivery. Any materials that will not be installed must be removed from the site.

2.6.2 **Straighten – Organized Material and Equipment Storage:** Materials and equipment must be stored in designated laydown areas. Walking and working spaces must be kept organized at all times. No material or equipment is allowed to be stored in egress/access paths. Storage requirements for exterior and interior spaces are as follows:

2.6.2.1 Exterior: Materials and equipment must be stored on dunnage, pallets or carts.

2.6.2.2 Interior: Materials and equipment must be stored on pallets, carts or racks and easily moveable on wheels.

2.6.3 **Shine – Continuous Daily Cleanup:** Requirements for continuous cleanup for exterior and interior spaces area as follows:

2.6.3.1 Exterior

a) Each Subcontractor shall immediately pick up all of their debris and deposit it into mobile trash carts/hoppers (provided by respective Subcontractor). Each Subcontractor is responsible for emptying these containers into a dumpster provided by the Contractor.

b) Every Subcontractor is required at the end of each and every workday to cleanup and organize equipment, materials and debris from that day's work activities and clean their work area.

2.6.3.2 Interior: Nothing Hits the Floor – Daily cleanup:

a) Every work crew has a cart with necessary cleaning tools. Each Subcontractor shall immediately deposit their debris into mobile trash carts (provide by respective Subcontractor). Each Subcontractor is responsible to remove these carts from the building daily and empty them into a dumpster provided by the Contractor.

b) Every Subcontractor is required at the end of every workday to cleanup and organize equipment, materials, and debris from that day's work activities and sweep their work area.

c) Electrical cords, welding leads, temporary heat, and temporary water lines are to be off the floor 100% of the time and suspended using non-conductive materials

2.6.4 **Standardize – Color Coded Delivery Process:** Each Subcontractor will be designated a specific paint or sticker color (designated by the Contractor and provided by respective Subcontractor) to mark all deliverables to the project. All materials, including but not limited to, pallets, packaging, boxes, buckets, etc., must be marked with their respective paint color. All items that are not marked upon arrival at the project site, will be rejected.

2.6.5 **Sustain – Composite Broom Crew:** Every week, or at Contractor's request, each Subcontractor shall provide personnel to participate in cleaning all unidentified debris and broom sweeping for a full work shift or until complete. This polishing effort is in addition to normal daily cleaning.

2.6.5.1 Each Subcontractor shall provide (1) person for every (10) people working on site for respective company (including subcontractors) to participate in composite crew.

a) Minimum participation by each Subcontractor is (1) person, regardless of number of people Subcontractor has on site up to (10).

b) Participation requirement applies for each week the Subcontractor has personnel on the project site.

2.6.5.2 Each Subcontractor shall furnish all equipment, including but not limited to, brooms, shovels, and dump carts, to complete this activity.

2.6.5.3 Contractor will determine the location and scope of the composite cleaning crew each week as dictated by the project conditions. It is understood that this may include "exterior Subcontractors" need to work inside the building and vice versa as project conditions require to maintain the best possible project conditions.

2.7 Full Time Safety Manager Requirements

2.7.1 When a subcontractor is required to provide full-time safety regarding our CCIP or Safety4Site requirements, the following criteria shall be followed:

2.7.2 Selection Requirements for Full-time Safety Professional

2.7.2.1 A qualified safety professional shall be provided to maintain safety standards on Messer projects. If the subcontractor cannot provide a qualified safety professional they are to provide Messer safety department with a plan of who they propose to be the alternative person.

2.7.2.2 An alternative person providing safety oversight must be at a Superintendent or Project Manager level, with a minimum of OSHA 30-hour and at least five years' experience in their role.

2.7.2.3 As part of the approval process:

a) Provide a resume of the proposed safety professional or alternative.

b) Determine safety manager experience in conjunction with scope of work.

c) Request references if subcontractor proposes a safety professional from a third party consulting company and is not an employee of the subcontractor.

d) Request and hold an onsite interview to sit down with the safety professional the subcontractor is proposing.

2.7.3 Responsibilities of the Full-time Safety Professional

2.7.3.1 Take full responsibility for all subcontractor workers and their safety performance.

2.7.3.2 Be responsible for subcontractor's actions; ensuring they have the tools, skills and knowledge to do the task/job correctly.

2.7.3.3 Know, understand and follow all OSHA, Messer, owner and CCIP compliance requirements, policies and procedures.

2.7.3.4 Ensure responsibilities for lower tier subcontractors that come onsite to perform tasks for the subcontractor—e.g., concrete coring/cutting, scaffolding, etc.

2.7.3.5 Ensure all injuries and incidents—Safety4Sites, near misses, property damage, etc.—are reported immediately and supported with accident investigation and root cause analysis if required.

2.7.4 Roles of the Full-time Safety Professional

2.7.4.1 **Daily**

a) Attend all morning huddle meetings.

b) Attend POD and Weekly Work Plan Meetings (be prepared and bring up safety concerns).

c) Review your crews' JSA's for quality of information and that there is one for every task.

d) Review daily permits (if applicable) are filled out and reviewed with Messer project team.

e) Ensure crews plan for and have the correct resources and tools.

f) Ensure that all aspects of the 5S process is being followed.

g) Utilize Messer's Stop Work Authority program when tasks or conditions change, or when unknown hazards arise. Ensure work stops and the work crews revise and review the JSA's to reflect all changes.

h) Complete daily safety walks of your work areas and crews.

i) Documented comprehensive safety walks three times a week.

2.7.5 Communicate Safety

a) Communicate all risks and hazards with the work crews.

b) Listen and respond to safety concerns from Messer or other subcontractors.

c) Lead weekly Toolbox Talks and Safety Alert information (provide Messer signed copies).

d) Respond to any safety observations that have been recorded, close out the safety observations.

3.0 Safety Requirements

3.1 Personal Protective Equipment (PPE)

3.1.1 Hardhats meeting American National Standards Institute (ANSI) Z89.1 specifications shall be worn at all times by all personnel at the work site. Hard hats shall be worn with the brim facing forward, unless a welding shield (or other device, which prevents such) is in use. This requirement specifically includes all work completed during the finish stages of the project.

3.1.2 Safety glasses (including safety prescription eyewear) with attached side shields meeting the American National Standards Institute (ANSI) Standard Z87.1, latest issue or over the glass protection shall be worn at all times on Messer projects through the finish stages. The only exceptions will be during scheduled breaks away from potential eye hazards, while in a trailer performing office functions or in a fully enclosed cab of a truck/equipment.

3.1.2.1 Appropriate shaded/filter lenses shall be required to protect against radiant energy such as during welding. Suitable laser safety glasses shall be used as required, to protect against the specific wavelength of the laser and be of optical density adequate for the energy being used.

3.1.2.2 Tinted safety glasses are not permitted for general use indoors.

3.1.2.3 Safety goggles and/or tight-fitting safety glasses should be worn for work activities where hazards dictate (e.g. dusty environments, overhead demolition work, etc.).

3.1.3 Face protection is required in addition to safety glasses when potential exposure exists to particulate matter generated by hammering; chipping; welding; grinding; cutting; heating; burning; insulation handling; overhead activities; or where there is possible exposure to hazardous chemicals. Examples include, but are not limited to:

3.1.3.1 Any time one is cutting or grinding with an abrasive wheel. This is includes, but is not limited to target saws, chop saws, angle grinders, etc.

3.1.3.2 When pouring concrete, operating the pump truck hose and using the vibrator.

3.1.4 When handling acids, caustics, and chemicals with corrosive or toxic properties, suitable protection, such as acid suits or chemical resistant aprons and gloves, shall be worn to prevent accidental contact with the substance.

3.1.5 Personnel shall wear personal clothing and footwear that is safe and proper for the work and any jobsite exposures. At a minimum, full-length trousers and shirts with a minimum 4- inch sleeve are required.

3.1.6 High visibility clothing (shirt, vest, or jacket) shall be worn at all times on the project and must be the outer-most garment. Acceptable colors include fluorescent yellow/green and fluorescent orange/red. Messer will provide notification if and/or when this requirement does not apply to a particular project.

3.1.7 High-visibility clothing with retro-reflective striping shall be utilized when working in or around roadways, heavy equipment and if lighting conditions are poor. Clothing must meet the ANSI Class applicable to the work being performed.

3.1.8 Work boots (covering over the ankle) are required for all contractor personnel on site. They are also required for suppliers when they are exposed to hazards affecting the feet. Tennis shoes or work shoes are not acceptable, regardless of steel/composite toe or other safety ratings. Contractor/supplier personnel shall wear boots that are commensurate with the hazards of the work and the work site area. This includes rubber boots when working in or near damaging liquids or concrete, safety-toe boots when moving or rigging heavy objects and metatarsal protection when jackhammering or tamping activities.

3.1.9 100% hand protection is required on all Messer projects. Gloves shall be worn by all personnel on the project site at all times, including supervisory personnel. Gloves must be task appropriate and meet ANSI/ISEA 105-2016 American National Standard for Hand Protection Classification.

3.1.9.1 If hand protection is considered infeasible or creates a greater hazard for a particular task, a written safe plan of action outlining the reason for the variance must be approved through Messer prior to beginning the activity.

3.1.10 Cut resistant sleeves shall be worn during demolition or other activities where puncture, laceration and/or burn hazards to the arms are present.

3.1.11 The contractor/supplier shall familiarize itself with and comply with more rigorous personal protective equipment standards as required on specific projects.

3.2 Elevated Work and Fall Protection

3.2.1 100% fall protection is required on Messer jobsites, for activities, which involve work at elevations of 6 feet or higher. 100% fall protection is also required at lower heights if the individuals are working above dangerous equipment. 100% fall protection is required for all crafts, trades, including steel erection and activities associated with these types of elevations. The use of ladders and the construction of scaffolding may not be applicable in section 3.2, and are addressed in section 3.3 and 3.4 in this program.

3.2.2 Prior to the start of work, contractor/supplier representatives involved with elevated work shall meet with Messer representatives to review the scope of work, especially as it pertains to fall protection requirements and needs. As part of the Contractor Preconstruction Safety Meeting, an evaluation should be made of the possible fall hazards and effective safety responses to such.

3.2.3 Guardrail systems shall be the preferred choice of protection for all elevated work activities. If the contractor/supplier can prove that guardrails are infeasible or create a greater hazard, as defined in Subpart M of the OSHA Construction Standards, it may, where permitted by a Messer Safety Leadership, implement the following alternative systems in response to the fall hazards:

3.2.4 Personal fall arrest systems;

3.2.4.1 Warning lines; a) Required to be a minimum of 15 feet back from leading edges for all trades, excluding roofers.

3.2.4.2 Controlled access zones;

3.2.4.3 Safety net systems

3.2.4.4 Safety monitoring systems will not be permitted.

3.2.5 These alternative systems may be utilized, with approval, in controlled work environments provided the following is established:

3.2.5.1 Explanation in writing is submitted to the Messer Safety Department as to why the use of guardrail systems is infeasible or creates a greater hazard/ harm to the individuals involved.

3.2.5.2 Development of a written fall protection plan, utilizing the Messer Fall Protection Template which outlines all elements involved with the usage of personal fall arrest systems, warning lines, controlled access zones, or safety monitoring systems; and

3.2.5.3 Orientation process, which communicates this information to the individuals involved with the work activity, prior to beginning work.

3.2.6 The purpose of this extensive pre-planning is to ensure that the most effective and appropriate fall protection systems are used whenever possible. It is also designed to ensure that those individuals involved with the usage of personal fall arrest systems, warning lines and controlled access zones truly understand the detail and organization required. Finally, the pre-planning will also highlight who is permitted (due in part to thorough training and communication) to work with these systems.

3.2.6.1 Horizontal systems must be attached to a fixed anchorage and may not be linked together.

3.2.7 Cable guardrail systems shall be a minimum 3/8 inch cable and shall be equipped with turnbuckles for tightening where necessary. A minimum of 3 clamps at each turn back is required.

3.2.8 The procedures developed in response to the identified fall hazards shall be reviewed with all individuals exposed to the hazards. Feedback should be encouraged so as to ensure that the most effective systems are utilized.

3.2.9 Contractors/suppliers shall be responsible for ensuring that their employees using fall protection systems have been adequately trained. Communication on the following shall be included in the training:

3.2.9.1 Fall hazards associated with the elevated work;

3.2.9.2 Elements of the fall protection systems utilized;

3.2.9.3 Fall protection equipment used;

3.2.9.4 Elements of a fall protection plan, if applicable; and

3.2.9.5 Proper inspection techniques of fall protection equipment.

3.2.10 An inspection process of fall protection systems shall be established. Individuals shall visually inspect the fall protection equipment before each use. Some equipment requires documented inspections by its manufacturer on a routine basis. This equipment shall have evidence of the inspection and re-certification process on it. This information shall be reviewed before the equipment is used.

3.2.11 Any fall protection equipment that is defective, damaged, or has been subjected to an impact shall be identified and removed from service immediately. Fall protection equipment must be used for fall protection purposes only. Rigging items are not to be used for fall protection, if an item is used for rigging it can never be used as a fall protection device.

3.2.12 The contractor/supplier retains all responsibility for the effective implementation of fall protection programs as well as all other safety programs, regardless of any review by Messer.

3.3 Scaffolding and Mobile Elevating Work Platforms

3.3.1 Each part of supported scaffolding shall be capable of supporting at least 4 times its intended load. All work platforms shall be fully decked between guardrails. All scaffold planks shall be overlapped to a minimum of 12 inches or secured as with cleats to prevent movement.

3.3.2 Footings shall be sound and rigid. Concrete blocks, bricks, barrels or similar items shall not be used for supports. Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates. Base plates shall bear on mudsills or other adequate firm foundation.

3.3.3 Supported scaffold towers with a height-to-base width ratio greater than 4:1 shall be restrained from tipping by tying, guying or other equivalent bracing. Ties shall be rigid and designed to prevent the scaffold system from tipping into or away from the structure. Supported scaffold more than 3 feet wide shall be secured against displacement every 26 feet vertically and every 30 feet horizontally.

3.3.4 All manufacturers' bracings, couplings, or stacking and vertical locking pins shall be installed.

3.3.5 Guardrails and toe boards must be provided on all sides and ends of scaffolds 6 feet or more in height. Open-sided ends shall be guarded.

3.3.6 If the scaffold platform is less than 45 inches wide, as with Perry and Baker type utility scaffolds, guardrails shall be installed at heights of 4 feet or higher. Additionally, these scaffold systems shall have appropriately installed outriggers or otherwise be restrained from tipping if the working platform is at a height-to-base width ratio greater than 3:1.

3.3.7 Scaffolds shall be provided with an access ladder or another equally safe access method. Vertical ladders or ladder frames shall not be used where the total length of a climb equals or exceeds 24 feet, unless an approved fall protection device is installed and used while climbing.

3.3.8 Rolling scaffolds shall have their wheels locked when in use. No scaffold shall be moved while occupied, or while tools or equipment is on it.

3.3.9 Contractors/suppliers must have a competent person involved with the erection, dismantling, and inspection of scaffolding. Anyone erecting or dismantling scaffolding must be trained and be able to provide proof of training.

3.3.10 The contractor/supplier shall inspect all elevated work platforms each day. Inspections shall be documented on an inspection log or through a tagging system. Scaffolding that is incomplete or unsuitable for use shall be tagged as such at or near the access point. Defects shall be corrected prior to use.

3.3.11 Appropriate protection shall be provided for individuals working in the area of scaffolding, or for those who are exposed to overhead hazards while working on scaffolding.

3.3.12 Contractor/supplier shall have a competent person determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. Employers are required to provide fall protection for employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.

3.3.13 Mobile Elevated Work Platforms shall be inspected and controls tested daily to verify that the equipment and all its components are in a safe operating condition. Do not operate any mobile elevated work platform if any components are defective until it is repaired by a qualified person.

3.3.14 Only properly trained and authorized persons shall operate mobile elevated work platforms. Refer to occupant training requirements.

3.3.15 All mobile elevated work platforms, including scissors lifts, require the use of a full body harnesses with either a 4 foot lanyard or retractable in any elevated position.

3.3.16 Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders or other devices for a work position.

3.3.17 Work areas and travel paths shall be inspected to ensure that any hazards that may cause the mobile elevated work platform to become unstable or roll over are eliminated.

3.4 Ladders

3.4.1 All contractors/suppliers shall use ladders which are Type 1 or better; approved for industrial usage.

3.4.2 Metal stepladders and step stools are prohibited. Metal straight ladders and extension ladders must not be used where possible exposure to electrical hazards exists.

3.4.3 Job-made ladders shall be built for their intended use. Double cleats shall be used if more than 25 workers are using the ladder, or two-way traffic is expected.

3.4.3.1 Single cleat ladders shall not be more than 30 feet between the base and the top landing; double cleat ladders shall not be more than 24 feet.

3.4.4 Ladders shall not be used as platforms or scaffold planks.

3.4.5 Ladders shall be kept free of grease and oil. Personnel going up or down shall face toward the ladder and grip the side rails with both hands. Tools or other objects shall be hoisted up as necessary, or carried in a tool pouch and not carried by hand up or down the ladder.

3.4.6 Extension and straight ladders must be set at an angle of 1 foot horizontal for every 4 feet of working ladder length. Extension and straight ladders shall be tied off at the top and/or bottom when in use. Until secured, a second person shall be used to keep the ladder from slipping. Only one person shall be allowed on a ladder at a time.

3.4.7 Ladders shall not block doorways, passages, high traffic areas, etc. unless the area is barricaded. Warning signs shall be posted, or a spotter shall be involved.

3.4.8 Platform or podium type stepladders shall be used in lieu of traditional stepladders. They must be fully open with spreaders locked when in use. Traditional stepladders shall not to be used.

3.4.9 Damaged ladders shall be taken out of service. Ladders shall not be painted, except for stenciling for identification purposes. Ladders shall be inspected daily prior to use.

3.5 Electrical Safety

3.5.1 All electrical equipment, including main feeder lines, branch circuits, and grounding systems shall be installed in accordance with the National Electrical Code as a minimum requirement.

3.5.2 A minimum of 3 feet of clearance shall be maintained around energized electrical parts.

3.5.3 Cabinets, boxes, fittings, or other forms of enclosures shall be used when energized parts of 50 volts or greater are exposed. Entrances to rooms containing energized electrical parts shall be marked with warning signs and access shall be controlled by the exposing contractor. Covers shall be approved. Cardboard and magnetic covers are not approved as temporary covers. All electrical equipment shall be labeled in accordance with the requirements of NFPA 70e.

3.5.4 The metal parts of portable and/or plug connected equipment shall be protected through 3 wire cords and plugs or shall be double insulated.

3.5.5 All power tools and equipment connected by cord and plug, and all extension cords must be visually inspected. GFCI devices must be inspected and tested prior to each use.

3.5.6 Extension cords must be of the three-wire grounded type S, SE, SO, ST and rated for hard service and a minimum 14 gauge in size. No flat cords are allowed. Cords shall not be spliced or taped. Damaged cords shall be removed from service and tagged as defective, or rendered unusable by removing the male plug end. All cords should be checked for proper polarity.

3.5.7 Cords shall be protected from traffic, sharp edges and corners. Extension cords and cables passing through high traffic areas shall be elevated or covered for protection. Extension cords shall not be fastened with staples, hung from nails or suspended with wire. Extension cords shall be arranged to eliminate any tripping hazards.

3.5.8 All electrically powered equipment, including motors, transformers, generators, welders, and other machinery, shall be properly grounded, and insulated.

3.5.9 GFCI protection is required on construction sites for all 120-volt, single-phase, 15- and 20-ampere receptacle outlets that are not a part of the permanent wiring of the structure and are in use by employees. GFCI protection is specifically required when using temporary electric or when extension cords are used.

3.5.10 Secondary external GFCI protection (pigtails) are required on all generator power including, welding machines, mobile light towers, etc. This is in addition to any GFCI protection built into the outlet.

3.5.11 Electrical equipment shall be periodically inspected and repaired as necessary. The electrical contractor shall inspect the temporary power, including the GFCI devices and lights, on a weekly basis. All temporary power receptacles shall be numbered and labeled to confirm a weekly inspection has been completed. Results of these inspections will be documented, and provided to Site Management.

3.5.12 Work on live or energized systems is generally not permitted. If such work is unavoidable, an energized work plan in compliance with NFPA 70e must be developed, reviewed and accepted by Messer prior to commencement of work.

3.5.13 When energized parts are exposed barriers, guards and signage shall be used to prevent the area involved in electrical work from becoming an access point.

3.5.14 All contractor/supplier personnel trained and authorized to work on, or around energized electrical systems shall be required to have all required PPE and arch flash protection required by NFPA 70e.

3.5.15 Construction/temporary lighting shall meet NEC and OSHA requirements as well as maintaining a minimum of five-foot candles and/or more where the standards require it. Each room shall have at least one active temporary lamp until such times that the permanent lighting systems are activated.

3.5.16 Temporary lighting bulbs shall be protected from breakage. Metal case sockets shall be grounded. Do not suspend temporary lights by their electrical cords unless it has been designed for this use. GFCI protection is required when lighting is located in wet or conductive locations. Temporary lighting must be on a dedicated circuit.

3.5.17 Temporary task lighting shall be mounted to a stand or secured to a base. Temporary task lighting shall meet all other applicable standards associated with temporary lighting as indicated in NEC and OSHA.

3.6 Lockout, Isolation, and Tag out of Equipment

3.6.1 Equipment that could present a hazard to personnel if accidentally activated during the performance of installation, repair, alteration, cleaning, or inspection work shall be made inoperable and free of stored energy and/or materials prior to the start of work. Such equipment shall be secured where possible by locking and tagging methods.

3.6.2 Where equipment is subject to unexpected movement such as rotating, turning, dropping, falling, rolling, sliding, etc., mechanical and/or structural constraints shall be applied to prevent such movement.

3.6.3 The use of tags without locks shall be permitted only when the use of locks is physically impossible. Strict controls and supplemental protective measures such as physical separation, blocking, removing fuses, or positioning an attendant by the tagged equipment shall also be utilized.

3.6.4 Where safety locks are used for locking out or isolating equipment, the lock shall be specially identified and easily recognized as a safety lock. All such locks shall be individually keyed with the key(s) in the control of the authorized individual. The use of a master key to open any safety locks is prohibited.

3.6.5 Where more than one person is assigned to work on a piece of equipment or system, each person shall be responsible for applying their own individually keyed lock to each lockout device. When this is not possible, a group/complex lockout/tag out procedure is acceptable, provided that a plan is developed and communicated to the Messer representative before lockout takes place.

3.6.6 Controls that must be de-energized during the course of work shall be locked and tagged accordingly. De-energized equipment and circuits shall be rendered inoperative, and tagged at points where the equipment can be energized. The contractor/supplier shall provide a written lockout/tag out program.

3.7 Tools

3.7.1 All tools shall be used in accordance with the manufacturer requirements and recommendations. Guards must remain in place and operational at all times.

3.7.2 General/Hand Tools

3.7.2.1 Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.

3.7.2.2 Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.

3.7.2.3 Personal protective equipment shall be in accordance with 3.1 Personal Protective Equipment (PPE) of these requirements and manufacturer recommendations.

3.7.2.4 All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer. Angle grinders must have guard and side handle in place.

3.7.3 Electric Tools

3.7.3.1 Electric power operated tools shall either be double-insulated type or grounded.

3.7.3.2 The use of electric cords for hoisting or lowering tools shall not be permitted.

3.7.4 Pneumatic Tools

3.7.4.1 Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

3.7.4.2 Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

3.7.4.3 All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 psi pressure at the tool, shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

3.7.5 Powder Actuated Tools

3.7.5.1 Only employees who have proof of training, in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

3.7.5.2 The tool shall be tested each day before loading to see that safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.

3.7.5.3 Warning signs shall be posted at access points to areas where powder-actuated tools are being used. This signage shall include at minimum "CAUTION POWDER- ACTUATED TOOL IN USE."

3.7.5.4 Loaded tools shall not be left unattended.

3.7.5.5 Storage of powder cartridges and disposal of expended or unexpended cartridges shall comply with the manufacturer's recommendations.

3.8 Confined Space Entry

3.8.1 All confined space activities must be reviewed with the project management team prior to commencement of the related work activities. Confined space entry permits are required as part of the entry process.

3.8.2 Confined spaces, including tanks, manholes, vessels, containers, pits, bins, vaults, tunnels, shafts, trenches, ventilation ducts, or other enclosures where known or potential hazards may exist, shall not be entered without strictly adhering to a confined space entry policy, which meets the requirements of 29 CFR 1926 Subpart AA.

3.8.3 Prior to entering the confined space, the area shall be completely isolated to prevent the entry of any unauthorized individuals, hazardous substances, or materials, which threaten the safety of the entrants and the stability of the space. All energy sources, including stored or residual energy, shall be isolated and/or blanked, and locked out.

3.8.4 The atmosphere shall be tested before entry and monitored to determine if it is safe. Acceptable limits are:

3.8.4.1 Oxygen: 19.5% lower – 23.5% upper;

3.8.4.2 Flammable Gas: Not to exceed 10% of Lower Flammable Limit (LFL);

3.8.4.3 Toxic Contaminants: Not to exceed the Permissible Exposure Level (PEL).

3.8.4.4 Airborne Combustible Dust: Not to exceed its Lower Flammable Limit (LFL)

3.8.5 Continuous atmospheric monitoring shall take place throughout the entry. Monitoring results shall be documented on the entry permit, with the initials of the individual conducting the testing.

3.8.6 Contractors/suppliers shall complete a confined space entry permit before permitting workers to enter the space. This document shall be reviewed and approved via a signature by the entry supervisor. The contents of the completed permit shall be reviewed with the entrants before entering the space.

3.8.7 The confined space shall have an attendant monitoring the activities within the space. This individual shall be in constant communication with the entrants inside the space. At all times, the attendant shall know who is inside the space. The attendant shall not have any other responsibilities than monitoring the space. He/she may not enter the space to perform rescue unless relieved of his/her duties as an attendant.

3.8.8 Adequate ventilation shall be provided to establish and maintain a stable atmospheric environment. Ventilation systems shall be designed for use in confined spaces.

3.8.9 Non-entry rescue systems shall be designed for the retrieval of humans, and shall not be used for equipment purposes. Entrants inside the space shall wear full body harnesses, and shall be connected to the retrieval system.

3.8.10 Rescue procedures for all confined spaces shall be established prior to entry. If a space is classified as permit-required, contractors/suppliers shall ensure proper rescue provisions are provided, including a trained entry/rescue team when required.

3.8.11 All individuals involved in confined space activities shall have extensive training, including hands-on experience with the safety equipment involved. Documentation of required training shall be submitted to Messer prior to the start of any confined space work activities.

3.8.12 Once the confined space work has been completed, the entry permit shall be canceled. A copy of the canceled permit shall be given to the Messer representative.

3.9 Excavation and Trenching

3.9.1 All underground and overhead utilities within the Excavation/Trenching or Penetration work area shall be surveyed and positively identified before excavation work commences. It is the responsibility of every subcontractor performing an excavation to call the 811 Utility Protection Service in their state to obtain an individual reference/dig number. No subcontractor shall work under another subcontractor's ticket number, including the Contractor's.

3.9.2 Since 811 will only mark utilities in the Right-of-Way, a private locating service must also be used to locate any utilities not located by 811 inside the project/excavation area. Obtain as built drawings showing the location of all known/found utilities with in the excavation site and reference the Contract Documents to verify there are no utilities that were not marked by the Locating Service.

3.9.3 811 Procedures:

3.9.3.1 Assess the area to be excavated, gather all the information that will needed to complete the locate work order form.

3.9.3.2 Pre-mark the location where the excavations will occur in white paint, flags or both.

3.9.3.3 Contact 811 and provide details of the excavation.

3.9.3.4 Obtain reference/ticket number, record the number on the Excavation Permit and keep it for the duration of the excavation or longer is necessary.

3.9.3.5 Utility owners will mark any existing utilities around the excavation site.

3.9.3.6 Wait the required amount of time before commencing excavation.

3.9.3.7 Advance notice needed to inform 811 of excavation.

a) IN – 2 working days.

b) OH – 2 working days

c) KY – 2 working days

d) TN – 3 working days

e) NC – 3 working days

f) SC – 3 working days

3.9.4 Protect and preserve the markings of tolerance zones of underground utility facilities until those markings are no longer required for proper and safe excavations. If markings are destroyed or lost do not repaint the markings, contact 811 to remark the found/known utilities.

3.9.4.1 Markings are only valid for the following amount of time before 811 has to be notified again of the excavation.

a) IN – 20 days

b) OH – as long visible

c) KY – 21 days

d) TN – 15 calendar days

e) NC – 15 days

f) SC – 15 days

3.9.5 Private Property Locating:

3.9.5.1 ALL excavations/borings/mass excavations/ground penetrating activities must be coordinated with the Contractor and the Owner to have a 3rd Party Locating Service survey the areas of excavation that are not in the right-of-way.

3.9.5.2 The subcontractor must coordinate with the Contractor and contact the designated 3rd Party Locating Service prior to any ground penetrating activities to have the service locate the area where the activities occur.

3.9.5.3 Prior to arrival of the 3rd Party Locating Service, the area that needs surveyed should be painted or marked with flags.

3.9.5.4 The 3rd Party Locating Service shall mark all found utilities with paint or flags.

3.9.5.5 All markings must be protected and preserved so the location of the utility is known at all times.

3.9.5.6 Take pictures and keep records of the survey to include with the Excavation Permit

3.9.6 Ground Penetrations:

3.9.6.1 Prior to any excavation beginning, the scope of work must be reviewed with the Contractor's project management team to discuss the process and hazards related to task.

3.9.6.2 Daily, all contractors must complete the Messer Excavation Permit and it be signed by the Contractor's project representative.

3.9.6.3 Protect and preserve the markings of utilities until those markings are no longer required for proper and safe excavations.

3.9.6.4 The exact location and depth of any known/found utilities within 24 inches of the excavation must be identified by one of the following means:

a) Hand digging

b) Pot holing

c) Hydro/Vacuum excavation

3.9.6.5 Maintain a minimum of 24 inches (tolerance zone) between the utility and the cutting edge or point of powered equipment.

3.9.6.6 When approaching and excavating within the tolerance zone of underground utility facilities with powered equipment, the subcontract must provide a spotter to visually monitor the excavation activity for any indication of the underground utility.

3.9.7 A competent person shall perform daily documented inspections of excavations and shall be responsible for soil classification. All excavation documents shall be maintained on site and shall be available for review by Messer. Inspections shall occur before the work begins, and as needed throughout the shift. Inspections shall also occur after rain, snow, thaw or other hazardous conditions affect the excavation. If evidence of a hazardous condition is apparent, all work in the excavation shall cease until necessary corrections have been made by the competent person.

3.9.8 Benching, sloping, shielding or shoring shall be used in all excavations 5 feet or more in depth except when excavating in stable rock. Shoring of excavations less than 5 feet deep may be required if examination by a competent person reveals ground movement or evidence of a possible cave in.

3.9.9 Excavations below the footings of foundations, retaining walls, or structures themselves shall not be permitted, except in stable rock or if the wall is underpinned and steps have been taken to ensure stability of the structure. Support systems shall be planned and designed by a qualified person – usually a professional engineer.

3.9.10 If forms or other structures are installed or constructed in an excavation so as to reduce the dimension (measured from the forms/structure to the sides of the excavation) to 15 feet or less (measured at the bottom of the excavation), a trench inside of an excavation has been created. This may affect the access and egress associated with the excavation, as well as with the trench.

3.9.11 Water shall not be permitted to accumulate in an occupied excavation. Existing or flowing water shall be removed prior to and during entry into the excavation.

3.9.12 Support systems shall be planned and designed by a qualified person (generally a professional engineer) when the excavation is in excess of 20 feet deep, adjacent to structures, or subject to water or vibration. All shoring systems shall be designed by a qualified person, or built in accordance with OSHA Subpart P.

3.9.13 Excavations 4 feet or more in depth and occupied by personnel shall be provided with ladders or other effective means of exit. In trenches, these access points must be located within 25 feet of the area in which the individuals are working.

3.9.14 Adequate barrier protection for excavations shall be provided around all excavations that are 6 feet or greater in depth. This shall consist of snow fence or hard physical barriers placed at minimum 4 feet from the excavation.

3.9.15 If the vertical wall of an excavation is 6 feet or greater, fall protection is required.

3.9.16 When an atmospheric condition may exist and/or develop in an excavation, atmospheric monitoring of the excavation shall take place before and during entry. Ventilation shall be provided when the monitoring indicates the necessity of such.

3.9.17 Excavated earth or other materials shall be placed at least 2 feet from the edge of the excavation.

3.9.18 At no time shall equipment (not directly associated with the excavation work) be operated within 2 feet of any excavation. If it is necessary to operate heavy equipment on a level above and near an excavation, the sides of the excavation shall be sheet-piled, shored, and braced as necessary to resist additional pressure. Barricades or stop logs shall be used around an excavation when mobile equipment is used near an excavation.

3.9.19 Backfilling and removal of trench supports shall progress from the bottom of the trench. Ropes shall be used to pull out the jacks after all workers have cleared the trench.

3.9.20 Caisson entry shall be performed in accordance with Associated Drilled Shaft Contractors' (ADSC) Recommended Procedures for Entry of Drilled Shaft Foundation Excavations. Where access and egress is restricted and/or atmospheric conditions could be expected to present a hazard, this work activity should be performed following the permit-required confined space process.

3.10 Mobile/Heavy Equipment

3.10.1 The design capacity of any piece of equipment shall not be exceeded, nor shall the equipment be modified in any manner that alters the original safety or capacity factor.

3.10.2 Mobile equipment shall be fitted with suitable alarms and motion sensing devices. If no backup alarm is present, a designated spotter shall be provided whenever the equipment is backing.

3.10.3 Employees operating mobile/heavy equipment shall not be permitted to use cellular phones while equipment is operating or in transit.

3.10.4 A safety observer shall be assigned to watch the movement of heavy mobile equipment where such movement may cause a hazard to other personnel, or where equipment could hit overhead lines or structures. The observer shall also ensure that people are kept out of the way or path of suspended loads, and clear of the mobile equipment.

3.10.5 Equipment shall be inspected by the contractor/supplier using and/or controlling such equipment prior to its use on the job, and periodically thereafter to ensure that it is in safe working order. Defective equipment shall be removed from service immediately, and a warning tag attached. Equipment with exposed gears, belts, couplings, etc. must be provided with proper guards.

3.10.6 Under no circumstances shall any piece of equipment or a load come within 10 feet of any energized overhead power line.

3.10.7 Only trained, qualified, and authorized personnel shall operate mobile equipment. Documentation of training shall be available upon request. Contractor personnel shall not operate Messer equipment unless written authorization is provided by the Messer representative.

3.10.8 Loads shall not be suspended from the forks of a forklift or other material handling equipment. An appropriate, manufacturer approved attachment including a locking latch or shackle shall be used to handle suspended loads.

3.10.9 Equipment with an elevated load or left running shall not be left unattended for any period of time. Loads must be grounded, the machine must be turned off, and parking brake set when machine is unattended. Equipment is considered unattended when the operator is more than 25 feet away from the equipment or any time the operator is not in view of the equipment. This does not include road vehicles such as: trucks, cars or tractor trailers.

3.10.10 Only trained and qualified persons shall perform maintenance on mobile/heavy equipment. A safe plan of action must be written and communicated anytime the equipment must be serviced while left running.

3.11 Cranes and Rigging

3.11.1 All crane operations must be in accordance with the requirements in 1926 Subpart CC—Cranes and Derricks in Construction.

3.11.2 The contractor/supplier shall be required to attend any scheduled pre-construction meetings focusing on crane signaling and/or other specific safety issues whenever its work involves or is associated with cranes or whenever the Messer representative deems is necessary.

3.11.3 Contractors/suppliers shall ensure that all crane operators are certified/licensed to operate the equipment safely and are trained and evaluated before operating the equipment. The contractor shall provide Messer with documentation of all qualified operator training at the time the individual arrives on the jobsite.

3.11.4 Pre-lift meeting needed each shift. The crane operator/project team to ensure these occur.

3.11.4.1 The operator shall hold a daily pre-lift safety meeting at the lift site with all personnel taking part in the lift.

3.11.4.2 The meeting shall include a review of the scope of lift logistics and identification of qualified riggers and verification that rigging is inspected and these personnel understand their respective roles.

3.11.4.3 The pre-lift meeting shall cover the following minimum requirements

a) Qualified rigger identification

b) Lift logistics, safety requirements, materials, equipment

c) Follow the 1926.1404 where applicable

3.11.4.4 Pre-lift meeting will be documented and signed by the operator and qualified riggers, to indicate they fully understand the scope of the lift.

3.11.5 Contractors/suppliers shall ensure that crane inspections are performed as required by a qualified inspector. Special attention shall be given to such items as cables, hoses, guards, booms, blocks, hooks, and safety devices. Prior to operation, current, annual and monthly inspection documentation must be provided to Messer and made available on the piece of equipment. Additionally, shift inspection documentation must be recorded and submitted to Messer at a minimum weekly and/or upon request.

3.11.6 A/D director and qualified riggers shall be used for all hoisting operations associated with assembly and disassembly work.

3.11.7 Pre-lift equipment inspection—applies to all rigging:

3.11.7.1 All rigging and equipment shall be inspected by qualified personnel prior to each shift and as necessary during use. Defective rigging equipment shall be removed from services

3.11.7.2 Inspection will be documented and subcontractor shall submit signed inspection to Messer for approval prior to lift.

3.11.8 Employees engaged in hoisting and rigging activities shall be trained and qualified in the activities they are performing and shall be identified with a Blue Vest. This includes qualified riggers, signal persons and personnel landing/receiving the load.

3.11.8.1 All qualified Messer riggers shall be verified by the Craft Department and provided a blue rigger vest.

3.11.8.2 Subcontractor management shall be required to provide mandatory proof of operator and rigger training—to verify and validate the training and qualifications of their operators/riggers and furnish a blue rigger vest to only those riggers meeting qualification.

3.11.8.3 Qualified riggers are accountable for and must wear the blue vest at all times.

3.11.9 All contractors must ensure that rigging equipment:

3.11.9.1 Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load and

3.11.9.2 Selection of rigging equipment is applicable to the load to be carried

3.11.9.3 Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer; and

3.11.9.4 Not be used without affixed, legible identification markings.

3.11.9.5 Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

3.11.10 A qualified signal person shall always be used during operation and travel of the crane load.

3.11.11 Tagline must be used on all loads to prevent rotation of the load. Taglines must be at least 6ft long or longer as necessary to safely control the load without having to stand directly under the load.

3.11.12 Whistles shall be used to notify workers in the area that a load that is being moved and a hazard exists.

3.11.13 If any part of the equipment, load line or load (if operated up to the equipment's maximum working radius in the work zone) could get closer than 20 feet to a power line the requirements of Option 1, 2, or 3 of 1926.1408 shall be met.

3.11.14 Operators shall not be engaged in activities that distract their attention while operating.

3.11.15 Generally, cranes shall not be left unattended while running. However, when crane operation is frequently interrupted during a shift and the operator must leave the crane, the engine may remain running and the following conditions shall apply:

3.11.15.1 Land any load, bucket, lifting magnet, or other device;

3.11.15.2 Disengage the master clutch;

3.11.15.3 Set travel, swing, boom brakes, and other locking devices;

3.11.15.4 Put controls in the off or neutral position

3.11.15.5 Secure the crane against accidental travel;

3.11.15.6 The operator shall be situated where unauthorized entry of the crane can be observed; and

3.11.15.7 The crane shall be located within an area protected from unauthorized entry.

3.11.16 The swing radius of the crane counterweights must be barricaded.

3.11.17 Working or riding on crane loads suspended, lowered, or hoisted is prohibited except as permitted by, 1926.1431, focusing on crane suspended personnel platforms.

3.11.18 Winch trucks shall not have a load suspended from the hook while traveling. The load shall be secured on the bed of the truck. The hook of a winch truck must be tied down or secured in some manner, and not allowed to dangle freely when traveling.

3.12 Welding and Cutting

3.12.1 In areas where welding or other hot work is conducted. In addition to any permanently placed units, a minimum of one 10 lb. ABC dry chemical extinguisher shall be immediately available in the work area. A fire watch and/or hot work permit may also be necessary.

3.12.2 Adequate ventilation shall be provided to maintain acceptable atmospheric conditions when welding, cutting, grinding, or heating. Where adequate ventilation cannot be maintained, respirators or air hoods shall be used.

3.12.3 Compressed gas cylinders shall be secured in an upright position at all times. Cylinder valves shall be closed when work is interrupted or finished, and when cylinders are empty or being moved.

3.12.4 When cylinders are lifted by hoisting equipment, a basket, cradle, or a similar handling device shall be used. Electromagnet, hooks, ropes, or slings shall not be used to lift cylinders, and cylinders shall not be lifted by their caps.

3.12.5 Oxygen cylinders shall not be stored close to cylinders of acetylene or other fuel gases, and they must be kept clear of fuel oils, grease, etc. Cylinders stored in the open shall be protected from accumulation of ice and snow, and shielded from direct sun when temperatures are high. Compressed gas cylinders shall be stored so as to avoid possible destruction or obliteration of labels or other means of identifying the contents. Oil or other hydrocarbon contamination shall be avoided on all cylinder gauge connections and regulator devices.

3.12.6 Electric arc welding machines shall be disconnected when moved, and turned off when not in use. They shall be disconnected from the primary supply at the end of the workday.

3.12.7 Welding cables shall be positioned so they will not be damaged or present a trip hazard.

3.12.8 The ground return electrode shall be attached directly to the work to prevent current flow through structures and equipment. All welding cables and connections shall be first quality industrial material, and shall be in good repair.

3.12.9 Welding equipment powered by hydrocarbon fuels shall not be used unless proper exhaust venting is provided.

3.12.10 All arc welding and cutting operations shall be shielded by non-combustible or flameproof screen, which will protect employees and other persons working in the vicinity from the direct rays of the arc.

3.13 Lasers

3.13.1 Only employees who are trained and qualified for laser use shall be allowed to use laser equipment. Those employees who are authorized to operate laser equipment shall have proof of such training/authorization in their possession at all times while equipment is in use.

3.13.2 Standard laser warning signs shall be posted at access points to areas where lasers are being used.

3.14 Fire Protection and Prevention

3.14.1 The contractor's/supplier's emergency response procedures shall contain provisions for fires or explosions. Contractor/supplier employees shall know the location of and shall be familiar with the fire control equipment. The phone number of the nearest local fire department shall be readily accessible.

3.14.2 An adequate number of fire extinguishers of the proper type for the materials exposed and the work performed shall be placed in accessible locations based on the work taking place. Individuals who may use these devices shall be trained in their use. Contractors/suppliers should provide their own extinguishers, especially for activities that require them in the direct vicinity of their work.

3.14.3 Extinguishers shall be checked monthly for usage and service condition, and shall be in good operating conditions at all times. Owner extinguishers should only be used in an emergency. Messer representatives shall be notified if an individual discharges an extinguisher other than their own.

3.14.4 Equipment and materials shall be stored so as not to block access to fire control and emergency equipment such as fire hydrants, extinguishers, hose racks, alarm boxes, safety showers, self-contained breathing apparatus, etc. A minimum of 15 feet of clearance shall be maintained around fire hydrants.

3.14.5 Likewise, materials and equipment shall not block or compromise the integrity of smoke/fire walls and doors. Messer representatives must approve any activity affecting the operation of these devices. The same is true when fire exits may be blocked.

3.14.6 Only approved containers shall be used for the storage, transport, and use of flammable substances. Portable containers used for transporting and transferring gasoline or other flammable liquids shall be approved (metal) safety cans equipped with flash arrestors and self-closing lids. All such containers shall be clearly labeled as to its contents. When transferring flammable liquids from one container to another, a bonding wire shall connect the containers.

3.14.7 Secondary containment is required for all above ground fuel storage tanks. Double wall storage tanks are also acceptable. In addition, such tanks must be protected from collision damage. Drip pan must be used to prevent any spillage from the dispense nozzle.

3.14.8 Areas around welding or flame cutting operations shall be kept free of flammable or combustible materials. Welding, cutting, or any ignition source is not permitted within 50 feet of any refueling, spray painting, or storage of flammable liquids.

3.14.9 For mixing and spray application of flammable and combustible materials, only equipment which is approved for that specific use shall be employed.

3.14.10 Adequate ventilation to prevent an accumulation of flammable vapors shall be provided where solvents or volatile cleaning agents are used. Extra precaution is needed when solvents are used in the presence of hot surfaces, or where high heat and ultra-violet rays from welding may present an additional hazard from toxic vapors.

3.14.11 Fuel fired heating devices shall not be used in confined or unventilated spaces.

3.14.12 Open flame heating sources shall not be used in areas where combustibles are stored.

3.14.13 No more than 25 gallons of flammable or combustible liquid shall be stored in a room outside of an approved storage cabinet. A maximum of 60 gallons of flammable liquid or 120 gallons of combustible liquid shall be stored in a storage cabinet. Quantities in excess shall be stored in a storage room.

3.14.14 Warning signs shall be posted where flammable or combustible materials (solid, liquid, and gas) are stored. “No Smoking” signs shall be posted in areas of possible fire hazards. Contractors/suppliers shall abide by no smoking policies required on specific sites.

3.14.15 Liquid Petroleum Gas shall never be stored in a building.

3.14.16 An individual designated as a “fire watch” shall be provided by the contractor/supplier when required for hot work activities and shall be trained in the proper operation of fire extinguishers and understand general “fire” protocol.

3.14.17 It is the responsibility of each individual to become familiar with the location of the exits that could be used in case of a fire or other evacuation emergencies.

3.14.18 Hot Work Permits maybe required as per jobsite specific rules. Work activities which produce: spark, slag or open flame may be required to have a Hot Work Permit.

3.15 Demolition

3.15.1 Prior to permitting employees to start demolition operations, an engineering survey shall be made, by a competent person, of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed shall also be similarly checked. Employer shall document the survey.

3.15.2 When employees are required to work within a structure to be demolished which has been damaged by fire, flood, explosion, or other cause, the walls or floor shall be shored or braced as directed by a PE.

3.15.3 No material shall be dropped to any point lying outside the exterior walls of the structure unless the area is effectively protected. Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute shall be used.

3.15.4 When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs, warning of the hazard of falling materials, shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

3.15.5 All material chutes, or sections thereof, at any angle of more than 45 degrees from the horizontal, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, such openings shall be kept closed when not in use.

3.16 Use of Vehicles

3.16.1 Access to the jobsite shall be according to local regulations. Adequate traffic control signs shall be enforced. Access roadways shall be clearly marked, and shall be used.

3.16.2 Contractor/supplier vehicles shall be kept in safe operating condition, and contractor/supplier personnel shall comply with local and site regulations regarding the operation of such vehicles.

3.16.3 Contractors/suppliers shall not use or operate Messer vehicles, mobile equipment, or employee vehicles without the specific authorization from the Messer representative.

3.16.4 Contractor/supplier employees shall park in designated areas. They shall not park on roadways or service drives, or near doorways, loading bays, dumpster boxes, or access to fire hydrants or hoses. Contractor/supplier personnel shall always check carefully before backing up.

3.16.5 Fuel tanks on vehicles shall not be filled while the engine is running. The driver shall stay with the vehicle. Smoking is prohibited during refueling.

3.16.6 Vehicle accidents on Messer jobsites shall be reported to the Messer representative immediately.

3.16.7 All cargo shall be secured. Material hanging over the sides or ends of a truck shall be flagged.

3.16.8 Transporting employees on equipment not designed for that specific purpose is prohibited. This includes riding while hanging onto the exterior of a vehicle or mobile equipment. Seatbelt use is mandatory for drivers/operators and passengers in all vehicles and equipment. No one is permitted to ride in the beds of trucks.

3.17 Construction Signage Use

3.17.1 Contractors shall install appropriate and effective warning and/or caution signs identifying hazards associated with work being completed.

3.17.2 Signs warning of high voltage shall be posted where unauthorized workers might come into contact with live parts such as overhead power lines and electrical closets.

3.17.3 Contractors shall ensure Caution-Overhead Work placards/signs are posted where other work activities are taking place near elevated work areas.

3.18 Concrete and Masonry

3.18.1 All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.

3.18.2 A limited access zone shall be established whenever a masonry wall is be constructed. The limited access zone shall conform to the following:

3.18.2.1 The limited access zone shall be established prior to the start of construction of the wall;

3.18.2.2 Be equal to the height of the wall to be constructed plus four feet, and shall run the entire length of the wall;

3.18.2.3 Be established on the side of the wall, which will not contain a scaffold;

3.18.2.4 Be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone;

3.18.2.5 Remain in place until the wall is adequately supported to prevent overturning and to prevent collapse.

3.18.3 All masonry walls over eight feet in height shall be adequately braced to prevent overturning and to prevent collapse. The bracing shall remain in place until permanent supporting elements of the structure are in place.

3.18.4 When overhand brick laying work is performed from scaffolding, the working side of the scaffold shall be protected from falls by guardrails or three courses of material with an effective height of no less than 24 inches above the work platform.

3.18.5 Dust control methods must be used when cutting, chipping, grinding, sand blasting or any other process involving concrete, block or brick. Wet methods must be used as first means of dust control. If not feasible, alternative methods must be in compliance with OSHA Repairable Crystalline Silica Standards.

3.18.6 Adequate eyewash facilities must be readily available for all employees working with uncured concrete, mortar, grout or acidic cleaning solutions.

3.18.7 Workers placing concrete from a chute, concrete bucket or hose shall wear adequate eye and face protection.

3.19 Dropped Object Prevention and Overhead Protection

3.19.1 Overhead risks and controls shall be identified for key scopes of work and addressed in the Subcontractor Site-Specific Safety Plan. Daily JSA's shall be used to identify area-specific risks and controls for each day's work activities. Controls identified on the daily JSA must be in accordance with minimum controls identified within the following requirements, Messer's risk assessment and site-specific safety plan and the subcontractor's approved site-specific safety plan.

3.19.1.1 Primary control measures shall be the preferred method of protection. Secondary control measures must be utilized where the primary control measures for dropped object prevention are not feasible or will not provide complete protection. Most overhead work activities will require a combination of primary and secondary controls.

a) Primary Control (Dropped Object Prevention) measures are focused on preventing an object from falling. These measures may include tool lanyards/tethers; rated tool bags with closure; guardrails with netting; sloped roof protection; material storage; and securement/tethering.

b) Secondary Control (Dropped Object Protection/Overhead Protection) measures are focused on preventing a dropped object from causing injury to persons or damage to property, but do not prevent an object from falling. These measures may include protective canopies; horizontal debris nets; and controlled access zones.

3.19.2 Mesh or netting is required on all perimeter guardrails installed at heights above 10' as well as on rail systems around elevator shafts, mechanical chases, stairwells or similar openings inside buildings where employees will perform work.

3.19.3 Sloped roofs shall have slide guards, debris netting or other means of primary dropped object prevention in place at all times when employees, tools or materials are present on the roof. If not feasible for the activity, an alternate plan for protection must be submitted and approved.

3.19.4 All buildings with exterior elevated work ongoing shall have designated, protected access/egress points from the building. This may be accomplished by walk through scaffolding, Connex boxes, canopy structures or other equivalent means. Additionally, measures must be put in place to restrict use of non-designated access/egress points. Emergency egress needs must be taken into consideration when planning.

3.19.4.1 Controlled access zones (CAZ) shall be established for all overhead work activities where there is potential for unauthorized individuals to enter the area below. Barricades should be sized such that a dropped object will not deflect and bounce beyond the barricade. If barricades cannot be sized to fully contain deflected objects, primary protection measures must be used in addition to controlled access zones. Additionally, primary protection measures must be used when authorized ground personnel are potentially exposed to overhead hazards in the barricaded area.

3.19.4.2 Danger or caution tape (including reinforced tapes) shall not be used for overhead protection CAZ. Only hard barricade material may be used (e.g., snow fence, cones and bones, jersey barriers). Flagged rope or chain may be utilized for short-term barricades.

3.19.5 Barricades must have signage or tags indicating the risk and ownership of the barricade.

3.19.6 Material storage and waste/debris containment and disposal shall be managed per Messer's 5S program to limit potential falling or wind-borne objects. No materials shall be stacked/stored higher than guardrail protection if stored adjacent to perimeter or shaft guardrails. Sheet goods (including plywood, metal decking, insulation board, etc.) and other loose materials stored on open decks or roofs shall be positively secured when not actively being used and at the end of each shift. Acceptable securement may include straps, banding, pallet wrap, etc.

3.19.7 Failure to implement these procedures or use required drop prevention systems/overhead protection will be considered a violation of Messer's Safety4Site program and will result in removal from the project site.

4.0 Health Requirements

4.1 Hazardous/Toxic Substances

4.1.1 The contractor/supplier shall develop and maintain a written Hazard Communication Program as required by 29 CFR 1926.59. The written program shall be submitted to the Messer representative prior to beginning work. Contractor/supplier employees and appropriate regulatory officials shall have access to the program. Contractor/supplier shall be responsible for ensuring that sub-tier contractors/suppliers have copies of their Hazard Communication programs on the jobsites.

4.1.2 The written program requirements include a current list of hazardous chemicals present at the site, a labeling system for containers of chemicals at the work site including dispensing/transfer containers, and corresponding Safety Data Sheets (SDS).

4.1.3 The contractor/supplier shall submit copies of all relevant SDSs to the Messer representative before the materials are brought on site.

4.1.4 Safety Data Sheets (SDS) shall be requested / obtained from the vendor for all hazardous chemicals or materials brought on site by the contractor. Container labels or warning systems for hazardous chemicals/materials shall include the name of the chemical/material the hazard is associated with, its use and exposure, and any necessary precautions.

4.1.5 Contact or exposure to hazardous chemicals/materials exceeding Permissible Exposure Levels (PEL) shall be avoided, preferably through the implementation of engineering or administrative controls. Where such controls are infeasible, appropriate personal protective equipment such as chemical resistant clothing, gloves, aprons, goggles and respirators shall be used. Unnecessary contact with any hazardous materials shall be avoided.

4.1.6 Messer representatives shall be notified immediately of a spill or release of a hazardous material. Messer representatives shall inform the owner of the occurrence.

4.1.7 Hazardous and/or toxic materials such as solvents, coatings, or thinners shall be stored in approved containers. Original shipping containers that satisfy local safety regulations are considered approved containers for transporting and storing these materials. All hazardous or toxic materials shall be returned to the designated storage area at the end of each shift. Hazardous, toxic or flammable materials shall not be stored in occupied buildings.

4.1.8 The contractor/supplier shall train its employees about the contractor's/ supplier's obligations under the law, and hazards and protective measures of chemicals to which they may be exposed. The contractor/supplier shall train its employees on the meaning of any labels, symbols, colors or other codes that might be used at the work site by the contractor, Messer employees, or other contractors/suppliers, to warn of particular worksite hazards. All such training shall be documented and retained by the contractor/supplier, with a copy provided to the Messer representative upon request.

4.1.9 Contractors/suppliers engaged in renovation or demolition projects shall ensure employees are trained in the potential environmental health hazards of such work. This includes a minimum of awareness level training in asbestos, lead and mold. Training shall be documented and available to Messer upon request.

4.1.10 Contractors/suppliers whose work creates excessive dust or fumes shall provide adequate engineering controls such as an exhaust or ventilation system, and/or conduct work at "off hours", as approved by the Messer representative. Exhaust and/or ventilation systems must be reviewed with the Messer representative prior to implementation.

4.1.11 All equipment with combustion engines used indoors shall be fueled with LP gas, exhausted to the exterior, or be fitted with oxy-cat mufflers. The areas shall also be monitored for carbon monoxide.

4.2 Respiratory Protection

4.2.1 The contractor/supplier shall protect personnel and the public from exposures to dust, fumes, vapors, mists or gases in excess of Permissible Exposure Limits (PEL) or Short Term Exposure Limits (STEL), as referenced by the Occupational Safety and Health Administration (OSHA), American Conference of Governmental and Industrial Hygienist (ACGIH).

4.2.2 Where exposure is unavoidable, and engineering or administrative controls such as isolation of the hazardous materials, ventilation or limiting exposure periods may not provide adequate protection, use of approved respirators shall be required.

4.2.3 Personnel shall wear appropriate respiratory protection when applying toxic or hazardous materials inside tanks, rooms, or other areas where adequate ventilation does not exist.

4.2.4 Personnel required to wear respiratory protection shall be trained, fit tested, and medically qualified to wear such devices. Documentation shall be made available upon request. Contractors/suppliers shall ensure that sub-tier contractors/suppliers have this information available for review.

4.2.5 The contractor/supplier shall implement a respiratory program, which includes proper maintenance and care of the respirators and any related equipment.

4.3 Medical Surveillance

4.3.1 Individuals, depending upon the type of work and qualifications, may be required to be medically qualified prior to doing certain types of work, or where exposure to certain hazardous materials exists.

4.3.2 The contractor/supplier shall provide post exposure surveillance when deemed necessary.

4.4 Hearing Conservation and Noise Control

4.4.1 Hearing protection is required in all posted high noise level areas of Messer projects. Hearing protection may also be required where excess noise exposure exists even on a temporary basis. This would include situations where equipment such as jackhammers, saws, drills, grinders, or heavy equipment is being utilized, and the 90-decibel level is exceeded. The contractor shall implement the necessary hearing protection to respond to these noise hazards.

4.4.2 Areas where noise levels exceed the 90-decibel standard on a routine shall require adequate hearing protection, and this requirement shall be effectively communicated to those affected. Employees shall also wear adequate PPE when working in areas where noise levels exceed the 90-decibel standard on a temporary and/or intermittent basis. This protection could include muffs, plugs, or a combination thereof. Individuals required to wear such hearing protection shall be properly fitted and trained.

4.4.3 Where routine exposure to noise in excess of the 85 TWA (Time Weighted Average, 8-hour Workday) decibel level occurs, the contractor personnel are subject to the provisions of the OSHA Hearing Conservation Standard. This includes audiometric testing, employee training and any other applicable requirements.

4.5 Asbestos Containing Materials

4.5.1 If asbestos is suspected or materials containing asbestos are discovered on site, Messer representatives shall be notified immediately. All work in and around the suspected materials shall cease until a determination is made by a qualified third party, and any necessary abatement is completed.

4.5.2 Individuals involved with the handling, removal, demolition, and/or disposal of materials containing asbestos shall comply with OSHA, EPA, and other state and/or local standards governing this activity.

4.5.3 The OSHA Asbestos Standard requires that personnel working with asbestos shall be properly trained, monitored for exposure, and medically surveyed where necessary. Engineering controls and personal protective equipment shall be utilized to prevent exposures in excess of the Permissible Exposure Limit (PEL).

4.5.4 Individuals shall comply with Environmental Protection Agency (EPA) removal requirements for asbestos including: written notification prior to removal, utilization of emission controls, and special handling and disposal procedures.

4.5.5 All individuals hired to perform asbestos abatement work shall be properly bonded, insured, and licensed by the appropriate governing agencies.

4.5.6 All individuals hired to perform lead abatement shall be properly bonded, licensed, and insured, as required by the appropriate governing agencies.

4.5.7 The employer handling abatement work shall confirm or deny materials contaminated with asbestos through the necessary documented testing/surveying resources. This testing may be conducted through an established third party testing agency.

4.6 Lead Containing Materials

4.6.1 If lead is suspected or materials containing lead are discovered on site, Messer representatives shall be notified immediately. All work in and around the suspected materials shall cease until a determination is made by a qualified third party and any necessary actions take place.

4.6.2 All individuals hired to perform lead abatement and/or disturbing lead-containing surfaces shall be properly bonded, licensed, and insured, as required by the appropriate governing agencies.

4.6.3 Individuals involved with the handling, removal, demolition, and/or disposal of materials containing lead shall comply with, EPA, and other state and/or local standards governing this activity. Individuals shall specifically comply with the OSHA Construction Standard, 1926.62.

4.6.4 Unless sampling results verify zero concentrations of lead, all existing painted surfaces that will be disturbed shall be assumed to be lead-containing.

4.6.5 An exposure assessment/air monitoring shall be conducted to determine the anticipated exposure levels of individuals disturbing the lead-containing surfaces, and the type of protection needed when doing such.

4.6.6 All employees performing this type of work shall be trained on the hazards of lead exposure, participate in a medical surveillance program, when necessary and shall be trained on and shall use the appropriate protective equipment.

4.7 Silica

4.7.1 Any contractor/suppliers performing potential silica-related work shall submit a written silica exposure control plan prior to beginning work and must identify a competent person for the project. The silica exposure control plan shall include task-specific controls that are in compliance with OSHA Table 1 or documentation of appropriate protection must be provided for alternate controls.

4.7.2 Contractor/suppliers shall identify a competent person for the project and shall ensure workers are trained on operations that could result in exposure to silica and proper control measures in compliance with the OSHA standard.

4.7.3 Dry sweeping without dust compounds and use of compressed air for cleaning of silica containing dust is strictly prohibited. Dust containing silica shall be wet swept, swept using appropriate sweeping compound or vacuumed using an approved HEPA vacuum and filter.

4.8 Industrial Hygiene and Exposure Standards

4.8.1 The contractor/supplier shall be responsible for determining potential job-related health risk exposures as well as the applicable Permissible Exposure Level (PEL) or standard.

4.8.2 Where the potential exists for employee exposure to occupational health risk(s) at the jobsite, the contractor/supplier shall identify and evaluate those risk(s) relevant to its work activity, through various means including medical surveillance, monitoring of health complaints, incident reports and workers' compensation claims, and industrial hygiene sampling and personnel exposure monitoring methods.

4.8.3 For industrial hygiene sampling/exposure monitoring, the contractor/supplier shall be responsible for providing the necessary equipment and expertise to do the work. Samples/monitoring results shall be sent to a NIOSH-approved laboratory for evaluation. Results from sampling/monitoring shall be communicated to affected employees with a written record submitted to the Messer representative upon request.

4.9 Moisture Intrusion and Mold

4.9.1 While mold may not be completely eliminated during construction activities, Messer requires the following steps to be taken to control mold and minimize any adverse effects:

4.9.2 Notify the Messer management team immediately following a water intrusion or the identification of mold;

4.9.3 Dry water-damaged areas and materials as soon as possible, within 24 hours and not later than 48 hours after the water intrusion event;

4.9.4 Replace porous materials as they cannot be cleaned effectively. Clean non-porous surfaces with detergent and water, and dry them completely.

4.9.5 Contractors can often clean a small outbreak of mold. However, if mold growth is extensive, consult a professional with experience. When using disinfectants or biocides, always ventilate the area, using outside air if possible, and exhaust the air to the outdoors. During cleanup employees shall wear long-sleeve shirts and pants that can be washed or discarded after the work. Gloves and eye protection shall be worn as well. And when using cleaning materials such as biocides or disinfectants, follow the manufacturer's directions and wear recommended personal protective equipment, which may include respiratory protection.

4.10 Hexavalent Chromium

4.10.1 The contractor is required to meet all applicable requirements under section 1926.1126 and/or Appendix C-1: Portland Cement Inspection Procedures. Implementation will include but not limited to air sampling, employee training, medical surveillance, protective equipment, and suitable hand washing facilities.

5.0 Environmental Requirements

5.1 Protection of the Environment

5.1.1 The contractor/supplier shall be knowledgeable of and comply with all federal, state, and local environmental regulations for materials, including hazardous substances or wastes, under its control. The contractor/supplier shall not dump, release, or otherwise discharge or dispose of any such materials without the express authorization of the Messer representative.

5.1.2 Any release of a hazardous substance to the environment, whether into the air, water, or ground, must be reported to the Messer representative immediately.

5.1.3 If a release resulting from contractor actions occur, the contractor/supplier shall take proper measures to counter any known environmental or health hazards associated with such a release. These would include remedial procedures such as spill control, containment, and disposal. Documentation of proper disposal shall be provided to Messer. The contractor/supplier shall also provide notification to the proper authorities.

5.2 Air Pollution

5.2.1 The contractor/supplier, depending on the type and quantity of materials, may be required to have an emergency response plan for any releases of materials to the atmosphere. The contractor/supplier shall also be aware of local ordinances affecting air pollution.

5.3 Water Pollution

5.3.1 Where materials under contractor/supplier control could be discharged to the ground or to the water, the contractor/supplier shall be aware of and comply with local sewer ordinances or other requirements, which may prohibit the discharge of certain materials into the sewer system.

5.3.2 The contractor/supplier shall obtain any necessary permits for materials under its control. These permits include, but are not limited to, National Pollutant Discharge Elimination System (NPDES) permits, Public Owned Treatment Works (POTW) contracts, Storm Water Control Permits, and Spill Prevention Control and Countermeasure (SPCC) plans, as well as any local or regional requirements relating to such.

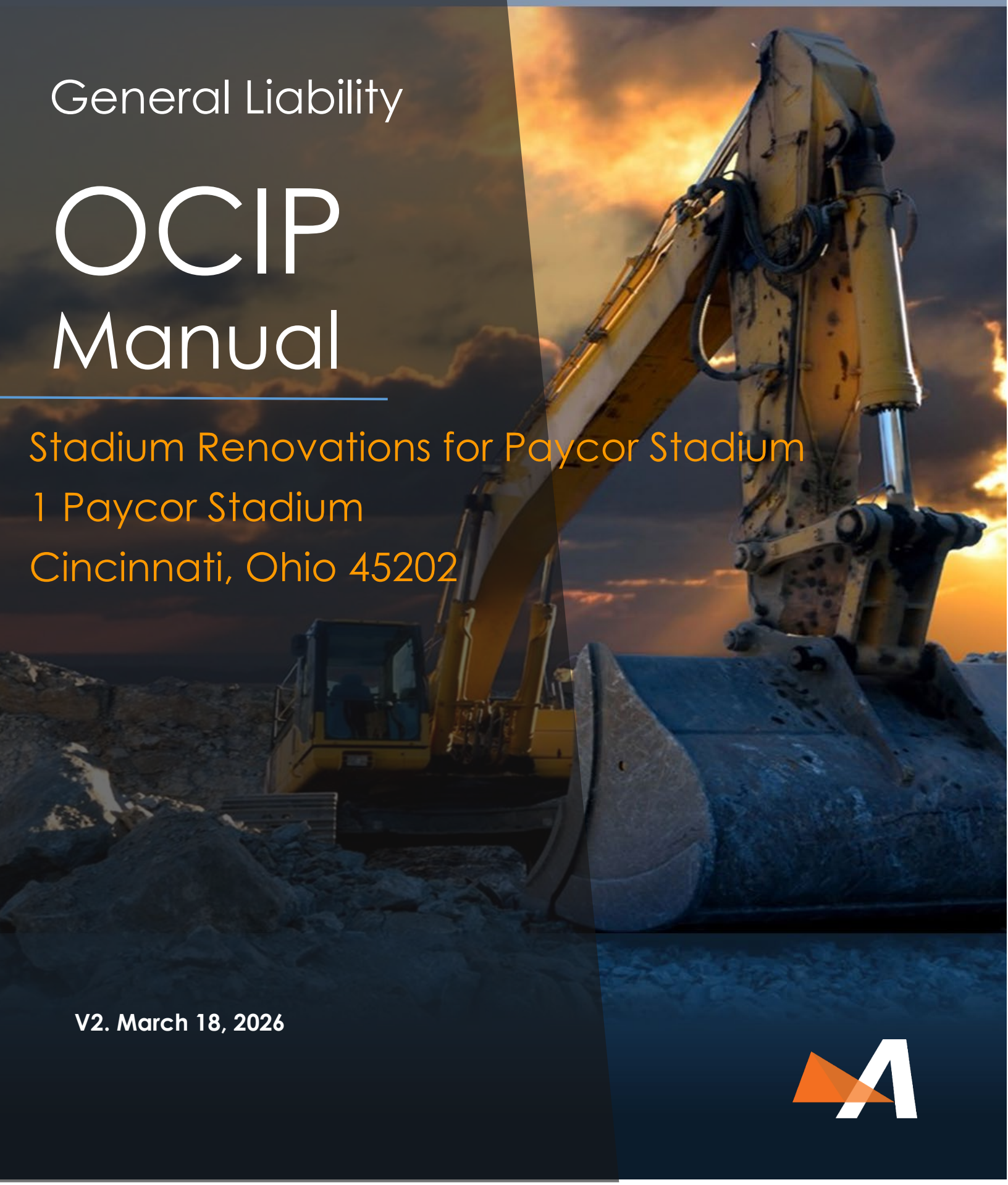
General Liability

OCIP Manual

Stadium Renovations for Paycor Stadium

1 Paycor Stadium

Cincinnati, Ohio 45202



V2. March 18, 2026

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SECTION 1

1.0 INTRODUCTION

The Board of County Commissioners, Hamilton County, Ohio, has arranged for the Stadium Renovations on the Paycor Stadium ("Project") to be insured under its Owner Controlled Insurance Program (OCIP). An OCIP is an insurance program that insures:

- The Board of County Commissioners, Hamilton County, Ohio, Cincinnati Bengals, Inc. (Team), Paul Brown Stadium Ltd., (Manager) Messer Construction Company (Construction Manager), Jostin Construction, Inc,. M.B.J. Consultants, Inc., and Warm Construction LLC (Construction Manager), (collectively the "OCIP Parties") and
- Any individual, firm, or corporation undertaking construction or other services under a Contract with OCIP Parties or their Construction Manager, Contractor or Subcontractor (collectively the "Contractor Parties") of any tier to furnish labor, services, materials and/or equipment, and/or perform operations at the Project Site that has been Enrolled in the OCIP .

Certain Contractor Parties are excluded from this program and are identified in Section 3 of this OCIP Manual.

Participation in the program is mandatory but not automatic.

The OCIP provides the following insurance coverages for all Enrolled Parties:

- General Liability
- Excess Liability
- **There is no Workers Compensation under the OCIP.**

OCIP Parties will pay insurance premiums for the OCIP coverage described in this Manual. You should notify your insurance broker/insurer(s) of the coverages provided under this Program for "On-Site" activities to avoid the duplication of coverage and the related costs.

The OCIP Parties have elected to implement a Bid Net Program. Each bidder is required to exclude from its bid price its normal cost for insurance coverage.

This OCIP Manual will be a part of the bid specifications and bidders are expected to be familiar with the requirements prior to submitting their bid. In addition, this OCIP Manual will be incorporated by reference into the successful bidders awarding Contract and accordingly, all provisions require mandatory compliance.

Contractor Parties shall not commence work at the Project Site until:

a) If enrolled under this OCIP, having received a certificate of insurance issued by Alliant Insurance Services (OCIP Administrator), or
b) If excluded under this OCIP, having provided a certificate of insurance as required in this OCIP Manual.

NOTE: Insurance coverages and limits provided under the OCIP Insurance Policies are limited in scope and are specific to work performed after the inception date of your enrollment into this program. Your insurance representative should review this information. Any additional coverage you may wish to purchase will be at your option and expense.

1.1 About this Manual

This OCIP Manual was prepared by Alliant Insurance Services (Alliant) and OCIP Parties. Alliant is the insurance broker and OCIP Administrator for this program.

This OCIP Manual:	This OCIP Manual does not:
Generally describes the OCIP	Provide coverage interpretations
Identifies responsibilities of the various parties involved in the Project with regards to the OCIP	Provide complete information about coverage
Provides a *basic* description of OCIP coverage	Supersede the terms of the OCIP Insurance policies
Describes audit and administration procedures for the OCIP	Provide answers to specific claims questions
Provides answers to basic questions about the OCIP	

Specific questions about the OCIP, its administration, or the coverage provided should be referred to the OCIP Program Manager identified in the Project Directory section immediately following this introduction.

NOTE: The information in this OCIP Manual is intended to outline the OCIP Program. If any conflict exists between this OCIP Manual and the provisions of the Contract between the Program OCIP Parties and the Contractor Parties and/or the OCIP Insurance Policies, the Contract and the Policies will govern. This OCIP Manual may be updated and distributed (via the online WrapX Portal) during the course of the Project. Any revised versions shall replace and supersede any previously issued versions.

SECTION 2

2.0 DIRECTORY

OCIP Parties	Board of County Commissioners, Hamilton County, Ohio Cincinnati Bengals, Inc. Paul Brown Stadium LTD. Messer Construction Company Jostin Construction, Inc. M. B. J. Consultants, Inc. Warm Construction, LLC
Project Address	1 Paycor Stadium Cincinnati, Ohio 45202
Hamilton County BOCC Construction Manager	Messer Construction Company
Hamilton County Contracts	Kerry Dowling Phone: 513.946.3015 Email: kerry.dowling@hcpros.org
Cincinnati Bengals Construction Manager	Warm Construction LLC
OCIP Administrator	Alliant Insurance Services, Inc. Construction Services Group
Program Manager	Lois Nettles Phone: 561.273.2317 Email: Lois.Nettles@alliant.com
Program Administrator	Jennifer Clarke Phone: 561.214.6378 Email: Jennifer.Clarke @alliant.com
Claims Advocate Lead	Marc Reyes Phone: 470.433.1233 Email: Marc.Reyes@alliant.com
Claims Advocate	MaryBeth Roache Phone: 727.415.6367 Email: MaryBeth.Roache@alliant.com
OCIP Portal	Alliant WrapX
OCIP Document Submission	**(SEE SECTION 8 FOR DETAILS)** Email: alliantwrapx@alliant.com
Online Enrollment Payroll Reporting Document Mgmt	**ONLINE ENROLLMENT, PAYROLL REPORTING & DOCUMENT MGMT** Website: http://alliantwrapx.alliantinsurance.com/contractorportal *Contact [Program Admin] for User Access

3.0 DEFINITIONS

OCIP Parties	Board of County Commissioners, Hamilton County, Ohio Cincinnati Bengals Paul Brown Stadium LTD, LLC Messer Construction Company Jostin Construction, Inc. M. B. J. Consultants, Inc. Warm Construction, LLC
Additional Insureds	The following OCIP Parties, and each of their respective parents, members, affiliates, lenders, directors, officers, representatives, agents, and employees, and all other parties reasonably requested by the OCIP Parties. • Board of County Commissioners, Hamilton County, Ohio • Cincinnati Bengals • Paul Brown Stadium LTD, LLC • Messer Construction Co. • Jostin Construction, Inc. • M. B. J. Consultants, Inc. • Warm Construction, LLC • KZF Design, Inc.
Bid Net Program	Contractor Parties who ultimately will be enrolled in the OCIP are required to exclude their General Liability and Excess Umbrella insurance cost from their bid price, Contract value and change orders.
OCIP Insurance Policies	Shall mean the General Liability and Excess Liability insurance procured by the OCIP Parties in connection with the OCIP.
OCIP Insurance Manual	Shall mean this OCIP Manual.
Contract	The written agreement between the OCIP Parties and the Contractor Parties including all lower tier subcontractors.
Contractor Party(ies)	Any individual, firm, or corporation undertaking construction or other services under a Contract with OCIP Parties or their Construction Manager, Contractor or Subcontractor (Contractor Parties) of any tier to furnish labor, services, materials and/or equipment, and/or perform operations at the Project Site. Unless otherwise noted, anywhere in this manual where “Contractor Parties” is used shall also apply to Contractors, Trade Contractors, and Subcontractors of every tier..
Owner Controlled Insurance Program (OCIP)	An insurance program under which General Liability and Excess Liability insurance are procured by the OCIP Parties to cover the OCIP Parties, and all Enrolled Parties while performing work at the Project Site.
Enrolled Parties	Contractor Parties who been awarded work and met the requirements to become enrolled in the OCIP as evidenced by a Certificate of Insurance issued by the OCIP Administrator. OCIP Parties may, at its discretion, include a Contractor Party who, otherwise by definition, would be an Excluded Party.
Excluded Parties	Excluded Parties are not covered by the OCIP and are described as those performing the following activities: • Any Contractor Party performing environmental or pollution related activities for the purpose of remediation, testing, removing, or storing any known or unknown pollutant;

	• Professional service providers not engaged in construction work including but not limited to, architects, engineers, geotechnical professionals, surveyors, attorneys and real estate brokers • Any person or entity that solely fabricates and/or manufactures any products, materials and/or supplies away from the Project Site. • Manufacturers, fabricators, suppliers, or distributors of materials that performs no work at the Project Site; • Vendors, Suppliers, Fabricators, Material Dealers, Truckers, Haulers, Owner/Operators (Independent Contractors), Drivers and others whose operation(s) and/or employee(s) is/are engaged solely in the loading, hauling and/or unloading of material, supplies and/or equipment to or from the Project Site; • Contractor Parties who do not perform any actual labor on the Project Site; • Any Contractor Party that is contracted with solely for the purpose of erection, operation of or dismantling a crane of any kind unless such operation is specifically scheduled to the policies; • Any other parties with which the OCIP Parties at its sole discretion, or through the OCIP Administrator, elects to exclude from the OCIP, even if otherwise eligible.
Insured	OCIP Parties and all Enrolled Contractor Parties named as an Insured on the OCIP Certificates of Insurance.
Insurer(s)	Insurance companies that provide coverage for the OCIP:
Off-Site	Shall mean away from the Project Site. If locations are used solely in connection with performing work at the Project Site like storage yards, staging areas, Off-Site parking, field offices, etc., they can be added with the approval of the OCIP Parties and Insurer(s).
On-Site	Shall mean at the Project Site.
Project Site	Paycor Stadium Project located at 1 Paycor Stadium Cincinnati, Ohio 45202. Coverage will also apply to all work or operations within 2000 feet of the designated project that arise out of or necessary and incidental thereto. This shall not include operations at the Enrolled Parties regularly established workplace, plant, factory, office, shop, warehouse, yard or other property, even if such operations are for fabrication of materials to be used at the Project Site.
Substantial or Final Completion	Shall be defined by the Contract.
Unenrolled Parties	Excluded parties or parties eligible for enrollment who (a) OCIP Parties has elected not to enroll or (b) have not properly completed the enrollment process. References in this manual to “Unenrolled Parties” shall also mean “Excluded Parties”

SECTION 4

4.0 OCIP INSURANCE COVERAGE

OCIP Parties intend to maintain General Liability and Excess Liability coverages until Substantial Completion; however, but in no event beyond the expiration date of the OCIP policies. Products/Completed Operations Extension is for the lesser of ten (10) years or the applicable Statute of Repose per policy terms and conditions. In addition, this program includes an Extension of Coverage in the event Enrolled Parties return to the Project Site to perform repair work, as defined by the policy.

The descriptions on these pages provide a summary only, please refer to the policies for actual terms & conditions. Copies of policies are available upon request.

4.1 Description of OCIP Coverages

The OCIP provides No Workers Compensation Coverage

COMMERCIAL GENERAL LIABILITY

	Limits of Liability Shared by All Insureds
General Aggregate (Reinstates one time at 30 months)	$4,000,000
Products/Completed Operations Aggregate	$4,000,000
Personal/Advertising Injury	$2,000,000
Each Occurrence Limit	$2,000,000
Damage to Premises Rented – Each Loss	$100,000
Negligent Contractor Party's Financial Responsibility - Each Occurrence See Section 7 for Details	$ 25,000

- A single General Liability policy, written on an occurrence basis, will be issued covering all insureds; limits shared by all Insureds
- Products/Completed Operations Aggregate is a single limit for the entire policy term, including the Products/Completed Operations Extension period
- Defense Cost is in addition to the limits
- Cross Suits Exclusion with Owner/General Contractor exception

EXCESS LIABILITY

	Limits of Liability Shared by All Insureds
Each Occurrence Limit	$ 100,000,000
General Aggregate Limit	$ 100,000,000

A single aggregate applies during the entire Completed Operations Period.

4.2 Evidence of OCIP Coverages

The OCIP Administrator will provide a Certificate of Insurance evidencing General Liability and Excess Liability insurance to each Enrolled Party, each of whom will be a named insured on the policy.

4.3 OCIP Termination or Modification

Notwithstanding any other provision of this OCIP Manual, it is the OCIP Parties' intent to keep the OCIP in force throughout the term of the Project. However, the OCIP Parties reserve the right to cancel, terminate or modify the OCIP. To exercise this option prior to program expiration, the OCIP Parties will provide 15 calendar days advance, written notice to all Insureds covered under the OCIP.

Enrolled Parties will be required to immediately effect replacement insurance coverage, equivalent to what is currently required for Unenrolled Parties. Written evidence of such insurance must be provided to the OCIP Parties prior to the actual cancellation or termination date of the OCIP.

4.4 OCIP Insurance Premiums

The OCIP Parties is responsible for the payment of the OCIP Premium. All return insurance premiums, insurance dividends, or monies due to or to become due in connection with the OCIP shall be to the benefit of the OCIP Parties and are hereby assigned to the OCIP Parties.

5.0 ENROLLED & UNENROLLED PARTIES REQUIRED COVERAGE

SECTION 5

Section 007200

Enrolled parties and Unenrolled parties of every tier are required to maintain insurance as dictated by the Contract including the OCIP Exhibit.

Please submit proof of insurance to the OCIP Administrator to comply with the contract's insurance requirements.

Specific language and limits should match the requirements set forth in the Contract. Copies of all required additional insured, primary and non-contributory, waiver of subrogation, and notice of cancellation endorsements shall be attached to the certificate. Renewal certificates shall be provided 30 days prior to the expiration date of each policy.

If and to the extent an Unenrolled Party or Excluded Party's commercial general liability policy contains, or is endorsed with, an exclusion relating to wrap-up or controlled insurance programs, such exclusion shall be limited to projects or locations where the insured is an enrolled party in a wrap-up or controlled insurance program. ISO endorsements CG 21 31 05 09 and CG 21 54 01 96, which purport to remove coverage at all projects or locations where the insured is 'involved' in a project with a wrap-up or controlled insurance program in place, are not acceptable.

Contractor Parties' policies may not contain any exclusions related to the scope of work performed of the project type (i.e., residential exclusions, height restrictions, etc.)

All Contractor Parties are responsible for monitoring their lower tier Contractor Parties' (Enrolled, Unenrolled, Excluded Parties') Certificates. The OCIP Parties reserves the right to disapprove the use of Contractor Parties unable to meet the insurance requirements.

6.0 ENROLLED & UNENROLLED PARTIES RESPONSIBILITIES

SECTION 6

Section 007200

The Contractor Party is required to cooperate with OCIP Parties and OCIP Administrator in all aspects of OCIP operation and administration.

RESPONSIBILITIES OF CONTRACTOR PARTIES INCLUDE BUT ARE NOT LIMITED TO:

- **Notifying the OCIP Administrator of all Subcontracts awarded**
- Enrollment in the OCIP, if eligible
- Providing each lower-tiered Contractor Party with a copy of the OCIP Manual during the Bid Process and as part of the Subcontracts.
- Upon award, completion of all OCIP Enrollment forms and back up documents
- Ensuring that all lower-tiered Contractor Parties are Enrolled in the OCIP, with the exception of those lower-tiered Contractor Parties that are Excluded or identified by the OCIP Parties to be Unenrolled
- Reviewing and understanding coverages, exclusions, and limitations of OCIP policies
- Including OCIP provisions in all Subcontracts
- Providing timely evidence of insurance to the OCIP Administrator
- Cooperating with the OCIP Administrator's requests for information
- Complying with insurance, claim and safety procedures
- Notifying the Safety Manager and OCIP Parties' Representative of all On-Site incidents immediately
- Paying any Financial Responsibilities promptly as required
- Notifying the OCIP Administrator of completed Subcontracts prior to Contract closeout.
- Notifying the OCIP Administrator immediately of any insurance renewal, cancellation, or non-renewal (Enrolled & Unenrolled Parties Required Coverage)
- Assisting with lower-tiered Contractor Parties' compliance with all OCIP requirements
- Monitoring its lower-tiered Contractor Parties' Certificates of Insurance
- Safety - Each Contractor Party of every tier is required to establish a written Safety Program which meets or exceeds the OCIP Parties' Project Safety Standards.
- OCIP Parties or its loss control representatives have the right to "Stop Work" when serious defective conditions, unsafe work activities, or life-threatening hazards are identified. If deemed necessary, OCIP Parties may remove any Contractor Party or lower-tiered Contractor Party employees that violate these requirements.

NOTE: Contractor Parties of every tier acknowledge that OCIP Parties and the OCIP Administrator are not agents, partners, or guarantors of the insurance companies providing the OCIP Policies, that OCIP Parties or OCIP Administrator is not responsible for any claims or disputes between or among OCIP Parties and the Contractor Parties and any OCIP Insurer(s), nor do they guarantee the solvency, or the availability of limits, of any OCIP Insurer(s).

6.1 Alliant WrapX

Alliant WrapX (WrapX) is a proprietary Risk Management Information System (RMIS). All relevant OCIP information will be captured and stored online in a "paperless" format through WrapX. Information to be stored includes Notice of Subcontract Award, Enrollment information, Certificates of Insurance, OCIP payroll, and Notice of Work Completion for all Contractor Parties on a per Contract basis. Alliant will provide all OCIP Enrolled Parties with an email detailing instruction for utilizing the WrapX Contractor Portal upon receipt of a Notice of Subcontract Award for the Awarded Contractor Party.

Submission of all OCIP related documents should be sent by e-mail to:

alliantwrapx@alliantinsurance.com

If you should have any questions or require additional information about this process or other matters related to the OCIP, please contact your OCIP Administrator identified in Section 2 of this OCIP Manual.

6.2 Enrollment

Enrollment into the OCIP is required but not automatic. Contractor Parties must complete the Enrollment online (see instructions in Section 8) and participate in the enrollment process for the OCIP coverage to apply. Access to the Project Site will ***not*** be permitted until the Enrollment is completed and approved by the OCIP Administrator.

Each Contractor Party shall provide details about its lower-tiered Contractor Parties to the OCIP Administrator so that they may facilitate enrollment of all lower-tiered Contractor Parties as well. Each lower-tiered Contractor Party is responsible to complete a separate Notice of Subcontract Award to obtain coverage under the OCIP.

A separate Online Enrollment is required for each Contract for which you are performing Work.

Each Contractor Party who is enrolled into the OCIP will receive a Certificate of Insurance from Alliant Insurance Services, Inc. and a Project Welcome Letter acknowledging that they have been enrolled into the OCIP.

Contractor Party Bids

Contractor Parties are required to exclude from their bid price for original scope of work and subsequent change orders, the costs for insurance that OCIP Parties will provide to all Enrolled Parties under the OCIP for work performed at the Project Site. The OCIP Administrator can help with your estimate, as well as provide assistance to your own insurance representative to ensure your insurance carriers do not charge for coverage provided under the OCIP.

Notice of Subcontract Award

The enrollment process begins with the Notice of Subcontract Award. Each hiring Contractor Party must complete a Notice of Subcontract Award form (see form in Section 8) for all lower tiered Contractor Parties hired. A separate form is required for each Contract awarded for which Contractor Party is performing work. This form must be completed and submitted to the OCIP Administrator prior to mobilization.

Once the Notice of Subcontract Award has been processed by OCIP Administrator, Contractor Party will receive an email providing access to the WrapX system and instructions on how to complete the online enrollment process.

Notice of Work Completion

When Enrolled Parties have completed their work On-Site and/or no longer have employees performing work at the Project Site, then Enrolled Parties shall complete a Notice of Work Completion Form (which must include any final project related payroll and/or receipts, as applicable) and submit it via the Alliant WrapX portal (see form in Section 8) or directly to OCIP Administrator. It is the Contractor Parties' responsibility to assure that each of their lower-tiered Contractor Parties complete this form. This form must be completed separately for each Contract.

6.3 Change Order Procedures

Change orders will also be priced by the Contractor Party to exclude from their change order bid, the Cost of Insurance for the coverages that are provided by OCIP Parties.

6.4 Closeout Procedures

The closeout process is triggered by receipt of a completed Notice of Work Completion Form, which must be submitted to the OCIP Administrator along with a current Certificate of Insurance.

Final payment will not be released by OCIP Parties until all necessary forms have been submitted to and approved by the OCIP Administrator. Any unpaid penalties for which the Contractor Party or lower-tiered Contractor Party is responsible, will be considered at the time of closeout.

7.0 CLAIMS PROCEDURES

Section 007200

All Enrolled Parties are to report all injuries, occupational-related illnesses or property damage to the Project Safety Manager immediately. All Parties will instruct employees and other personnel to report, in writing, by the end of the business day, all Accidents and Occurrences of any type to the Project Safety Manager or Project Superintendent.

7.1 Liability Claims

Incidents at or around the Project Site resulting in damage to Property of others (other than your own Work product, i.e., the public, tenants, and visitors), or personal injury or death to a member of the public, must be reported immediately to the Project Safety Manager, Alliant Claims Advocate and the OCIP Administrator. Complete and deliver an Incident Report to the OCIP Administrator within 24 hours of the Incident.

Do not voluntarily admit liability. Cooperate with the OCIP Parties or the Alliant Claims Advocate in the incident investigation.

In the event Enrolled Parties receive a lawsuit involving construction defect or related allegations that relates to the construction Project with which they are enrolled, the original document along with any service of suit documents shall be sent to:

ALLIANT CLAIMS ADVOCATE LEAD: MARC REYES
EMAIL: MARC.REYES@ALLIANT.COM
PHONE: 470.433.1223

ALLIANT CLAIMS ADVOCATE: MARYBETH ROACHE
EMAIL: MARYBETH.ROACHE@ALLIANT.COM
PHONE: 727.415.6367

NEGLIGENT CONTRACTOR PARTIES' FINANCIAL RESPONSIBILITY

In the event of an occurrence that causes Property Damage, arising out of the performance of an Enrolled Parties work, the Enrolled Party shall promptly, upon request, pay its share of the cost $25,000 per occurrence. In the event that a loss arises due to an occurrence with multiple Contractor Parties or lower-tiered Contractor Parties, the amount shall be paid per capita by the involved Contractor Parties or lower-tiered Contractor Parties. The OCIP Parties may collect such amount via a deductive change order and/or check.

If a lower-tiered Contractor Party is found negligent, the hiring Contractor Party shall be solely responsible for obtaining reimbursement for the cost of such financial responsibility from the lower-tiered Contractor Party(s) attributable to their acts of omissions.

7.2 Workers Compensation Claims

No coverage is provided for Workers Compensation incidents under the OCIP. It is the sole responsibility of each Contractor Party to report incidents/claims involving injury to their employees to their own insurers.

However, all incidents occurring in or around the Project Site must be reported to the Project Safety Manager and your Workers Compensation insurer.

7.3 Property and Builder's Risk Claims

Per Section 5, there is no coverage provided for Contractor Party's property. It is the sole responsibility of each Contractor Party to insure and report incidents/claims involving their property to their own insurers.

Where the OCIP Parties or Project Owner provides Builders' Risk for the project, Contractor Parties of every tier shall be responsible for deductibles for losses relating to/resulting from their negligent acts. If a lower-tiered

Contractor Party is found negligent, the hiring Contractor Party shall be solely responsible for obtaining such deductible from the lower-tiered Contractor Party(s) attributable to their acts of omissions.

However, all incidents occurring in or around the Project Site must be reported to the Project Safety Manager.

7.4 Automobile Claims

No coverage is provided for automobile incidents under the OCIP. It is the sole responsibility of each Contractor Party to report incidents/claims involving their automobiles to their own insurers.

HOWEVER, all incidents occurring in or around the Project Site must be reported to the Project Safety Manager. Incident investigations will occur and focus on liability arising out of the Project Construction activities that could result in future claims (i.e. due to the conditions of the roads, etc.). Each Contractor Party shall cooperate in the investigation of all automobile incidents.

7.5 Pollution Claims

Contractor Parties performing environmental remediation work are required to carry Contractor's Pollution Liability insurance that is primary and non-contributory to any coverage under the OCIP Parties' OCIP. All Parties shall report claims by immediately notifying the Project Safety Manager of any known or suspected pollution incidents.

All Incidents occurring in or around the Project Site MUST be reported

SECTION 8

8.0 APPENDIX/FORMS

- Notice of Subcontract Award – **ONLINE SUBMISSION**

  To be completed by All Awarding Contractor Parties for their lower-tiered Contractor Parties

- Certificate of Insurance and Endorsements – **ONLINE SUBMISSION**
- Notice of Work Completion – **ONLINE SUBMISSION**
- Contractor Parties Incident Report
- **SAMPLE** Certificate of Insurance

For assistance in getting access to the online system or with completing these forms, please contact:

Program Administrator
Alliant Insurance Services
Phone: 561.214.6378
Email: Jennifer.Clarke@alliant.com

Alliant WrapX Enrollment Process

- **Enrollment into the Project will be online via the Contractor Portal**
- **Initial Certificate of Insurance uploaded into the Contractor Portal**
- **Upon completion of enrollment, a confirmation of enrollment and OCIP Certificate of Insurance will be issued by the OCIP administrator.**
- **You will receive access to the online system: Alliant WrapX, within three business days of Alliant being notified of your awarded Contract**
- **Please contact the OCIP Administrator if you have not been given a login ID and Password**
- **Link to the Contractor Portal: https://alliantwrapx.alliantinsurance.com/ContractorPortal**
- **Renewal certificates of insurance may be uploaded by Contractor Party or sent to alliantwrapx@alliantinsurance.com**

Alliant WrapX Enrollment Process

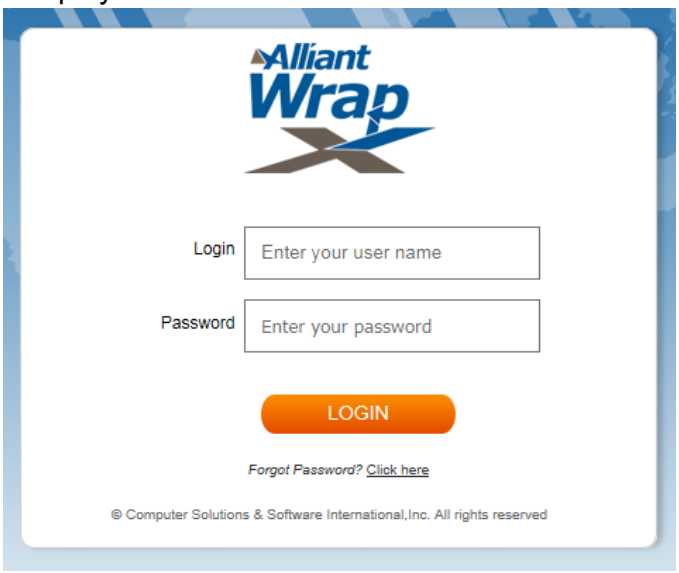
Access Contractor Portal

An account will be created for all users upon submittal of Notice of Award (NOA). *If you are already registered, log in and proceed to Completing Enrollments on the next page.* Open the Alliant WrapX Contractor Portal URL in a web browserhttps://alliantwrapx.alliantinsurance.com/ContractorPortal/
The Alliant WrapX Contractor Portal login screen will be displayed.

How to Log In

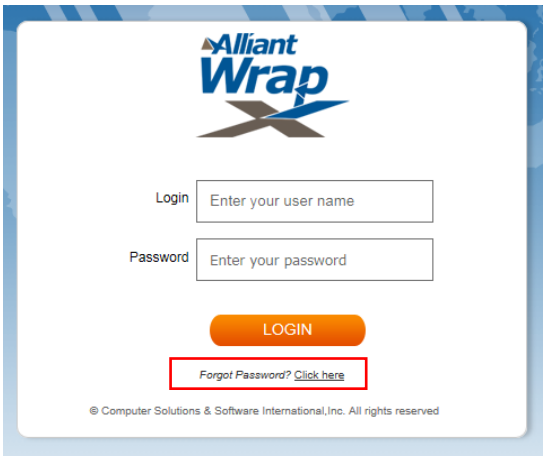
Once at the WrapX home page:

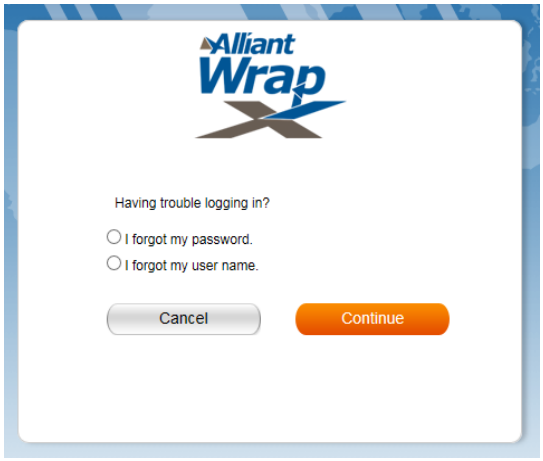
- Contact the CIP Administrator to obtain a **User Name**.
- Enter your unique **User Name** and enter your **Password**.
- Click on the LOGIN button to gain access to the secure WrapX Contractor Portal.
- Please note that the first time you log on you will be requested to change your password.
- If you forgot your password, click on “Forgot Password” and a temporary password will be emailed to you.



Forgot User Name or Reset Password Screen:

If you have forgotten your user name or you need to change your password because you have been sent a temporary password, because you have forgotten your password, or your password has expired, you can change your password by using the following instructions. After signing in to the Contractor Portal, click Password in the upper right of the screen and complete the required fields: Previous or Old password, new password, confirmation of new password.

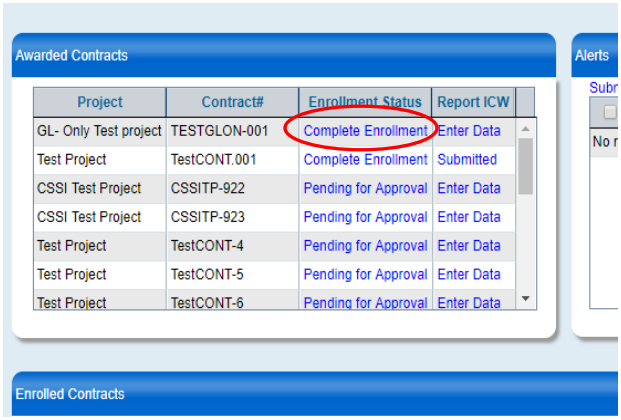




Once all required information has been submitted (ex: email address and/or user name), temporary credentials will be directly sent to contractor. If a temporary password is not received within a few minutes, please check your spam folder or reach out to CIP Administrator.

Completing Enrollments

- To review your newly tracked contracts and enroll, from the Welcome Page use the **Awarded Contracts** section.
- To review your previously enrolled contracts, from the Welcome Page use the **Enrolled Contracts** section.

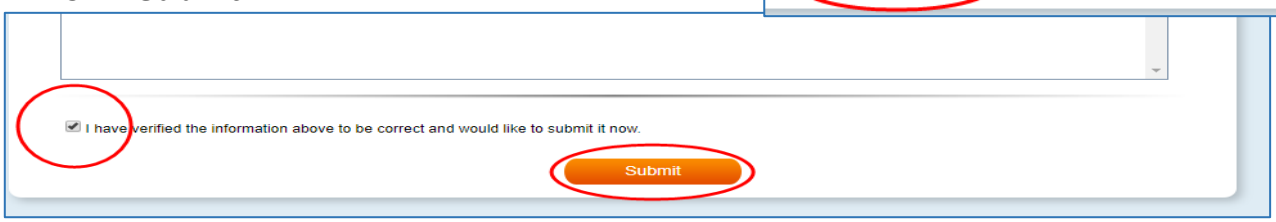


Click on **Complete Enrollment** to begin the process. The enrollment wizard will start on the Review page. Any section that is not compliant will be listed in **RED**.

Click “Edit” to begin updating that section, and continue through the enrollment wizard by clicking “Next”

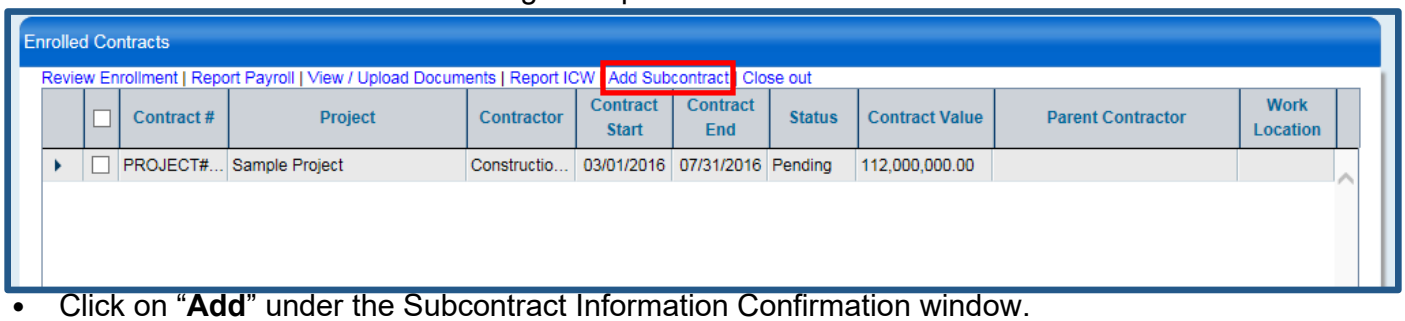
Required Information for Enrollment		
Item		**Help**
1	**Contractor name**	May include type of company: Corporation, LLC, etc.…
2	**Parent contractor name**	Name of company you are contracted with
3	**Contractor Federal ID Number**	Check Alliant data and update
4	**Start Date at project site**	Day physical work starts at jobsite
5	**Contract Value**	
6	**Contract Description**	Scope of work
7	**Contractor Address**	Physical address of office. Any P.O. Box should be entered under Mailing address
8	**Contractor Main Phone and Fax numbers**	
9	**Contractor Primary Contact Name**	
10	**Contact position**	
11	**Contact phone and fax numbers, and email address**	Email is preferred method for communication
12	**Contractor Payroll Contact Name**	Applicable only If Payroll is required – N/A for GL only CIP
13	**Payroll Contact phone and fax numbers, and email address**	Applicable only If Payroll is required – N/A for GL only CIP

- To submit your Signature and Signature Date:
  - Go to the **Review** page under the **Enrollment Wizard**
  - Check the **Verification box**
  - Click **Submit**

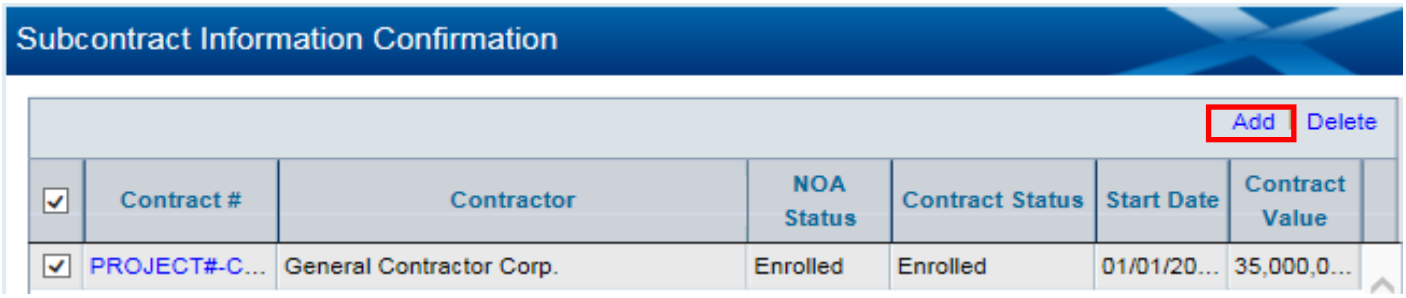


Alliant WrapX Notice of Award Process

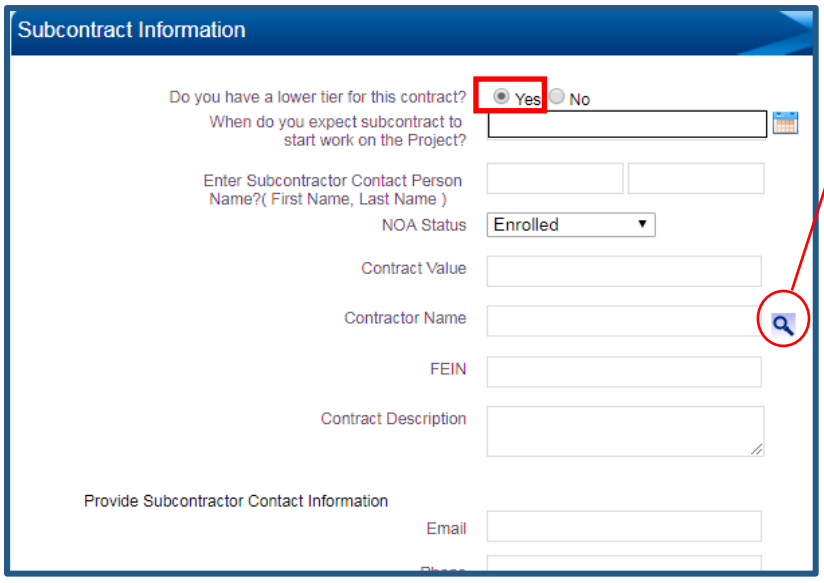
- Notice of Award (NOA) is required to be submitted by a contractor subcontracting out any work at https://alliantwrapx.alliantinsurance.com/ContractorPortal
- **NOA is required for any contractor whether contractor is an Enrolled or Excluded Party.**
- Please contact the CIP Administrator if you have not been given a login ID and Password.
- After logging into the system, find your contract under the Enrolled Contracts window.
- Click on "**Add Subcontract**" to begin the process

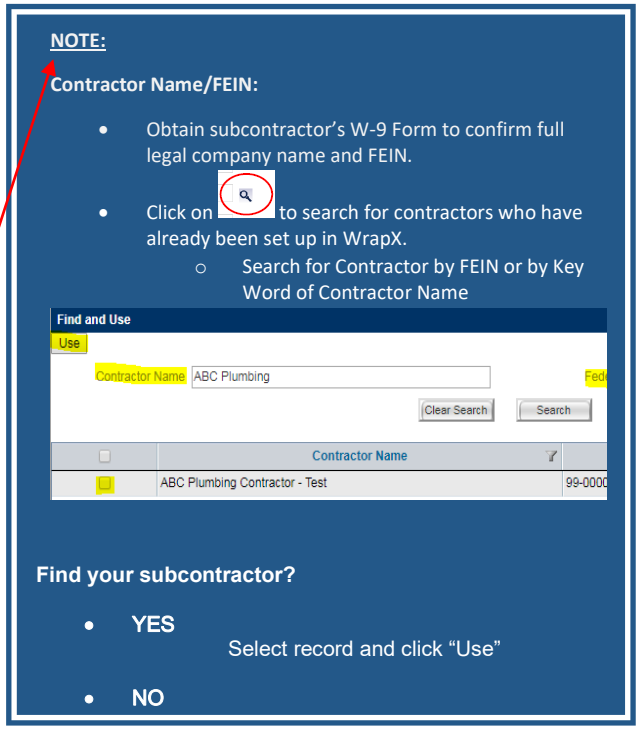


- Click on "**Add**" under the Subcontract Information Confirmation window.



- You will then be directed to the Subcontract Information Section where all of your Contractor Party's Company Information should be entered.





- After clicking "Next", you will be taken back to the "Subcontract Information Confirmation" page where your newly added subcontract will be listed.

After NOA submission, Alliant CIP Administrator will reach out to your Contractor Party for enrollment

PAYCOR STADIUM PROJECT

NOTICE OF CONTRACTOR PARTY AWARD

(In lieu of completing this form, Awarding Contractor may enter this information via the Contractor Portal)

Date: _____

Awarding Contractor: _____

Contractor Party

Name/Title: _____

Contractor Party Phone: _____ **Email Address:** _____

A subcontract has been awarded as follows:

☐ **Contractor Party to be Enrolled** ☐ **Contractor Party to be Excluded**
(Meets "Excluded Parties" definition in this manual; subject to OCIP Parties approval)

Contract # _____

Federal ID#: _____

Contractor Party Address: _____

_____

Contact Person: _____

Phone Number: _____ **Email Address:** _____

Date Awarded: _____ **Contract Value:** _____

Estimated Self-Performed Value or % _____

Estimated Start Date: _____ **Estimated Completion Date:** _____

Description of Work: _____

Anticipated Lower-tiered Contractor Parties: _____

Lower-tiered Contractor Parties Work to be performed: _____

Coverages (in addition to WC, GL, Auto, and Excess) coverages to be tracked:

☐	**Professional Liability**	**Limit:** _____
☐	**Pollution Liability**	**Limit:** _____
☐	**Stored Materials**	**Value:** _____
☐	**Excess Limit for Unenrolled Sub**	**Limit:** _____

Submit Form To:
Program Admin
Alliant Insurance Services, Inc.
Email: Jennifer.Clarke@alliant.com
Phone: 561.214.6378

Please Note: It is the responsibility of the awarding Contractor Party to ensure that their lower-tiered Contractor Party(s) fill out, maintain, and file all necessary OCIP enrollment forms and Insurance documentation with the OCIP Administrator. No Contractor Party or lower-tiered Contractor Party may commence work until they are properly enrolled into the OCIP program, as evidenced by a Certificate of Insurance provided by the OCIP Administrator.

PAYCOR STADIUM PROJECT

NOTICE OF WORK COMPLETION

Contractor Party Name: _____
Address: _____

_____

Awarding Contractor Party: _____
Project Site: _____
Contact for Audit _____
Federal ID Number: _____
First Day on Site _____
Last Day on Site: _____
Final Total Payroll _____
Original Contract Value _____
Change Order Amount _____
Final Contract Value _____
(including Change Orders)

We hereby verify that all Contract work (including the Work of Contractor Parties) has been completed and all corresponding On-Site Payrolls have been submitted. (NOTE: Please ensure you have received this form and submitted to the OCIP Administrator for a final closeout ***for every enrolled Contractor Party*** you have on this project. Please attach a list of your Contractor Parties to this form.)

Signed By: (please print)

Signature _____

Date Signed: _____

TO BE SUBMITTED TO THE OCIP PARTIES/AWARDING CONTRACTOR PARTY FOR COMPLETION:

The above referenced Contractor Party has completed their Work at the Project Site under their Contract with our firm on the above date.

Contractor Party:

Signature _____

Date Signed: _____

Submit Form To:
Program Admin
Alliant Insurance Services, Inc.
Email: Jennifer.Clarke@alliant.com
Phone: 561.214.6

PAYCOR STADIUM PROJECT

CONTRACTOR PARTY'S INCIDENT REPORT FORM

Incident Location: _____

Injured Party's Name: _____

Injured Party's Address: _____

_____

Injured Party's Home Phone: _____ **Injured Party's Work Phone:** _____

Date of Incident:	
Description of Incident:	

Action Taken: _____

_____

EMS/Police/Fire Called: **YES** ☐ **NO** ☐

Where Injured Party Was Taken:	
Witnesses:	

Additional Remarks: _____

_____

_____

Report Made By: _____ **Company:** _____

Date: _____

PLEASE SUBMIT COMPLETED INCIDENT REPORT TO THE PROJECT SAFETY MANAGER

General and Excess Liability for Enrolled Parties – Offsite Only; All other coverages for all operations

ENROLLED PARTIES SAMPLE CERTIFICATE – ACTUAL REQUIREMENTS & LIMITS MAY VARY BASED ON CONTRACT/SCOPE OF WORK. REFER TO CONTRACT AND MANUAL.

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Broker/Agent Name & Address	**CONTACT NAME:** **PHONE (A/C, No, Ext):** / **FAX (A/C,** **E-MAIL ADDRESS:**	
	INSURER(S) AFFORDING COVERAGE	**NAIC #**
	INSURER A : Insurance Company A	
INSURED Contractor Party Name & Address	**INSURER B :Insurance Company B**	
	INSURER C :Insurance Company C	
	INSURER D :Insurance Company D	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL	SUBR	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PROJECT [ ] LOC OTHER:	X	X	Policy Number	Inception Date	Expiration Date	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea. occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$2,000,000 $ $ $1,000,000 $4,000,000 $2,000,000 $
B	**AUTOMOBILE LIABILITY** [X] ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS NON-OWNED HIRED AUTOS	X	X	Policy Number	Inception Date	Expiration Date	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$1,000,000 $ $ $
C	**UMBRELLA LIAB** [X] OCCUR CLAIMS- DED RETENTION $	X	X	Policy Number	Inception Date	Expiration Date	EACH OCCURRENCE AGGREGATE $	$3,000,000 $3,000,000 $
D	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	Policy Number (Ohio Stop Gap)	Inception Date	Expiration Date	[X] PER STATUTE [ ] OTHER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
E	Contractors Pollution and/or Professional Liability	X	X				Per Contract	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project Name: Paycor Stadium Project, 1 Paycor Stadium, Cincinnati, Ohio 45203. Additional Insured (Auto & General liability): Board of County Commissioners, Hamilton County, Ohio, the Cincinnati Bengals , Paul Brown Stadium LTD, LLC, Messer Construction Company, Jostin Construction, Inc., M.B.J. Consultants, KZF Design, Inc. and their Consultants, and Warm Construction, LLC and Owner's Lender(s) are added as Additional Insured with respect to Commercial General Liability including ongoing and completed operations, as well as Commercial Auto Liability, on a primary and non-contributory basis, for work performed or materials provided, or both, by the Insured with respect to the aforementioned project. Umbrella/Excess follows form to General Liability, Auto Liability, and Employers Liability. Waivers of Subrogation must apply to all parties listed above, for all policies. None of the above policies contain residential exclusions or height restrictions.

(Attach copies of Schedule of Endorsements, Additional Insured Endorsements, Waiver of Subrogation's, and any other endorsements as required.)

CERTIFICATE HOLDER **CANCELLATION**

Board of County Commissioners, Hamilton County, Ohio c/o Alliant Insurance Services, Inc. Jennifer.Clarke@alliant.com	**SHOULD ANY OF THE ABOVE-DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.** **AUTHORIZED REPRESENTATIVE** ***AGENT / BROKER SIGNATURE***

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Alliant

All coverage for all operations – on-site and off-site

UNENROLLED PARTIES SAMPLE CERTIFICATE – ACTUAL REQUIREMENTS & LIMITS MAY VARY BASED ON CONTRACT/SCOPE OF WORK. REFER TO CONTRACT AND MANUAL.

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Broker/Agent Name & Address	PHONE (A/C, No, Ext):	FAX (A/C,
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Insurance Company A	
INSURER B :Insurance Company B	
INSURER C :Insurance Company C	
INSURER D :Insurance Company D	
INSURER E :	
INSURER F :	

INSURED: Contractor Party Name & Address

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL	SUBR	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PROJECT [ ] LOC OTHER:	X	X	Policy Number	Inception Date	Expiration Date	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea. occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$2,000,000 $ $ $1,000,000 $4,000,000 $2,000,000 $
B	**AUTOMOBILE LIABILITY** [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED	X	X	Policy Number	Inception Date	Expiration Date	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) [ ]	$1,000,000 $ $ $ $
C	**UMBRELLA LIAB** [X] OCCUR [ ] CLAIMS- DED [ ] RETENTION $	X	X	Policy Number	Inception Date	Expiration Date	EACH OCCURRENCE AGGREGATE [ ]	$ $ $
D	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	Policy Number (Ohio Stop Gap)	Inception Date	Expiration Date	[X] PER STATUTE [ ] OTHER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
E	Contractors Pollution and/or Professional Liability	X	X				Per Contract	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project Name: Paycor Stadium Project, 1 Paycor Stadium, Cincinnati, Ohio 45203. Additional Insured (Auto & General liability):Board of County Commissioners, Hamilton County, Ohio, The Cincinnati Bengals, Paul Brown Stadium LTD, LLC, Messer Construction Company, Jostin Construction, Inc., M.B.J. Consultants, KZF Design, Inc. and their Consultants, Warm Construction, LLC and Owner's Lender(s) are added as Additional Insured with respect to Commercial General Liability including ongoing and completed operations, as well as Commercial Auto Liability, on a primary and non-contributory basis, for work performed or materials provided, or both, by the Insured with respect to the aforementioned project. Umbrella/Excess follows form to General Liability, Auto Liability, and Employers Liability. Waivers of Subrogation must apply to all parties listed above, for all policies. None of the above policies contain residential exclusions or height restrictions.

(Attach copies of Schedule of Endorsements, Additional Insured Endorsements, Waiver of Subrogation's, and any other endorsements as required.)

CERTIFICATE HOLDER **CANCELLATION**

Board of County Commissioners, Hamilton County, Ohio
c/o Alliant Insurance Services, Inc.
Jennifer.Clarke@alliant.com

SHOULD ANY OF THE ABOVE-DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

AGENT / BROKER SIGNATURE

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Alliant

SECTION 008270
Responsible Bidder Requirements

PART I - GENERAL

Contractors shall be required to satisfy all of the following pre-award responsibilities and agree to all of the following provisions which will be incorporated in the contracts for construction projects within Paycor Stadium. The Board of County Commissioners of Hamilton County, Ohio (the"County") believe that these requirements are reasonably related to the successful performance of Paycor Stadium projects. These requirements shall also be set forth and integrated with the Bid Package Conditions.

1. Each bidder shall certify that it will require all contractors who bid or perform any work pursuant to the contract on which the bidder is bidding to satisfy all of these Responsible Bidder Requirements.

2. Each bidder shall certify that it will pay prevailing wages, in amounts determined according to Ohio's Prevailing Wage Law, R.C. 4115.03 through 4115.16, and O.A.C. 4101:9-4-01 through 4101:9-4-31, on all construction projects that are part of Paycor Stadium, except as otherwise provided herein. Notwithstanding the foregoing provision, the payment of prevailing wages shall not be required with respect to leasehold and/or tenant improvements and/or the fit out of interior spaces of the office, retail and condominium elements.

3. As a condition precedent to the award of a contract or subcontract of Two Hundred and Fifty Thousand Dollars ($250,000) or more, Hamilton County may require the lowest bidder to engage in a review of the constructibility and scope of the bid to verify that the contractor included all required work.

4. If the bid of the lowest bidder is more than twenty percent (20%) below the bid of the next lowest bidder, Hamilton County may request that the lowest bidder identify three (3) construction projects that it has successfully completed within the five (5) years before the submission of the bid. This information may be provided in the post-bid scope review to Hamilton County.

5. Each bidder shall certify that it will employ supervisory personnel on the project that (a) are qualified to perform in such supervisory capacity and (b) have any license or licenses required by applicable law to perform in such capacity.

6. Each bidder shall certify that it is not currently debarred from performing state or federal construction contracts (after all appeals), because of a violation of Fair Labor Standards Act and/or any state or federal prevailing wage law. Each bidder shall provide a list of every occasion on which it has been debarred from performing local, state or federal construction contracts (after all appeals), because of a violation of the Fair Labor Standards Act and/or any state of federal prevailing wage law, during the last ten years.

7. Each bidder shall certify that it, as well as each subcontractor it will utilize on the Project has implemented an OSHA-compliant Safety Program which includes: a) with respect to all supervisors, completion of OSHA's thirty (30) hour safety course; b) with respect to all field employees, completion of OSHA's ten (10) hour safety program. Each bidder shall provide evidence of implementation of an OSHA compliant safety program as set forth herein.

8. Each bidder shall certify that it has implemented a substance-abuse policy and that it is in compliance with Ohio's Drug Free Workplace Requirements; bidders will provide evidence of implementation of such policies upon written request of Hamilton County.

9. Each bidder shall certify that it has all licenses required by applicable state law and regulation to perform work required herein.

10. Each bidder shall list any professional license or licenses that have been revoked by Ohio or revoked by any other state within five (5) years prior to the date of the contractor's bid.

11. Each bidder shall certify that it has no final judgments against it which are not secured by payment bond or other surety at the time of award which are equal to or exceed fifty percent (50%) of the contractor's net work.

12. Each bidder shall certify that it has complied with applicable unemployment and workers compensation laws for at least two (2) years preceding the date of bid submittal.

13. Each bidder shall certify that with respect to each a prime trade contract (e.g., plumbing, HVAC, electrical and fire safety) it will not subcontract more than seventy-five percent (75%) of the bid amount for that prime trade contract. A bidder may apply for a waiver of the foregoing requirement by Hamilton County, which waiver shall be subject to the review and approval of Hamilton County.

14. Each bidder shall certify that it does not have an Experience Modification Rating of more that 1.3 (a penalty rated employer) with respect to the Ohio Bureau of Workers' Compensation risk assessment rating.

15. Each bidder shall certify that it will have in place a meaningful Health Care Medical Plan, and provide, as part of its responsibility review, evidence of a Health Care Medical Plan list of eligible employees and the bidder's share of the cost for those employees working on the Hamilton County Project. Notwithstanding the foregoing, a bidder with gross revenues of two million dollars ($2.0M) or less in any of the preceding three years shall be exempted from providing a Health Care Medical Plan as set forth herein. However, any such bidder exempted from this requirement shall certify that it will comply with the applicable prevailing wage requirements with respect to medical insurance.

16. Each bidder shall certify that it will have a meaningful pension or retirement program for its employees and provide, as part of its responsibility review, evidence that it contributes, on a regular basis to an employee pension or retirement program for its field employees and the list of employees for the employees with such coverage. Notwithstanding the foregoing, a bidder with gross revenues of two million dollars ($2.0M) or less in any of the preceding three years shall be exempted from providing a pension or retirement program as set forth herein. However, a bidder exempted from this requirement shall certify that it will comply with the applicable prevailing wage requirements with respect to a pension or retirement program.

17. Each bidder shall certify that it shall employ field employees on this project that will meet at least one of the following criteria:

a. Completion of a state or federally approved apprenticeship program in the skilled trade craft such employee is performing a journeyman; or
b. Worked as a skilled trade person for at lest three (3) years in the craft; or
c. Currently enrolled in a state or federally approved apprenticeship program for the craft; or
d. Completed the Employee Readiness Program.

A bidder may request a waiver from Hamilton County of the foregoing requirements with respect to a field employee or a particular position. In requesting such waiver, a bidder shall be required to provide documentation of the skills and experience of such employee or the applicable position which form the basis for such request. Any waiver or the foregoing requirements shall be subject to the review and approval of Hamilton County.

18. Each bidder shall certify that it is not debarred from bidding on the construction project contract in question.

19. A bidder's falsification of any of the certifications herein or failure to comply with the requirements set forth herein, shall be the basis for a default termination of the contract.

PART 1 PRODUCTS

Not used.

PART 2 EXECUTION

Not used.

END OF SECTION

SECTION 009000
CONTRACT CONSTRUCTION MANAGEMENT FORMS

PART 1 GENERAL

1.1 SUMMARY

A. The following documents, referred to in the General Conditions, are available from the Construction Manager upon request:
1. Change Order Form (AIA G701 - 2001 – as amended & modified)
2. Application and Certificate for Payment (AIA G702 - 1992 – as amended & modified)
3. Continuation Sheet (AIA G703-1992 – as amended & modified)
4. Certificate of Substantial Completion (AIA G704 - 2000 – as amended & modified)
5. Contractor's Affidavit of Payment of Debts and Claims (AIA G706 - 1994 – as amended & modified)
6. Contractor's Affidavit of Release of Liens (AIA G706A - 1994 – as amended & modified)
7. Consent of Surety to Final Payment (AIA G707 – 1994 – as amended & modified)
8. Contractor's Affidavit
.
9. Construction Change Directive Form (AIA G714/CMa – 1992 as amended & modified)
10. Substitution Form (§ 3.3 of the Instructions to Bidders A701)

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

AIA® Document G701™ – 2017

Change Order

PROJECT: *(Name and address)*
Paycor Stadium Southeast/Southwest Escalator Towers Architecture and MEP Package
ITB#037-26

OWNER: *(Name and address)* Board of County Commissioners of Hamilton County, Ohio
138 E. Court Street, Room 603
Cincinnati, Ohio 45202

CONTRACT INFORMATION:
Contract For: General Construction

Date:

ARCHITECT: *(Name and address)*

CHANGE ORDER INFORMATION:
Change Order Number:

Date:

CONTRACTOR: *(Name and address)*

THE CONTRACT IS CHANGED AS FOLLOWS:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

The original Contract Sum was	$	0.00
The net change by previously authorized Change Orders	$	0.00
The Contract Sum prior to this Change Order was	$	0.00
The Contract Sum will be increased by this Change Order in the amount of	$	0.00
The new Contract Sum including this Change Order will be	$	0.00

The Contract Time will be increased by Zero (0) days.
The new date of Substantial Completion will be

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

ARCHITECT *(Firm name)*	CONTRACTOR *(Firm name)*	OWNER *(Firm name)*
SIGNATURE	SIGNATURE	SIGNATURE
PRINTED NAME AND TITLE	PRINTED NAME AND TITLE	PRINTED NAME AND TITLE
DATE	DATE	DATE

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AIA® Document G702® – 1992

Application and Certificate for Payment

TO OWNER:	Board of County Commissioners of Hamilton County, Ohio 138 E. Court Street, Room 603 Cincinnati, Ohio 45202	**PROJECT:**	Paycor Stadium Southeast/ Southwest Escalator Towers Architecture and MEP ackage	**APPLICATION NO:** **PERIOD TO:**	**Distribution to:** OWNER: ☐
FROM CONTRACTOR:		**VIA ARCHITECT:**	ITB #037-26	**CONTRACT FOR:** General Construction **CONTRACT DATE:** **PROJECT NOS:** / Board of County Commissioners of Hamilton County,	ARCHITECT: ☐ CONTRACTOR: ☐ FIELD: ☐ OTHER : ☐

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
AIA Document G703®, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM		$0.00
2. NET CHANGE BY CHANGE ORDERS		$0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$0.00
5. RETAINAGE:		
a. 0 % of Completed Work (Column D + E on G703)	$0.00	
b. 0 % of Stored Material (Column F on G703)	$0.00	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)		$0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$0.00
8. CURRENT PAYMENT DUE		$0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)	$0.00	

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$0.00	$0.00
Total approved this Month	$0.00	$0.00
TOTALS	$0.00	$0.00
NET CHANGES by Change Order		$0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of:

County of:

Subscribed and sworn to before me this day of

Notary Public:

My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED $0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

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AIA® Document G703® – 1992

Continuation Sheet

AIA Document G702®, Application and Certification for Payment, or G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO: THP Limited, Inc.

A	B	C	D	E	F	G		H	I
			WORK COMPLETED						
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D + E + F)	% (G÷C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
	GRAND TOTAL	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**0.00%**	**$0.00**	**$0.00**

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AIA® Document G706™ – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*
Paycor Stadium Southeast/Southwest Escalator Towers Architecture and MEP Package
ITB#037-26

ARCHITECT'S PROJECT NUMBER:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
SURETY: ☐
OTHER: ☐

CONTRACT FOR: General Construction
CONTRACT DATED:

TO OWNER: *(Name and address)*
Board of County Commissioners of Hamilton County, Ohio
138 E. Court Street, Room 603
Cincinnati, Ohio 45202

STATE OF: Ohio
COUNTY OF: Hamilton

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment ☐ Yes ☒ No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR: *(Name and address)*

BY: _____
(Signature of authorized representative)

_____
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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AIA® Document G706A™ – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)* Paycor Stadium Southeast/Southwest Escalator Towers Architecture and MEP Package ITB#037-26

TO OWNER: *(Name and address)*
Board of County Commissioners of Hamilton County, Ohio
138 E. Court Street, room 603
Cincinnati, Ohio 45202

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR: General Construction

CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
SURETY: ☐
OTHER: ☐

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY: _____
(Signature of authorized representative)

_____
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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AIA® Document G707™ – 1994

Consent Of Surety to Final Payment

PROJECT: *(Name and address)*

Paycor Stadium Southeast/ Southwest Escalator Towers Architecture and MEP Package

ITB#037-26

TO OWNER: *(Name and address)* Board of County Commissioners of Hamilton County, Ohio 138 E. Court Street, Room 603 Cincinnati, Ohio 45202

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR: General Construction

CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
SURETY: ☐
OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

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CONTRACTOR'S AFFIDAVIT

State of Ohio,
County of _____, Ohio _____, 202___
_____, being first duly sworn, says that he/she is [1] _____
Of[1] _____, the (Sub Original) contractor having a contract with
_____, the[2] _____
For[4] _____, a _____
situated on or around or in front of the following described property, in _____ County, Ohio ____: _____
_____
_____

whereof _____ was the owner, part owner or lessee.

SUB-CONTRACTORS

Affiant further says that the following shows the names and addresses of every sub-contractor in the employ of said[2] _____ giving the amount, if any, which is due, or to become due, to them, or any of them, for work done, or machinery, material or fuel furnished to date hereof, under said contracts.

NOTE – This statement must be accompanied by a similar sworn statement signed by each of the sub-contractors listed below:

NAME	ADDRESS	TRADE	Amount Due or to Become Due for Work and Materials to Date Hereof	

MATERIAL MEN

Said affiant further says that the following shows the names and addresses of every person furnishing machinery, material or fuel to[2] _____ giving the amount, if any, which is due, or to become due, to them, or any of them, for machinery, material or fuel furnished to date hereof, under said contracts.

NAME	ADDRESS	Kinds of Machinery, Material or Fuel	Amount Due or to Become Due for Material Furnished to Date Hereof	

NOTE – The above must be accompanied by "Certificate of Materialman." In lieu of such certificate, there may be furnished a written waiver of lien, a written release or receipt.

LABOR

Said affiant further says that the following shows the names and addresses of every unpaid laborer in the employ of[2] _____ furnishing labor under said contract, giving the amount, if any, which is due, or to become due, for labor done to date hereof.

NOTE – If the fact is that every laborer has been paid in full, then recite: "Every laborer has been paid in full." If not, then give each unpaid laborer's name and address and the amount due or to become due.

NAME	ADDRESS	HOURS	Amount Due or to Become Due for Labor Furnished to Date Hereof	

Affiant further states that there is due or to become due _____ for work performed or machinery, material or fuel furnished to _____ to date hereof under said contracts, the sum of $ _____.

That the amounts due or to become due to said sub-contractors, material men and laborers, for work done or machinery, material or fuel furnished to date hereof, to[2] _____ are fully and correctly set forth opposite their names, respectively, in the aforesaid statements, and further evidenced by certificates of every person furnishing machinery, material or fuel, hereto attached, and made a part hereof.

Affiant further says that[6] _____ has not employed or purchased or procured machinery, materials or fuel from, or sub-contracted with any person, form or corporation, other than those above mentioned, and owes for no labor performed, or machinery, material or fuel furnished, under said contracts, other than above set forth.

_____

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE, at _____, Ohio, this _____ day of _____, 202_.

_____
NOTARY PUBLIC

1. Sec'y., Treas., one of firm, or agent, as case may be.

2. Name and address.

3. "Owner," "part-owner," "lessee," or "authorized agent of owner, part-owner or lessee," or "original" or "principal contractor under a contract with _____ the owner, part-owner or lessee,: as the case may be.

4. "Constructing, altering or repairing a boat, vessel or watercraft,: or "erecting, altering, repairing or removing a house, mill, manufactory, or any other furnace or furnace material therein, or other building appurtenance, fixture, bridge or other structure," or "digging, drilling, boring, operating, completing and repairing of any gas well, oil well or other well," or "altering, repairing or constructing any oil derrick, oil tank, oil or gas pipe line," or "furnishing tile for the drainage of any lot or land."

5. Accurate description of the property.

6. Contractor or sub contractor executing affidavit.

AFIDAVIT OF ORIGINAL OR SUB-CONTRACTOR | OWNER | HEAD-CONTRACTOR | SUB-CONTRACTOR | DATE: _____

AIA® Document G714™ – 2017

Construction Change Directive

PROJECT: *(name and address)* Paycor Stadium Southeast/Southwest Escalator Towers Architecture and MEP Package

ITB#037-26

OWNER: *(name and address)* Board of County Commissioners of Hamilton County, Ohio
138 E. Court Street, Room 603 Cincinnati, Ohio 45202

CONTRACT INFORMATION:
Contract For: General Construction

Date:

ARCHITECT: *(name and address)*

CCD INFORMATION:
Directive Number: 001

Date:

CONTRACTOR: *(name and address)*

The Contractor is hereby directed to make the following change(s) in this Contract:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits.)

PROPOSED ADJUSTMENTS

1. The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:
   - ☒ Lump Sum decrease of $0.00
   - ☐ Unit Price of $ per
   - ☐ Cost, as defined below, plus the following fee:
     (Insert a definition of, or method for determining, cost)
   - ☐ As follows:

2. The Contract Time is proposed to remain unchanged. The proposed adjustment, if any, is (0 days).

NOTE: The Owner, Architect and Contractor should execute a Change Order to supersede this Construction Change Directive to the extent they agree upon adjustments to the Contract Sum, Contract Time, or Guaranteed Maximum price for the change(s) described herein.

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Contractor signature indicates agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this CCD.

ARCHITECT *(Firm name)*	OWNER *(Firm name)*	CONTRACTOR *(Firm name)*
SIGNATURE	SIGNATURE	SIGNATURE
PRINTED NAME AND TITLE	PRINTED NAME AND TITLE	PRINTED NAME AND TITLE
DATE	DATE	DATE

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User Notes: (3B9ADA61)

Hamilton County Paycor Stadium
Southeast/Southwest Escalator Towers
Architecture and MEP Package
May 1, 2026
KZF Project No: 8445.01/8445.02

SUBSTITUTION REQUEST FORM

The materials, products and equipment described in the Bidding documents establish a standard of required function, dimension, appearance, and quality to be met by the proposed substitution. Certain brands of material or apparatus may be specified. The Bid shall be based on these brands, which may be referred to in the Contract Documents as "Standards". The use of another brand (referred to as a substitution or proposed equal in the Contract Documents) may be requested as provided in the Instructions to Bidders. Substitutions, however, unless approved and issued in an Addendum will not be considered in determining the lowest and best bid.

The detailed procedures for submitting substitution requests before or with submittal of the Bid are set forth in **§ 3.3** of the Instructions to Bidders. (*check one*)

☐ Bidder is not submitting any Substitutions for this Project or

☐ Bidder does hereby submit a Substitution request for the Project as follows:

The name of the material or equipment specified in the Bidding Documents:

_____
_____

The reason for the requested Substitution:

_____
_____

A complete description of the proposed Substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings:

_____
_____
_____

Any other information necessary or appropriate for evaluation. **Please attach to this Substitution Form submittals or cut sheets on proposed substitution**.

_____
_____
_____

Describe changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any project certifications (such as LEED), that will result from incorporation of the proposed substitution.

_____
_____
_____

SECTION 011100
SUMMARY OF WORK

PART 1 GENERAL

1.1 GENERAL PROVISIONS OF BID PACKAGE #3 TRADE CONTRACTS

The following summary is a description of work for all Contract Descriptions for **Paycor Stadium South Vertical Transportation Towers**. Work related to the Project is as indicated on the Drawings and Specifications as prepared by KZF. This section describes and assigns work to each Trade Contract as designated by the Construction Manager. Each Trade Contractor shall cooperate and coordinate with all other Trade Contractors for proper and expedient completion of the work in this Project. Each Trade Contract Description identifies the major portions of Scope of Work to be performed by the Bidder in specific Contract Descriptions. This summary should in no way be construed as being all-inclusive. It is issued as a guide to aid in the assignment of work. Refer to the Drawings and Specifications for a detailed accounting of any work not explicitly specified or noted. Each Trade Contract Description lists specification sections included, in whole or in part, in that Trade Contract Description. All work activities not explicitly specified / noted but are required to complete the work included in a Trade Contract Description, are a part of the work scope.

PART 2 TRADE CONTRACT DESCRIPTIONS

2.1 SECTION INCLUDES:

A. List of Trade Contracts

B. General Provisions of Bid Package #3 Trade Contracts

C. Contract Descriptions

2.2 LIST OF TRADE CONTRACTS

A. List of Bid Package #2 Trade Contracts:

TC05	Electric
TC06	Plumbing
TC07	Fire Suppression
TC08	General Trades

2.B GENERAL PROVISIONS OF BID PACKAGE #2 TRADE CONTRACTS

1. Each Trade Contractor shall be responsible for the proper protection of adjacent structures and public rights of way.

2. All work is to comply with the rules and regulations of governing authorities having jurisdiction. Work shall be performed by skilled tradesmen having experience in performing the work.

3. Storage of all materials is limited and must be approved by the Construction Manager. Offsite storage of material may be required. All costs associated with material delivery in small quantities, relocation of materials that impede work progress, and off-site material storage must be included in the bid.

4. A 48-HOUR NOTICE MUST BE GIVEN FOR DELIVERIES. IF NOTICE WAS NOT GIVEN DELIVERIES MAY BE TURNED AWAY. ALL COST ASSOCIATED WITH THIS ACTION WILL BE THE RESPONSIBILITY OF THE TRADE CONTRACTOR. ALL DELIVERIES MUST BE COORDINATED & APPROVED BY THE CONSTRUCTION MANAGER. NO PARKING BY EMPLOYEES OR DELIVERY VEHICLES IS PERMITTED ON SITE. STORAGE, TOOL OR OFFICE TRAILERS WILL NOT BE PERMITTED ON SITE WITHOUT THE PRIOR APPROVAL OF, AND IN COORDINATION WITH, THE CONSTRUCTION MANAGER.

5. Each Trade Contractor is responsible to review the site and be familiar with all existing conditions within and around the building including local conditions and requirements. The impact of the site conditions on the cost of performing the work shall be included in the bid. Trade Contractors shall notify the Construction Manager in writing of any discrepancies or conditions detrimental to proper performance of the Work.

6. Each Trade Contractor to provide to all other trades information and materials, shop drawings, diagrams, templates, and embedment’s necessary for the coordination of the Work. It is each Trade Contractor's responsibility to field verify and coordinate all interface with other Trade Contractors.

7. Where new work connects with existing, do all necessary cutting and patching required to make a satisfactory connection with the work to be performed under the Contract Documents so as to leave the entire work in a finished and workmanlike condition. This requirement shall include all required work where new items connect, fit, or otherwise interface with existing surfaces. Provide all labor and materials to this end, whether or not shown or specified. Verify and match existing conditions. This shall include full block replacement to nearest construction expansion joint of any concrete pavement removed or damaged.

8. Each Trade Contractor shall at all times maintain a clean and safe passage to all areas of the site, and for the public around the site.

9. Each Trade Contractor shall field verify all dimensions, materials and conditions of the

existing site.

10. Initial benchmarks and control lines will be provided by the Construction Manager. Each Trade Contractor is responsible for all detailed layout and grade from the indicated benchmark and control points.

11. Each Trade Contractor is to coordinate all work with the work of other trades for proper function and sequence to avoid construction delays or additional cost.

12. Each Trade Contractor is responsible for daily cleanup and disposal of all debris associated with its work activities. This shall include removal of debris from public property and/or roadways caused by work on site or carried outside of the site by vehicles employed by the Trade Contractor. Street cleaning of this debris is expected by each Trade Contractor, as necessary. Debris not removed by the Trade Contractors will be discarded at the delinquent Trade Contractor's expense. All areas of work are to be broom cleaned at the end of each workday. In addition to daily cleanup each Trade Contractor to provide 1 person for every 4 Trade Contractor employees and their subcontractors to a once-a-week job site general cleanup activity. Each Trade Contractor to provide its worker with all the necessary tools and equipment to do cleanup. There will be no tools or equipment provided by the Construction Manager. Coordination of the weekly cleanup will be the responsibility of the General Trades Contractor. Designated eating areas will be identified by the Construction Manager. These areas will be the only place for workers to eat and drink. Workers found violating this policy may be directed to leave the jobsite.

13. Each Trade Contractor shall be restricted to working hours of **7:00am to 4:00pm** unless alternate arrangements are approved by the Construction Manager. This does not alleviate the Trade Contractor's responsibility to work overtime as required to maintain the schedule.

14. Signs of any type are prohibited, except as specifically assigned by the Contract Documents.

15. Each Trade Contractor shall be responsible for the protection of its own materials, tools, and equipment, and finish work until substantial completion is granted. Damage to or theft of any materials, tools or equipment prior to substantial completion will be repaired or replaced at the Trade Contractor's expense.

16. Each Trade Contractor shall provide all temporary heat, utilities and protection required for the completion of all work as scheduled, except where specifically provided by others in the Contract Documents.

17. Each Trade Contractor shall have their superintendent attend all weekly Trade Contractor Meetings (time & location to be scheduled by Construction Manager).
18. The flow of traffic on City streets and public walkways must be maintained at all times. It shall be this Trade Contractor's responsibility to obtain all permits and provide all labor and material that are necessary for street and sidewalk lane closures. All work involved

that impacts existing streets and/or sidewalks or impedes public access in any way shall be coordinated through the Construction Manager **prior to the date of the work.**

19. Each Trade Contractor shall provide personnel for traffic control and traffic coordination during all deliveries of material and equipment required in their scope of work. The Trade Contractor shall coordinate all such activities with the Construction Manager and the City of Cincinnati, Department of Transportation and Engineering.

20. Each Trade Contractor shall secure all permits required by governing authorities for the completion of its own work scope. This includes all Plumbing, HVAC, Traffic or permit that are issued by the City's Department of Transportation and Engineering, street barricade and other special permits. No Permits will be secured by the Construction Manager other than the General Building permit

21. Each Trade Contractor shall submit daily reports and the weekly work plan twenty-four (24) hours before the weekly Trade Contractor meetings. Failure to submit these items each week for the prior week's work will result in rejection of this Trade Contractor's pay request.

22. Testing shall be performed in accordance with the Contract Documents. Where Owner and Trade Contractor testing are specified, the Trade Contractor shall provide complete testing. The Owner may provide additional testing at its discretion.

23. Each Trade Contractor is responsible for the complete review of, and coordination with, the Trade Contract Descriptions for other Trade Contractors. Where overlap occurs, include the cost of such work in your bid, and the Construction Manager will decide which Trade Contractor will perform this work. Appropriate credit will be deducted from the other Trade Contractor's Contract.

24. Each Trade Contractor must provide a full-time superintendent on site throughout the duration of their work on site. This superintendent shall be authorized to make all decisions relative to the work on site and shall be the primary contact for all correspondence. Part-time or token representatives who are not so authorized will not be permitted. Failure to comply with this requirement will result in rejection of this Trade Contractor's pay request. Any change of superintendent shall be pre-approved by the Construction Manager.

25. Time is of essence on this project. Each Trade Contractor shall phase, construct and complete their work within the requirements included in Specification Section 013216 and the subsequent development of and updating of the project schedule by the Construction Manager.

26. Each Trade Contractor shall complete the Resource Utilization and Inclusion Tracking Forms that are included in the Specifications or will be provided following award. The forms shall be completed on a monthly basis and submitted with the monthly pay request. Completed resource utilization forms must be submitted with the pay request in order for the pay request to be processed.

27. Each Trade Contractor will be required to attend several phasing meetings pertaining to Lean Construction. Trade Contractor shall have the appropriate personnel (more than one) attend the reverse phase scheduling meeting. Each Trade Contractor shall participate in the implementation of the Lean Construction process throughout the duration of the Project.

28. Safety hard hats, safety eye protection, High Vis, and Gloves shall be worn by all employees on this job site. This includes all of the Trade Contractor's Subcontractors and Suppliers.

29. All Trade Contractors shall use platform type ladders where ladders are necessary on this project. Other ladder types will not be allowed on site.

30. This Trade Contractor shall comply with all requirements of the Williams-Steiger Occupational Safety and Health Act of 1970 and subsequent amendments thereto. This Trade Contractor shall furnish to the Construction Manager a copy of its Safety Program, including a copy of its Hazardous Material Program, prior to the commencement of work on site. No payment will be made until these documents are received.

31. Any barricade or safety device removed by this Trade Contractor's employees shall be immediately re-erected by Trade Contractor. Upon failure to do so, the Construction Manager may direct the re-erection of it and the cost will be paid by the Trade Contractor.

32. All shop drawings and submittals must be submitted within one week from Notice to proceed, unless otherwise specified. No pay request will be processed until all required submittals have been received.

33. All portions of existing site and all utilities not part of the Work which are damaged, moved or altered in any way during construction shall be replaced or repaired to the County’s satisfaction at the Trade Contractor’s expense.

34. Each Trade Contractor shall attend the Post Bid Interview. This interview will be scheduled by the Construction Manager. All trade contractors shall be notified in writing of the date the conference will be held.

35. Each Trade Contractor shall update their record / as-built drawings on a monthly basis, the updated as-built shall be submitted to the Construction Manager by the 20th of the month. If the Trade Contractors as-builts are not updated and submitted, the Trade Contractors pay request for that month will not be processed.

36. To facilitate the punch list process, each Trade Contractor must complete its punch list items within 3 business days (excluding weekends) of receipt (via fax, email, or distribution to the site leader) of each punch list item. Failure to complete the punch list will result in a back charge for the total cost, to have others complete the work as

designated by the Construction Manager.

37. Trade Contractor to identify recycle and waste management opportunities when assessing their scope of work. These items will be reviewed at the Pre-Award Meeting.

38. The Construction Manager will be utilizing a web-based information management system to facilitate communications among project partners including but not limited to Owners, Architects, Engineers, Construction Manager, and Trade Contractors. The system being utilized is Autodesk document management software. All trade contractors must have an e-mail address and access to the internet.

    Autodesk will be utilized for the following functions:

    a. Project Contact Directory- this will be maintained by the Construction Manager
    b. Requests for Information Management
    c. Meeting Minutes Distribution
    d. Posting of Official Notices and/or Communications
    e. Submittal Management
    f. Contract Document Management
    g. Contract Drawings in PDF
    h. Site Photographs
    i. Punchlist Management
    j. Field Work Order Management

    The Construction Manager will issue usernames and passwords to each Trade Contractor and will provide training and technical assistants to the user groups. **Use of this system is mandatory**. There will be no costs passed on to the users for access to the system or license fees. Users will be responsible for the costs associated with access to the internet.

39. Provide all labor, materials, tools, equipment, safety restraints, hoisting, rigging, fabrication, accessories, layout/control, warranties, services supervision, etc. required for a complete scope of work for this project.
40. This Trade Contractor shall include all unloading, distribution, staging, hoisting, rigging, scaffolding, platforms, ladders, planking, guying, sheeting, shoring, bracing, transportation, access for material, equipment and personnel, etc. required to perform this scope of work.
41. Time is of the essence. All subcontractors must complete all work within the schedule durations included in the specifications and as updated by the Contractor. Strict attention shall be paid to the bid schedule. These dates are critical and must be met by this subcontractor.
42. This Trade Contractor's input and communication will be a vital key to ensure the demolition portion of this project is completed safely and on time. This Trade Contractor shall notify the Construction Manager within 24 hours of discovery of any issue that might impede this scope of work.

43. Strict attention shall be paid to the bid schedule. These dates are critical and must be met by this Trade Contractor. Overtime and additional manpower should be included where required to meet the aggressive schedule.
44. Shift work, multiple mobilizations and out-of-sequence work could be required.
45. Provide a detailed installation schedule within one week after the post bid interview meeting.
46. This subcontractor shall notify the Construction Manager within 24 hours of discovery of any issue that might impede this contractor's scope of work.
47. Provide submittals as specified within two weeks (10 days) upon receipt of the notice to proceed.
48. Trucking, Wide Load Permits, Traffic Control, Road Closures, etc. to be provided by this Trade Contractor as required by all Authorities having Jurisdiction and Stadium Operations.
49. Provide traffic control and safety-controlled access zones for hoisting as required Include coordination with Stadium Staff as required.
50. Include Stadium Security Standards, including but not limited to, daily check-in/out, keeping all exterior doors closed, pre-planned deliveries, etc.
51. All material to be staged on dunnage at all times. Any mud or debris must be cleaned off prior to installation.
52. This contractor is responsible for Daily clean-up of all dunnage, debris, etc. from deliveries and hauling off-site within a timely manner.
53. Include separate mobilizations as required to fit project flow/schedule.
54. Shift work, multiple mobilizations and out-of-sequence work could be required. .
55. Include a detailed schedule and plan; based on the provided bid schedule. Plan to include required man power and durations per side (East and West).
56. This Trade Contractor is required to attend a pre-installation meeting to review and discuss the site plan, installation procedures, rigging procedures and company safety program prior to starting. This information must be submitted a minimum of two (2) weeks prior to the Trade Contractor's pre-installation meeting for review.
57. Include all utility locates as required to complete ground/concrete penetration permits. This Trade Contractor shall include all utility location services required for this scope of work.
58. This Project will follow the 5S protocol. This requires just in time deliveries of all material and equipment. As a result, this Trade Contractor shall only bring enough material and equipment to accommodate between 5 days' worth of installation. All other material must be stored off site and all trucking and storage costs associated to be provided by this Trade Contractor. New shipments of material will only be permitted when the existing 5 days' worth of material has been exhausted.
59. All trash and debris must follow the *nothing hits the ground/floor* mentality and be placed in hoppers on a continual basis. Hoppers, skip pans, other means of transferring material, etc. to be provided as needed by this Trade Contractor. A minimum of (2) trash hoppers/dump carts per crew must be included by this Trade Contractor. Staging hoppers in other areas of the project will not be permitted. Dumpsters to be provided by CONSTRUCTION MANAGER. Dumpsters to be located within reach of the provided tower crane.
60. Dumpsters will be provided by the Construction Manager.

61. Include proper disposal of all debris/materials in a timely manner. Placement of the dumpsters to be coordinated by the Construction Manager.This Trade Contractor shall be responsible for dust/silica control as required for this work scope. Include broom sweeping of areas below as required to remove dust and debris caused by this scope of work.

62. The Construction Manager will provide general use fire extinguishers on each floor as necessary. Additional fire extinguishers and fire blankets needed for specific tasks shall be provided by this Trade Contractor including when fire extinguishers are required for hot work permits.

63. Include fire watch personnel during all hot work activities. Provide fire watch during and for at least 4 hours after flame-cutting operations.

64. Two cranes and two operators will be provided by the TC-02 Structural Steel. One crane and operator will be used for the East Tower and the other crane and operator will be used for the West Tower. Cranes will be used for all scopes of work and not dedicated to one specific trade contractor. Lift schedule to be coordinated with the Construction Manager. Crane will be required from January 15, 2027, through July 22, 2027

65. Review attached Tandano crane GR-1000XL 100 Ton Capacity Hydraulic Rough Terrain Crane Product Guide for capacities, layout, etc. This crane will be located on the East side.

66. TC03 Structural Steel will provide crane on the West side capable of lifting 10,000 pounds at 75%.

67. Any additional cranes/hoisting required for moving material out of reach of the cranes to be included by this Trade Contractor.

68. Provide proposed hoisting plan with submission of bid.

69. This subcontractor shall provide access/logistics for transporting material. All equipment, means & methods, etc. to be included.

70. Rigging plan to be provided by this Trade Contractor prior to starting work. Rigging plan to be reviewed by Structural engineers. Take into account appropriate slab loading requirements if required.

71. Rigging to be done by certified riggers with appropriate certifications and training. Certified Riggers are required to wear Blue Hi-Viz clothing. Whistle will be required for alerting the surrounding area of a new lift.

72. Include temporary shoring/bracing as required to install the work.

73. The shoring support system to allow the crane to travel on the precast structure on the East side will be provided by TC02 Demolition. Deliveries on the east side must only travel on the shored area – see attachments
74. Each Tower will be constructed in two phases. Phase 1 will include removal of ramps and construction of new work to +/- Level 500. Phase 2 will include removal of ramps and construction of new work to the lowest level of the project.
75. Provide one foreman for the West Tower and a second foreman for the East Tower.
76. This Trade Contractor to identify one foreman who will act as site quality control manager and be responsible to coordinate with testing / inspection agency. He/she will also be responsible for maintaining a Construction Manager approved quality / inspection plan & log as stipulated.
77. Provide all contractor required inspections as required by specifications.
78. Include coordination with third-party inspection/testing agency. Coordination shall be carried out in a timely manner to allow proper testing/sampling to be taken at each concrete placement.
79. Perimeter guardrails to be provided by others. Any modifications to perimeter fall protection to complete this scope of work is included. Coordination of such modifications to be the responsibility of this contractor and reviewed with the Construction Manager before modifications begin. Modifications shall not reduce the effectiveness of the fall protection.
80. Coordinate with the Construction Manager the removal and reinstallation of any temporary protection such as railing systems, fencing, and other hard barriers.
81. Danger tape is not permitted on Messer sites. Cones and Bones, Plastic Chain, and flagging are acceptable alternatives unless located at a leading edge. Temporary edge railings to be coordinated with the structural steel. Railing to be located back from slab edges and openings. Railings are to be left in place until permanent conditions are achieved.
82. Controlled Access Zones (CAZ) will be heavily coordinated with **Construction Manager**. These shall be reorganized and evaluated for need on a daily basis. If this Trade Contractor is not utilizing area below then the CAZ should be removed so other Trade Contractors can work in that area.
83. Provide complete protection of all adjacent existing conditions/finishes including but not limited to roofing, glass, skylights, pedestrian walkways, etc., from dust, slurry, debris, fire, heat, etc. Remove protection to accommodate succeeding work activities.
84. This subcontractor shall at all times protect adjacent finishes and progressing work during its installation. Existing fire suppression and fire alarm will be in operation throughout the project.
85. Protection of existing spaces from slurry, dust, etc to be included for this scope of work. Cleanup shall be completed on a continuous basis.
86. Include final cleaning of work areas of this contractor's material, debris, etc. prior to mobilization of subsequent contractors
87. Include final cleaning of all items installed by this Trade Contractor.
88. Take special note of all requirements within section 00 73 19a – Section 3.19 Dropped Object Prevention & Overhead Protection
89. Cover escalators with heavy canvas tarps and other means of protection for your scope of work when working above the escalators.

90. Metal deck access shall be provided by TC03 steel contractor.
91. Placement of all cast-in-place concrete will be by others. This Trade Contractor to provide layout, sleeves, etc. prior to pouring decks, if needed.
92. Level 700 will be constructed in two phases. Phase 1 includes the structure over half the opening. Phase two will be completed after the escalators are set.
93. Include scaffolding systems or other means as necessary and as needed to access the work or remove materials for this scope of work.
94. ON SEASON work will be required for any components that can be installed prior to demolition, i.e. hangers, piping embeds, plates, resteel, sawcutting, welding, conduit junction boxes, framing, etc that will not impede head height limits. Coordination with Construction Manager, Stadium Staff, and Design Team to be included. On Season is typically defined as July 22, 2026- End of season. During the week of home games, work can occur from Monday morning through Thursday at noon. There are no restrictions for away game weeks. Note: During On-Season home games, material and equipment must be removed completely by noon Thursday. Cranes will not be provided for on-season work. Access the work using the existing ramps.
95. Provide closed cell foam protection board around items that are installed during the on-season to protect pedestrians from running into them.
96. All shop drawings are to be included. Prefabrication is required and prefabrication plans are to be included during the shop drawing process. Means and methods of engineering to be included by this Trade Contractor.
97. The Hilltop Parking lot can be utilized for onsite prefabrication and storage.
98. A 3D as-built model will be provided by the Construction Manager to assist this trade contractor in developing shop drawings. This Trade Contractor to use the model to design, fab, construct, install, etc. new items attached to the existing structure and that can be installed during the on-season.
99. TC03 Structural Steel will provide holes in metal decking for openings. This Trade Contractor will coordinate locations and sleeves with TC03 Structural Steel at openings as indicated on the construction documents and shall include but not be limited to stairs, escalators, shafts, duct, piping, etc.
100. Coordination with all other trades is included to allow each Trade Contractor to install their scope of work.
101. Coordination, scheduling and providing necessary material and equipment including lifts to allow for third-party inspector to properly inspect the work shall be the responsibility of this Trade Contractor. Any remediation work as the result of a failed inspection shall be the responsibility of this Trade Contractor.
102. This Trade Contractor to provide access for inspections. These inspections will happen during normal working hours, and additional equipment shall be provided as needed to prevent the delays performing the work.
103. This Trade Contractor and all its sub-subcontractors to participate in Messer Structural Handoff process.

2.C.1 CONTRACT DESCRIPTION TC-05 Electric

The Scope of Work in this Trade Contract TC-05 includes all labor, material, tools, equipment, services, and supervision necessary to complete all work specified herein, in accordance with the Contract Documents, as described below to a complete functional safe and operating state.

Included is the Work as indicated in this Trade Contract Description TC-05 the Drawings, Division 00 General Conditions and Division 01 of the General Requirements. This scope of work includes, but is not necessarily limited to, the following Specification Sections:

26 05 05 – SELECTIVE DEMOLITION FOR ELECTRICAL
26 05 19 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS & CABLES
26 05 26T– GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
26 05 29 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
26 05 33.13 – CONDUIT FOR ELECTRICAL SYSTEMS
26 05 33.16 – BOXES FOR ELECTRICAL SYSTEMS
26 05 53 – INDENTIFICATION FOR ELECTRICAL SYSTEMS
26 22 00T – LOW-VOLTAGE TRANSFORMERS
26 24 16 – PANELBOARDS
26 27 26T – WIRING DEVICES
26 28 16T – ENCLOSED SWITCHES & CIRCUIT BREAKERS
26 51 19 – LED INTERIOR LIGHTING

The following items represent specific inclusions in this Contract TC-05: Electric. They are provided as a guide to aid in the assignment of work and in no way should be construed as being all-inclusive.

This Contract shall include:

1. Provide / Include all notes in specification section 01 11 00 2.1B General Provisions of Bid Package #3 Trade Contracts
2. Disconnect all electrical services, CCTV, speakers, fiber optic, low voltage, etc. to make safe prior to demolition. Pull back cabling to nearest junction box outside of the vertical transportation tower. Patch holes in walls if hole will not be reused on this project.
3. Provide and maintain temporary lighting of minimum 20 fc’s to keep up with the pace of demolition and reconstruction. Coordinate locations with Demolition and Structural Steel Trade Contractors. Use existing lighting if possible / relocate fixtured from column flange to column web.
4. Provide temporary lighting under the covered parking area on the West side.
5. Provide temporary electric to power two escalators inside temporary enclosure.
6. If permanent power is not available at the time the escalators are set in the towers, provide temporary electric to operate ten escalators after they have been set in the tower.
7. Provide temporary lighting of no less than 50 fc’s and power for gas heaters to maintain 55

degrees F for a 150’-0 X 40’-0 area under the covered parking area.

8. Provide updated panel schedules on the door of all the panels affected by this scope of work.

9. Provide Lightning protection as required ans as shown on the bid documents

10. Provide and maintain protection of Distributed Antennae System (DAS) equipment and associated cabling mounted on wall to maintain continuous operation for the duration of the project. – refer to note 3/E102

11. Drawing Note 1/E201 – disregard. Truss heaters are not required.

12. Provide complete fire alarm system. Connect to existing system.

13. Color code fire alarm conductors per specification section 26 05 19 3.4F

14. Provide insulation resistance test on each conductor for ground and adjacent conductor.

15. Provide electrical grounding systems indicated with assembly of materials, including, but not limited to, cables/wires, connectors, terminals (solderless lugs), grounding rods/electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for complete installation.

16. Provide safety wires (a minimum of two 12 gauge hangers) or equivalent aircraft cable for each pendant mounted fixture

17. Concrete bases/housekeeping pads shall be installed by the Electrical Contractor beneath all electrical power and systems distribution equipment which is floor mounted or wall mounted within 4" of the floor

18. Provide all required permits and paying for all permits, inspection, licensing, and service fees to authorities having jurisdiction over the work.

19. Remove, salvage and reinstall wall speakers.

20. TC08 will remove one block from cmu wall to be removed and inset a camera behind the wall to determine whether MEP systems will be affect. This Trade Contractor to coordinate the work with TC08 and assist Construction Manager and create a plan to protect utilities from damage.

2.C.2 CONTRACT DESCRIPTION TC-06 Plumbing

The Scope of Work in this Contract TC-06 includes all labor, material, tools, equipment, services, and supervision necessary to complete all work specified herein, in accordance with the Contract Documents, as described below to a complete functional safe and operating state.

Included is the Work as indicated in this Contract Description TC-06 the Drawings, Division 00 General Conditions and Division 01 of the General Requirements. This scope of work includes, but is not necessarily limited to, the following Specification Sections:

220000 - PLUMBING SPECIFICATIONS

The following items represent specific inclusions in this Contract TC-06 Plumbing. They are provided as a guide to aid in the assignment of work and in no way should be construed as being all-inclusive.

This Contract shall include:

1. Provide / Include all notes in specification section 01 11 00 2.1B General Provisions of Bid Package #3 Trade Contracts
2. Provide all required permits and paying for all permits, inspection, licensing, and service fees to authorities having jurisdiction over the work.
3. Maintain service to other parts of the building during demolition.
4. All storm piping serving the new headhouses should be sloped a minimum of 1/4 inch per foot.
5. Provide all sleeves, caulking, sealants, fire safing, fire caulking, etc. as required for the installation of piping and equipment.
6. Provide pipe markers on all indoor piping systems..
7. Include make safe plumbing activities to shut off water prior to demolition scope as shown in the documents.
8. Cut and cap existing storm below each ramp prior to demolition. Demolition of all storm piping will be by TC02 Demolition.
9. Follow phasing plan to cut/cap drain lines from level 500 to 700 first, then from level 200 to 500. Cut / Cap will begin on the 700 level and work downwards.
10. Turnover all Bengal logo storm drain covers to owner. Reinstall in new work – note 2/P101
11. Layout on the wall the locations of all CW, HW, HWR, NG, Sanitary and vents behind the walls. Coordinate these locations with TC02 Demolition. Monitor demolition activities during the removal of each wall and stop demolition if there is a concern that continuing the work will damage the pipes.
12. When removing cmu walls, shutoff CW, HW, HWR and NG systems and place back in service when demolition is complete each day.
13. Temporarily brace existing CW, HW, HWR and NG as demolition progresses and floors are removed.
14. Provide steel angle supports for all roof deck penetrations
15. Provide new storm & sanitary drain piping to each fixture.

16. Disconnect and temporarily remove existing storm piping to facilitate new escalator installation. After completion of escalators, reinstall all piping and reseal wall penetrations.

17. Provide 1” temporary water rise for each tower. Include hose bibbs on each new floor and provide drain valve at end of pipe for draining.

18. Provide all roof drains and piping

19. TC08 will remove one block from cmu wall to be removed and inset a camera behind the wall to determine whether MEP systems will be affected. This Trade Contractor to coordinate the work with TC08 and assist Construction Manager and create a plan to protect utilities from damage.

2.C.3 CONTRACT DESCRIPTION TC-07 Fire Suppression

The Scope of Work in this Contract TC-07 includes all labor, material, tools, equipment, services, and supervision necessary to complete all work specified herein, in accordance with the Contract Documents, as described below to a complete functional safe and operating state.

Included is the Work as indicated in this Contract Description TC-07 the Drawings, Division 00 General Conditions and Division 01 of the General Requirements. This scope of work includes, but is not necessarily limited to, the following Specification Sections:

210000 - FIRE PROTECTION SPECIFICATIONS

The following items represent specific inclusions in this Contract TC-07 Fire Suppression. They are provided as a guide to aid in the assignment of work and in no way should be construed as being all-inclusive.

This Contract shall include:

1. Provide / Include all notes in specification section 01 11 00 2.1B General Provisions of Bid Package #3 Trade Contracts
2. Provide new dry pendant sprinkler system which provides light hazard coverage (0.10GPM/1,500 Sq. Ft. around new walls, stairs and escalators
3. Provide all Fire Department valves
4. Provide NICET certified drawings and calculations for this project under the jurisdiction of the City of Cincinnati for permitting and the Cincinnati Fire Department for approval.
5. Layout locations on the wall where fire suppression risers are located. Coordinate these locations with TC02 Demolition. Monitor demolition activities during the removal of each wall and stop demolition if there is a concern that continuing the work will damage the pipe
6. Temporarily brace existing Fire suppression risers as demolition progresses and floors are removed.
7. TC02 Demolition will remove Dry Fire Suppression Piping (DFSP). This Trade Contractor to cap DFSP outside of demo limits prior to demolition
8. Provide a temporary dry standpipe for fire protection during construction
9. Seal all wall penetrations fire tight and use escutcheon plates on all visible wall penetrations
10. TC08 will remove one block from cmu wall to be removed and inset a camera behind the wall to determine whether MEP systems will be affect. This Trade Contractor to coordinate the work with TC08 and assist Construction Manager and create a plan to protect utilities from damage.

2.C.4 CONTRACT DESCRIPTION TC-08 General Trades

The Scope of Work in this Contract TC-08 includes all labor, material, tools, equipment, services, and supervision necessary to complete all work specified herein, in accordance with the Contract Documents, as described below to a complete functional safe and operating state.

Included is the Work as indicated in this Contract Description TC-08 the Drawings, Division 00 General Conditions and Division 01 of the General Requirements. This scope of work includes, but is not necessarily limited to, the following Specification Sections:

04 22 00	Concrete Unit Masonry
05 01 70.51	Decorative Metal Cleaning
05 50 00	Metal Fabrications
07 14 00	Fluid Applied Waterproofing
07 18 00	Traffic Coatings
07 21 00	Thermal Insulation
07 27 26	Fluid Applied Membrane Air Barriers
07 42 12.23	Metal Composite Material Wall Panels
07 54 23	Thermoplastic – Polyolefin (TPO Roofing
07 81 00	Applied Fire Protection
07 92 00	Joint Sealants
08 11 13	Hollow Metal Doors & Frames
08 44 13	Glazed Aluminum Curtain Walls
08 71 00	Door Hardware
08 80 00	Glazing
09 24 23	Portland Cement Stucco
23 00 00	Mechanical Specifications

The following items represent specific inclusions in this Contract TC-08 General Trades. They are provided as a guide to aid in the assignment of work and in no way should be construed as being all-inclusive.

This Contract shall include:

1. Provide / Include all notes in specification section 01 11 00 2.1B General Provisions of Bid Package #3 Trade Contracts

04 22 00 Concrete Unit Masonry

1. The masonry schedule is very aggressive. Provide two masonry contractors. One for the West Tower and one for the East Tower or one masonry contractor who can staff both the West and East Towers at the same time.
2. Provide all CMU assemblies, restorations, patching, infills, layout, lintels, reinforcement, insulation, flashings, control joints, expansion joints, grout, tooling, ties, anchors, cleaning, sealants, insulation, etc., for a complete concrete masonry unit system.
3. Provide all necessary bracing of the masonry walls until other construction can be installed to stabilize the work of this Work Category. Detail 36/S203 will be by others

4. Project team craftworkers of the Masonry Contractor assigned to Project will be required to have the International Masonry Institute - Grouting and Reinforcing Training or equal
5. Scaffolding to remain in place for TC03 Structural Steel to use to attach clip angles to the tops of new walls.
6. Provide for the removal of one cmu block for each wall prior to demolition and as On-Season work. Provide for a camera to be used by others inside the cavity to record existing conditions. CMU walls are fire-rated. Removal of cmu, camera and replacement of cmu to occur on the same week. The location of masonry lay down areas and mixing stations must be coordinated with the CM and approved in advance. Masonry lay down areas and mixing stations must be kept clean, neat and organized, and excess materials and waste must be removed following the completion of the work.
7. This subcontractor shall be responsible for cleaning any fallen mortar from interior floors on a daily basis. Allowing mortar to build up until a partition is complete before cleaning will not be allowed.
8. Debris under masonry scaffolding must be fully cleaned daily.
9. Temporary water riser will be provided by others with a hose bibb on level 500 and on level 300.
10. Masonry Protection: Protect completed masonry and masonry not being worked by the required day and night anticipated minimum air temperatures.
11. Note that masonry debris shall be cleaned up regularly and placed in Messer provided dumpsters. Messer's dumpsters shall not be used for washout. Coordinate washout location with Construction Manager which will likely be in the Hilltop lot..
12. Include protection of concrete floor surfaces and exterior pavement by placing plastic or any other means to prevent mortar and damage.
13. Provide grouting of cmu cells/cores, hollow metal door frames. Grout shall completely fill the voids and/or masonry cavities where indicated, and it shall be provided to the full height specified / indicated
14. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
15. Mechanical sleeves are to be supplied to this subcontractor by the subcontractor(s) requiring the sleeves. This subcontractor shall coordinate with the various subcontractors to ensure that all supplied items are fabricated and delivered in a timely manner so as not to delay masonry construction.
16. This subcontractor shall receive and inventory the sleeves and shall coordinate the layout of the sleeves with the appropriate subcontractor(s).The grouting of sleeves to masonry construction shall be the responsibility of this subcontractor.
17. installation of access panels is included
18. Centering sleeves on mechanical systems is included.
19. Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.
20. One set of tests is required prior to Construction. Testing Frequency: One set of tests for each 5000 sq. ft. (464.5 sq. m) of wall area or portion thereof.
21. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
22. Replace and paint all access doors in cmu walls.

05 01 70.51 Decorative Metal Cleaning

1. Provide cleaning of interior side of existing perforated metal panels.

05 50 00 Metal Fabrications

1. Provide steel tubing to support curtain wall – refer to Section 03/A-302
2. Provide MT-4 Perforated Panel, Stainless.
3. Provide MT-6 Galvanized Sheet

07 14 00 Fluid Applied Waterproofing

1. Provide fluid applied waterproofing systems
2. Refer to Section 02, 03 & 06/A302; 02 & 03/A303

07 21 00 Thermal Insulation

1. Refer to 01/A301
2. Refer to TPO Roofing specifications and scope of work below.

07 27 26 Fluid Applied Membrane Air Barriers – refer to note D/A105.4 3.1, D/A109.9 3.1

1. Provide Fluid applied waterproofing as shown on Section 02 & 03/A302 and drawings A303

07 18 00 Traffic Coatings

1. Provide a complete traffic coating system including, but not limited to cleaning, abrading, masking, cants, sealants, joint & crack treatment, reinforcing strips.
2. Protect traffic coatings with plywood protection until the project is complete.
3. Install the system using only manufacturer approved installer and supervisors.
4. Provide five-year warranty from Substantial Completion of the project.
5. Mechanically abrade surface to a unitform profile and provide cleaning and surface prep according to manufacturer's written instructions
6. Refer to PT-5 A001
7. Refer to Sheet A801.4 & 803.9 for layout of pedestrian path floor paint

07 42 12.23 Metal Composite Material Wall Panels

1. Provide a complete Metal Composite Material (MCM) Wall Panel System including but not limited to, shop drawings, layout, subframing, furring, composite panels, installation, anchorages/attachment assemblies, trim, flashing, closures, sills, flashings, sealants, gaskets, filler panels, closure strips, etc.
2. The Metal Composite Material Wall Panel System is a delegated design. Provide signed and sealed drawings, by a qualified design professional in Project jurisdiction, of MCM system showing compliance with performance requirements and design criteria identified for this Project.
3. Fabricators and Installers must be trained and approved by the MCM manufacturer.
4. Field measuring may not be practical due to the aggressive schedule. Coordinate measurements with Steel Shop Drawings, Architectural documents and with Construction Manager to provide MCM Wall panels to meet project schedule.
5. On completion of installation, clean finished surfaces as recommended by MCM panel manufacturer.
6. Provide a 10-year warranty from the date of Substantial Completion of the project.

07 54 23 Thermoplastic – Polyolefin (TPO) Roofing

1. Provide a complete TPO Roofing system including, but not limited to shop drawings, layout, flashings, terminations, reglets, vapor retarder, rigid and tapered insulation (refer to 01 & 06/A304 and 05/A304), fasteners, terminations, roof blocking, warranties, etc.
2. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches
3. Engage a qualified testing agency to inspect substrate conditions, surface preparation, roof membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
4. Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.
5. Provide a 20 year warranty starting at the date of Substantial Completion of the project.
6. Provide gutter and fascia per 1/A304

07 81 00 Applied Fire Protection

1. Provide a complete Applied Fire Protection system including but not limited to specified bond strength & thickness, primers, bonding agents, etc.
2. Water will be provided with a temporary 1” riser and a hose bibb at level 500 and 300. A drain will be provided at the bottom of the riser. This Trade Contractor to empty water in the riser after each shift, as required.
3. Cover other work subject to damage from fallout or overspray of applied fire protection materials during application.
4. Owner will engage a qualified special inspector
    a. Remove and replace applied fire protection that does not pass tests and inspections, and retest.
    b. Apply additional applied fire protection, in accordance with manufacturer's written instructions, where test results indicate insufficient thickness, and retest.

07 92 00 Joint Sealants

1. Provide a complete Joint Sealant scope of work including but not limited to backer rod, bond breaker tape, primers, cleaners, masking tape, installation, tooling agents, toolong, warranties, etc. MEP firestopping, fire sealants by others.
2. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses.
3. Owner will engage a qualified testing agency to perform field adhesions testing. Completely remove and replace joint sealants the fail tests.

08 11 13 Hollow Metal Doors & Frames
08 71 00 Door Hardware

1. Provide all Hollow Metal doors and frames, including receipt, storage, layout anchors, astragals, door bottoms, silencers, hardware preparation, hardware, reinforcement, primer paint, glazing, gasketing, keys, , key control cabinet, installation, etc.
2. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
3. Touch up factory-applied finishes where spreaders are removed.
4. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
5. Brace doors until adjacent walls are complete. Fill, sand, primer paint any holes in frames

needed to brace frames.
6. Pack mineral fiber insulation inside frames, except frames that are grouted solid
7. All hardware to have a 10 Warranty from the Substantial Completion date of the project, except the following:
    a. Electromagnetic and Delayed Egress locks – 5 years
    b. Closers – 25 years
8. Adjust latches so as not to require more than 15 lbf (67 N) to release the latch.
9. Provide 10 construction master keys.
10. Provide one extra key blank for each lock.
11. Provide three-cylinder change keys, five master keys, five Grand master keys and five great-grand master keys. Coordinate with Stadium Personnel.
12. Furnish permanent cores to Owner for installation. Coordinate final cylinder keying with Owner.

08 44 13 Glazed Aluminum Curtain Wall System is included
08 80 00 Glazing System is included

1. Provide a complete Glazed Aluminum Curtain Wall and Glazing System including but not limited to shop drawings, fabrication, layout, installation, gaskets, sealants, finish, caps, trim, brackets, reinforcing, blocking, glazing, testing, warranties
2. This is a Delegated Design and a Delegated-Design Submittal is required for glazed aluminum curtain walls, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
3. A 3D as-built model will be provided by the Construction Manager to assist this trade contractor in developing shop drawings. This Trade Contractor to use the model to design, fab, construct, install, etc. new items attached to the existing structure and that can be installed during the on-season.
4. Provide five year warranty from the date of Substantial Completion of the project. Five year waraty to include repair of replacement of all components that fail in materials or workmanship.
5. Provide 20 year Finish Warranty from date of Substantial Completion of the project.
6. Provide a minimum of three Water Spray tests.
7. Provide all wood blocking required to install the curtainwall system.

09 24 23 Portland Cement Stucco
1. Include complete Portland Cement Stucco System.
2. Refer to Note E30 /A211.9 3.1 and E30/A804.4 3.1

Miscellaneous
1. Paint visible pipe to match existing
2. Provide painting systems for structural steel and provide an Add Alternate to paint all concrete and cmu walls. See note E05/A212.4.1
    a. Minor caulking is included.
    b. Preparation of substrates is included
    c. Provide draw downs of all paint types and submit for approval.
3. Provide all wood & metal blocking

4. Provide all gypsum board assemblies.

5. Provide Gypsum Board assembly patching inside the club on the West Tower and the East tower, 2'-0 wide from level 400 to level 700. Access is very high and this Trade Constrctor to provide access to the work.
6. Provide replacement / restoration of all soffits, walls, infills, bulkheads that were removed during demolition.
7. Patch existing wall – refer to notes 03 & 04/A211.4.1
8. Provide metal plate cover at column with sloped top – refer to noted 01/A705.4
9. Paint all new and existing access doors.
10. Reinstall existing supply and return duct – refer to note 1/H201. Measure air volume and record reading prior to removing duct. Do the same after reinstallation.
11. Provide all sleeves, caulking, fire caulking, sealants, etc. as required for the installation of piping and equipment.
12. Maintain Mechanical service to other parts of the building during demolition.
13. Furnish and install pipe markers on all indoor piping systems using the ANSI a13.1 standard scheme for identification of piping systems.
14. Pressure test all refrigerant piping with dry nitrogen to 200 psig. Perform final tests at 27" vacuum and 200 psig using electronic leak detector. Test to no leakage.
15. Clean duct system and force air at high velocity through duct to remove accumulated dust.
16. Provide and maintain MERV-8 filtration on all return diffusers or ductwork serving the project area and clean media on a regular basis during the construction process.

17. Provide for the balancing and adjusting of air and water systems to within 10% of the quantities shown on the drawings.
18. Structural Steel, steel railings concrete embeds, abrasive metal nosings will be provided by TC03 Structural Steel.

End of Section

SECTION 01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Unit-cost allowances.
3. Quantity allowances.
4. Contingency allowances.
5. Testing and inspecting allowances.

C. Related Requirements:

1. Section 01 22 00 – Unit Prices for procedures for using unit prices.

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Subcontract to the Trade Contractor, advise Construction Manager of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 LUMP-SUM ALLOWANCES

A. Allowance shall include cost to Trade Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include material, sales and/or use tax, labor (and/or erection), overhead, tools, equipment, delivery to project site, unloading and warehousing if necessary.

B. This type of allowance shall be adjusted by the difference of the allowed amount vs. actual expenditures performed on a T&M basis, usually with pre-agreed to unit rates.

C. Example: A bid category for masonry may include a Lump Sum Allowance of $5,000 for temporary heating. The bidder shall include this $5,000 allowance in its Base Bid and document actual expenditures to the Construction Manager. The bidder's contract amount will then be adjusted based on actual usage.

D. Allowance usage Change Orders shall not include mark ups when being utilized.

1.7 MATERIAL ALLOWANCES

A. The allowance itself shall include the cost of purchasing the specified materials only, including sales and use tax if applicable. The cost of labor (and/or erection), overhead, profit, tools, equipment, delivery, unloading, warehousing, etc. shall be included in the Base Bid and shall NOT be included in the stated allowance.

B. This type of allowance shall be adjusted by the difference of the allowed material purchase price and the actual purchase price, either additive or deductive, with no consideration given for either increased or decreased OH&P.

C. Example: A bid category for carpet may include a Material Allowance of $15.00/sy to purchase carpet. The cost for installation, tools, equipment, delivery, unloading, warehousing, overhead, profit, etc. shall be included in the Base Bid and are not part of the allowance.

D. Trade Contractor shall submit proposals to Construction Manager for materials selections by the Architect. After selection, Trade Contractor shall follow normal submittal procedures.

E. Trade Contractor shall note if Contract Time will be affected with any material selection.

F. Invoices shall be submitted to the Construction Manager to verify actual purchase amounts and quantities.

1.8 QUANTITY ALLOWANCES

A. The allowance itself is to adjust quantity only. All costs such as material, sales tax, labor (and/or erection), overhead, profit, tools, equipment, delivery, unloading, warehousing, etc. shall be included in the Base Bid.

B. This type of allowance shall be adjusted by the difference in the allowed quantity vs. the actual quantity times a unit price, which includes all material, labor, equipment, OH&P, etc.

C. Example: A bid category for steel may include a Quantity Allowance of 5 tons of misc. steel that may not be designed at the time of bidding. The bidder shall include the cost of furnishing, fabricating and installing (erecting) this 5 tons of misc. steel in the Base Bid and a unit price to adjust the bidder's contract amount if the actual quantity is different from the allowed amount.

D. Sufficient documentation to substantiate the quantity difference shall be submitted to the Construction Manager.

1.9 UNUSED MATERIALS

A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

PART 2 - SCHEDULE OF ALLOWANCES

2.1

A.	TC-02	Structural Steel	TBD
B.	TC-03	Demolition	TBD
C.	TC-04	Concrete Structure	TBD

END OF SECTION 01 21 00

SECTION 01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

A. Unit price is an amount proposed by Bidder, applicable during the duration of the Work, as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

C. Unit prices shall apply whether the Work described is performed by the Trade Contractor or by a lower-tier Trade Contractor.

1.3 PROCEDURES

A. The Construction Manager reserves the right, prior to an award of Subcontract, to evaluate the Unit Prices submitted and seek adjustment and/or reject any Unit Price that is determined by the Construction Manager to be unreasonable.

B. The Trade Contractor shall keep a daily log of actual quantities of specified work unit encountered, consumed or expended and submit copies of such logs to the Construction Manager weekly.

C. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

PART 2 - SCHEDULE OF UNIT PRICES

2.1 N/A

END OF SECTION 01 22 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

B. Alternates described in this Section are part of the Work only if enumerated in the Agreement.

C. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

D. Work not specifically identified or reasonably inferable as being part of an Alternate shall be considered as being in the base scope of the project.

E. Unless otherwise indicated, each Alternate shall be considered to include all costs necessitated by its acceptance, including, but not limited to labor, material, delivery, storage, handling, supervision, tools, equipment, taxes, compliance with Division 1 General Requirements, and construction facilities and administration associated with the Alternate.

F. The Subcontractor shall fully investigate each proposed Alternate and understand each Alternate's effect on the overall Work. Work which, by virtue of acceptance of the Alternate, will be necessary in order to provide a complete and proper installation shall be considered as being part of that Alternate, whether indicated or not. Likewise, work, which is made unnecessary by acceptance of the Alternate, shall be considered as being deducted from the base Work, even if not specifically indicated as such.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Trade Contractor's Subcontract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Subcontract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - SCHEDULE OF ALTERNATES

2.1 Provide Schedule of Alternates for the following:

A. TBD

END OF SECTION 01 23 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 25 13
PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Procedures governing requests for substitution of specified products, materials, equipment, and systems

B. Requirements for evaluation, documentation, and approval of proposed substitutions

1.2 QUALITY ASSURANCE

A. Products specified in the Contract Documents establish the minimum acceptable standard of quality, function, performance, appearance, durability, and coordination.

B. Bids shall be based on specified products or systems. Approval of a substitution is not implied by the use of the phrase “or approve equal.”

C. Where proprietary products or types of construction are used in Specifications, the first named in any grouping is the one used as the basis of design. Use of a second, third, or approved substitution shall not relieve Contractor of the responsibility of investigating the effect these products will have on the Work.
   1. Compliance with the Contract Documents
   2. Coordination with adjacent work
   3. compliance with applicable codes and accessibility requirements

D. Include all costs in bid in order to accommodate the product to be provided.

1.3 PRODUCT OPTIONS

A. Contract is based on standards of quality established in Contract Documents.

   1. In agreeing to the terms and conditions of Contract, Contractor has accepted a responsibility to verify that specified products will be available and to place orders for all required materials in such a timely manner as is needed to meet his agreed construction schedule.
   2. Neither Owner nor Architect has agreed to substitution of materials or methods called for in Contract Documents, except as they may specifically otherwise state in writing by Addendum or Change Order.

B. Where materials and/or methods are specified by name and/or model number, followed by the words "or approved equal”:

1. Material and/or method specified by name establishes the required standard of quality.
2. Materials and/or methods proposed by Contractor to be used in lieu of materials and/or methods so specified by name shall in all ways equal or exceed qualities of the named materials and/or methods.

C. Where the phrase "or equal," or "or approved equal" occurs in Contract Documents, do not assume that materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Owner in consultation with the Architect.

1.4 SUBSTITUTION

A. Substitution requests shall be submitted in writing to the Construction Manager and Architect no later than ten (10) calendar days prior to the bid date.

B. Substitution requests submitted after this deadline will not be considered.

C. Each Substitution request shall include, at minimum:
1. Detailed product data and specifications
2. Independent test reports demonstrating compliance with specified performance criteria
3. Drawings indicating impacts on dimensions, clearances, and interfaces
4. Written confirmation that no revisions to drawings or specification are required

D. Substitution requests that: require redesign, transfer coordination responsibility to the Architect, require changes to other trades will be rejected without further review.

E. Approval of a substitution shall be issued only by written Addendum.

1.5 SPECIFIC LIMITATIONS

A. Toilet Compartments: Systems utilizing phenolic, HDPE, Plastic Laminate, or painted (non-Powder-coated) steel are not acceptable.

B. Epoxy Flooring: Single-coated, roll-applied, paint-like, or “epoxy-like” systems are not acceptable.

1.6 Acoustical Ceiling Tile: ACT systems not rated for high-Humidity environments or requiring changes to grid spacing, suspension systems, or seismic detailing are not acceptable. DELAYS

A. Delays in construction arising by virtue of non-availability of a specified material and/or method will not be considered by the Architect as justifying an extension of Contract Time.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012513

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications. Contract modifications shall not modify performance requirements, quality standards, or substitution limitations established elsewhere in the Contract Documents unless explicitly approved in writing.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710. Minor changes shall not affect scope, quality, performance, appearance, or durability of the Work.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, for labor and material, with total amount of purchases and credits to be made. Supplier quotes for material shall also be included. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time. Do not include time impacts that could be mitigated through resequencing or use of available float.

B. Contractor-Initiated Proposals shall not be based on conditions that were reasonably inferable from the Contract Documents or existing conditions

C. : If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.4 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

B. Do not proceed with changed Work until a fully executed Change Order or Construction Change Directive has been issued, unless directed otherwise in writing by the Architect.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Maintain daily records subject to review by the Architect and Owner. Failure to maintain adequate documentation may result in rejection of claimed costs.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 01 31 19 - PROJECT MEETINGS

PART 1 - MEETING TYPES

1.1 General

A. The Construction Manager will provide a location for meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Owner, Construction Manager, Trade Contractors, Architect/Engineer and other individuals whose presence is required, as determined by the Construction Manager.
2. Agenda: Construction Manager will prepare the meeting agenda and distribute to all invited attendees.
3. Meeting Memoranda: Construction Manager will conduct the meeting and record significant discussions and agreements achieved and distribute the meeting minutes to everyone concerned.

1.2 Preconstruction Conference

A. Construction Manager will schedule a preconstruction conference before construction starts, at a time convenient to Owner, Construction Manager, and Architect/Engineer. Conference will be at Project site or another convenient location. Construction Manager will review responsibilities and personnel assignments.

B. Attendees: Authorized representatives of Owner, Construction Manager, Architect/Engineer, and their consultants; Trade Contractors and their superintendents; major Trade Contractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

C. Agenda: Discuss items of significance that could affect progress, including the following:

1. Tentative construction schedule.
2. Phasing.
3. Critical work sequencing and long-lead items.
4. Designation of key personnel and their duties.
5. Procedures for processing field decisions and Change Orders.
6. Procedures for requests for interpretations (RFIs).
7. Procedures for testing and inspecting.
8. Procedures for processing Applications for Payment.
9. Submittal procedures.
10. Sustainability requirements
11. Preparation of Record Documents.
12. Use of the premises and existing building.
13. Work restrictions.
14. Owner's occupancy requirements.
15. Responsibility for temporary facilities and controls.

16. Construction waste management and recycling.
17. Parking availability.
18. Office, work, and storage areas.
19. Equipment deliveries and priorities.
20. Security.
21. Progress cleaning.
22. Working hours.

D. Meeting Memoranda: Construction Manager will record and distribute meeting memoranda.

1.3 Pre-installation Conferences

A. Construction Manager will conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

B. Attendees: Construction Manager, Architect/Engineer, Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. The specifications additionally identify Suppliers and/or Trade Contractors that are required to attend a pre-installation conference.

C. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

1. The Contract Documents.
2. Options.
3. Related requests for interpretations (RFIs).
4. Related Change Orders.
5. Purchases.
6. Deliveries.
7. Submittals.
8. Review of mockups.
9. Possible conflicts.
10. Compatibility problems.
11. Time schedules.
12. Weather limitations.
13. Manufacturer's written recommendations.
14. Warranty requirements.
15. Compatibility of materials.
16. Acceptability of substrates.
17. Temporary facilities and controls.
18. Space and access limitations.
19. Regulations of authorities having jurisdiction.
20. Testing and inspecting requirements.
21. Installation procedures.
22. Coordination with other work.
23. Required performance results.
24. Protection of adjacent work.
25. Protection of construction and personnel.

26. Construction waste management and recycling

D. The Construction Manager will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

E. The Construction Manager will distribute minutes of the meeting to each party present and to parties who should have been present, Architect/Engineer, and Owner.

F. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

1.4 Progress (Weekly Work Plan) Meetings: Construction Manager will conduct progress meetings at weekly intervals. Purpose of meetings is to coordinate work efforts among the participating Trade Contractors.

A. Attendees: Construction Manager, each Trade Contractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

B. Agenda: Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

1. Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to the 6-week look ahead and Reverse Phase Schedules. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time. Review schedule for next period.
2. Review present and future needs of each entity present, including the following:

a. Interface requirements.
b. Sequence of operations.
c. Status of submittals.
d. Deliveries.
e. Off-site fabrication.
f. Access.
g. Site utilization.
h. Temporary facilities and controls.
i. Work hours.
j. Hazards and risks.
k. Progress cleaning.
l. Quality and work standards.
m. Status of correction of deficient items.
n. Field observations.
o. Requests for interpretations (RFIs).
p. Status of proposal requests.
q. Pending changes.

r. Status of Change Orders.
s. Pending claims and disputes.
t. Documentation of information for payment requests.
u. Waste management implementation and progress.

3. Minutes: Construction Manager will record and distribute to all Trade Contractors the meeting memoranda.
4. Reporting: Distribute meeting memoranda of the meeting to each party present and to parties who should have been present.
5. Schedule Updating: Construction Manager will revise the Reverse Phase & 6-week look ahead Schedules after each progress meeting where revisions to the schedule have been made or recognized.

END OF SECTION 01 31 19

SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 Trade Construction Manager shall in conjunction with the Construction Manager develop an accurate schedule for the completion of the work. The Construction Manager will utilize Lean Construction / Last Planner methods to manage the project. Each Trade Contractor will be required to participate in a detailed schedule planning session for each phase of the project. A detailed schedule will be developed for each phase. The detailed schedules shall be consistent with the Milestone Construction Schedule issued with the bidding documents. Each Trade Contractor will be required to attend the weekly Progress Meeting prepared with a weekly work plan for the coming week and a review of work activities required by the detailed schedule for that Trade Contractor over the next six weeks. In addition, each Trade Contractor will attend brief daily meetings.

1.2 **See Section 01 32 16 – Construction Progress Scheduling** for the Milestone Construction Schedule used for bidding.

PART 2 - LEAN CONSTRUCTION SCHEDULING METHODS

2.1 Overview:

A. Lean Construction is a tool to manage schedules and production on projects. By planning and managing the work, uncertainty is removed from the project. When production planning becomes reliable and people fulfill their commitments, performance and workflow are improved, and so are the overall results of the project.

B. Lean Construction traces its roots to the Toyota Production System developed after World War II. The system aimed to eliminate the inventory and rework of traditional mass production in favor of a reliable production system that could both work and change quickly to meet a customer's specific requirements without wasteful processes. In mass production, as in traditional construction processes, the project is a series of activities, and the goal is to reduce cost and increase the speed of each activity with consistent high quality.

2.2 Application

A. Lean Construction involves a systematic approach aiming for more efficient overall workflow. It attempts to understand how value is delivered, making workflow as consistent and reliable as possible, and then reviewing the results to determine how to improve the planning process. Lean differs from traditional construction methods because it decentralizes hierarchical decision-making. With Lean Construction, those closest to the work (the "Last Planners") must have the authority to make the decisions and plan the work. It also utilizes peer pressure to get the job

done. Trade Contractors agree as a group to meet their deadlines, and each is held accountable not only to the Construction Manager but also to fellow Trade Contractors.

B. The project will utilize key procedures in the implementation of Lean Construction / Last Planner Methods. These steps require the input of the Foremen for the Trade Contractors that will perform the work. These steps are as follows:

1. Flow Planning – This schedule is created to fit within the parameters of the Milestone Construction Schedule. Trade Contractors work together to determine the work areas, sequence of work, and Takt time for the project. This ensures that the overall work flow of the project is optimized.
2. Reverse Phase Scheduling (RPS) – This process is used in lieu and/or in addition to Flow Planning. Similar to Flow Planning, this schedule is created to fit within the parameters of the Milestone Construction Schedule. Trade Contractors plan the project starting with the last work activity and working backwards. This ensures that all Trade Contractors consider what work must be done prior to any schedule activity and adequate durations are in place for late activities. This RPS is thought of as "What Should Be Done."
3. Rolling Six-Week Look Ahead Schedules – Upcoming schedule activities move onto the Six-Week Look Ahead Schedules on a weekly basis. All possible constraints for preventing these activities are identified. This six-week look ahead is the work that "Can Be Done" in the next six-week period.
4. Weekly Work Plans (WWP) – These plans are brought to weekly Progress Meetings by all Trade Contractor foremen and are specific to the work they "Will Be Doing" in the upcoming week. In order for work activities to be on the WWP, there cannot be any known constraints that would prevent the work from occurring.
5. Plan of Day (POD) – These brief daily meetings evaluate daily performance against key activities identified and coordinated in the WWP. By understanding daily performance, Trade Contractor foremen quickly identify barriers and then make minor adjustments to eliminate the barriers allowing work to proceed as planned.

2.3 Implementation

A. Trade Contractors will be involved with all Flow Planning and Reverse Phase Scheduling for the project. Bidders should include the cost for foremen and project managers from each company to attend ½ day planning sessions to establish these schedules as required for the complexity of the project.

B. The Construction Manager will provide and update the Six-Week Look Ahead Schedules from information developed in the Flow Planning and Reverse Phase Scheduling process and from Trade Contractors input. The Construction Manager and Trade Contractors will review and discuss the Six-Week Look Ahead Schedules at the weekly Progress Meetings.

C. Each Trade Contractor must complete a Weekly Work Plan (WWP) and provide to the Construction Manager by noon the day before the weekly Progress Meeting. Each Trade Contractor will discuss their activities at the weekly Progress Meeting.

D. All Trade Contractor foremen are required to attend the daily POD.

E. Trade Contractors will be required to inform the Construction Manager, on a daily basis, the status of the work that was committed to be complete.

F. Additional Flow Planning and Reverse Phase Scheduling may be required to update the schedule when project changes occur. Trade Contractors will be required to participate in these planning sessions.

2.4 Updates

A. Six-Week Look-Ahead Schedules will be updated weekly.

B. Construction Progress Schedules will be updated periodically as required.

C. The Milestone Construction Schedule will be updated as required.

2.5 Distribution

A. The Construction Manager will provide the Trade Contractors access to the Milestone Construction Schedule, Construction Progress Schedules, Six-Week Look Ahead Schedules and Weekly Work Plans.

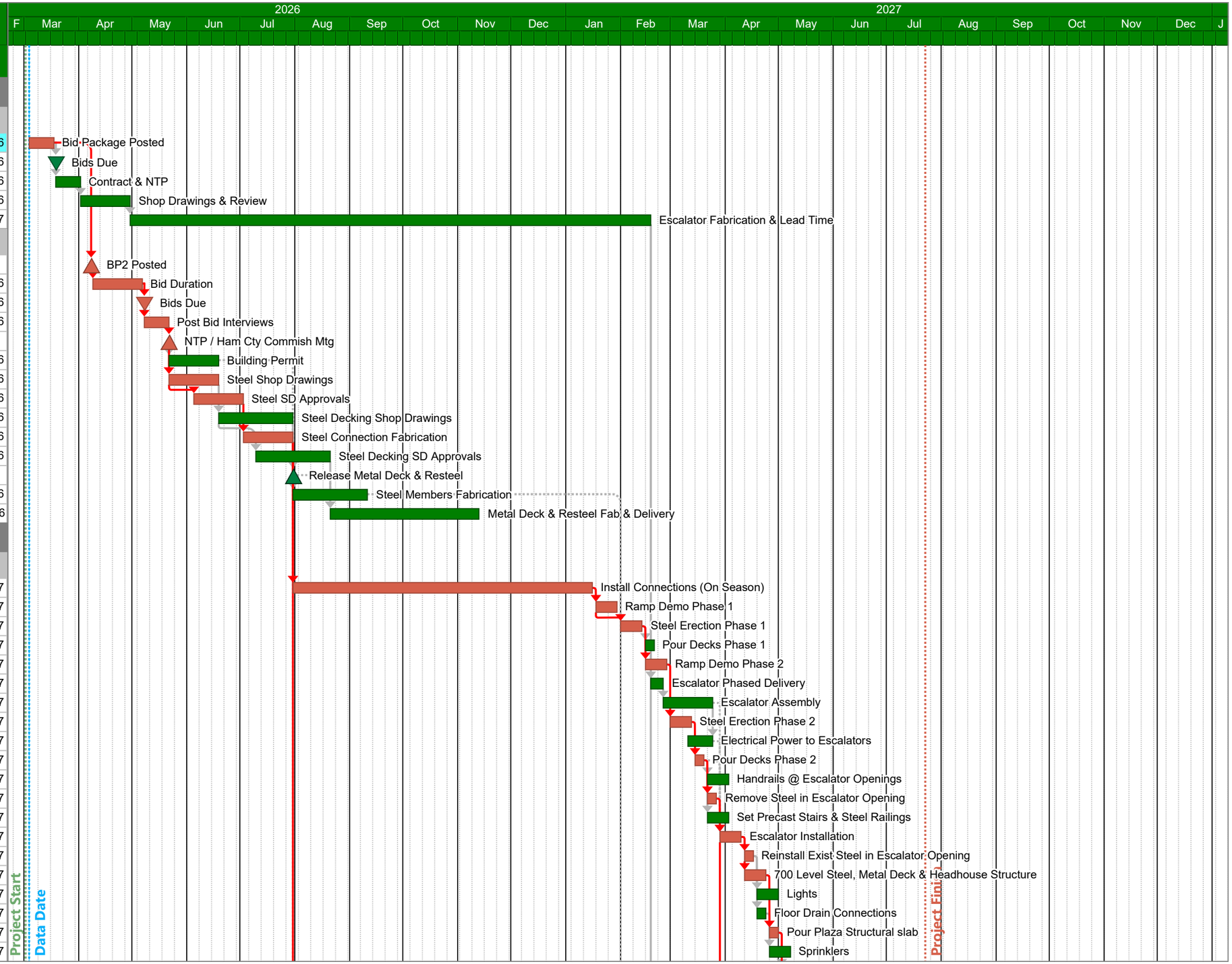
B. It is the responsibility of each Trade Contractor to inform its field personnel, sub-tier Trade Contractors and material suppliers of the Milestone Construction Schedule, Construction Progress Schedules, Six-Week Looks Ahead Schedules and Weekly Work Plans, including any updates.

2.6 Records

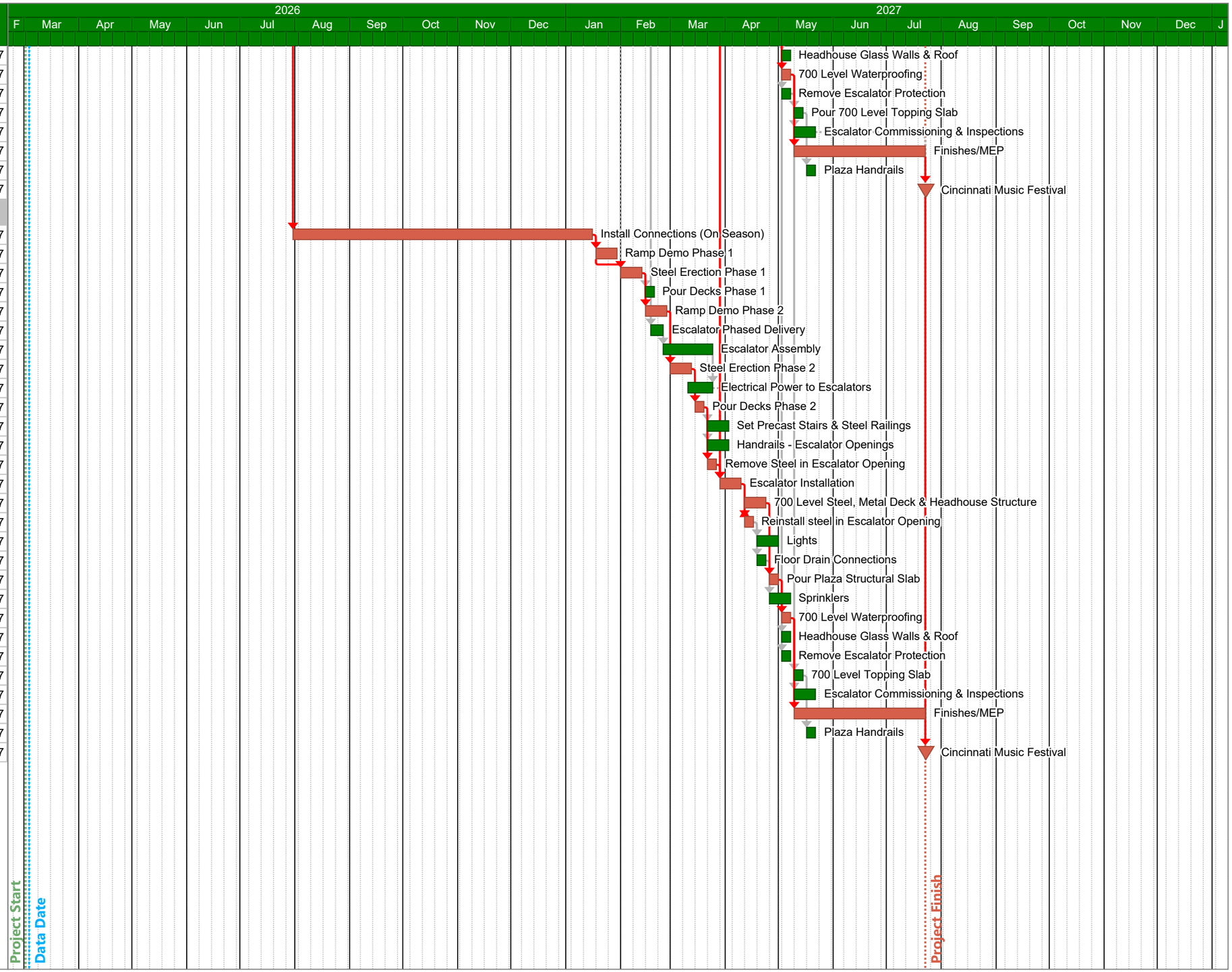
A. All schedules generated from Flow Planning and Reverse Phase Scheduling, and updates to the same, shall become the revised Project Schedule and shall be binding on the Trade Contractors. Each Trade Contractor shall provide necessary manpower, equipment, and material as necessary to the revised Project Schedule.

END OF SECTION 01 32 16

ID	Description	Days	Start	Finish
South VT Towers				
Preconstruction				
Bid Pack 1				
100	Bid Package Posted	10	03/04/26	03/17/26
200	Bids Due	0		03/18/26
300	Contract & NTP	10	03/19/26	04/01/26
400	Shop Drawings & Review	20	04/02/26	04/29/26
500	Escalator Fabrication & Lead Time	210	04/30/26	02/17/27
Bid Pack 2				
600	BP2 Posted	0	04/08/26	
2000	Bid Duration	20	04/09/26	05/06/26
2100	Bids Due	0		05/07/26
2200	Post Bid Interviews	10	05/08/26	05/21/26
2300	NTP / Ham Cty Commish Mtg	0	05/22/26	
2325	Building Permit	20	05/22/26	06/18/26
2400	Steel Shop Drawings	20	05/22/26	06/18/26
2500	Steel SD Approvals	20	06/05/26	07/02/26
2450	Steel Decking Shop Drawings	30	06/19/26	07/30/26
2600	Steel Connection Fabrication	20	07/03/26	07/30/26
2475	Steel Decking SD Approvals	30	07/10/26	08/20/26
2462	Release Metal Deck & Resteel	0	07/31/26	
2487	Steel Members Fabrication	30	07/31/26	09/10/26
2468	Metal Deck & Resteel Fab & Delivery	60	08/21/26	11/12/26
Construction				
Construction East				
2700	Install Connections (On Season)	121	07/31/26	01/15/27
2350	Ramp Demo Phase 1	10	01/18/27	01/29/27
2493	Steel Erection Phase 1	10	02/01/27	02/12/27
2370	Pour Decks Phase 1	5	02/15/27	02/19/27
2375	Ramp Demo Phase 2	10	02/15/27	02/26/27
700	Escalator Phased Delivery	5	02/18/27	02/24/27
800	Escalator Assembly	20	02/25/27	03/24/27
2495	Steel Erection Phase 2	10	03/01/27	03/12/27
750	Electrical Power to Escalators	10	03/11/27	03/24/27
2900	Pour Decks Phase 2	5	03/15/27	03/19/27
2497	Handrails @ Escalator Openings	10	03/22/27	04/02/27
2546	Remove Steel in Escalator Opening	5	03/22/27	03/26/27
3000	Set Precast Stairs & Steel Railings	10	03/22/27	04/02/27
900	Escalator Installation	10	03/29/27	04/09/27
912	Reinstall Exist Steel in Escalator Opening	5	04/12/27	04/16/27
918	700 Level Steel, Metal Deck & Headhouse Structur	10	04/12/27	04/23/27
925	Lights	10	04/19/27	04/30/27
950	Floor Drain Connections	5	04/19/27	04/23/27
919	Pour Plaza Structural slab	5	04/26/27	04/30/27
975	Sprinklers	10	04/26/27	05/07/27



ID	Description	Days	Start	Finish
924	Headhouse Glass Walls & Roof	5	05/03/27	05/07/27
934	700 Level Waterproofing	5	05/03/27	05/07/27
1000	Remove Escalator Protection	5	05/03/27	05/07/27
938	Pour 700 Level Topping Slab	5	05/10/27	05/14/27
1100	Escalator Commissioning & Inspections	10	05/10/27	05/21/27
2150	Finishes/MEP	54	05/10/27	07/22/27
920	Plaza Handrails	5	05/17/27	05/21/27
1300	Cincinnati Music Festival	0		07/22/27
	Construction West			
2800	Install Connections (On Season)	121	07/31/26	01/15/27
2650	Ramp Demo Phase 1	10	01/18/27	01/29/27
2593	Steel Erection Phase 1	10	02/01/27	02/12/27
2410	Pour Decks Phase 1	5	02/15/27	02/19/27
2594	Ramp Demo Phase 2	10	02/15/27	02/26/27
1775	Escalator Phased Delivery	5	02/18/27	02/24/27
1750	Escalator Assembly	20	02/25/27	03/24/27
2595	Steel Erection Phase 2	10	03/01/27	03/12/27
1690	Electrical Power to Escalators	10	03/11/27	03/24/27
2637	Pour Decks Phase 2	5	03/15/27	03/19/27
2596	Set Precast Stairs & Steel Railings	10	03/22/27	04/02/27
2597	Handrails - Escalator Openings	10	03/22/27	04/02/27
2625	Remove Steel in Escalator Opening	5	03/22/27	03/26/27
1600	Escalator Installation	10	03/29/27	04/09/27
921	700 Level Steel, Metal Deck & Headhouse Structur	10	04/12/27	04/23/27
1612	Reinstall steel in Escalator Opening	5	04/12/27	04/16/27
1625	Lights	10	04/19/27	04/30/27
1650	Floor Drain Connections	5	04/19/27	04/23/27
923	Pour Plaza Structural Slab	5	04/26/27	04/30/27
1675	Sprinklers	10	04/26/27	05/07/27
929	700 Level Waterproofing	5	05/03/27	05/07/27
943	Headhouse Glass Walls & Roof	5	05/03/27	05/07/27
1700	Remove Escalator Protection	5	05/03/27	05/07/27
931	700 Level Topping Slab	5	05/10/27	05/14/27
1800	Escalator Commissioning & Inspections	10	05/10/27	05/21/27
2175	Finishes/MEP	54	05/10/27	07/22/27
922	Plaza Handrails	5	05/17/27	05/21/27
1900	Cincinnati Music Festival	0		07/22/27



SECTION 01 32 26 - CONSTRUCTION PROGRESS REPORTING

PART 1 - GENERAL

1.1 Daily Reports

A. Trade Contractors are required to prepare daily reports. This daily construction report should record at a minimum, the following information concerning events at the project site:

1. Number of personnel onsite, including subcontractors.
2. Summary of work completed.
3. Equipment onsite.
4. Material deliveries.
5. High and low temperatures and general weather conditions, including the presence of snow or rain.
6. Accidents or incidents.
7. Unusual events (refer to special reports).
8. Stoppages, delays, shortages, and losses.
9. Meter readings and similar recordings.
10. Emergency procedures.
11. Orders and requests of authorities having jurisdiction.
12. Change orders received and implemented.
13. Construction change directives received and implemented.
14. Services connected and disconnected.
15. Equipment or system tests and startups.

1.2 Reports are to be submitted in a neat and legible format daily to Construction Manager each morning for the previous day's work. No progress payments will be made to the Trade Contractor until all of their daily reports are received by Contractor for that particular month.

END OF SECTION 01 32 26

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 33 00
SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Proposed Subcontractor and Supplier List

B. Contractor's Construction Schedule

C. Schedule of Values

D. Guarantees and Warranties

1.2 RELATED SECTIONS

A. Section 013100 - Project Coordination procedures and requirements.

B. Section 013323 - Submittal requirements for Shop Drawings, Product Data, and Samples.

C. Submittals required by this Section are administrative in nature and do not constitute approval of substitutions, deviations, or changes to the Contract Documents unless explicitly approved in writing in accordance with Section 012513 – Product Substitution Procedures.

1.3 PROPOSED SUBCONTRACTOR AND SUPPLIER LIST

A. Submit with Bid.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Submit complete itemized Contractor's Construction Schedule to Construction Manager, within three (3) business days of execution of contract. Contractor's Construction Schedule shall be coordinated with all subcontractors, in accordance with Sections 013216 and 013323.

B. Revise Contractor's Construction Schedule monthly, at the time of request for payment submittal. When Contractor's Construction Schedule is unchanged, submit a letter certifying that the previous Schedule is unchanged.

1.5 SCHEDULE OF VALUES

A. Submit Schedule of Values to Construction Manager, within three (3) business days of execution of contract, coordinated with all subcontractors, in accordance with the General Conditions.

B. Prior to preparation of Schedule of Values, review proposed subdivisions of work in the Schedule of Values with Construction Manager and Architect, for approval.

1.6 GUARANTEES AND WARRANTIES

A. With request for inspection for Substantial Completion, submit all warranties, guarantees, and bonds in accordance with Section 014000 – Quality Requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies procedural requirements for non–administrative submittals, including shop drawings, product data, samples, coordination drawings, and other work–related submittals. Shop drawings, product data, samples, coordination drawings, and other work–related submittals are required to amplify, expand, and coordinate information contained in Contract Documents.

B. Refer to other Division 01 Sections and other Contract Documents for specifications on administrative, non–work–related submittals. Those submittals include, but are not limited to:

1. Permits
2. Payment applications
3. Performance and payment bonds
4. Insurance certificates
5. Inspection, testing, and certification reports
6. Schedule of values
7. Progress reports
8. Subcontractor and Supplier List(s)
9. Safety plans and other emergency procedures
10. Schedules

C. Miscellaneous submittals are work–related, non–administrative submittals that do not conform to the previous two categories, including but not limited to:

1. Survey data and reports
2. Project photographs
3. Record drawings
4. Field measurement data

D. Submittals are not intended to modify, replace, or supersede requirements of the Contract Documents unless explicitly approved in writing in accordance with Section 012513 – Product Substitution Procedures.

1.2 SUBMITTAL PROCEDURES

A. General:

1. Submit complete and detailed information required by the Specifications. Construction Manager will review submittals with reasonable promptness. Review of submittals is for general conformance with the design intent and Contract Documents and does not constitute approval of substitutions, deviations, or changes to the Contract Documents.

2. Submit information from a specification section in the following order: (i) product data, (ii) shop drawings, and (iii) samples.
3. Before forwarding information to Construction Manager, review submittal information, check conditions, mark corrections, and sign and date each set.
4. Construction Manager will not review submittal information Contractor has not signed. Contractor's signature means Contractor has checked the submittals for conformance to the project requirements and compatibility with related work.
5. Except where otherwise indicated, the Construction Manager will utilize construction project collaboration software for the electronic transmission, tracking, and management of all submittals. Refer to Section 011100 – Summary of Work.

B. Coordination:

1. Coordinate submittal preparation and processing with prosecution of the Work. Coordinate each submittal with other submittals and related activities including testing, purchasing, fabrication, delivery, and similar activities that require sequential activity.
2. Contractor shall review, coordinate, and forward submittals of interrelated work as a single, comprehensive submittal package to Construction Manager.

C. Submittal Time Coordination:

1. Prepare and transmit each submittal to the Construction Manager within 14 calendar days after award of Contract, or as agreed to by the Construction Manager. Prepare and transmit in advance of scheduled performance of related work and other applicable activities.
2. Construction Manager reserves the right to withhold action on submittals that require coordination with other submittals until the related submittals have been received by the Construction Manager.

D. Review Time:

1. Allow minimum of 14 calendar days so the Project will not be delayed because of time required to properly process submittals, including time for resubmittal, if necessary. Advise the Construction Manager on each submittal if processing time is critical to progress of the Work and if the Work would be expedited if processing time is shortened.
2. Construction Manager will advise Contractor when a submittal being processed will be delayed for coordination.
3. Owner will not extend Total Contract Time because of Contractor's failure to transmit submittals to the Construction Manager sufficiently in advance of the affected portion of Work.

E. Submittal Preparation: Mark each submittal with a permanent label for identification. Provide the following information on the label for proper processing and recording of the submittal:

1. Project name
2. Date.
3. Name and address of Contractor.
4. Name and address of Subcontractor.
5. Name and address of supplier.
6. Name of manufacturer.
7. Number and title of corresponding Specification Section(s).

8. Drawing number and detail references, as appropriate.
9. Similar definitive information as necessary.
10. Stamp each piece of literature or drawing being submitted. A stamp impression on a separate sheet is not permitted. After Contract Award, the Construction Manager will provide further instructions for the stamp's format and contents.

F. Submittal Transmittal:
1. Appropriately package each submittal for transmittal and handling. Include a transmittal form with each hard copy or electronic file submittal from Contractor to Construction Manager. Submittals received from sources other than Contractor will be returned to Contractor without action.
2. Format of transmittal form shall be approved by the Construction Manager.
3. On the transmittal form, record relevant information, any requests for data, as well as any deviations from the requirements of the Contract Documents, including minor variations and limitations. Failure to clearly identify deviations shall constitute a representation that the submittal fully complies with the Contract Documents.

1.3 SPECIFIC SUBMITTAL REQUIREMENTS

A. General: Comply with requirements specified herein for each type of submittal, as well as any additional specific submittal requirements for individual units of work specified in the applicable Specification Section.

B. Provide special notation of dimensions established by field measurement. Highlight, encircle, and otherwise indicate deviations from Contract Documents. Construction Manager and Architect will not review shop drawings having incomplete dimensions. Construction Manager and Architect will not review or verify accuracy of field dimensions.

C. Inspection, Testing, and Certification Reports:

1. Classify each inspection and test report as being either shop drawings or product data, depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production.
2. Process inspection and test reports accordingly.

D. Warranties:

1. Refer to Section 014000 for general and specific requirements for warranties, product bonds, workmanship bonds, and maintenance agreements.
2. In addition to copies desired for Contractor's use, furnish five (5) executed copies of warranties, bonds, or agreements. Provide additional copies of warranties for Operations & Maintenance Manuals.

E. Survey Data: Refer to Section 017700 and individual Sections for general and specific requirements on property surveys, field measurements, quantitative records of actual work, damage surveys, and similar data required by individual Sections of these Specifications.

1.4 SUBMITTAL ACTION MARKINGS

A. Interpret the action marking of the Architect or Engineer on returned submittals as follows. Action markings indicate review for general conformance only and do not constitute approval of deviations, substitutions, or changes to the Contract Documents unless specifically noted in writing.

1. NO EXCEPTIONS NOTED, or other similar wording:
   No corrections; proceed with the work.
2. EXCEPTIONS NOTED, or other similar wording:
   Do not fabricate or furnish items noted for correction without correcting noted discrepancies. Resubmittal is not required for approval, but resubmittal is required for the Owner's records for as-built documentation.
3. EXCEPTIONS NOTED, REVISE AND RESUBMIT, or other similar wording:
   Submittal is rejected as not in accordance with Contract requirements, or for other justified cause. Correct deficiencies and resubmit for further review.

1.5 ADDITIONAL SUBMITTALS:

Permits, Licenses and Certificates: For the Owner's records, submit to Construction Manager copies of permits, licenses, certificates, inspection reports, releases, jurisdiction settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations which bear on the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 23

SECTION 01 35 43 - ENVIRONMENTAL PROCEDURES - 5S PROGRAM

PART 1 - GENERAL

1.1 SUMMARY

A. The Zero Injury culture embraces the 5S Strategy to create a safe, organized jobsite to prevent slips, trips and falls.

B. The 5S Program has been put in place to drive consistency across all projects and set a "Best in Class" standard to help achieve Zero Injury by eliminating slips/trips/falls from poor housekeeping/organization.

C. This summary should in no way be construed as being all-inclusive. It is issued as a guide to aid each Trade Contractor in their understanding of the 5S expectations on this project.

1.2 PROJECT DESCRIPTION AND REQUIREMENTS

A. As a part of the Lean Culture on our project sites, the Construction Manager is instituting the following MINIMUM requirements for each Trade Contractor to achieve a safer more productive project.

B. The components of the 5S Program are as follows:

1. **Sort – Just in time Deliveries**: Materials are only allowed to be delivered to the site if they will be installed within a one week time period of delivery. Any materials that will not be installed must be removed from the site.

2. **Straighten – Organized Material & Equipment Storage:** Materials and equipment must be stored in designated laydown areas. Walking and working spaces must be kept organized at all times. No material or equipment is allowed to be stored in egress/access paths. Storage requirements for exterior and interior spaces are as follows:

   a. Exterior – Materials and equipment must be stored on dunnage, pallets or carts.

   b. Interior – Materials and equipment must be stored on pallets, carts or racks and easily moveable on wheels.

3. **Shine – Continuous Daily Cleanup:** Requirements for continuous cleanup for exterior and interior spaces area as follows:

   a. Exterior
      1) Each Trade Contractor shall immediately pick up all of their debris and deposit it into mobile trash carts/hoppers (provided by respective Trade Contractor). Each Trade Contractor is responsible for emptying these containers into a dumpster provided by the Construction Manager.

2) Every Trade Contractor is required at the end of each and every workday to cleanup and organize equipment, materials and debris from that day's work activities and clean their work area.

b. Interior: Nothing Hits the Floor – Daily cleanup:

1) Every work crew has a cart with necessary cleaning tools. Each Trade Contractor shall immediately deposit their debris into mobile trash carts (provide by respective Trade Contractor). Each Trade Contractor is responsible to remove these carts from the building daily and empty them into a dumpster provided by the Construction Manager.

2) Every Trade Contractor is required at the end of every workday to cleanup and organize equipment, materials, and debris from that day's work activities and sweep their work area.

3) Electrical cords, welding leads, temporary heat, and temporary water lines are to be off the floor 100% of the time and suspended using non-conductive materials.

4. **Standardize – Color Coded Delivery Process:** Each Trade Contractor will be designated a specific paint or sticker color (designated by the Construction Manager and provided by respective Trade Contractor) to mark all deliverables to the project. All materials, including but not limited to, pallets, packaging, boxes, buckets, etc., must be marked with their respective paint color. All items that are not marked upon arrival at the project site, will be rejected.

5. **Sustain – Composite Broom Crew:** Every week, or at Construction Manager's request, each Trade Contractor shall provide personnel to participate in cleaning all unidentified debris and broom sweeping for a full work shift or until complete. This polishing effort is in addition to normal daily cleaning.

a. Each Trade Contractor shall provide (1) person for every (10) people working on site for respective company (including Trade Contractors) to participate in composite crew.

1) Minimum participation by each Trade Contractor is (1) person, regardless of number of people Trade Contractor has on site up to (10).

2) Participation requirement applies for each week the Trade Contractor has personnel on the project site.

b. Each Trade Contractor shall furnish all equipment, including but not limited to, brooms, shovels, and dump carts, to complete this activity.

c. Construction Manager will determine the location and scope of the composite cleaning crew each week as dictated by the project conditions. It is understood that this may include "exterior Trade Contractors" need to work inside the building and

vice versa as project conditions require to maintain the best possible project conditions.

d. Failure to provide the personnel and equipment as described above will result in a backcharge per 1.2.C below.

C. Failure to abide by any of the requirements above will result in a back charge of $250/man hour needed to address any deficiencies.

1.3 ASSIGNMENT OF RESPONSIBILITY

A. The Construction Manager will provide the following as a part of the 5S Program

1. Logistics planning for designated material storage and assignment of color codes

2. Dumpsters located appropriately for trade contractors to empty carts

3. Oversight of composite cleaning crews.

B. Each Trade Contractor will provide, at a minimum, the following for the 5S Program

1. Mobile Trash Carts/Hopper
   a. One cart per each individual crew
   b. Covers for carts as applicable to project work requirements

2. Cleaning Equipment
   a. Brooms, shovels, etc., for daily cleanup and composite crews

3. Marking Paint and/or Colored Tags for materials, equipment, etc., brought to the project site.

C. Color Codes for all Trade Contractor material delivered to/stored on the project site are as follows:

Construction Manager	Light Green	
General Trades	Brown	
Sitework / Site Utilities	Yellow	
Steel	Dark Blue	
Concrete / Foundations	Green	
Roofing	Purple	
Aluminum & Glass	White	
Framing & Drywall	Light Blue	
Flooring	Maroon	

Fire Protection	Pink	
Plumbing	Blue	
HVAC	Silver	
Electric	Red	
Telecommunications	Orange	
Painting	Black	
Casework / Millwork	Teal	

END OF SECTION 01 35 43

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Required inspection and testing services to assist in the determination of compliance of the Work with specified or indicated requirements. Required services do not relieve Contractor of the responsibility to comply with Contract Documents.

B. Quality control services include inspections, tests, and related actions, including reports performed by independent agencies and governing authorities.

C. Specific quality control requirements for individual units of work are in those Specifications Sections.

D. Inspections, tests, and related actions specified in Contract Documents are not intended to limit Contractor's quality control procedures which facilitate overall compliance with Contract Document requirements.

E. Requirements for Contractor to provide quality control services required by the Owner, governing authorities, or other authorized entities are not limited by provisions of this Section.

F. Replace rejected work at no additional cost to the Owner and without extension to Total Contract Time, including work rejected due to nonconformance with specified appearance, finish quality, or installation tolerances.

1.2 RESPONSIBILITIES

A. Contractor Responsibilities:

1. All inspections, tests, and similar quality control services are Contractor's responsibility, except where specifically indicated as being the Owner's responsibility, or where specifically indicated as the responsibility of another agency or organization.
2. Costs for quality control services that are the Contractor’s responsibility which are specified to be performed by an independent lab or agency (not directly by Contractor) shall be included in the Base Bid.
3. Where services are specified to be performed by an independent lab or agency, Contractor shall employ and pay an independent agency, testing laboratory, or other qualified firm that is approved by the Owner.

B. Owner Responsibilities:

1. Owner will pay for quality control testing associated with geotechnical testing and inspection, unless noted otherwise.

2. Owner will employ and pay for the services of an independent agency, testing laboratory, or other qualified firm to perform services which are the Owner's responsibility.

C. Retest Responsibility:

1. When results of required inspections, tests, or similar services indicate non-complying Work, subsequent tests are Contractor's responsibility.
2. Testing of revised and replaced work is Contractor's responsibility.

D. Responsibility for Associated Services:

1. Cooperate with independent agencies performing required inspections, tests, and similar services by providing auxiliary services listed in this paragraph.
   a. Provide access.
   b. Take samples or assist with taking samples.
   c. Deliver samples to test laboratories.
   d. Secure and protect samples and test equipment at the Project Site.
2. Provide other auxiliary services as are reasonably requested.

E. Coordination:

1. Coordinate the sequence of inspections, tests, and similar services to accommodate those required services with a minimum of delay in progress of the Work. Coordinate to avoid removing and replacing work to accommodate inspections and tests. Contractor is responsible for scheduling times for inspections, tests, taking of samples and similar activities, whether the services are the Owner's or Contractor's responsibility.
2. If the laws, ordinances, rules, regulations, or order of public authorities having jurisdiction require work to be inspected, tested, or approved, notify the Construction Manager in advance so the Construction Manager may observe inspection, testing, or approval.

F. Special Tests:

1. Owner may require Contractor to perform special test(s) on installed materials or equipment to verify conformance to Specifications.
2. Owner will pay for test(s) where materials or equipment meet or exceed specified requirements. If tested item(s) fail to meet requirements, Contractor is responsible for costs of the test(s) and to make corrections at no cost to the Owner.

1.3 QUALITY ASSURANCE

A. Qualification for Service Agencies:

1. Except as otherwise indicated, engage inspection and test service agencies, including independent testing laboratories, which are prequalified as complying with Recommended Requirements for Independent Laboratory Qualification by the American Council of Independent Laboratories, and which are recognized in the industry as specialized in the types of inspections and tests to be performed.
2. Contractor's testing agencies are subject to approval by the Owner.

B. Codes and Standards: Perform required testing in accordance with applicable codes and regulations and with standards indicated in the Specifications Sections.

C. Installer Qualifications:
1. Use installers experienced in the type of Work being performed, with a minimum of three (3) completed project of similar scope and complexity within the past five (5) years.
2. Provide documentation of installer experience when requested by the Architect.

1.4 SUBMITTALS

A. General:

1. Refer to Section 013323 for general submittal requirements and Section 017700 for close-out requirements. Refer to individual Specification Sections for specific requirements. Submission of inspection or test reports does not constitute approval of Work that does not otherwise comply with the Contract Documents.
2. Electronically distribute certified, written reports of each inspection, test, or similar service directly to:
   a. Construction Manager. Submit up to 2 hard copies, if requested by the Construction Manager.
   b. Electronically distribute copies of each written report directly to the governing authority, Owner, Architect, and/or Engineer, if the Owner or Construction Manager so directs.

B. Report Data: Written reports of each inspection, test, or similar service shall include, but are not limited to:

1. Name of testing agency or test laboratory
2. Dates and detailed description of exact location(s) of where samples were taken or where tests or inspections were performed.
3. Names of individuals making the inspection or test.
4. Designation of the work and test method.
5. Complete inspection or test data.
6. Test results.
7. Interpretations of test results.
8. Notation of significant ambient conditions at the time of sample taking and testing.
9. Comments or professional opinion of whether inspected or tested work complies with the requirements of Contract Documents.
10. Recommendations on retesting, if applicable.

1.5 REPAIR AND PROTECTION

A. General:
1. After completing inspection, testing, sample–taking and similar services, repair damaged Work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes.
2. Protect Work exposed by quality control service activities. Protect repaired Work.

3. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

1.6 GUARANTEES, WARRANTIES AND BONDS

A. Warrant the Work for one (1) year, starting with date of Substantial Completion for the Contract, unless the requirements herein are superseded by more stringent requirements in individual technical Specification Sections.

B. Should defects develop in the Work within the specified period due to faulty materials or workmanship, correct the Work to conform to Contract Documents. Execute repairs and corrective work, including cost of making good other work damaged or otherwise affected by making repairs, without extra charge to Owner and within 5 calendar days after written notice, or sooner if required to maintain restroom availability for public use by the Owner or Construction Manager. On parts of the Work corrected under the Warranty, extend the warranty period for the corrected parts for one year from the date of correction.

C. Submit five (5) copies of warranties, guarantees, and bonds. Show the name and location of the Project and the name of the Owner (County of Hamilton). Owner shall have the right to assign warranties, guarantees, and bonds in whole or in part to end-users as designated by the Owner.

D. Delivery of warranties, guarantees, and bonds does not relieve Contractor of obligations of the Contract.

1.7 FORM OF WARRANTY

A. Warranty period on equipment, labor, and materials shall be the manufacturer's standard, or as specified in the Specifications Sections, but not less than required by paragraph 1.6.A this Section.

B. Furnish specified written warranties with the request for inspection for Certificate of Substantial Completion. Submit warranties on Contractor's letterhead. Include one warranty for each separate Contractor and Subcontractor scope or unit of work, signed jointly by Contractor and Subcontractor or supplier.

C. Form of warranty is as follows (form of warranty not written as follows is cause for its rejection):

(Form of Warranty is on the following page.)

****

WARRANTY

Name of Project:

_____

Scope of Work:

_____

_____

_____

We warrant the Work to be in accordance with the Contract Documents. We will correct the parts of the Work not in conformance with the Contract Documents, or that becomes, or is found to be defective, within one year after the Date of Substantial Completion. We will bear the cost of making good the damage caused by the defective Work, including damage caused by its correction or removal, to the Owner's property or to property for which the Owner is liable. This warranty does not apply to Work which has been abused, neglected, or altered by others. The warranty period begins at 12:00 Noon on the Date of Substantial Completion.

Substantial Completion Date: _____(*)

_____

Signed by:

Contractor:

_____

Subcontractor/Supplier:

_____

****

* (Obtain this date from the Owner before completing the warranty form. Insert the date on the indicated line. Do not type this instruction on the Warranty Form.)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

END OF SECTION 01 40 00

SECTION 01 40 01 – QUALITY PROGRAM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for a Trade Contractor Quality Program required to verify compliance with the Construction Manager Quality Program, including Quality Observation Process. These services do not relieve the Trade Contractor of responsibility for compliance with the Contract Document requirements.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

A. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

B. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

C. Construction Manager: The team in charge of supervising the construction phase of the project.

D. QOR: Quality Observation Report

E. QR: Quality Representative – The QR should be proficient in their field of work, capable of identifying issues in advance, capable of verifying submitted materials match the contract documents and coincide with materials delivered to the jobsite, and the ability to perform quality control audits and document their findings on a daily basis. The QR must be someone who is onsite full time and has the authority to make decisions in the field.

F. Autodesk Build: Inspection/observation software.

1.4 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer documentation of uncertainties to Architect for decision prior to proceeding.

1.5 SUBMITTALS

A. Quality Plan: Submit a Quality plan for this project. This plan will outline all aspects of the Trade Contractor's duties with regard to the quality on the project. Including the following:
   1. How Trade Contractor plans to manage quality on the Project.
   2. Control of Documentation.
   3. Material receiving and storage.
   4. Fabrication/construction methods.
   5. General quality checking procedures during fabrication/construction activities.
   6. Specific procedures for documentation of formal testing.
   7. Quality checking forms and records to be utilized.
   8. Quality audits of Trade Contractors during prequalification and prior to acceptance.

B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

   1. Specification Section number and title.
   2. Description of test and inspection.
   3. Identification of applicable standards.
   4. Identification of test and inspection methods.
   5. Number of tests and inspections required.
   6. Time schedule or time span for tests and inspections.
   7. Entity responsible for performing tests and inspections.
   8. Requirements for obtaining samples.
   9. Unique characteristics of each quality-control service.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specifications Sections specify additional requirements.

B. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

G. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.

1.7 QUALITY CONTROL

A. Trade Contractor Responsibilities: In addition to responsibilities outlined in 01 40 00 – Quality Requirements each Trade Contractor must provide the following:

1. Attend and contribute to the weekly Quality meeting as part of WWP meeting.

2. Appoint a Quality Representative as part of the construction team who will be the point of contact for all quality and turnover issues. This representative must have an email address.
   a. This representative or representatives shall be submitted to the Construction Manager in list format with all contact information included.
3. Identify and resolve QOR's in a timely manner. The maximum time allowed for each QOR is as follows
   a. 7 calendar days for items through the first 50% of the project schedule.
   b. 5 calendar days for items from 50% through 75% of the project schedule.
   c. 3 calendar days for items from 75% through 90% of the project schedule.
   d. 1 calendar day for items from 90% through 100% of the project schedule.

4. Provide suitably qualified designated QR Inspectors.
5. Maintain accurate records of inspections and turnover issues.
6. Submit inspection records for all areas of their unique scope of work, including final reports.
7. Maintain a register of non-conformance reports issued to suppliers/Trade Contractors and issued from the Construction Manager.
8. Verify that defects discovered in the work performed by the Trade Contractors are identified utilizing the QOR process and adequate corrective actions are to be planned with the Trade Contractor's Superintendents and approved by the Construction Manager prior to their implementation.
9. Cooperate with the Construction Manager in coordination and execution of the Quality Program including preparatory meetings, initial inspections, follow-up inspections, mock-ups, quality coordination meetings, etc.

10. Participate by using Autodesk Build Software. All construction quality issues will be entered, tracked and closed using Autodesk Build. Training will be provided by the Construction Manager. Software Licenses will be provided to the Trade Contractor by the Construction Manager.
11. Adequate internet access is required for each Trade Contractor and is to be accessed by each Trade Contractor. Coordination with the Construction Manager may be acceptable depending upon conditions in the field.
12. Each Trade Contractor is required to provide a minimum of one (1) Tablet device from supported devices list available at

    https://knowledge.autodesk.com/support/bim-360/learn-explore/caas/CloudHelp/cloudhelp/ENU/Docs-About-ACC/files/System-Requirements-html.html

    Device will be located on site at all times at the cost of each Trade Contractor. This tablet will be required to have the Autodesk Build mobile application downloaded and utilized for QOR processes. Each Trade Contractor is strongly encouraged to have a laptop computer in addition to Tablet with printing capability.
13. All QOR's submitted are required to be electronically through the Autodesk Build system. All other forms will not be accepted by the Construction Manager.
14. All construction quality issues entered using Autodesk Build will require photographic evidence of completion from the Trade Contractor. If such evidence is not attached to each individual issue in the system by the Trade Contractor the said issues is not considered complete until re-inspection can be performed by the Construction Manager or issue creating party.
    a. Each photo must include recognizable features clarifying the location accurately corresponds with the issue it is attached with.
15. Implement the Owner's Quality Program requirements accordingly.

B. Construction Manager Responsibilities: Construction Manager will provide the following:

1. Appoint a Quality Representative as part of the construction team who will be the Construction Manager 's point of contact for all quality and turnover issues.
2. Conduct weekly quality meetings as part of the WWP meeting.
3. Conduct project inspections.
    a. Maintain Records of inspections.
    b. Identify and resolve QOR's in a timely manner.
4. Report defects to the Trade Contractor.
5. Record defects: Log and track items through completion of corrections in Autodesk Build.
    a. Maintain a register of non-conformance reports issues to the Trade Contractor.
    b. Verify that defects discovered in the work performed by the Trade Contractors occurring systematically are identified utilizing the QOR process and adequate corrective actions are approved prior to their implementation.
6. Document changes: Log and track modifications to the Contract Documents.
7. Answer tech questions and provide additional training regarding Autodesk Build.

1.8 QUALITY OBSERVATION REPORTS

A. Quality Observation Reports (QOR) will be utilized to report discrepancies in performance or Work as follows:

1. Monitoring Phase: Ongoing monitoring of the construction activities by the Construction Manager, A/E, Special Inspections, Owner and Trade Contractor.

2. Reporting Phase: Quality Observation Report will be distributed daily via email consisting of the following:
   a. Date and time of observation
   b. Area and location of the observation
   c. Observers name and company
   d. Description of the observation
      1) Photo and or floor plan will also be attached for clarity if necessary.
3. Assessment and Recording Phase: QOR will be assessed by the Trade Contractor to determine the following:
   a. Whether observation is deviation from the Contract Documents.
   b. The observation warrants being placed on the QOR database.
4. Database Maintenance: Quality observations shall be logged on Autodesk Build by QOR Administrator
   a. A unique identification number will be allocated to be the observation by Autodesk Build.
   b. The Trade Contractor responsible for the resolution of the issue will be assigned.
   c. A target closeout date will be assigned.
   d. The assigned Trade Contractor will be issued the QOR for action.
5. Resolution Phase: Trade Contractor shall take action to rectify the issue.
   a. Notify QOR Administrator in Autodesk Build when the Trade Contractor has deemed that the issue has been rectified via photo upload and provided corrective action details via comments feature.
   b. The QA/QC Team leader and or representative will view photo or re-inspect and determine if the issue has been satisfactory resolved.
   c. If the issue has been resolved, the database will be updated to show the items as closed.
6. Disputed Resolution: QOR items that cannot be satisfactorily closed will be resolved by formal meeting with Trade Contractor and Construction Manager to develop a plan to close issues in a manner that will prevent delays in the project schedule.

B. QOR Database Management (Autodesk Build): Quality Observation Report Database will be administered by the Construction Manager. The Trade Contractor will interact with Autodesk Build to enter, receive, and close QOR's. The database will track and report on such items as:
1. QOR's by Trade Contractor / Supplier.
2. QOR's by Area / System.
3. Status of each QOR.
4. Originator.
5. Description of Quality Observation.
6. Description of Action required to close QOR.

1.9 QUALIFICATIONS AND TRAINING

A. Qualifications: Trade Contractor shall insure that all employees, subcontract employees, and third party employees are suitably qualified to execute the work they are tasked to do.
1. Trade Contractors Quality Plan shall indicate what work activities need to have qualified personnel.

2. The Trade Contractor shall insure that there is a file maintained for all persons that require qualifications incorporating current curriculum vitae with such qualifications.
3. Qualifications must be current, including where periodic re-certification is required.
4. Maintain all records on site, available for audit by the Construction Manager.
5. If non-conformities are found, the Trade Contractor shall carry out all the necessary reworks and shall obtain the conformity to the specified requirements as well as subsequent tests.

B. Training: Construction Manager QA/QC Team Leader shall ensure that all relevant Trade Contractor personnel are trained in the requirements of this plan. Training shall be performed over the duration of the project execution.
1. Provide training to all relevant Owner, Architect, Engineer and Trade Contractor personnel in the implementation of the QOR process and all other procedures outlined in this plan.
2. Provide Autodesk Build training to all parties
3. Maintain records for all training.
4. In conjunction with training sessions, review quality system documents and revised or update to reflect comments promoting improvement.

C. Coordination: Coordinate sequence of activities to accommodate required quality assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

END OF SECTION 01 40 01

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 42 00
REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Abbreviations and acronyms not included in this list shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States." The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.

25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
34. ASSP - American Society of Safety Professionals (The); www.assp.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AVIXA - Audiovisual and Integrated Experience Association; (Formerly: Infocomm International); www.soundandcommunications.com.
38. AWEA - American Wind Energy Association; www.awea.org.
39. AWI - Architectural Woodwork Institute; www.awinet.org.
40. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
41. AWPA - American Wood Protection Association; www.awpa.com.
42. AWS - American Welding Society; www.aws.org.
43. AWWA - American Water Works Association; www.awwa.org.
44. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
45. BIA - Brick Industry Association (The); www.gobrick.com.
46. BICSI - BICSI, Inc.; www.bicsi.org.
47. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
48. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
49. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
50. CDA - Copper Development Association; www.copper.org.
51. CE - Conformite Europeenne; http://ec.europa.eu/growth/single-market/ce-marking.
52. CEA - Canadian Electricity Association; www.electricity.ca.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.compositepanel.org.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa-group.org.
65. CSI - Construction Specifications Institute (The); www.csiresources.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTA - Consumer Technology Association; www.cta.tech.

68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.coolingtechnology.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHA - Decorative Hardwoods Association; (Formerly: Hardwood Plywood & Veneer Association); www.decorativehardwoods.org.
72. DHI - Door and Hardware Institute; www.dhi.org.
73. ECA - Electronic Components Association; (See ECIA).
74. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
75. ECIA - Electronic Components Industry Association; www.ecianow.org.
76. EIA - Electronic Industries Alliance; (See TIA).
77. EIMA - EIFS Industry Members Association; www.eima.com.
78. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
79. EOS/ESD Association; (Electrostatic Discharge Association); www.esda.org.
80. ESTA - Entertainment Services and Technology Association; (See PLASA).
81. ETL - Intertek (See Intertek); www.intertek.com.
82. EVO - Efficiency Valuation Organization; www.evo-world.org.
83. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
84. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
85. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
86. FM Approvals - FM Approvals LLC; www.fmglobal.com.
87. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
88. FRSA - Florida Roofing, Sheet Metal Contractors Association, Inc.; www.floridaroof.com.
89. FSA - Fluid Sealing Association; www.fluidsealing.com.
90. FSC - Forest Stewardship Council U.S.; www.fscus.org.
91. GA - Gypsum Association; www.gypsum.org.
92. GANA - Glass Association of North America; (See NGA).
93. GS - Green Seal; www.greenseal.org.
94. HI - Hydraulic Institute; www.pumps.org.
95. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
96. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
97. HPVA - Hardwood Plywood & Veneer Association; (See DHA).
98. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
99. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
100. IAS - International Accreditation Service; www.iasonline.org.
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Association; www.theicpa.com.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.org.

113. II - Infocomm International; (See AVIXA).
114. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
115. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
116. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
117. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
118. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
119. ISO - International Organization for Standardization; www.iso.org.
120. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
121. ITU - International Telecommunication Union; www.itu.int.
122. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
123. LMA - Laminating Materials Association; (See CPA).
124. LPI - Lightning Protection Institute; www.lightning.org.
125. MBMA - Metal Building Manufacturers Association; www.mbma.com.
126. MCA - Metal Construction Association; www.metalconstruction.org.
127. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
128. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
129. MHIA - Material Handling Industry of America; www.mhia.org.
130. MIA - Marble Institute of America; (See NSI).
131. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
132. MPI - Master Painters Institute; www.paintinfo.com.
133. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
134. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
135. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
136. NADCA - National Air Duct Cleaners Association; www.nadca.com.
137. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
138. NALP - National Association of Landscape Professionals; www.landscapeprofessionals.org.
139. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
140. NBI - New Buildings Institute; www.newbuildings.org.
141. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
142. NCMA - National Concrete Masonry Association; www.ncma.org.
143. NEBB - National Environmental Balancing Bureau; www.nebb.org.
144. NECA - National Electrical Contractors Association; www.necanet.org.
145. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
146. NEMA - National Electrical Manufacturers Association; www.nema.org.
147. NETA - InterNational Electrical Testing Association; www.netaworld.org.
148. NFHS - National Federation of State High School Associations; www.nfhs.org.
149. NFPA - National Fire Protection Association; www.nfpa.org.
150. NFPA - NFPA International; (See NFPA).
151. NFRC - National Fenestration Rating Council; www.nfrc.org.
152. NGA - National Glass Association (The); (Formerly: Glass Association of North America); www.glass.org.
153. NHLA - National Hardwood Lumber Association; www.nhla.com.
154. NLGA - National Lumber Grades Authority; www.nlga.org.
155. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).

156. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
157. NRCA - National Roofing Contractors Association; www.nrca.net.
158. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
159. NSF - NSF International; www.nsf.org.
160. NSI - National Stone Institute; (Formerly: Marble Institute of America); www.naturalstoneinstitute.org.
161. NSPE - National Society of Professional Engineers; www.nspe.org.
162. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
163. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
164. NWFA - National Wood Flooring Association; www.nwfa.org.
165. NWRA - National Waste & Recycling Association; www.wasterecycling.org.
166. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
167. PDI - Plumbing & Drainage Institute; www.pdionline.org.
168. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
169. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
170. RFCI - Resilient Floor Covering Institute; www.rfci.com.
171. RIS - Redwood Inspection Service; www.redwoodinspection.com.
172. SAE - SAE International; www.sae.org.
173. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
174. SDI - Steel Deck Institute; www.sdi.org.
175. SDI - Steel Door Institute; www.steeldoor.org.
176. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
177. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
178. SIA - Security Industry Association; www.siaonline.org.
179. SJI - Steel Joist Institute; www.steeljoist.org.
180. SMA - Screen Manufacturers Association; www.smainfo.org.
181. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
182. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
183. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
184. SPIB - Southern Pine Inspection Bureau; www.spib.org.
185. SPRI - Single Ply Roofing Industry; www.spri.org.
186. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
187. SSINA - Specialty Steel Industry of North America; www.ssina.com.
188. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
189. STI - Steel Tank Institute; www.steeltank.com.
190. SWI - Steel Window Institute; www.steelwindows.com.
191. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
192. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
193. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
194. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
195. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
196. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
197. TMS - The Masonry Society; www.masonrysociety.org.
198. TPI - Truss Plate Institute; www.tpinst.org.

199. TPI - Turfgrass Producers International; www.turfgrasssod.org.
200. TRI - Tile Roofing Institute; www.tileroofing.org.
201. UL - Underwriters Laboratories Inc.; www.ul.com.
202. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
203. USAV - USA Volleyball; www.usavolleyball.org.
204. USGBC - U.S. Green Building Council; www.usgbc.org.
205. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
206. WA - Wallcoverings Association; www.wallcoverings.org.
207. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
208. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
209. WDMA - Window & Door Manufacturers Association; www.wdma.com.
210. WI - Woodwork Institute; www.wicnet.org.
211. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
212. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.

17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.govinfo.gov.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 42 16
DEFINITIONS, STANDARDS, AND REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section provides definitions and specifies procedural and administrative requirements for compliance with governing regulations and the codes and standards imposed upon the Work. Requirements include obtaining permits, licenses, inspections, releases, and similar documentation, as well as payments, statements, and similar requirements associated with regulations, codes, and standards.

1.2 DEFINITIONS

A. General Explanation: Definitions and explanations contained in this Section are not necessarily complete or exclusive; they are general for the Work, to the extent they are not stated more explicitly in another element of the Contract Documents. More detailed definitions may be included elsewhere in the Specifications and on the Drawings.

B. Approve: Where used in conjunction with the Owner's response to submittals, requests, applications, inquiries, reports, and claims by Contractor, the meaning of the word “approved” is held to the limitations of the Owner's responsibilities. “Approval” by the Owner does not release the Contractor from the responsibility to fulfill the requirements of the Contract Documents.

C. Architect or Engineer: KZF Design, Inc.

D. Base Contract: “Base Contract” means the original contract between the Contractor and the Owner for this project. “Base Contract” includes the parts of the Work therein, including any Alternates and Unit Prices accepted by the Owner at the time of Contract Award.

E. Bid Submission Document: Document or form that must be completed and submitted with the Bid. These documents and forms are typically identified in Section 001000 by a box across

F. City: The City of Cincinnati, Ohio.

G. Construction Manager: Messer Construction Co./AECOM Hunt Construction Co.

H. County: The County of Hamilton, or its authorized agent

I. Completion, Final: “Final Completion” refers to the degree of completion at which time the Project, as a whole, is turned over for full use to the Owner and the Work is completed in compliance with the Contract Documents.

J. Completion, Substantial: “Substantial Completion” means the date of the “Certificate of Substantial Completion” issued by the Owner when construction is sufficiently complete in

accordance with the Contract Documents so the Owner may occupy the Work or a portion of the Work for the intended use.

K. Conditions of the Contract: General Conditions, and the Drawings and Specifications (including Division 01), Addenda, Clarifications, Change Orders, and Field Orders issued as part of the Work.

L. Construction Documents: “Construction Documents” means the Drawings, Project Manual (including Division 01), Addenda, Clarifications, Change Orders, Field Orders, and related documents that address the Work.

M. Contractor: The terms “Contractor” and “Trade Contractor” shall have the same meaning. “Contractor” and “Trade Contractor” are used interchangeably.

N. Contract Documents: “Contract Documents” has the identical meaning as “Conditions of the Contract”.

O. Contract Time, Total: “Contract Time” has the identical meaning as “Total Contract Time”.

P. Day(s): Except where stated as meaning business day(s), “day(s)” mean(s) calendar day(s)

Q. Development Manager: Not applicable to this project.

R. Directed, Requested, Approved, etc. Terms “directed”, “requested”, “authorized”, “approved”, “required”, “accepted”, and “permitted” mean “directed by the Owner”, “requested by the Owner”, and similar phrases. Phrases' meanings do not expand the Owner's responsibility into the Contractor's areas of construction supervision and safety.

S. Furnish: “Furnish” means to supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

T. Indicated: “Indicated” is a cross–reference to graphic representations, notes or schedules on Drawings, to other paragraphs or schedules in the Specification, and to similar means of recording requirements in the Contract Documents. Where “shown”, “noted”, “scheduled” and “specified” are used in lieu of “indicated”, it is for the purpose of helping the reader of the Drawings and Specifications locate the cross–reference. “Indicated” does not imply limitation of location except as specifically noted. “Indicated” does not modify or supersede material performance, system requirements, or installation criteria specified elsewhere in the Contract Documents.

U. Install: “Install” describes operations at the project site, including unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations, as applicable in each instance.

V. Installer: “Installer” is the entity engaged by a Contractor, Subcontractor, or sub– Subcontractor for performance of a particular unit of work for the project, including installation, erection, application, and similar required operations. It is a general requirement that the entities be expert in the operations they are engaged to perform.

W. Manufacturer's Recommendations: "Manufacturer's recommendations", and variations thereon, means manufacturer's recommendations found in publications commonly available to and used by the architectural and engineering professions.

X. Project Site: "Project Site" is the space available to the Contractor; and refers to the area where the Contractor performs the on–site Work.

Y. Provide: "Provide" means furnish and install, complete and ready for the intended use.

Z. Regulations: "Regulations" includes laws, statutes, ordinances, and lawful orders issued by governing authorities; and the rules, conventions, and agreements within the construction industry which control the performance of the Work, regardless of whether or not they are lawfully imposed by governing authority.

AA. Remove: "Remove" means to remove and legally dispose of indicated items off-site.

BB. Total Contract Time: "Total Contract Time" is the time period allotted for the Work, subject to limitations described in the Contract Documents.

1.3 INDUSTRY STANDARDS

A. General Applicability of Standards:

1. Except to the extent that more explicit or more stringent requirements are in the Contract Documents, applicable standards of the construction industry referenced in the Contract Documents have the same force and effect as if bound directly into the Contract Documents (i.e. are made a part of the Contract Documents by reference).
2. Refer to Contract Documents for resolution of overlapping and conflicting requirements that result from the application of several different industry standards to the same unit of work.
3. Refer to individual unit of work Sections for specialized codes and standards the Contractor must keep at the project site available for reference by the Owner.
4. Referenced standards (referenced directly in the Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in the industry and which may be applicable to the Work.
5. Non-referenced standards recognized in the construction industry, except as otherwise limited in the Contract Documents, are applicable to the Work, and will be enforced for the performance of the Work. Owner will determine if an industry code or standard is applicable to the Work, or which of several standards are applicable to the Work.

B. Publication Dates

Except as otherwise indicated, where compliance with an industry standard is required, comply with the standard in effect as of the date of the Construction Documents.

C. Copies of Standards

1. A requirement of the Contract Documents is that each entity performing work be experienced in that part of the Work being performed, and that the entities be familiar with recognized industry standards applicable to the Contractor's parts of the Work. Copies of applicable standards are not bound with the Contract Documents.
2. Where copies of standards are needed for proper performance of the Work, obtain copies directly from the source.
3. Though certain copies of standards needed for enforcement of the requirements may be required submittals, the Owner reserves the right to require the Contractor to submit other copies of the standards as necessary for enforcement of the requirements.

D. Failure to be informed of the requirements of standard specifications is not cause for additional compensation.

E. In case of conflict between the published standard and Project Specifications, the more stringent governs.

F. Where applicable, Construction Document references to technical societies, organizations, and other construction entities is in accordance with the following abbreviations:

AIA	American Institute of Architects
ACI	American Concrete Institute
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASRE	American Society of Refrigeration Engineers
ASTM	American Society of Testing Materials
AASHTO	American Association of State Highway & Transportation Officials
AWSC	American Welding Society Code
AWWA	American Water Works Association
CCS	City of Cincinnati Supplement to ODOT
COBC	Cincinnati Ohio Building Code
CRSI	Concrete Reinforcing Steel Institute
DOP	City of Cincinnati Department of Purchasing
FS	Federal Specification
IPCEA	Insulated Power Cable Engineers Association
MIL	Military Specification
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NFPA	National Fire Protection Association
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
ODOT	Ohio Department of Transportation
SAE	Society of Automotive Engineers
SPR	Simplified Practice Recommendation
SSPC	Steel Structures Painting Council

SWRI	Sealant, Waterproofing & Restoration Institute
UL	Underwriter's Laboratories

1.4 REGULATORY REQUIREMENTS

A. Applicable Codes: The “Cincinnati Ohio Building Code” as administered and modified by the Department of Buildings and Inspections, City of Cincinnati, governs the work in addition to other code authorities.

B. Adherence to Codes and Regulations:
1. Before proceeding with the Work, review Drawings and Specifications for applicable laws, ordinances, rules, and regulations.
2. Comply with the applicable laws, ordinances, rules, and regulations unless notice is given to the City of Cincinnati, Department of Buildings and Inspections, in writing, of the discrepancy before proceeding with the Work.
3. Compliance with applicable codes and regulations does not relieve the Contractor of compliance with more stringent requirements of the Contract Documents.

C. Requirements of Regulatory Agencies (Permits, etc.):
1. Construction Manager will make application and pay for the City of Cincinnati Demolition Permit.
2. Each Contractor and Subcontractor is responsible for obtaining other permits and inspections required for their work by laws, ordinances, rules, and regulations, including final certificates, inspections, etc.

D. Inspections by Governing Agencies
1. Before covering up work required to be inspected, arrange for inspections and tests of the installation, as required by Governing Authorities and by Specifications.
2. Provide necessary tools, equipment, and personnel to conduct the required tests, and notify the City of Cincinnati, Department of Buildings and Inspections, at least three (3) business days in advance of scheduled inspections and tests.
3. Submit approved certificate of inspection from the Governing Authority to Owner and Construction Manager before request for final payment.

PART 2 - MATERIALS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 16

SECTION 01 45 16 – GROUND PENETRATION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. The purpose of this procedure is to define minimum utility avoidance requirements for all Contractors, Trade Contractors, and other companies engaged in ground penetration activities.

B. This procedure applies to all personnel associated with excavation, trenching, demolition and other ground penetrating activities including dee stakes, sign posts, fence posts, ground rods, etc. on Construction Manager projects. The result of this procedure is to:
   1. Ensure that all excavation, trenching, and demolition activities and work within excavations / trenches are adequately planned and performed safely.
   2. Define the standard work process to avoid any utility strikes during all excavation, trenching and demolition activities.

C. Excavation means the use of hand tools, powered equipment, or explosives to move earth, rock, or other materials in order to penetrate, bore or drill into the earth, or to demolish any structure whether or not it is intended that the demolition will disturb the earth.

1.2 PROJECT DESCRIPTION AND REQUIREMENTS

A. Pre-Planning:

   1. Trade Contractor(s) shall conduct thorough planning prior to the execution of any Excavation/Trenching or Penetration activities. This requires the Trade Contractor complete the Ground Penetration / Dig Permit DAILY prior to starting work.

B. Utility Avoidance:

   1. All underground and overhead utilities within the Excavation / Trenching or Penetration work area shall be surveyed and positively identified before excavation work commences. It is the responsibility of every Trade Contractor performing an excavation to call the 811 Utility Protection Service in their state to obtain an individual reference / dig number. No Trade Contractor shall work under another Trade Contractor's ticket number, including the Construction Manager's.

      Since 811 will only mark utilities in the Right-of-Way, a private locating service must also be used to locate any utilities not located by 811 inside the project / excavation area. Obtain as built drawings showing the location of all known / found utilities with in the excavation site and reference the Contract Documents to verify there are no utilities that were not marked by the Locating Service.

   2. <u>811 Procedures:</u>
      a. Assess the area to be excavated, gather all the information that will needed to complete the locate work order form.
      b. Premark the location where the excavations will occur in white paint, flags or both.

c. Contact 811 and provide details of the excavation.
d. Obtain reference / ticket number, record the number on the Ground Penetration / Dig Permit and keep it for the duration of the excavation or longer is necessary.
e. Utility owners will mark any existing utilities around the excavation site.
f. Wait the required amount of time before commencing excavation.
    1) Advance notice needed to inform 811 of excavation.
        a) IND – 2 working days.
        b) OH – 2 working days
        c) KY – 2 working days
        d) TN – 3 working days
        e) NC – 3 working days
g. Protect and preserve the markings of tolerance zones of underground utility facilities until those markings are no longer required for proper and safe excavations. If markings are destroyed or lost do not repaint the markings, contact 811 to remark the found/known utilities. Markings are only valid for the following amount of time before 811 has to be notified again of the excavation.
    1) IND – 20 days
    2) OH – as long visible
    3) KY – 21 days
    4) TN – 15 calendar days
    5) NC – 15 days

3. Private Property Locating:
    a. ALL excavations/borings/mass excavations/ground penetrating activities must be coordinated with the Construction Manager and the Owner to have a 3rd Party Locating Service survey the areas of excavation that are not in the right-of-way.
    b. Trade Contractor must coordinate with the Construction Manager and contact the designated 3rd Party Locating Service prior to any ground penetrating activities to have the service locate the area where the activities occur. Prior to arrival of the 3rd Party Locating Service, the area that needs surveyed should be painted or marked with flags.
    c. The 3rd Party Locating Service shall mark all found utilities with paint or flags.
    d. All markings must be protected and preserved so the location of the utility is known at all times.
    e. Take pictures and keep records of the survey to include with the Excavation Permit.

4. Ground Penetrations:
    a. Prior to any excavation beginning, the scope of work must be reviewed with the Construction Manager to discuss the process and hazards related to task.
    b. Trade Contractors must complete the Ground Penetration / Dig Permit daily and have it signed by the Construction Manager's project representative.
    c. Protect and preserve the markings of utilities until those markings are no longer required for proper and safe excavations.
    d. The exact location and depth of any known / found utilities within 24" of the excavation must be identified by one of the following means:
        1) Hand digging
        2) Pot holing
        3) Hydro / Vacuum excavation

e. Maintain a minimum of 24" (tolerance zone) between the utility and the cutting edge or point of powered equipment.
f. When approaching and excavating within the tolerance zone of underground utility facilities with powered equipment, the Trade Contractor must provide a spotter to visually monitor the excavation activity for any indication of the underground utility.
g. Conduct the excavation within the tolerance zone of the utility in a careful, prudent and non-destructive manner such as hand digging, hydro/vacuum excavation. Do not excavate within the tolerance zone with any powered equipment.
h. Review area(s) of work to verify there are no power lines/overhead cables in the work area. If there are, a plan must be approved by the Construction Manager prior to proceeding.

5. Demolition (sub-surface):
   a. When demoing existing utilities, the same procedures listed in section 1.2-B.4 must be followed.
   b. When demoing existing structures, the Construction Manager's demolition checklist must be completed prior to commencement.

1.3 ASSIGNMENT OF RESPONSIBILITY

1. Construction Manager shall provide all record documents for the Trade Contractor to use to locate new / existing utilities.
2. Trade Contractor shall include all costs to achieve the requirements listed in this specification section.

END OF SECTION 01 45 16

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for temporary utilities and controls, support facilities, and security and protection facilities.

1.2 REGULATIONS

A. Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to:

1. Building code requirements
2. Health and Safety requirements
3. Utility company requirements
4. Police, fire department and rescue squad rules
5. Environmental protection regulations.

B. Inspections: Each temporary utility shall be tested prior to use as per the local authority having jurisdiction.

1.3 ASSIGNMENT OF RESPONSIBILITY

A. The Construction Manager shall assign specific responsibility for installation, maintenance and removal of certain temporary facilities below.

B. Items that have no specific responsibility assigned to them shall apply to each and every Trade Contractor.

C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Trade Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

PART 2 - LISTING OF REQUIREMENTS

2.1 TEMPORARY POWER AND LIGHTING

A. Summary
1. Each Trade Contractor shall provide temporary power and lighting for construction purposes as needed after mobilization, as noted in the project schedule, or as coordinated with the Construction Manager. Each Trade Contractor shall provide their own generators to provide their own power as required.
2. Non-corded battery powered tools are preferred. However, if corded tools are required each Trade Contractor shall provide their own extension cords as necessary. Extension cords, if used, must remain suspended by non-conducting materials 9’ above finished floor elevation and relocated as necessary to facilitate the work

B. Temporary Electric – General Requirements

C. Temporary Lighting
1. Any temporary lighting required by other trades or more stringent than what is described herein is to be furnished by the trade requiring the lighting at their cost.

D. Electrical work shall conform to requirement of the National Electrical Code and all federal, state and local requirements. The Electrical Trade Contractor shall obtain and pay for applications, permits, and inspection pertaining to this work.

2.2 SANITARY FACILITIES

A. Temporary toilet facilities for all workers to be utilized for the duration of the project to be by Construction Manager. Provide number of units as appropriate for number of workers on-site.

2.3 TEMPORARY WATER

A. Each Trade Contractor shall provide its own drinking water and water required for this scope of work.

2.4 FIELD OFFICES AND SHEDS

A. Any Trade Contractor requiring office or storage trailers or sheds shall request space for such through the Construction Manager. There will limited areas for materials storage on the project site. Each Trade Contractor shall be responsible for installation, maintenance and removal of their storage facilities. Prior approval by Construction Manager is required.

2.5 ON-SITE MATERIAL STORAGE

A. The Construction Manager shall designate a lay-down area for stored materials. Said areas shall be kept neat and orderly by those Trade Contractors using it. On-site space will be limited for storage/lay-down. Trade Contractors are asked to follow Messer's Just-in-Time delivery policy when scheduling material deliveries.

2.6 TEMPORARY ROADS AND PAVING

A. Each Trade Contractor shall take measures to minimize mud and debris which might be tracked or fall onto existing roads. Any mud, debris, etc is the responsibility of the Trade Contractor responsible.

2.7 TEMPORARY PARKING

A. Parking is on a paid basis only.

2.8 DEWATERING FACILITIES AND DRAINS

A. Maintain the site, excavations and construction free of water.

B. Comply with individual specification section requirements. If none stated in the specification section, comply with Division 2 sections.

2.9 CONSTRUCTION AND PERSONNEL HOISTING

A. All Trade Contractors shall be responsible for providing their own hoisting.

2.10 CONSTRUCTION SIGNAGE

A. The Construction Manager will provide jobsite directional signage and project identification signage.

B. No other signage will be permitted.

2.11 SITE SECURITY

A. Each Trade Contractor shall be responsible for securing their materials, tools, and equipment.

B. There will not be any security provided after hours.

2.12 TEMPORARY FIRE PROTECTION

A. Existing permanent fire protection system will be active in the facility during the work. Each Trade Contractor shall coordinate work activities with the facility as needed to work with and around the active system.

B. Install and maintain temporary fire protection facilities to comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding construction, Alterations, and Demolition Operations." They shall be UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

C. Locate fire extinguishers where convenient and effective for intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.

D. Store combustible materials in containers in fire safe locations.

E. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.

F. Provide supervision of welding operations, combustion type temporary heating units and similar sources of fire ignition.

G. In addition to each Trade Contractor's own fire extinguisher requirements, the Construction Manager shall provide fire extinguishers at each floor and near each stair per OSHA regulations.

2.13 CONSTRUCTION DEBRIS HANDLING

A. Construction Manager shall provide dumpster(s) for debris and waste materials generated from construction operations of this Trade Contractor. This dumpster shall be used for disposal of materials from this project site only. It shall be emptied promptly when full.

B. Each Trade Contractor shall be responsible for transporting their own debris and waste materials to the dumpster.

C. Trade Contractors performing demolition activities shall provide their own means for removal of debris and demolished materials from the site. The aforementioned dumpster shall not be used for demolition debris, concrete, or concrete washing.

2.14 BARRICADES, WARNING LIGHTS AND SIGNS

A. Trade Contractors shall erect and maintain barricades, warning lights and signs necessary to protect other personnel, the public and the Work. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Illuminate when used during periods of darkness.

B. Provide barricades, identification and illumination as required around overhead hazards. Maintain CAZ's at all times when performing overhead work.

END OF SECTION 01 50 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 73 00
EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:

1. Construction layout.
2. Field engineering.
3. Installation.
4. Cutting and patching.
5. Coordination of Owner's portion of the Work.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

B. Related Requirements:

1. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
2. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do

not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner. This requirement applies to finished flooring systems, wall finishes, tile assemblies, decorative metal elements, ceilings, and painted surfaces.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous. Where patching occurs in continuous finish systems, extend replacement to natural break points or full surface areas as required to eliminate visual discontinuity.

C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, **mechanical and electrical systems,** and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to **Owner** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect **through Construction Manager** in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect **and Construction Manager** promptly.

B. Engage a **land surveyor** experienced in laying out the Work, using the following accepted surveying practices:

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect **and Construction Manager** when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect **and Construction Manager**.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect **or Construction Manager**. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect **and Construction Manager** before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

3.5 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb, and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of **96 inches (2440 mm)** in occupied spaces and **90 inches (2300 mm)** in unoccupied spaces, unless otherwise indicated on Drawings.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure satisfactory results as judged by the Architect. Maintain conditions required for product performance until Substantial Completion. Do not proceed with installation of finish systems when temperature, humidity, or substrate conditions are outside manufacturer’s recommended limits.

D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.

F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.

G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

3.6 CUTTING AND PATCHING

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of Work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of the Contract Documents.

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to **minimize** interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. **Concrete and Masonry**: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 COORDINATION OF OWNER'S PORTION OF THE WORK

A. Site Access: Provide access to Project site for Owner's construction personnel **and Owner's separate contractors**.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel **and Owner's separate contractors**.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

3.8 PROGRESS CLEANING

A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, in accordance with regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces in accordance with written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces. Protect finished restroom surfaces from damage, staining, and construction traffic immediately upon installation.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

C. Comply with manufacturer's written instructions for temperature and relative humidity.

3.11 CORRECTION OF THE WORK

A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.

C. Restore permanent facilities used during construction to their specified condition.

D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 73 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Project requirements to be fulfilled near the end of Contract Time in preparation for final acceptance and occupancy of the Work by the Owner.

1.2 RELATED SECTIONS

A. Section 013300 - Submittals.

B. Section 014000 - Quality Requirements.

C. Section 015000 - Construction Facilities and Temporary Controls.

D. Specific additional requirements for individual units of Work are included in the associated Specifications Sections.

E. Section 012513 – Product Substitution Procedures.

1.3 COORDINATION

A. Each Contractor and subcontractor shall comply with provisions of this Section.

B. Subcontractors shall make all submittals and requests specified in this Section to Contractor as required. Contractor shall:

1. Keep a log of all submittals and requests.
2. Review all submittals and requests.
3. Transmit submittals and requests to Construction Manager with a cover letter itemizing all submittals and requests being transmitted along with a statement indicating for each item Contractor’s best judgment as to the appropriateness of the submittal or request.

1.4 QUALITY ASSURANCE

A. Prior to requesting inspection, Contractor shall review Work and confirm that the Work is completed in accordance with the specified requirements and is ready for the requested inspection. Confirm that finish systems are complete, uniform in appearance, and free of damage prior to requesting inspection.

1.5 PREREQUISITES TO SUBSTANTIAL COMPLETION

A. General: Before requesting inspection for Certificate of Substantial Completion, either for all the Work or for portions of the Work, complete the following items. List known exceptions in the request.

1. Deliver to the Architect a comprehensive list of items, jointly prepared by the Contractor and the Construction Manager, to be completed or corrected prior to final payment.
2. In the progress payment request that coincides with, or is the first request following, the date Substantial Completion is claimed, show either 100% completion for the portion of the Work claimed as substantially complete, or list incomplete items, the value of incomplete work, and the reasons for the incomplete work. Include supporting documents for completion that are required by the Contract Documents. Include a statement showing an accounting of changes to the Contract Sum to date.
3. Advise the Owner and Construction Manager of pending insurance change– over requirements and provisions for continuing the performance bond through the warranty period.
4. Submit specific warranties, guarantees, workmanship/maintenance bonds, maintenance agreements, final certifications, and similar documents for those items whose warranties, guarantees, bonds, etc. commence on the date of Substantial Completion.
5. Discontinue or change over and remove temporary facilities and services from the Project Site, along with construction tools and facilities, and similar elements.
6. Complete cleaning requirements. Cleaning shall include removal of all construction residue from all finished restroom surfaces, including flooring, wall finishes, partitions, accessories, and decorative metal elements.
7. Deliver attic stock and spare materials required by the specifications, including but not limited to ceiling panels, flooring materials, and accessories, clearly labeled and turned over to the owner.

B. Inspection Procedures:
1. Upon receipt of Contractor’s request for inspection, the Construction Manager and Architect will either proceed with inspection or advise the Contractor of unfilled prerequisites.
2. Following initial inspection, the Construction Manager and Architect will prepare the Certificate of Substantial Completion or will advise Contractor of Work which must be performed before the Certificate can be issued. Construction Manager and Architect will repeat the inspection when requested and when assured that the Work is substantially complete.
3. Results of the completed inspection will form the initial punch list for final acceptance.

1.6 PREREQUISITES TO FINAL COMPLETION

A. General: Before requesting final inspection for Certificate of Final Acceptance and final payment, complete the following items. List known exceptions, if any, in the request..

1. Notice to the Construction Manager that the Work is ready for final inspection and acceptance.
2. Submit in form and substance reasonably satisfactory to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the

Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

3. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required. Include an updated final statement accounting for final additional changes to the Contract Sum.
4. Submit a copy of the Construction Manager and Architect's final punch list stating that each item is complete or otherwise resolved for acceptance.
5. Submit consent of Surety.
6. Submit evidence of final, continuing insurance coverage complying with the insurance requirements of the Conditions of the Contract.
7. Submit affidavits as required by the Ohio Mechanics lien law.
8. Submit Prevailing Wage Compliance Certificates.
9. Submit Record Documents, final project photographs, survey(s) and similar final record information.

B. Re-inspection Procedure:

1. Construction Manager and Architect will re-inspect the Work upon receipt of Contractor's notice that the Work, including punch list items resulting from earlier inspections, is complete except for those items whose completion was delayed because of circumstances acceptable to the Owner.
2. Upon completion of re-inspection, the Construction Manager and Architect will either prepare a certificate of final acceptance, or they will advise Contractor of Work that is incomplete or of obligations not fulfilled, but required, for final acceptance.
3. If necessary, the re-inspection procedure will be repeated.

1.7 PROJECT RECORD DOCUMENTS

A. Provide Record Documents in electronic format to the Construction Manager for all aspects of the Project.

1. Show all changes from the Contract Documents made during the Work. Unless noted otherwise, indicate changes in red notations on pdf's of Construction Documents. Make notations in a neat and legible manner on the pdf's, with additional explanatory drawings or sketches as necessary.
2. Submit Record Documents in electronic formats described in Section 011100 – Summary of Work and the Contract Documents.

B. Record Documents shall be complete and incorporate information from subcontractors. Ensure that Record Documents indicate the following:

1. Correct location of Work items and equipment where it differs from the location shown on Drawings.
2. Survey information, specifically including existing foundation and utility locations.
3. Specific items and requirements listed in individual specification Sections.
4. Other information of a pertinent or useful nature.

C. Submit the completed set of Record Documents as specified in 1.7.A above, unless noted otherwise within individual specification Sections.

D. Refer also to individual specification Sections for specific additional requirements for Record Documents.

1.8 GUARANTEES AND WARRANTIES

A. Before request for inspection for Substantial Completion, submit to the Construction Manager the certificates of guarantee and warranty required by the Specifications.

1.9 CLOSEOUT PROCEDURES

A. Except as otherwise indicated or requested by the Construction Manager, remove temporary protection devices and facilities installed during the Work to protect existing or previously completed Work.

B. Comply with safety standards and governing regulations for cleaning operations. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the Project Site and dispose of in a lawful manner. Where extra materials remain after completion of associated work, dispose of these materials as directed by the Construction Manager.

1.10 PROJECT CLOSEOUT SUBMITTAL CHECKLIST

A. Each Contractor and subcontractor shall submit to Construction Manager its portion of the following documents, as applicable, in accordance with all requirements of the Contract Documents:

1. Project Record Documents (As-Builts)
2. Guarantees, warranties and bonds.
3. Affidavits.
4. Evidence of compliance with requirements of governing authorities as applicable.
5. Release of liens and other related project closeout data, as indicated in the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 77 00

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals. Operation and maintenance data requirements are limited to systems, equipment, products, and finishes furnished or modified as part of this Project. Including the following:

1. Operation and maintenance documentation directory manuals.
2. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
1. Architect and Commissioning Authority will review operation and maintenance submittals for general conformance with the Contract Documents. Such review does not constitute approval of substitutions, deviations, or changes to the Contract Documents.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operation and maintenance manuals in the following format:

1. Submit by uploading to web-based project software site. Enable reviewer comments on draft submittals.
2. Submit three paper copies. Architect will return two copies.

C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect and Commissioning Authority will return copy with comments.

1. Correct or revise each manual to comply with Architect's and Commissioning Authority's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's and Commissioning Authority's comments and prior to commencing demonstration and training.

D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation. Failure to provide complete and acceptable operation and maintenance data in accordance with this Section shall delay Substantial Completion.

1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
2. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.4 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.

3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Architect.
7. Name and contact information for Commissioning Authority.
8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
9. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.5 EMERGENCY MANUALS

A. Emergency manuals are required only for systems and conditions applicable to the Work provided under this Contract

1.6 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.

10. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.7 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds, as described below.

C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

    a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds. Warranty documentation shall be consistent with warranties required under Section 01 77 00 and applicable technical Specification Sections.

1. Include procedures to follow and required notifications for warranty claims.

H. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1.8 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work. Product

maintenance manuals shall include cleaning agents, methods, and maintenance procedures suitable for high-traffic public restroom environments.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds. Warranty documentation shall be consistent with warranties required under Section 01 77 00 and applicable technical Specification Sections.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 78 23

DIVISION 01 – GENERAL CONDITIONS
SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Project Record Documents are required only for Work, systems, finishes, and equipment furnished, modified, or affected by the General Admission restroom renovations. Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record specifications.
3. Record Product Data.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set of marked-up record prints.
2. Number of Copies: Submit copies of Record Drawings as follows:

a. Initial Submittal:

1) Submit PDF electronic files of scanned record prints and two set(s) of file prints.

b. Final Submittal:

1) Submit PDF electronic files of scanned Record Prints and two set(s) of file prints.
2) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit two paper copies and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit two paper copies and annotated PDF electronic files and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.3 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

    a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    b. Accurately record information in an acceptable drawing technique.
    c. Record data as soon as possible after obtaining it.
    d. Record and check the markup before enclosing concealed installations.
    e. Cross-reference record prints to corresponding photographic documentation.

2. For this Project, record information shall focus on restroom layouts, partition locations, wall construction, finish extents, ceiling systems, lighting, plumbing fixture locations, and other Work modified by the renovation. Content: Types of items requiring marking include, but are not limited to, the following:

    a. Dimensional changes to Drawings.
    b. Revisions to details shown on Drawings.
    c. Depths of foundations.
    d. Locations and depths of underground utilities.
    e. Revisions to routing of piping and conduits.
    f. Revisions to electrical circuitry.
    g. Actual equipment locations.
    h. Duct size and routing.
    i. Locations of concealed internal utilities.
    j. Changes made by Change Order or Construction Change Directive.
    k. Changes made following Architect's written orders.
    l. Details not on the original Contract Drawings.
    m. Field records for variable and concealed conditions.
    n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Prepare Record Digital Data Files based on marked-up record prints immediately prior to inspection for Substantial Completion. Contractor is solely responsible for the accuracy and completeness of Project Record Documents. Refer questions of interpretation to the Architect.
   1. Retain one of three "Format" subparagraphs below.

   2. Format: Annotated PDF electronic file with comment function enabled.
   3. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
   4. Refer instances of uncertainty to Architect for resolution.
   5. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.

C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

   1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
   2. Format: Annotated PDF electronic file.
   3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
   4. Identification: As follows:

      a. Project name.
      b. Date.
      c. Designation "PROJECT RECORD DRAWINGS."
      d. Name of Architect.
      e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications. Recording of substituted or revised products shall not constitute approval of such substitutions unless separately approved in writing in accordance with Section 01 25 13.

   1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
   3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
   4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
   5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as annotated PDF electronic file.

1.5 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as annotated PDF electronic file. Record Product Data shall be consistent with operation and maintenance data submitted under Section 01 78 23 and warranties submitted under Section 01 77 00.

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours. Failure to maintain Project Record Documents in accordance with this Section may delay Substantial Completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 78 39

DIVISION 04 – MASONRY
SECTION 04 22 00
CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout materials.
3. Reinforcement.
4. Masonry-joint reinforcement.
5. Embedded flashing materials.
6. Miscellaneous masonry accessories.
7. Masonry-cell insulation.

B. Products Installed, but Not Furnished, under This Section:
1. Steel lintels and steel shelf angles in accordance with Section 055000 "Metal Fabrications" in concrete unit masonry.

C. Related Requirements:

1. Section 071900 "Water Repellents" for water repellents applied to surface of unit masonry assemblies.
2. Section 072119 "Foamed-In-Place Insulation" for foam insulation installed in CMU cores.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site** .

1.3 ACTION SUBMITTALS

A. Product data.

B. Shop Drawings: For the following: Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315.

C. Samples for Verification: For each type and color of the following:

1. **Exposed** CMUs.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Material certificates.

C. Mix designs.

D. Statement of compressive strength of masonry.

1.5 QUALITY ASSURANCE

A. Project team craftworkers of the Masonry Contractor assigned to Project will be required to have the International Masonry Institute - Flashing Training or equal and to provide evidence of certificate or a letter of the firm's commitment to enroll key project personnel in the training program prior to the start of Project.

B. Project team craftworkers of the Masonry Contractor assigned to Project will be required to have the International Masonry Institute - Grouting and Reinforcing Training or equal and to provide evidence of certificate or a letter of the firm's commitment to enroll key project personnel in the training program prior to the start of Project.

C. Testing Agency Qualifications: Qualified in accordance with ASTM C1093 for testing indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops indicated net-area compressive strengths at 28 days.

1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) in accordance with Tables 1 and 2 in TMS 402/602.
2. Determine net-area compressive strength of masonry by testing masonry prisms accordance with ASTM C1314.

B. Regulatory Requirements: Comply with the provisions of the following codes, specifications, and standards, except as otherwise shown or specified:

1. TMS 402/602.

2.2 CONCRETE UNIT MASONRY, GENERAL

A. Masonry Standard: Comply with TMS 402/602 except as modified by requirements in the Contract Documents.

B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work **and will be within 20 ft. (6 m) vertically and horizontally of a walking surface**.

C. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
2. Provide **bullnose** units for outside corners unless otherwise indicated.

D. Concrete Building Brick: ASTM C55.

E. Building Lintels:
1. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs matching adjacent CMUs in color, texture, and density classification, with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.
2. Offset Angle Supports: Steel plate brackets anchored to structure, allowing continuous insulation behind shelf angle supporting veneer. Component and anchor size and spacing engineered by manufacturer.
   a. Carbon Steel, Galvanized after Fabrication: ASTM A1008/A1008M.

F. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing in accordance with ASTM E119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

G. Integral Water Repellent: Surface-applied water repellent for exposed units **where indicated**.

1. Description: Liquid polymeric, water-repellent admixture that does not reduce flexural bond strength. Units made with water repellent, when tested in accordance with ASTM E514/E514M as a wall assembly made with mortar containing water-repellent manufacturer's mortar additive, with test period extended to 24 hours, show no visible water or leaks on the back of test specimen.

2.3 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

B. CMUs: ASTM C90, normal weight.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2500 psi (17.2 MPa).

C. Concrete Building Brick: ASTM C55, normal weight.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2500 psi (17.2 MPa).
2. Size (Actual Dimensions): 3-5/8 inches (92 mm) wide by 3-5/8 inches (92 mm) high by 7-5/8 inches (194 mm) long.

2.4 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

1. Alkali content is not more than 0.1 percent when tested in accordance with ASTM C114.

B. Hydrated Lime: ASTM C207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C91/C91M.

E. Colored Cement Products: Packaged blend made from portland cement and hydrated lime or masonry cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.

F. Preblended Dry Mortar Mix: Packaged blend made from portland cement and hydrated lime or masonry cement, sand, mortar pigments, water repellents, and admixtures and complying with ASTM C1714/C1714M.

G. Aggregate for Mortar: ASTM C144.

1. White-Mortar Aggregates: Natural white sand or crushed white stone.
2. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

H. Aggregate for Grout: ASTM C404.

I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

J. Water-Repellent Mortar Admixture: Liquid water-repellent admixture added to mortar, intended for use with CMUs containing integral water repellent from same manufacturer.

K. Water: Potable.

2.5 REINFORCEMENT

A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60 (Grade 420).

B. Masonry-Joint Reinforcement, General: Ladder type complying with ASTM A951/A951M.
   1. Exterior Walls: Hot-dip galvanized carbon or Stainless steel.
   2. Wire Size for Side Rods: 0.148-inch (3.77-mm) diameter.
   3. Wire Size for Cross Rods: 0.148-inch (3.77-mm) diameter.
   4. Wire Size for Veneer Ties: 0.187-inch (4.76-mm) diameter.
   5. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches (406 mm) o.c.
   6. Provide in lengths of not less than 10 ft. (3 m), with prefabricated corner and tee units.

C. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.

D. Masonry-Joint Reinforcement for Multiwythe Masonry:
   1. Ladder type with one side rod at each face shell of hollow masonry units more than 4 inches (102 mm) wide, plus two side rods at each wythe of masonry 4 inches (102 mm) wide or less.

E. Masonry-Joint Reinforcement for Veneers Anchored with Seismic Masonry-Veneer Anchors: Single 0.187-inch- (4.76-mm-) diameter, hot-dip galvanized carbon or stainless steel continuous wire.

2.6 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:

   1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
   2. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M commercial steel, with ASTM A153/A153M, Class B coating.
   3. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

B. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

   1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch- (6-mm-) diameter, **stainless steel** wire.
   2. Tie Section: Triangular-shaped wire tie made from [**0.187-inch- (4.76-mm-)**] [**0.25-inch- (6.35-mm-)**] diameter, **steel** wire

C. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from [**0.060-inch- (1.52-mm-) thick steel sheet, galvanized after fabrication**] [**0.105-inch- (2.66-mm-) thick steel sheet, galvanized after fabrication**] [**0.062-inch- (1.59-mm-) thick, stainless steel sheet**] [**0.109-inch- (2.78-mm-) thick, stainless steel sheet**].

    a. [**0.064-inch- (1.63-mm-)**] [**0.108-inch- (2.74-mm-)**] thick, galvanized-steel sheet may be used at interior walls unless otherwise indicated.

2. Tie Section: Triangular-shaped wire tie made from [**0.187-inch- (4.76-mm-)**] [**0.25-inch- (6.35-mm-)**] diameter, **stainless steel** wire.

D. Rigid Anchors: Fabricate from steel bars **1-1/2 inches (38 mm) wide by 1/4 inch (6 mm) thick by 24 inches (610 mm) long, with ends turned up 2 inches (51 mm) or with cross pins unless otherwise indicated bent to configuration indicated**].

1. Corrosion Protection: **Hot-dip galvanized to comply with ASTMA 153/A153M**

2.7 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:

1. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.016 inch (0.40 mm) thick.
2. Fabricate continuous flashings in sections 96 inches (2438 mm) long minimum, but not exceeding 12 ft. (3.7 m). Provide splice plates at joints of formed, smooth metal flashing.
3. Fabricate metal drip edges from stainless steel. Extend at least 3 inches (76 mm) into wall and 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
4. Fabricate metal sealant stops from stainless steel. Extend at least 3 inches (76 mm) into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch (19 mm) and down into joint 1/4 inch (6.4 mm) to form a stop for retaining sealant backer rod.
5. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.

B. Flexible Flashing: Use the following unless otherwise indicated:

1. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene terpolymer, complying with ASTM D4637/D4637M, 40 mil (1.0 mm) thick.

2. Stainless Steel Fabric Flashing: Composite, flashing product consisting of 2 mils (0.05 mm) of **Type 304**stainless steel sheet, bonded to a layer of woven polymeric fabric.

C. Solder and Sealants for Sheet Metal Flashings: **As specified in Section 076200 "Sheet Metal Flashing and Trim."**

D. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.8 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from **neoprene urethane or PVC**.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D2000, Designation M2AA-805 or PVC, complying with ASTM D2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

D. Masonry Cleaners:

1. Proprietary Acidic Masonry Cleaner: Manufacturer's standard-strength, general-purpose cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from masonry surfaces of type indicated below without discoloring or damaging masonry surfaces; expressly approved for intended use by manufacturer of masonry units being cleaned.

2.9 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.

D. Pigmented Mortar: Use colored cement product.

1. Pigments do not exceed 10 percent of portland cement by weight.
2. Pigments do not exceed 5 percent of masonry cement by weight.
3. Application: Use pigmented mortar for exposed mortar joints with the following units: Brick veneer.

E. Grout for Unit Masonry: Comply with ASTM C476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C476, Table 1 or paragraph 4.2.1.2 for specified 28-day compressive strength indicated, but not less than 2000 psi (14 MPa).
3. Provide grout with a slump of as measured in accordance with ASTM C143/C143M.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

B. Exposed Masonry: Mix units to product uniform blend of colors and textures.

C. Where existing masonry occurs, match coursing, bonding, color, and texture of existing masonry.

D. Temperature Control: Perform temperature-sensitive construction procedures while masonry Work is progressing. Temperature ranges vary at time of installation, except for grout. For grout, temperature ranges apply to anticipated minimum night temperatures. In heating mortar and grout materials, maintain mixing temperature selected within 10 deg F (6 deg C).

E. Masonry Protection: Protect completed masonry and masonry not being worked by the required day and night anticipated minimum air temperatures.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (13 mm) or minus 1/4 inch (6 mm).
2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (13 mm).
3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (13 mm) total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 ft. (6 mm in 3 m), or 1/2 inch (13 mm) maximum.

2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 ft. (3 mm in 3 m), 1/4 inch in 20 ft. (6 mm in 6 m), or 1/2 inch (13 mm) maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 ft. (6 mm in 3 m), 3/8 inch in 20 ft. (9 mm in 6 m), or 1/2 inch (13 mm) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 ft. (3 mm in 3 m), 1/4 inch in 20 ft. (6 mm in 6 m), or 1/2 inch (13 mm) maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 ft. (6 mm in 3 m), 3/8 inch in 20 ft. (9 mm in 6 m), or 1/2 inch (13 mm) maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (13 mm).
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in **running bond**, stack bond as indicated on drawings, do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

E. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.

F. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.

B. Lay solid CMUs with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 MASONRY-CELL FILL INSTALLATION

A. Pour insulation materials into cavities to fill void spaces. Maintain inspection ports to show presence of fill at extremities of each pour area. Close the ports after filling has been confirmed. Limit the fall of fill to one story high, but not more than 20 ft. (6 m).

B. Install molded-polystyrene insulation units into masonry unit cells before laying units.

3.6 MASONRY-JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches (406 mm) o.c.
2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 12 inches (305 mm) beyond openings **in addition to continuous reinforcement**.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.7 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

A. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:

1. Provide an open space not less than [**1/2 inch (13 mm)**] [**1 inch (25 mm)**] [**2 inches (50 mm)**] wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches (610 mm) o.c. vertically and 36 inches (915 mm) o.c. horizontally.

3.8 CONTROL JOINTS

A. General: Install control joint materials in CMUs as masonry progresses. Do not allow materials to span control joints without provision to allow for in-plane wall or partition movement.

B. Locate control joints. **Comply with NCMA TEK 10-02D**.

3.9 LINTELS

A. Install lintels over openings as indicated.

B. Provide concrete or formed-in-place masonry lintels where shown and where openings of more than 12 inches (305 mm) for brick-size units and 24 inches (610 mm) for block-size units are shown without structural steel or other supporting lintels. Provide minimum bearing of 8 inches (200 mm) at each jamb unless otherwise indicated.

C. Install loose steel over openings**as follows**

1. Provide minimum bearing of 8 inches (200 mm) at each jamb unless otherwise indicated.

D. Lintels at Fire-Rated Openings: Provide fire-rated masonry required or steel lintels with applied fireproofing in thickness required to maintain fire rating of wall or partition rating.

3.10 FLASHING

A. General: Install embedded flashing at ledges and other obstructions to downward flow of water in wall where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape **as recommended by flashing manufacturer**.
2. At lintels, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.

3. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
4. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.

C. Install single-wythe CMU flashing system in bed joints of CMU walls where indicated to comply with manufacturer's written instructions. Install CMU cell pans with upturned edges located below face shells and webs of CMUs above and with weep spouts aligned with face of wall. Install CMU web covers so that they cover upturned edges of CMU cell pans at CMU webs and extend from face shell to face shell.

3.11 REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in TMS 402/602.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 402/602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than **60 inches (1500 mm)**

3.12 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.

B. Inspections: Level 2 special inspections to comply with the International Building Code.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces, grades, sizes, and locations of reinforcement.

3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 5000 sq. ft. (464.5 sq. m) of wall area or portion thereof.

E. Concrete Masonry Unit Test: For each type of unit provided, in accordance with ASTM C140 for compressive strength.

F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, in accordance with ASTM C780.

3.13 REPAIRING, POINTING, AND CLEANING

A. In-Progress Cleaning: Clean unit masonry as Work progresses by dry brushing to remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.

3.14 MASONRY WASTE DISPOSAL

A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.

1. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.

B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.

C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042200

DIVISION 05 – METALS
SECTION 05 01 70.51
DECORATIVE METAL CLEANING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes decorative metal cleaning as follows:

1. Cleaning metal.
2. Removing paint
3. Removing corrosion.
4. Priming for repainting.

B. Related Requirements:

1. Section 013516 "Alteration Project Procedures" for general remodeling, renovation, repair, and maintenance requirements.

1.2 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

A. Low-Pressure Spray: **100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s)**

B. Medium-Pressure Spray: **400 to 800 psi (2750 to 5510 kPa); 4 to 6 gpm (0.25 to 0.4 L/s)**

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site.**

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.6 QUALITY ASSURANCE

A. Decorative Metal Cleaning Specialist Qualifications: A qualified decorative metal cleaning specialist. Cleaning specialist shall be experienced in using mechanical and chemical methods on the types of metal surfaces indicated.

B. Follow SSINA, ASTM380/A967, and architectural metal manufacturer guidelines for stainless steel cleaning.

C. Mockups: Prepare mockups of decorative metal cleaning processes to demonstrate aesthetic effects and to set quality standards for materials and execution. Prepare mockups so they are inconspicuous.

1. Cleaning: Prepare an area **approximately 2 sq. ft. (0.2 sq. m)** for each process on each type of metal indicated for treatment.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS

A. Water: Potable.

B. Hot Water: Water heated to a temperature of 140 to 160 deg F (60 to 71 deg C)..

C. Detergent Solution, Job Mixed: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent, and 20 quarts (20 L) of hot water for every 5 gal. (20 L) of solution required.

D. Nonacidic Liquid Chemical Cleaner: Manufacturer's standard mildly alkaline liquid cleaner, formulated for removing organic soiling from ordinary building materials, including polished stone, brick, copper, brass, bronze, aluminum, stainless steel, plastics, wood, and glass.

E. Abrasive Materials:

1. Abrasive Pads for Copper-Alloy Cleaning: Extra-fine bronze wool or plastic abrasive pads.
2. Abrasives for Ferrous Metal Cleaning: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.

F. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.

2.2 PAINT REMOVERS

A. Alkaline-Paste Paint Remover: Manufacturer's standard alkaline paste or gel formulation for removing paint from metals, and containing no methylene chloride.

B. Low-Odor, Solvent-Type-Paste Paint Remover: Manufacturer's standard low-odor, water-rinsable solvent-type paste, gel, or foamed emulsion formulation for removing paint from metals; and containing no methanol or methylene chloride.

2.3 FERROUS METAL PRIMERS

A. Repair Primer: Manufacturer's standard, rust-inhibiting, fast-curing, lead- and chromate-free, universal primer, compatible with **firmly adhered existing paint and** applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry-film thickness.

PART 3 - EXECUTION

3.1 DECORATIVE METAL CLEANING, GENERAL

A. Execution of the Work: In cleaning items, disturb them as minimally as possible and as follows:

1. Remove deteriorated coatings and corrosion.
2. Sequence work to minimize time before protective coatings are reapplied.
3. Clean items in place unless otherwise indicated.

B. Mechanical Coating Removal: Use gentle methods, such as scraping and wire brushing, that will not abrade metal substrate.

C. Repaint: Where indicated, prepare painted decorative metal by **cleaning surface, removing less than firmly adhered existing paint, sanding edges smooth** and priming for painting as specified.

3.2 CLEANING

A. General: Use those methods indicated for each type of decorative metal and its location.

1. Brushes: If using wire brushes, use brushes of same base metal composition as metal being treated. Use brushes that are resistant to chemicals being used.
2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.

    a. Equip units with pressure gages.
    b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
    c. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
    d. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.

3. Uniformity: Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, contours, and interstices, and that produces an even effect without streaks or damaging surfaces.

B. Water Cleaning: Clean with **cold** water applied by **low** pressure spray. Supplement with natural-fiber or plastic-bristle brush. Use small brushes to remove soil from joints and crevices.

C. Detergent Cleaning:

1. Wet surface with **warm** water applied by low-pressure spray.
2. Scrub surface with detergent solution and natural-fiber or plastic-bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.
3. Rinse with **cold** water applied by **low** pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure where needed to produce cleaning effect established by mockup.

D. Nonacidic Liquid Chemical Cleaning: Apply chemical cleaner to surfaces according to chemical-cleaner manufacturer's written instructions.

1. Wet surface with **cold** water applied by low-pressure spray.
2. Apply cleaner to surface **in two applications** by brush **or low-pressure spra**].
3. Let cleaner remain on surface for period **recommended in writing by chemical-cleaner manufacturer** and/or **established by mockup**.
4. Nonferrous Metals: Rinse with **cold** water applied by **low** pressure spray to remove chemicals and soil.
5. Ferrous Metals: Do not rinse ferrous metals with water; neutralize chemical cleaner on ferrous metals as recommended in writing by manufacturer. Dry immediately with clean soft cloths. Follow direction of grain in metal.
6. Repeat cleaning procedure where needed to produce cleaning effect established by mockup. Do not repeat more than once.

E. Cleaning with Abrasive Pads: Clean surfaces to remove dirt by light rubbing with abrasive pads and water. **Rinse with cold water to remove residue. Apply rinse by low-pressure spray**. **Do not use abrasive cleaner on stainless steel.**

F. Chemical Rust Removal:

1. Remove loose rust scale with approved abrasives for ferrous metal cleaning.
2. Apply rust remover with brushes or as recommended in writing by manufacturer.
3. Allow rust remover to remain on surface for period recommended in writing by manufacturer or as determined by testing. Do not allow extended dwell time.
4. Wipe off residue with mineral spirits and either steel wool or soft rags, or clean with method recommended in writing by manufacturer to remove residue.
5. Dry immediately with clean, soft cloths. Follow direction of grain in metal.
6. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

G. Mechanical Rust Removal:

1. Remove rust with approved abrasives for ferrous metal cleaning.
2. Wipe off residue with mineral spirits and either steel wool or soft rags.
3. Dry immediately with clean, soft cloths. Follow direction of grain in metal.

4. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

3.3 PAINT REMOVAL

A. General: Use only those paint-removal methods indicated for each type of decorative metal.

1. Application: Apply paint removers according to paint-remover manufacturer's written instructions. Do not allow paint removers to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.
2. Brushes: If using wire brushes, use brushes of same base metal composition as metal being treated. Use brushes that are resistant to chemicals being used.
3. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.

    a. Equip units with pressure gages.
    b. Unless otherwise indicated, hold spray nozzle at least 6 inches (152 mm) from surface and apply material in horizontal, back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.
    c. For chemical spray application, use low-pressure tank or chemical pump suitable for chemical indicated, equipped with cone-shaped spray.
    d. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
    e. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.

B. Paint Removal with Alkaline-Paste Paint Remover:

1. Remove loose and peeling paint using water, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted metal with brushes.
3. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by testing.
4. Rinse with **cold** water applied by **low**-pressure spray to remove chemicals and paint residue.
5. Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.
6. Repeat process if necessary to remove all paint.

C. Paint Removal with Solvent-Type-Paste Paint Remover:

1. Remove loose and peeling paint using water, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply thick coating of paint remover to painted decorative metal with natural-fiber cleaning brush, deep-nap roller, or large paint brush. Apply in one or two coats according to manufacturer's written instructions.
3. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by testing.

4. Rinse with cold water applied by low pressure spray to remove chemicals and paint residue.
5. Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.
6. Repeat process if necessary to remove all paint.

3.4 PRIMING

A. Repair Primer: Apply immediately after completing a repair.

B. Finish Primer: Apply as soon after cleaning as possible.

END OF SECTION 05 01 70.51

DIVISION 05 – METALS
SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous framing and supports.
2. Shelf angles.
3. Metal panel
4. Miscellaneous steel trim.
5. Abrasive metal nosings.
6. Loose bearing and leveling plates.
7. Perforated metal panel.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
3. Steel weld plates and angles for casting into concrete.

C. Specifications for railing is in Section 055213 - Pipe and Tube Railings.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:
1. Fasteners.
2. Shop primers.
3. Shrinkage-resisting grout.
4. Slotted channel framing.
5. Abrasive metal nosings.

B. Shop Drawings: Show fabrication and installation details. **Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.**

C. Samples: Provide the following
1. For type and finish of extruded **nosing**.
2. Perforated metal panel.

D. Sustainable Design Submittals:

PART 2 - PRODUCTS

2.1 METALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Stainless Steel Bars and Shapes: ASTM A276/A276M, **Type 304**.

D. Rolled-Steel Floor Plate: ASTM A786/A786M, rolled from plate complying with ASTM A36/A36M or ASTM A283/A283M, Grade C or D.

E. Rolled-Stainless Steel Floor Plate: ASTM A793.

F. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.

G. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.

H. Zinc-Coated Steel Wire Rope: ASTM A741.

1. Wire Rope Fittings: Hot-dip galvanized-steel connectors with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.

I. Stainless Steel Wire Rope: Wire rope manufactured from stainless steel wire complying with ASTM A492, Type 316.

1. Wire Rope Fittings: Stainless steel connectors, Type 316, with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.

J. Steel Prestressing Strand: ASTM A416/A416M, Grade 270 (Grade 1860), low-relaxation, seven-wire, with 0.9-lb/sq. ft. (4.39-kg/sq. m) zinc coating.

1. Steel Prestressing Strand Fittings: Hot-dip galvanized-steel anchors and connectors with capability to sustain, without failure, a load equal to minimum breaking strength of steel prestressing strand with which they are used.

K. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.

1. Size of Channels: **As indicated**.
2. Material: Galvanized steel, ASTM A653/A653M, **structural steel, Grade 33 (Grade 230)**, with G90 (Z275) coating; **0.108-inch (2.8-mm)** nominal thickness.
3. Material: Cold-rolled steel, ASTM A1008/A1008M, **structural steel, Grade 33 (Grade 230)**; [**0.0966-inch (2.5-mm)** minimum thickness; **hot-dip galvanized after fabrication**.

L. Cast Iron: Either gray iron, ASTM A48/A48M, or malleable iron, ASTM A47/A47M, unless otherwise indicated.

M. Perforated Metal Panel: Drawings indicate perforated metal patterns required. Panels should be produced by one manufacturer. Roll, press, and grind perforated metal to flatten and to remove burrs and deformations.

N. Glavanized Sheet Metal: ASTM A653, ASTM A924, 22 gauge, minimize spangle.

O. Aluminum Extrusions: ASTM B221 (ASTM B221M), Alloy 6063-T6.

P. Aluminum Castings: ASTM B26/B26M, Alloy 443.0-F.

2.2 FASTENERS

A. General: Unless otherwise indicated, provide **Type 316** stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

1. Provide stainless steel fasteners for fastening **stainless steel**

B. Cast-in-Place Anchors in Concrete: Either threaded or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A47/A47M malleable iron or ASTM A27/A27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F2329/F2329M.

C. Post-Installed Anchors: **Torque-controlled expansion anchors or chemical anchors**.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy **Group 2 (A4)**] stainless steel bolts, ASTM F593 (ISO 3506-1), and nuts, ASTM F594 (ASTM F836M).

D. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B633, Class Fe/Zn 5, as needed for fastening to inserts.

2.3 MISCELLANEOUS MATERIALS

A. Shop Primers: Provide primers that comply with **Section 099113 "Exterior Painting."**

B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer that contains pigments that make it easily distinguishable from zinc-rich primer.

C. Water-Based Primer: Emulsion type, anticorrosive primer for mildly corrosive environments that is resistant to flash rusting when applied to cleaned steel, complying with MPI#107 and compatible with topcoat.

D. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

E. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

F. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

G. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

H. Shrinkage-Resistant Grout: Factory-packaged, nonmetallic, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

I. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa).

2.4 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing **and contour of welded surface matches that of adjacent surface**.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, not less than 8 inches (200 mm) from ends and corners of units and 24 inches (600 mm) o.c.

2.5 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

C. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.

1. Where wood nailers are attached to girders with bolts or lag screws, drill or punch holes at 24 inches (600 mm) o.c.

D. Fabricate steel pipe columns for supporting wood frame construction from steel pipe with steel baseplates and top plates as indicated. Drill or punch baseplates and top plates for anchor and connection bolts and weld to pipe with fillet welds all around. Make welds the same size as pipe wall thickness unless otherwise indicated.

2.6 SHELF ANGLES

A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive 3/4-inch (19-mm) bolts, spaced not more than 6 inches (150 mm) from ends and 24 inches (600 mm) o.c., unless otherwise indicated.

1. Provide mitered and welded units at corners.
2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately 2 inches (50 mm) larger than expansion or control joint.

B. For cavity walls, provide vertical channel brackets to support angles from backup masonry and concrete.

C. Galvanize[**and prime**] shelf angles located in exterior walls.

D. Prime shelf angles located in exterior walls with **primer specified in Section 099600 "High-Performance Coatings."**

E. Furnish wedge-type concrete inserts, complete with fasteners, to attach shelf angles to cast-in-place concrete.

2.7 MISCELLANEOUS STEEL TRIM

A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.

B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.

1. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.

C. Galvanize **exterior** miscellaneous steel trim.

D. Prime **exterior** miscellaneous steel trim with **primer specified in Section 099600 "High-Performance Coatings."**

2.8 ABRASIVE METAL NOSINGS, TREADS, AND THRESHOLDS

A. Cast-Metal Units: Cast **iron** with an integral-abrasive, as-cast finish consisting of aluminum oxide, silicon carbide, or a combination of both. Fabricate units in lengths necessary to accurately fit openings or conditions.
1. Product: Wooster Products, Inc., 3” Type 101, Ferrogrit, abrasive cast iron tread nosing for poured concrete or equal.
2. Material: Class 20 iron, with cross hatching and fluting shot one coat black paint.
3. Nosings to terminate 3” from ends of steps on each side.

B. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with manufacturer.

C. Drill for mechanical anchors and countersink. Locate holes not more than 4 inches (100 mm) from ends and not more than 12 inches (300 mm) o.c., evenly spaced between ends, unless otherwise indicated. Provide closer spacing if recommended by manufacturer.

D. Apply bituminous paint to concealed surfaces of cast-metal units.

E. Apply clear lacquer to concealed surfaces of extruded units.

2.9 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Galvanize bearing and leveling plates.

C. Prime plates with **zinc-rich primer.**

2.10 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.

B. Galvanize **and prime** loose steel lintels located in exterior walls.

C. Prime loose steel lintels located in exterior walls with **zinc-rich primer.**

2.11 STEEL WELD PLATES AND ANGLES

A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.12 GENERAL FINISH REQUIREMENTS

A. Finish metal fabrications after assembly.

2.13 STEEL AND IRON FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.

1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

B. Shop prime iron and steel items **not indicated to be galvanized** unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

1. Shop prime with **primers specified in Section 099113 "Exterior Painting"**unless **primers specified in Section 099600 "High-Performance Coatings" are** indicated.

C. Preparation for Shop Priming: Prepare surfaces to comply with **requirements indicated below:**

1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
3. Items Indicated to Receive Primers Specified in Section 099600 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
4. Other Steel Items: SSPC-SP 3, "Power Tool Cleaning."
5. Galvanized-Steel Items: SSPC-SP 16, "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."

D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

A. Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

B. Anchor supports for suspended fixture and/or signage–securely to, and rigidly brace from, building structure.

C. Anchor shelf angles securely to existing construction with **expansion anchors** and/or **anchor bolts through bolts**.

D. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.

3.3 INSTALLATION OF PREFABRICATED BUILDING COLUMNS

A. Install prefabricated building columns to comply with ANSI/AISC 360, "Specifications for Structural Steel Buildings," and with requirements applicable to listing and labeling for fire-resistance rating indicated.

3.4 INSTALLATION OF SHELF ANGLES

A. Install shelf angles as required to keep masonry level, at correct elevation, and flush with vertical plane.

3.5 INSTALLATION OF METAL LADDERS

A. Secure ladders to adjacent construction with the clip angles attached to the stringer.

B. Install brackets as required for securing of ladders welded or bolted to structural steel or built into masonry or concrete.

3.6 INSTALLATION OF METAL FLOOR PLATE

A. Install metal floor plates flush with finished surface. Adjust as required to avoid lippage that could present a tripping hazard.

3.7 INSTALLATION OF STRUCTURAL-STEEL DOOR FRAMES

A. Fasten structural steel door frames to the floor slab by means of angle clips and expansion bolts. Anchor door jambs to adjacent construction in accordance with shop drawing details.

3.8 INSTALLATION OF MISCELLANEOUS STEEL TRIM

A. Anchor to concrete construction to comply with manufacturer's written instructions.

3.9 INSTALLATION OF ABRASIVE METAL NOSINGS, TREADS, AND THRESHOLDS

A. Center nosings on tread widths unless otherwise indicated.

B. For nosings embedded in concrete steps or curbs, align nosings flush with riser faces and level with tread surfaces.

C. Seal thresholds exposed to exterior with elastomeric sealant complying with Section 079200 "Joint Sealants" to provide a watertight installation.

3.10 INSTALLATION OF LOOSE BEARING AND LEVELING PLATES

A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.

B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with shrinkage-resistant grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.11 REPAIRS

A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 05 50 00

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 071400

FLUID APPLIED WATERPROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. All labor, material, equipment, special tools, and services required to complete the work required for the project as indicated on the Drawings and in the Specifications, including but not limited to:

a. Hot-applied waterproofing system replacement and repairs.

B. Related Sections

1. Section 221400: Drains and Piping.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM D-1621: Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
2. ASTM D-4491: Standard Test Method for Water Permeability of Geotextiles by Permittivity.
3. ASTM D-4632: Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
4. ASTM D-4716: Standard Test Method for Determining the (in-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of Geosynthetic Using a Constant Head.
5. ASTM D-4751: Standard Test Method for Determining Apparent Opening Size of a Geotextile.
6. ASTM D-4833: Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes and Related Products.

1.3 DEFINITIONS

A. The term "manufacturer's recommendations," or variations thereon shall mean "manufacturer's recommendations which are found in publications available to and commonly used by the general architectural and consulting professions.”

1.4 SUBMITTALS

A. Literature for manufactured products, including manufacturer's specifications, test data, installation instructions, applicator's manual and warranty documents.

B. Letter of applicator approval from the manufacturer per Paragraph 1.5.B.

C. Letters of experience per Paragraph 1.5.C.

D. Letter from manufacturer stating their system as specified is suitable for use in this project.

E. Safety Data Sheets on all materials.

F. Upon completion of the work and before final payment provide fully executed warranties.

G. Materials and procedures to be used in the repair of the existing waterproofing membrane and expansion joint flashing.

1.5 QUALITY ASSURANCE

A. Applicable Codes

1. The Contractor shall comply with all Federal, State and Municipal laws, codes, ordinances, and regulations applicable to the Work in this Contract and also with all requirements of the National Fire Protection Association, the National Electric Code, and the Occupational Safety and Health Administration (OSHA). If the above laws, codes, or ordinances conflict with this Specification, then the laws, codes or ordinances shall govern, except in such cases where the Specification exceeds them in quality of materials or labor, then the Specifications shall be followed.

2. If the above laws, codes, or ordinances conflict with the Specification, then the laws, codes or ordinances shall govern, excerpt in such cases where the Specification exceeds them in quality of materials or labor, then the Specifications shall be followed.

B. The membrane system applicator shall be approved by the manufacturer prior to the start of work.

C. Membrane applicator's lead personnel (field superintendent and foreman) in charge of the work shall each have the following experience:

1. Three (3) verifiable years of experience supervising the application of the membrane system being provided on this project.

2. Successfully installed three (3) membrane projects of similar size, type and using the same membrane system being provided on this project.

D. Membrane applicator's lead personnel shall be present for all field operation pertaining to this waterproofing system installation.

E. The Owner reserves the right to request different lead personnel if, in the Owner’s opinion, those assigned to the project are not qualified by way of experience or ability to perform the Work. Comply with the Owner's request at no additional cost.

F. Substrate Compatibility

1. The manufacturer and contractor shall:

a. Jointly review and inspect the substrate materials to which the new waterproofing membrane is intended to be applied.

b. Perform tests as necessary to ensure compatibility and verify the absence of materials, visible and invisible, detrimental to the application or performance of the waterproofing membrane.

c. Review materials specified elsewhere in the Construction Documents to which the waterproofing membrane is intended to be applied.

2. If inspections, tests or review of materials and substrate reveal conflicts of compatibility with the intended waterproofing membrane provide written evidence of the compatibility conflict to the Owner prior to ordering of materials.

3. By beginning the waterproofing system (including substrate preparation), the Contractor accepts the responsibility for ensuring the performance of the waterproofing system.

4. If the Contractor fails to submit proof of incompatible materials, and if failure of the waterproofing system is a result of chemical or physical incompatibilities with existing or specified products or materials, the Contractor is responsible for all costs related to correcting the deficient work and for all direct and indirect costs to the Owner.

G. Testing

1. The Owner may perform tests to ensure compliance with the Contract Documents and manufacturer's requirements.

2. If tests reveal noncompliance, correct deficiencies in a manner approved by the Owner and the manufacturer at no additional cost.

3. Except as otherwise specified, the Owner will pay the cost of the tests, including repair and patching of test areas.

4. Where tests reveal deficiencies in the membrane materials or installation, the costs of the tests, and repair and patching of the test areas shall be borne by the Contractor.

H. Air compressors shall be equipped with functional oil and water separators.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in sealed, undamaged containers. Identify each container with the material's name, lot number and date of manufacture.

B. Store membrane materials in a place specifically assigned for that purpose and which is well ventilated, lighted, and not subject to direct sunlight.

C. Heat or cool the storage area to maintain temperatures within the range recommended by the membrane manufacturer.

D. Keep membrane materials sealed in original containers when not in use.

E. Keep the storage area neat and clean.

F. Do not overload or otherwise distress the structure.

G. Handle membrane system materials in strict accordance with safety and weather limitations required by product literature or as modified by applicable rules and regulations of Local, State and Federal authorities having jurisdiction.

H. When using toxic or flammable solvents, take necessary precautions as recommended by the manufacturer. The handling and use of toxic or flammable solvents, including

adequate ventilation and personal protective equipment, shall conform to the requirements of the applicable safety regulatory agencies.

1.7 EXISTING CONDITIONS

A. The existing buried waterproofing membrane system consists of a hot rubberized asphalt waterproofing system and drainage mat, installed in the original Stadium construction project using a Carlisle system.

1.8 JOB CONDITIONS – WEIGHT RESTRICTIONS AND MOVEMENT

A. The Contractor shall use equipment for membrane installation on structured concrete slab areas with the following weight restrictions:

1. The maximum wheel load shall not exceed 2,000 lbs.
2. The maximum distributed load shall not exceed 90 psf.
3. Wheelbase of loaded equipment shall not exceed 5 feet.
4. Equipment positioning, movement and orientation is subject to Engineer and Owner review.

PART 2 PRODUCTS

2.1 MEMBRANE MATERIALS

A. Hot applied reinforced waterproofing membrane, approved products:

1. Monolithic Membrane 6125 by Hydrotech, Inc.
2. 790-11 by Henry Company.
3. TREMproof of 6100 by Tremco.

B. Primer: Required. Product as recommended by the waterproofing membrane manufacturer.

C. Flashing/reinforcing sheet: Spunbonded polyester fabric as recommended by the membrane manufacturer. Use uncured neoprene reinforcement sheet where required by the waterproofing manufacturer and at all membrane penetrations.

D. Protection Course: Required. Product as recommended by the waterproofing membrane manufacturer.

E. Drainage Board

1. Profile: Dimple board with high impact polystyrene core and woven filter fabric bonded to individual dimples.
2. Board Thickness: 0.25 to 0.38 inches.
3. Board Compressive Strength: Minimum 30,000 psf.
4. Board Flow Rate: 15 gallons/min./sq.ft at 3600 psf and hydraulic gradient 1.0 per ASTM D-4716.
5. Fabric opening size: US standard sieve 80 per ASTM D-4751.

6. Fabric Tensile Strength: 205 lbs. per ASTM D-4632.
7. Fabric Flow Rate: 95 gallons/sq.ft. per ASTM D-4491.

F. Filter Fabric: Woven drainage fabric with the following characteristics:
1. Weight: 6.5 oz/sq.yd.
2. Grab Strength: 400x250 per ASTM D-4632.
3. Puncture Strength: 80 lbs. per ASTM D-4833.
4. Equivalent Opening Size: 70-100 US Standard sieve per ASTM D-4751.
5. Water.

G. Adhesives and Sealants: As recommended and approved by the membrane manufacturer.

H. Neoprene Flashing Sheet: Fabric reinforced, minimum 60 mil thick material as recommended by waterproofing membrane manufacturer.

PART 3 EXECUTION

3.1 PROTECTION

A. Do not allow construction equipment or other trades on prepared concrete substrate or existing waterproofing system.

B. Do not store materials or equipment on prepared concrete substrate or existing waterproofing system.

C. Do not allow construction traffic personnel to traverse across prepared concrete substrate or existing waterproofing system.

3.2 PREPARATION

A. General
1. Perform surface preparation and cleaning procedures in accordance with this Section unless the waterproofing system manufacturer has more stringent requirements. Apply membrane to clean, dry, prepared surfaces.
2. Patch or detail voids and other surface defects as required providing a uniform, smooth substrate for the membrane application. Follow the membrane manufacturer’s written recommendations.
3. Clean substrate surfaces to the standard of cleanliness required by the membrane manufacturer.
4. Clean substrate surfaces free of oil, grease, loose concrete, dirt, and any other debris that will inhibit bond or be detrimental to the system. Leave the prepared surface with a uniform texture and no more than 1% of the total surface area in noncompliance.
5. Do not use acids for surface preparation.
6. Do not use water (high pressure or low pressure) for surface preparation.

B. Existing Concrete

1. Hand scrape to remove all remaining remnants of the previous waterproofing membrane not removed during demolition.
2. Grind and vacuum surfaces to remove previous membrane residue from the concrete surfaces.
3. Immediately prior to waterproofing installation, clean surfaces to remove laitance and debris per manufacturer's requirements.

C. Metals

1. Grind metal surfaces that will be in contact with membrane system.

3.3 REPAIR OR REPLACEMENT OF EXISTING MEMBRANE SYSTEM

A. General

1. Provide membrane system repairs which the manufacturer recommends for this project. This Section specifies the minimum membrane mil thickness and system installation specifics required for the work.
2. Heat and apply the membrane in accordance with the manufacturer's instructions. Use materials and application techniques to prevent pin holing and blistering.
3. Terminate membrane on vertical surfaces 1/2" below the top of finish surfaces or grade which will be installed after the work of this Section.
4. Mask vertical surfaces as required to protect the adjacent surface finishes. Use temporary steel sleeves to protect newly installed reinforcing dowels, rods and tree tie-down eyelets during membrane installation.
5. Provide surface condition or primers on substrate as required by the membrane manufacturer.
6. Ensure specified application rates of liquid products on vertical and steeply sloped surfaces by using multiple applications of material over previous applications which are fully cured.

B. Repair of Depressed or Poorly Draining Membrane Areas

1. Completely remove existing drainage mat to expose protection board atop existing membrane system. Remove any loose or otherwise deteriorated protection board and existing membrane materials.
2. Immediately remove the existing bladder over the expansion joint in the work area and replace with new neoprene flashing sheet bladder, installed continuous with no seams from the high point at the administration building to the top of the seating area. Install new bladder in new membrane materials per manufacturer recommendations.
3. Inspect and repair as necessary via T&M all membrane terminations in the work area following manufacturer recommendations.
4. Confirm via flood testing and elevations surveys areas where existing surface does

not adequately drain to either existing area drains, open edges of the concourse work area, or new subsurface weeps scheduled for installation in the field wall. Review finding with Engineer, then as directed by the Engineer perform T&M repairs with membrane materials following manufacturer recommendations to improve the drainage conditions.

C. New Reinforced Membrane Waterproofing

1. At new membrane installations, provide a minimum 90 dry mil membrane detail coat and continuous reinforcement sheet as required by the membrane manufacturer.
2. Provide a minimum 90 dry mil membrane detail coat and reinforcement sheet at interior and exterior corners and other changes in the substrate direction.
3. Provide a minimum 90 dry mil membrane detail coat and reinforcement sheet on all unit masonry walls, continuous with detail coat at adjacent wall to floor intersections.
4. Provide a minimum 90 dry mil membrane coat and uncured neoprene flashing sheet around drains and other slab penetrations at interior corners where slabs meet perimeter retaining walls, and at metal angles at expansion joints.
5. While the membrane is hot, install reinforcing fabric and completely embed into liquid membrane.
6. Provide a minimum 125 dry mils second coating of membrane, for a total reinforced membrane thickness including the detailing of 215 dry mils. Modify coverage to account for existing surface roughness.

D. Protection Course

1. Soon as possible following application of membrane, provide protection board on the membrane in compliance with the membrane manufacturer's recommendations.
2. Install no piece less than ten (10) square feet in size.
3. Ensure the protection board lays flat and in contact with the membrane.

E. Drainage Board

1. Provide new drainage board on all surfaces, including vertical surfaces, as indicated.
2. Begin installation at low point of deck area and proceed to high points.
3. Overlap drainage fabric in shingle fashion between abutting panels. Minimum overlap onto adjoining panel shall be 2".
4. Seal fabric overlap to abutting panel fabric with mastic as approved by the drainage board manufacturer. Install a minimum 1/4" wide continuous bead of mastic between overlap areas.
5. Where drainage board terminates at walls or other projections, wrap filter fabric over exposed edge and terminate on underside of board. Extend filter fabric a minimum of 1-1/2 inches onto underside of board.
6. Where drainage board interests existing expansion joint or existing or new drains, cut

away drainage board to assure water movement into bladder or drain, but install a supplemental filter fabric wrap at edge of drainage board to assure board remains unclogged with debris. Coordinate a visual review of all such locations with the Engineer prior to completion of work per this Specification.

7. Temporarily weight drainage board to maintain in place until next phase of work. Size and type of weight provided shall not damage previously complete waterproofing work or drainage board.
8. Cover drainage board promptly with next phase of work. Do not allow drainage board to be exposed for more than seven days. If drainage board is scheduled for exposure beyond seven days, install a supplemental layer of filter fabric to protect against excessive dirt and debris buildup as well as UV exposure. Remove and discard filter fabric prior to the installation of permanent overburden materials.

3.4 FIELD QUALITY CONTROL

A. Site Testing

1. Water Test
   a. Prior to installation of drainage board, plug drains and outlets and water test flashing and membrane by ponding horizontal areas a minimum of 2 inches for a period of 24 hours.
   b. Provide means of water containment during water testing to prevent flooding of adjoining areas.
   c. If leaks occur below, drain area and repair membrane. Retest repair area only.
   d. Construct water containment barriers as approved by the membrane manufacturer.
2. Application Monitoring
   a. Owner will periodically monitor the application rates of the membrane components and will notify the job foreman of noted discrepancies.
   b. Owner's periodic monitoring of the application rates shall not relieve the Contractor of the responsibility to provide the specified membrane thickness.

B. Manufacturer's Field Service

1. A technically competent employee of the waterproofing membrane manufacturer (the technician), not associated with the Contractor, the installation crew, product distributor or sales representative shall be on site before the first installation of membrane system repairs. Provide resume of experience and credentials for approval by the Owner.
2. The technician shall remain on site for the length of time necessary to observe the preparation and installation of one shift of membrane system repairs.
3. Do not begin application of the waterproofing membrane system until the technician has approved the preparation, cleanliness, and surface texture of the substrate.

4. The technician shall review all Contractor application techniques and procedures and shall advise the Contractor when, where and as required to obtain specification compliance.
5. Owner reserves the right to request the presence of the same technician on site for installation of the remainder of the waterproofing membrane system repairs or related work if difficulties are encountered, as determined by the Owner, at no additional cost to the Owner.
6. Owner reserves the right to request a different technician if the one at the site fails to perform the duties herein specified. The Contractor and manufacturer shall comply with the Owner's request at no additional cost to the Owner.

3.5 CLEAN-UP

A. During the progress of the work, remove from the project all discarded materials and debris.

B. Clean all surfaces affected by work of this Section and repair all damage caused to adjacent construction or property, at no cost to the Owner.

C. Leave adjacent premises clean and free of construction dirt and debris which resulted as part of the construction process.

D. Remove empty containers from the facility at the end of each working day.

E. Place soiled cloths that constitute fire hazards in suitable metal safety containers or remove them from the site at the end of each working day. Take special care in storage or disposal of flammable materials. Comply with health and fire regulations.

END OF SECTION 07 14 00

DIVISION 07 – THERMAL AND MOUISTURE PROTECTION
SECTION 07 18 00
TRAFFIC COATINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes traffic coatings **and pavement markings** for the following applications:

1. Pedestrian traffic.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include installation instructions and details, material descriptions, dry- or wet-film thickness requirements, and finish.

B. Sustainable Design Submittals:

C. Shop Drawings: For traffic coatings.

1. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions that are not included in manufacturer's product data.

D. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Sample warranty.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace traffic coating that fails in materials or workmanship within specified warranty period.

1. Warranty Period: **Five** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Material Compatibility: Provide primers; base coat, intermediate coat, and topcoat; and accessory materials that are compatible with one another and with substrate under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design".

2.2 TRAFFIC COATINGS

A. Traffic Coating: Manufacturer's standard lane treatment combining methyl methacrylate resins and aggregate with colorfast pigments for integral color-stable wearing surface for **pedestrian traffic** service condition; according to ASTM D562, ASTM G155.

1. PPG Methyl Methacrylate (MMA) MMAX by Ennis-Flint or equal.

2. Custom Color: Pantone PMS 1655 C, Cincinnati Bengals Orange.

B. Mixing: Catalyst quantity shall be based on pavement temperature per the manufacturers standards. Check spray equipment capabilities to determine whether to add aggregate to mix or broadcast during application. Material with aggregate shall mix to approximately 2.79 gallons (10.55 liters) and weigh approximately 52 lbs. (23.6 kg). Clean the mixing paddle between uses or material will immediately initiate curing if exposed to previously catalyzed material (and not cleaned).

2.3 ACCESSORY MATERIALS

A. Joint Sealants: **ASTM C920.**

B. Sheet Flashing: Nonstaining sheet material recommended in writing by traffic-coating manufacturer.

C. Adhesive: Contact adhesive recommended in writing by traffic-coating manufacturer.

D. Reinforcing Strip: Fiberglass mesh recommended in writing by traffic-coating manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean and prepare substrates according to ASTM C1127 and manufacturer's written instructions to produce clean, dust-free, dry substrate for traffic-coating application.

1. Application of coating indicates acceptance of surfaces and conditions.

B. Mask adjoining surfaces not receiving traffic coatings to prevent overspray, spillage, leaking, and migration of coatings. Prevent traffic-coating materials from entering deck substrate penetrations and clogging weep holes and drains.

C. Concrete Substrates: Mechanically abrade surface to a uniform profile acceptable to manufacturer, according to ASTM D4259. Do not acid etch.

1. Remove grease, oil, paints, and other penetrating contaminants from concrete.
2. Remove concrete fins, ridges, and other projections.
3. Remove laitance, glaze, efflorescence, curing compounds, concrete hardeners, form-release agents, and other incompatible materials that might affect coating adhesion.
4. Remove remaining loose material to provide a sound surface, and clean surfaces according to ASTM D4258.

3.2 TERMINATIONS AND PENETRATIONS

A. Prepare vertical and horizontal surfaces at terminations and penetrations through traffic coatings and at expansion joints, drains, and sleeves according to ASTM C1127 and manufacturer's written instructions.

B. Provide sealant cants at penetrations and at reinforced and nonreinforced, deck-to-wall butt joints.

C. Terminate edges of deck-to-deck expansion joints with preparatory base-coat strip.

D. Install sheet flashings at deck-to-wall expansion and dynamic joints, and bond to deck and wall substrates according to manufacturer's written recommendations.

3.3 JOINT AND CRACK TREATMENT

A. Prepare, treat, rout, and fill joints and cracks in substrates according to ASTM C1127 and manufacturer's written recommendations. Before coating surfaces, remove dust and dirt from joints and cracks according to ASTM D4258.

1. Comply with recommendations in ASTM C1193 for joint-sealant installation.

B. Apply reinforcing strip in traffic-coating system where recommended in writing by traffic-coating manufacturer.

3.4 INSTALLATION OF TRAFFIC COATINGS

A. Apply traffic coating according to ASTM C1127 and manufacturer's written instructions.

B. Apply coats of specified compositions for each type of traffic coating at locations as indicated on Drawings.

C. Apply traffic coatings to prepared wall terminations and vertical surfaces to height indicated; omit aggregate on vertical surfaces.

D. Cure traffic coatings.

3.5 INSTALLATION OF PAVEMENT MARKINGS

A. Do not apply pavement-marking paint for striping and other markings until layout, colors, and placement have been verified with Architect and traffic coating has cured.

B. Sweep and clean surface to eliminate loose material and dust.

C. Apply pavement-marking paint with mechanical equipment to produce markings of dimensions indicated with uniform straight edges. Apply at manufacturer's recommended rates for a minimum wet-film thickness of 15-mils (0.4-mm).

3.6 PROTECTING AND CLEANING

A. Protect traffic coatings from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 18 00

DIVISION 07 – THERMAL AND MOISTURE PROECTION
SECTION 07 21 00
THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board insulation.
2. Glass-fiber blanket insulation.
3. Mineral-wool blanket insulation.

1.2 ACTION SUBMITTALS

A. Product data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes less than Class A, 25 and 450 when tested in accordance with ASTM E84.

B. Fire-Resistance Ratings: Comply with ASTM E119 or UL 263; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from listings of another qualified testing agency.

C. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

D. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches (305 mm) and wider in width.

E. Thermal-Resistance Value (R-Value): R-value as indicated on Drawings in accordance with ASTM C518.

2.2 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION (XPS)

A. Extruded Polystyrene Board Insulation, Type IV: ASTM C578, Type IV, 25 psi (173 kPa) minimum compressive strength; unfaced.

B. Extruded Polystyrene Board Insulation, Type IV, Drainage Panels: ASTM C578, Type IV, 25 psi (173 kPa) minimum compressive strength; unfaced.

2.3 GLASS-FIBER BLANKET INSULATION

A. Glass-Fiber Blanket Insulation, Unfaced: ASTM C665, Type I; passing ASTM E136 for combustion characteristics.

2.4 MINERAL-WOOL BLANKET INSULATION

A. Mineral-Wool Blanket Insulation, Unfaced: ASTM C665, Type I (blankets without membrane facing); consisting of fibers; complying with ASTM E136 for combustion characteristics.

2.5 SPRAY-APPLIED CELLULOSIC INSULATION

A. Self-Supported, Spray-Applied Cellulosic Insulation, R-22.5, ASTM C1149, **Type I (materials applied with liquid adhesive; suitable for either exposed or enclosed applications)** chemically treated for flame-resistance, processing, and handling characteristics.

2.6 INSULATION FASTENERS

A. Adhesively Attached, Spindle-Type Anchors: Plate welded to projecting spindle; capable of holding insulation of specified thickness securely in position with self-locking washer in place.

1. Plate: Perforated, galvanized carbon-steel sheet, 0.030 inch (0.762 mm) thick by 2 inches (50 mm) square.
2. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch (2.67 mm) in diameter; length to suit depth of insulation.

B. Adhesively Attached, Angle-Shaped, Spindle-Type Anchors: Angle welded to projecting spindle; capable of holding insulation of specified thickness securely in position with self-locking washer in place.

1. Angle: Formed from 0.030-inch- (0.762-mm-) thick, perforated, galvanized carbon-steel sheet with each leg 2 inches (50 mm) square.
2. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch (2.67 mm) in diameter; length to suit depth of insulation.

C. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch- (0.41-mm-) thick galvanized-steel sheet, with beveled edge for increased stiffness, sized as required to hold insulation securely in place, but not less than 1-1/2 inches (38 mm) square or in diameter.

1. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in the following locations:

a. Ceiling plenums.

D. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates without damaging insulation, fasteners, or substrates.

E. Insulation Fastener Accessories: Provide double-pointed weld pins, lagging pins, quilting pins, duct liner pins, insulation hangers, specialty washers, special caps, j-hooks, capacitor discharge annular weld pins, capacitor discharge acoustical lagging pins, and other accessory materials that are recommended in writing by insulation fastener manufacturer to produce complete insulation supports.

2.7 ACCESSORIES

A. Insulation for Miscellaneous Voids:

1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.
2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.
3. Polyurethane Pour-In-Place Insulation: Closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84, specifically formulated for pour-in-place applications.

B. Miscellaneous Application Accessories:

1. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.
2. Crack Sealer: Closed-cell insulating foam in aerosol dispenser recommended in writing by insulation manufacturer for filling gaps in board insulation.
3. Detailing Foam Insulation for Voids: Urethane foam complying with AAMA 812, low expansion pressure suitable for filling insulation gaps and voids adjacent to openings to protect against water, air, and sound intrusion.
4. Tapes for Reflective Insulation and Barriers:

    a. Aluminum-foil tape for repairs or splicing material.
    b. Double-sided tape for adhering to metal framing or overlapping material.
    c. Reinforced-foil tape for sealing tears or cuts in sheet vapor barrier.

5. Clip-and-Pin Components:

    a. Beam/Bar Joist Clips: For beams, bar joists, and Z-type purlins.
    b. C-Purlin Clips: For C-type purlins.
    c. Angle Clips: For sidewalks and floors.
    d. Tube Clips: For wood beams and metal tubular framing.
    e. Locking Washers: Aluminum; white to match reflective bubble insulation facing colors.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or those that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products, applications and applicable codes.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Install insulation with manufacturer's R-value label exposed after insulation is installed.

D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF SLAB INSULATION

A. On vertical slab edge and foundation surfaces, set insulation units using manufacturer's recommended adhesive in accordance with manufacturer's written instructions.

1. If not otherwise indicated, extend insulation a minimum of 24 inches (610 mm) below exterior grade line.

B. On horizontal surfaces, loosely lay insulation units in accordance with manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

1. If not otherwise indicated, extend insulation a minimum of 24 inches (610 mm) in from exterior walls.

3.4 INSTALLATION OF FOUNDATION WALL INSULATION

A. Butt panels together for tight fit.

B. Anchor Installation: Install board insulation on concrete substrates by adhesively attached, spindle-type insulation anchors as follows:

1. Fasten insulation anchors to concrete substrates with insulation anchor adhesive in accordance with anchor manufacturer's written instructions.
2. Space anchors in accordance with insulation manufacturer's written instructions for insulation type, thickness, and application.
3. Apply insulation standoffs to each spindle to create cavity width indicated on Drawings between concrete substrate and insulation.
4. After adhesive has dried, install board insulation by pressing insulation into position over spindles and securing it tightly in place with insulation-retaining washers, taking care not to compress insulation.
5. Where insulation will not be covered by other building materials, apply capped washers to tips of spindles.

C. Adhesive Installation: Install with adhesive or press into tacky waterproofing or dampproofing in accordance with manufacturer's written instructions.

3.5 INSTALLATION OF CAVITY-WALL INSULATION

A. Foam-Plastic Board Insulation: Install pads of adhesive spaced approximately 24 inches (610 mm) o.c. both ways on inside face and as recommended in writing by manufacturer.

1. Fit courses of insulation between wall ties and other obstructions, with edges butted tightly in both directions, and with faces flush.
2. Press units firmly against inside substrates.
3. Supplement adhesive attachment of insulation by securing boards with two-piece wall ties designed for this purpose and specified in Section 042000 "Unit Masonry."

3.6 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Blanket Insulation: Install in cavities formed by framing members in accordance with the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
5. Where glass-fiber blankets are indicated for sound attenuation above ceilings, install unfaced blanket insulation over ceiling area in thickness indicated. Where partitions occur, extend insulation up either side of partition.

B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
2. Detailing Foam Insulation for Voids: Apply in accordance with manufacturer's written instructions.

C. Spray-Applied Cellulosic Insulation: Apply spray-applied insulation in accordance with manufacturer's written instructions.

1. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked.
2. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.

3.7 INSTALLATION OF BOARD INSULATION

A. Install board insulation in accordance with manufacturer's written instructions per project applications and conditions.

B. Install interior radiation control coating system in accordance with ASTM C1321.

3.8 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.

B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
SECTION 07 27 26
FLUID-APPLIED MEMBRANE AIR BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vapor-retarding, fluid-applied air barriers.
2. Vapor-permeable, fluid-applied air barriers.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site.**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For air-barrier assemblies.

1. Include details for substrate joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.

1.4 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Product test reports.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Mockups: Build mockups to set quality standards for materials and execution.

1. Build integrated mockups of exterior wall assembly **150 sq. ft. (14 sq. m** >, incorporating backup wall construction, external cladding, window, storefront, door frame and sill, insulation, ties and other penetrations, and flashing to demonstrate surface preparation,

crack and joint treatment, application of air barriers, and sealing of gaps, terminations, and penetrations of air-barrier assembly.

a. Coordinate construction of mockups to permit inspection and testing of air barrier before external insulation and cladding are installed.
b. Include junction with roofing membrane and**, building corner condition.**

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Air-Barrier Performance: Air-barrier assembly and seals with adjacent construction to be capable of performing as a continuous air barrier **and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration**. Air-barrier assemblies to be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

B. Air-Barrier Assembly Air Leakage: Maximum [**0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa)** when tested in accordance with ASTM E2357.

C. Air Permeance: Maximum [**0.004 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75 Pa)**] pressure difference; ASTM E2178.

D. Ultimate Elongation: Minimum **250** percent; ASTM D412, Die C.

E. Adhesion to Substrate: Minimum **16 lbf/sq. in. (110 kPa)** when tested in accordance with ASTM D4541.

F. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

G. UV Resistance: Can be exposed to sunlight for 120 days in accordance with manufacturer's written instructions.

2.2 HIGH-BUILD AIR BARRIERS, VAPOR RETARDING

A. High-Build, Vapor-Retarding Air Barrier Synthetic Polymer Type: Synthetic polymer membrane with an installed dry film thickness, according to manufacturer's written instructions, of 35 mils (0.9 mm) or thicker over smooth, void-free substrates.
1. Carlisle Coatings & Waterproofing, Inc.; Fire Resist Barritech VP.
2. Henry Company; Air-Bloc 17MR.
3. W. R. Meadows, Inc.; Airshield LSR.
4. Sto Corp.; Sto VaporSeal.

B. Vapor Permeance: Maximum 0.7 perm (40 ng/Pa x s x sq. m); ASTM E96/E96M, Procedure A, Desiccant Method.**ert value**>; ASTM E.

2.3 ACCESSORY MATERIALS

A. Requirement: Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by air-barrier manufacturer to produce a complete air-barrier assembly and that are compatible with primary air-barrier material and adjacent construction to which they may seal.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

A. Clean, prepare, treat, fill, and seal substrate and joints and cracks in substrate in accordance with manufacturer's written instructions and details. Provide clean, dust-free, and dry substrate for air-barrier application.

B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.

C. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids in concrete with substrate-patching material.

D. Remove excess mortar from masonry ties, shelf angles, and other obstructions.

E. At changes in substrate plane, apply sealant or termination mastic beads at sharp corners and edges to form a smooth transition from one plane to another.

F. Bridge [**isolation joints**] [**expansion joints**] [**and**] discontinuous wall-to-wall, deck-to-wall, and deck-to-deck joints with air-barrier accessory material that accommodates joint movement in accordance with manufacturer's written instructions and details.

3.2 INSTALLATION

A. Install materials in accordance with air-barrier manufacturer's written instructions and details to form a seal with adjacent construction and ensure continuity of air and water barrier.

1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
2. Install transition strip on roofing membrane or base flashing so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate.
3. Unless manufacturer recommends in writing against priming, apply primer to substrates at required rate and allow it to dry.
4. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by air-barrier material on same day. Reprime areas exposed for more than 24 hours.

B. Connect and seal exterior wall air-barrier material continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.

C. Wall Openings: Prime concealed, perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply transition strip so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate. Maintain 3 inches (75 mm) of full contact over firm bearing to perimeter frames.

D. Repair punctures, voids, and deficient lapped seams in strips and transition strips. Slit and flatten fishmouths and blisters. Patch with transition strips extending 6 inches (150 mm) beyond repaired areas in strip direction.

E. High-Build Air Barriers: Apply continuous unbroken air-barrier material to substrates according to the following thickness. Apply air-barrier material in full contact around protrusions such as masonry ties.

1. Vapor-Retarding, High-Build Air Barrier: Total dry film thickness **as recommended in writing by manufacturer to comply with performance requirements, but not less than 35 mils (0.9 mm)** applied in **one or more equal coats**.

F. Do not cover air barrier until it has been tested and inspected by testing agency.

G. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air-barrier components.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: **Engage** a qualified testing agency to perform tests and inspections.

B. Tests: As determined by testing agency from among the following tests:

1. Air-barrier dry film thickness.
2. Adhesion Testing: Air-barrier assemblies will be tested for required adhesion to substrate in accordance with ASTM D4541 for each **600 sq. ft. (56 sq. m)** of installed air barrier or part thereof.

C. Air barriers will be considered defective if they do not pass tests and inspections.

1. Apply additional air-barrier material, in accordance with manufacturer's written instructions, where inspection results indicate insufficient thickness.
2. Remove and replace deficient air-barrier components for retesting as specified above.

D. Repair damage to air barriers caused by testing; follow manufacturer's written instructions.

E. Prepare test and inspection reports.

3.4 CLEANING AND PROTECTION

A. Protect air-barrier system from damage during application and remainder of construction period, in accordance with manufacturer's written instructions.

B. Remove masking materials after installation.

END OF SECTION 07 27 26

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
SECTION 07 42 13.23
METAL COMPOSITE MATERIAL WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal composite material (MCM) panels.
2. Metal composite material (MCM) systems.

1.2 DEFINITIONS

A. DBVC: Drained and back-ventilated cavity rainscreen system designed to drain and dry water entering cavity through drainage channels, weeps, and air ventilation.

B. MCM: Metal composite material; cladding material formed by joining two thin metal skins to polyethylene or fire-retardant core and bonded under precise temperature, pressure, and tension.

C. PER: Pressure-equalized rainscreen system designed for no water intrusion, with equal pressure within air cavity and outside cladding barrier.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.4 ACTION SUBMITTALS

A. Product data.

B. Shop Drawings:

1. Include fabrication and installation layouts of MCM system; details of edge conditions, joints, panel profiles, corners, anchorages, attachment assembly, trim, flashings, closures, accessories, and special details.
2. Accessories: Include details of flashing, trim, and anchorage, at a scale of not less than 1-1/2 inches per 12 inches (1:10).
3. Provide signed and sealed drawings, by a qualified design professional in Project jurisdiction, of MCM system showing compliance with performance requirements and design criteria identified for this Project.

C. Samples: For each type of MCM panel and system indicated, with factory-applied color finishes.

D. Delegated Design Submittals: For MCM system, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Test and Evaluation Reports:

1. Product Test Reports: For each **MCM panel**, **MCM system**, for tests performed by **manufacturer and witnessed by a qualified testing agency**]. CM panel manufacturer's material test reports.
   a. Fabricator's MCM system test reports.

      1) **Dry** Seal System: Tested to AAMA 501.1.
      2) DBVC System: Tested to AAMA 509.
      3) PER System: Tested to AAMA 508.

2. Research reports.

B. Delegated design engineer qualifications.

C. Sample warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance data.

B. Warranty documentation.

1.7 QUALITY ASSURANCE

A. Qualifications:

1. Fabricator: **Approved by MCM panel manufacturer**. An entity that has successfully fabricated and assembled MCM panels and approved by the MCM manufacturer.

2. Manufacturer: An entity that has successfully manufactured MCM at a domestically located factory for a minimum of 5 year
3. Installer: **Entity that employs installers and supervisors who are trained and approved by MCM system manufacturer**.
4. Delegated Design Engineer: A professional engineer who is legally qualified to practice in Ohio where Project is located and who is experienced in providing engineering services of the type indicated.
5. Testing Agency: An agency acceptable to authorities having jurisdiction.

1.8 WARRANTY

A. Panel Integrity Warranty: Manufacturer agrees to repair or replace components of MCM panels that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **10** years from date of Substantial Completion.

B. Panel Finish Warranty: Manufacturer agrees to repair finish or replace MCM panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: **20** years from date of Substantial Completion.

C. MCM System Warranty: **Fabricator's** standard form in which manufacturer agrees to repair or replace components of MCM systems that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Two** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design MCM system.

B. Structural Performance: MCM systems to withstand the effects of the following loads, based on testing in accordance with ASTM E330/E330M:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: a**s indicated on Drawings**
3. Panel Deflection Limits: For wind loads, no greater than 1/60 of the span.
4. Framing Member Deflection Limits: For wind loads, no greater than 1/175 of the spa

C. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested in accordance with ASTM E283/E283M at the following test-pressure difference:

1. Test-Pressure Difference: **6.24 lbf/sq. ft. (300 Pa)**.

D. Water Penetration under Static Pressure: No water penetration when tested in accordance with ASTM E331 at the following test-pressure difference:

1. Test-Pressure Difference: **6.24 lbf/sq. ft. (300 Pa)**.

E. Water Penetration under Dynamic Pressure: No water penetration when tested in accordance with AAMA 501.1 at the following test pressure:

1. Test Pressure: **6.24 psf (300 Pa).**

F. Pressure Cycling: Provide PER system with a pass rating in accordance with AAMA 508.

1. Lag between the cavity and the cyclic wind pressure to not exceed 0.08 seconds.
2. Maximum differential between the cavity and the cyclic wind pressure to not exceed 50 percent of the maximum test pressure.

G. Provide DBVC system **with V-axis classification number greater than or equal to W-axis classification number** in accordance with AAMA 509.

H. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes. Locate expansion and contraction points to allow for free and noiseless thermal movements from surface temperature changes at a range of 20 deg F to 180 deg F (minus 29 to 82.2 deg C), material surfaces.

I. Fire-Resistance Ratings: Comply with ASTM E119 or UL 263; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from listings of another qualified testing agency.

J. Fire Propagation Characteristics: MCM system passes NFPA 285 testing.

2.2 METAL COMPOSITE MATERIAL (MCM) WALL PANELS

A. Metal Composite Material (MCM) Wall Panels: Provide MCM panels fabricated from two metal facings bonded to a solid, extruded thermoplastic core.

1. Basis-of-Design Product: Subject to compliance with requirements, provide ALUCOBOND® PLUS manufactured by 3A Composites USA, Inc., or comparable product by:
   a. Arconic Architectural Products
   b. Mitsubishi Chemical America.
2. Core: **FR**
3. Panel Thickness: **0.157 inch (4 mm)**.
4. Bond Strength: 22.5 in-lb/in. (100 N x mm/mm) when tested for bond integrity in accordance with ASTM D1781.
5. Fire Performance: Flame-spread index less than **25** and smoke-developed index less than 450, in accordance with ASTM E84 or UL 723.

B. MCM Panel Materials:

1. Aluminum-Faced Panels ASTM B209 **alloy as standard with manufacturer, temper as required to suit finish and forming operations**with **0.032-inch- (0.81-mm-)**thick, aluminum sheet facings.

   a. Exterior Finish: **Fluoropolymer** coats shall comply with specified warranty period.

      1) Color: **As indicated on drawings**.

2.3 METAL COMPOSITE MATERIAL (MCM) SYSTEM

A. Dry-Seal Barrier MCM System: Provide factory-formed and -assembled, MCM panels formed into profile for dry-seal barrier system installation. Include attachment assembly components**, panel stiffeners**, and accessories required for weathertight system.

1. Alucobond Dry Reveal or equal.

B. System Panel Depth: **2 inch (50 mm)**

C. Attachment Assembly Components: **Manufacturer's standard Clips**, **Tracks**, **Channels**, **<I** formed from **extruded aluminum material compatible with panel facing**.

D. Labeling: Comply with labeling requirement of applicable building code.

2.4 ACCESSORIES

A. Metal Subframing and Furring: ASTM C955 cold-formed, metallic-coated steel sheet ASTM A653/A653M, G90 (Z275) hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of MCM system.

B. System Accessories: Provide components required for a complete, weathertight wall system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of MCM panels unless otherwise indicated.

C. Flashing and Trim: Provide flashing and trim formed from same material as MCM panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent MCM panels.

D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Use gasketed or approved coated fasteners between dissimilar metals.

1. Aluminum Panels: Use aluminum or stainless steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
2. Steel Panels: Use stainless steel fasteners.
3. Provide exposed fasteners with heads matching color of MCM panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

E. Panel Sealants: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in MCM panels and remain weathertight; and as recommended in writing by MCM system manufacturer.

2.5 FABRICATION

A. Fabricate and finish MCM panels at the factory, by panel manufacturer's standard procedures and processes, as necessary to fulfill indicated panel performance requirements demonstrated by laboratory testing.

B. Shop-fabricate MCM systems and accessories by fabricator's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with requirements of MCM panel manufacturer, of indicated system profiles, and with dimensional and structural requirements.

1. Fabricate panels to dimensions indicated on Drawings based on an assumed design temperature of 70 deg F (21 deg C). Allow for ambient temperature range at time of fabrication.
2. Formed MCM panel lines, breaks, and angles to be sharp and straight, with surfaces free from warp or buckle.
3. Fabricate panels with sharply cut edges and no displacement of face sheet or protrusion of core.
4. Attach routed-and-returned panel flanges to **panel clips** with manufacturer's standard **fasteners**.

C. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's written instructions and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

2.6 FINISHES

A. Coil-Coated **Aluminum** Finish:

1. PVDF Fluoropolymer: AAMA 2605, **two-coat** fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat **and clear topcoat**. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 INSTALLATION OF MCM SYSTEM

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, MCM system supports, and other conditions affecting performance of the Work.

B. General: Install MCM system in accordance with system manufacturer's written instructions in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to supports unless otherwise indicated. Anchor MCM system securely in place, with provisions for thermal and structural movement.

C. Attachment Assembly, General: Install attachment assembly required to support MCM panels and to provide a complete weathertight wall system, including tracks, drainage channels, anchor channels, perimeter extrusions[**, and panel clips**].

1. Install subframing, furring, and other panel support members and anchorages in accordance with ASTM C955.
2. Install support system at locations, at spacings, and with fasteners recommended by MCM system manufacturer to meet listed performance requirements.

D. Dry-Seal MCM System: Attach MCM panels by interlocking panel **clips**, **perimeter extrusion**, into **tracks**, **channels in a sequential series**.

1. Seal horizontal and vertical joints between adjacent MCM panels with manufacturer's standard gaskets.

E. Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install accessory components required for a complete MCM system assembly including trim, copings, corners, seam covers, flashings, **sealants,** fillers, closure strips, and similar items. Provide types indicated by MCM system manufacturer.

F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.

G. Remove temporary protective coverings and strippable films as MCM panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of installation, clean finished surfaces as recommended by MCM panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 07 42 13.23

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
SECTION 07 54 23
THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. [**Adhered**] [**Mechanically fastened**] [**Induction welded**] [**Loosely laid and ballasted**] thermoplastic polyolefin (TPO) roofing system.
2. Accessory roofing materials.
3. Substrate board.
4. Roof insulation.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site.**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For insulation and roof system component fasteners, include copy of **FM Approvals'**

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane termination details.
3. Flashing details at penetrations..
4. Roof plan showing orientation of steel roof deck, slopes, and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
5. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

C. Samples: For the following products:

1. Roof membrane and flashings, of color required.

D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

    a. Submit evidence of compliance with performance requirements.

2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

B. Product Test Reports: For roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.

C. Research reports.

D. Field Test Reports:

1. Concrete internal relative humidity test reports.
2. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.

E. Field quality-control reports.

F. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturers: A qualified manufacturer that is **listed in FM Approvals' RoofNav** for roofing system identical to that used for this Project.
2. Installers: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **20** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accelerated Weathering: Roof membrane to withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.

B. Impact Resistance: Roof membrane to resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.

C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:

1. Zone 1 (Roof Area Field): <**-27 lbf/sq. ft. (kPa)**>.
2. Zone 2 (Roof Area Perimeter): <**-37lbf/sq. ft. (kPa)**>.

a. Location: From roof edge to 10’ inside roof edge.

3. Zone 3 (Roof Area Corners): <**-56 lbf/sq. ft. (kPa)**>.

a. Location: 10’ in each direction from building corner.

D. FM Approvals' RoofNav Listing: Roof membrane, base flashings, and component materials comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system, and are listed in FM Approvals' RoofNav for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals Certification markings.

1. Fire/Windstorm Classification: **Class 1A-90**
2. Hail-Resistance Rating: FM Global Property Loss Prevention Data Sheet 1-34 [**SH**] .

E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.2 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

A. TPO Sheet: ASTM D6878/D6878M, internally fabric- or scrim-reinforced, fabric-backed TPO sheet.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Carlisle SynTec Systems; Sure-Weld FleeceBACK TPO or comparable product by one of the following:

a. Mule-Hide Products Co., Inc.
b. Versico Roofing Systems.

2. Thickness: 115 mils (2.9 mm), nominal.

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3. Exposed Face Color: Gray.

4. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.

2.3 ACCESSORY ROOFING MATERIALS

A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.

1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 55 mils (1.4 mm) thick, minimum, of same color as TPO sheet.

C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

D. Bonding Adhesive: Manufacturer's standard.

E. Slip Sheet: Manufacturer's standard, of thickness required for application.

F. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.

H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 VAPOR RETARDER

A. Polyethylene Film: ASTM D4397, [6 mils (0.015 mm)] [10 mils (0.25 mm)] thick, minimum, with maximum permeance rating of [0.13 perm (0.084 metric perm)] [0.076 perm (0.050 metric perm)].

1. Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.
2. Adhesive: Manufacturer's standard lap adhesive, listed by FM Approvals for vapor retarder application.

B. Laminated Sheet Vapor Retarder: Two-layer, fire-retardant polyethylene laminate, reinforced with cord grid.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Reef Industries, Inc.

b. <Insert manufacturer's name>.

2. Permeance Rating: Not more than 0.062 perm (3.556 ng/Pa x s x sq. m) when tested in accordance with ASTM E96/E96M.
3. Flame-Spread Index: Not more than 5 when tested in accordance with ASTM E84.
4. Smoke-Developed Index: Not more than 35 when tested in accordance with ASTM E84.
5. Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.

C. Rubberized-Asphalt-Sheet Vapor Retarder, Self-Adhering: ASTM D1970/D1970M, reinforced composite aluminum foil with a self-adhesive SBS backing, minimum 15-mil (0.38-mm) total thickness; maximum permeance rating of 0.03 perm (1.7 ng/Pa x s x sq. m); cold applied, and poly release film backing. Provide primer when recommended by vapor retarder manufacturer.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Carlisle SynTec Systems; VapAir Seal MD or comparable product by one of the following:

a. Mule-Hide Products Co., Inc.
b. Versico Roofing Systems.

2.5 ROOF INSULATION

A. Polyisocyanurate Board Insulation: ASTM C1289, Type II, Class 2, Grade 2, felt or glass-fiber mat facer on both major surfaces.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Carlisle SynTec Systems; SecurShield Polyisocyanurate or comparable product by one of the following:

a. Atlas Polyiso Roof and Wall Insulation.
b. Certainteed; SAINT-GOBAIN.
c. Dyplast Products.
d. Elevate; Holcim Building Envelope.
e. GAF.
f. Hunter Panels.
g. IKO Innovi; IKO Industries Inc.
h. Johns Manville; a Berkshire Hathaway company.
i. Polyglass U.S.A., Inc.
j. Rmax, Inc..

2. Size: 48 by 96 inches (1219 by 2438 mm).
3. Thickness:

a. Base Layer: 2.1 inches (54 mm).
b. Upper Layer: 2.1 inches (54 mm).

B. Tapered Insulation: Provide factory-tapered insulation boards.

1. Material: Match roof insulation.

2. Minimum Thickness: 1/4 inch (6.35 mm).
3. Slope:

    a. Roof Field: 1/4 inch per foot (1:48) unless otherwise indicated on Drawings.
    b. Saddles and Crickets: 1/2 inch per foot (1:24) unless otherwise indicated on Drawings.

2.6 INSULATION ACCESSORIES AND COVER BOARD

A. Fasteners: Factory-coated steel fasteners with metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

B. Induction-Welding Plates: Minimum 3-inch (76-mm) diameter with recessed center, 0.034-inch (0.86-mm) thick, aluminum-zinc alloy-coated steel plates, factory-coated with adhesive formulated for roof membrane, with corresponding corrosion-resistant fasteners and thermal isolation spacers below plates.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Modified asphaltic, asbestos-free, cold-applied adhesive.
2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
3. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

1. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
2. Verify that concrete substrate is visibly dry and free of moisture, and that minimum concrete internal relative humidity is not more than [**75**] <**Insert number**> percent, or as recommended by roofing system manufacturer, when tested according to ASTM F2170.

    a. Test Frequency: One test probe per each [**1000 sq. ft. (93 sq. m)**] <**Insert area**>, or portion thereof, of roof deck, with not less than three tests probes.
    b. Submit test reports within 24 hours after performing tests.

3. Verify that concrete-curing compounds that will impair adhesion of roofing components to roof deck have been removed.
4. Verify that joints in precast concrete roof decks have been grouted flush with top of concrete.

3.2 INSTALLATION OF ROOFING, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions, **FM Approvals' RoofNav** listed roof assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning Work on adjoining roofing.

C. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain

D. Coordinate installation and transition of roofing system component serving as an air barrier with air barrier specified under **Section 072726 "Fluid-Applied Membrane Air Barriers."**

3.3 INSTALLATION OF INSULATION

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.

B. Comply with roofing system and roof insulation manufacturer's written instructions for installing roof insulation.

C. Installation Over Metal Decking:

1. Install base layer of insulation with **joints staggered not less than 24 inches (610 mm) in adjacent rows and with long joints continuous at right angle to flutes of decking**.

    a. Locate end joints over crests of decking.
    b. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
    c. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
    d. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).

        1) Trim insulation so that water flow is unrestricted.

    e. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
    f. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
    g. Loosely lay base layer of insulation units over substrate.
    h. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to metal decks.

        1) Fasten insulation according to requirements in **FM Approvals' RoofNav for specified Windstorm Resistance Classification**.

2) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.

2. Install upper layers of insulationwith joints of each layer offset not less than 12 inches (305 mm) from previous layer of insulation.

a. Staggered end joints within each layer not less than 24 inches (610 mm) in adjacent rows.
b. Install with long joints continuous and with end joints staggered not less than 12 inches (305 mm) in adjacent rows.
c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).

1) Trim insulation so that water flow is unrestricted.

f. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
g. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
h. Adhere each layer of insulation to substrate using adhesive according to **FM Approvals' RoofNav listed roof assembly requirements for specified Windstorm Resistance Classification**and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
2) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.4 INSTALLATION OF ADHERED ROOF MEMBRANE

A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

B. Unroll roof membrane and allow to relax before installing.

C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

D. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.

F. Hot Roofing Asphalt: Apply a solid mopping of hot roofing asphalt to substrate at temperature and rate required by manufacturer and install fabric-backed roof membrane. Do not apply to splice area of roof membrane.

G. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer and install fabric-backed roof membrane.

H. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeter of roofing.

I. Apply roof membrane with side laps shingled with slope of roof deck where possible.

J. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings, to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

K. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.5 INSTALLATION OF INDUCTION-WELDED ROOF MEMBRANE

A. Unroll roof membrane and allow to relax before installing.

B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

C. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer, with side laps shingled with slope of roof deck where possible.

D. Seams: Clean seam areas, overlap roof membrane, and hot-air-weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity.
2. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

E. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

F. Induction-weld roof membrane to plates in accordance with roofing system manufacturer's written instructions, creating 100 percent bond between underside of membrane and top of plates; a partial bond is unacceptable.

1. Test welds to verify adhesion of roof membrane to top of plates in accordance with membrane manufacturer’s instructions.

3.6 INSTALLATION OF BASE FLASHING

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, roof membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.

C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

3.8 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 54 23

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
SECTION 07 81 00
APPLIED FIRE PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Sprayed fire-resistive materials.

1.2 DEFINITIONS

A. SFRM: Sprayed fire-resistive materials.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Research reports.

C. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by applied fire protection material manufacturer as experienced and with sufficient trained staff to install manufacturer's products in accordance with specified requirements.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Assemblies: Provide applied fire protection, including auxiliary materials, in accordance with requirements of each fire-resistance design and manufacturer's written instructions.

B. Fire-Resistance Design: Indicated on Drawings, tested in accordance with ASTM E119 or UL 263; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Steel members are to be considered unrestrained unless specifically noted otherwise.

C. Asbestos: Provide products containing no detectable asbestos.

2.2 SPRAYED FIRE-RESISTIVE MATERIALS

A. Sprayed Fire-Resistive Material UL No. N720 (2 hour, unrestrained): Manufacturer's standard, factory-mixed, lightweight, dry formulation, complying with indicated fire-resistance design, and mixed with water at Project site to form a slurry or mortar before conveyance and application or conveyed in a dry state and mixed with atomized water at place of application.

1. Basis-of-Design Product: Subject to compliance with requirements, provide GCP Applied Technologies, Inc.; MONOKOTE Z-106/HY or comparable product by one of the following:

    a. Carboline Global, Inc.
    b. Isolatek International.

2. Bond Strength: Minimum 430-lbf/sq. ft. (20.59-kPa) cohesive and adhesive strength based on field testing in accordance with ASTM E736/E736M.
3. Thickness: As required for fire-resistance design indicated, measured in accordance with requirements of fire-resistance design or ASTM E605/E605M, whichever is thicker, but not less than 0.375 inch (9 mm).
4. Combustion Characteristics: ASTM E136.
5. Surface-Burning Characteristics: Comply with ASTM E84.

    a. Flame-Spread Index: 10 or less.
    b. Smoke-Developed Index: 10 or less.

6. Compressive Strength: Minimum 100 lbf/sq. in. (689 kPa) in accordance with ASTM E761/E761M.
7. Corrosion Resistance: No evidence of corrosion in accordance with ASTM E937/E937M.
8. Deflection: No cracking, spalling, or delamination in accordance with ASTM E759/E759M.
9. Effect of Impact on Bonding: No cracking, spalling, or delamination in accordance with ASTM E760/E760M.
10. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. (0.270 g/sq. m) in 24 hours in accordance with ASTM E859/E859M.
11. Fungal Resistance: Treat products with manufacturer's standard antimicrobial formulation to result in no growth on specimens per ASTM G21 or rating of 10 in accordance with ASTM D3274 when tested in accordance with ASTM D3273.

2.3 AUXILIARY MATERIALS

A. Provide auxiliary materials that are compatible with sprayed fire-resistive material and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.

B. Substrate Primers: Primers approved in writing by sprayed fire-resistive material manufacturer for the required fire-resistance design.

C. Bonding Agent: Product approved in writing by sprayed fire-resistive material manufacturer.

D. Topcoat: Suitable for application over sprayed fire-resistive material; of type recommended in writing by sprayed fire-resistive material manufacturer for each fire-resistance design.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of the Work and in accordance with each fire-resistance design.

3.2 PREPARATION

A. Cover other work subject to damage from fallout or overspray of applied fire protection materials during application.

B. Prime substrates where included in fire-resistance design and where recommended in writing by sprayed fire-resistive material manufacturer unless compatible shop primer has been applied and is in satisfactory condition to receive applied fire protection.

3.3 APPLICATION

A. Construct applied fire protection assemblies that are identical to fire-resistance design indicated and products as specified, tested, and substantiated by test reports; for thickness, primers, sealers, topcoats, finishing, and other materials and procedures affecting applied fire protection Work.

B. Comply with sprayed fire-resistive material manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and apply fire protection; as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.

C. Spray apply fire protection to maximum extent possible. After the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by sprayed fire-resistive material manufacturer.

D. Do not install enclosing or concealing construction until after sprayed fire-resistive material has been applied, inspected, and tested and corrections have been made to deficient applications.

3.4 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Test and inspect as required by the IBC, as indicated on Schedule of Special Inspections.

B. Applied fire protection will be considered defective if it does not pass tests and inspections.

1. Remove and replace applied fire protection that does not pass tests and inspections, and retest.
2. Apply additional applied fire protection, in accordance with manufacturer's written instructions, where test results indicate insufficient thickness, and retest.

C. Prepare test and inspection reports.

3.5 CLEANING

A. Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.

3.6 REPAIRS

A. Repair applied fire protection damaged by other work before concealing it with other construction.

B. Repair applied fire protection using same method and materials as original installation or using manufacturer's recommended trowel-applied repair product.

END OF SECTION 07 81 00

DIVISION 07 – THERMAL AND MISTURE PROTECTION
SECTION 07 92 00
JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Mildew-resistant joint sealants.
3. Latex joint sealants.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product data.

B. Samples: Manufacturer's standard color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Joint-sealant schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Field Quality-Control Reports: For field-adhesion-test reports, for each sealant application tested.

B. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Warranty Documentation:

1. Manufacturers' special warranties.
2. Installer's special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Authorized representative who is trained and approved by manufacturer.

B. Testing Agency Qualifications: Qualified in accordance with ASTM C1021 to conduct the testing indicated.

1.7 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested in accordance with ASTM C1248.

B. Silicone, Nonstaining, S, NS, 100/50, T, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 100/50, Uses T and NT.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Dow Corning.
b. GE Construction Sealants; Momentive Performance Materials Inc.
c. Pecora Corporation.
d. PPG Paints.
e. Tremco.
f. Sika Corporation - Building Components.

2.3 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Dow Corning.
b. GE Construction Sealants; Momentive Performance Materials Inc.
c. Pecora Corporation.
d. PPG Paints.
e. Tremco.
f. Sika Corporation - Building Components.

2.4 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Dow Corning.
b. GE Construction Sealants; Momentive Performance Materials Inc.
c. Pecora Corporation.
d. PPG Paints.
e. Tremco.

f. Sika Corporation - Building Components.

2.5 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin), or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning

operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

a. Concrete.
b. Masonry.
c. Unglazed surfaces of ceramic tile.
d. Exterior insulation and finish systems.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

a. Metal.
b. Glass.
c. Porcelain enamel.
d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants in accordance with requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile in accordance with Figure 8A in ASTM C1193 unless otherwise indicated.

    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

H. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests and Inspections:

1. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

    a. Extent of Testing: Test completed and cured sealant joints as follows:

        1) Perform 10 tests for the first 1000 ft. (300 m) of joint length for each kind of sealant and joint substrate.
        2) Perform one test for each 1000 ft. (300 m) of joint length thereafter or one test per each floor per elevation.

    b. Test Method: Test joint sealants in accordance with Method A, Tail Procedure, in ASTM C1521.

1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

c. Inspect tested joints and report on the following:

1) Whether sealants filled joint cavities and are free of voids.
2) Whether sealant dimensions and configurations comply with specified requirements.
3) Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.

d. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.

e. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

2. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

C. Prepare test and inspection reports.

END OF SECTION 07 92 00

DIVISION 08 – OPENINGS
SECTION 08 11 13
HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Exterior standard steel doors and frames.
   2. Exterior custom hollow-metal doors and frames.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

C. Shop Drawings: Include the following:

   1. Elevations of each door type.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.

D. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies is to meet the qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

B. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies is to meet the qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Amweld.
2. Ceco Door; AADG, Inc.; ASSA ABLOY.
3. Curries, AADG, Inc.; ASSA ABLOY Group.
4. LaForce, LLC.
5. Republic Doors and Frames; a Allegion brand.
6. Steelcraft; Allegion plc.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings **and temperature-rise limits** indicated on Drawings, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.
2. Temperature-Rise Limit: **Where indicated on Drawings**, **at vertical exit enclosures and exit passageways**, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

2.3 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B. **At locations indicated in the Door and Frame Schedule on Drawings**

1. Doors:

    a. Type: As indicated in the Door and Frame Schedule on Drawings.
    b. Thickness: 1-3/4 inches (44.5 mm).
    c. Face: Metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm), with minimum **A60 (ZF180)** coating.
    d. Edge Construction: **Model 2, Seamless**.
    e. Edge Bevel: **Provide manufacturer's standard beveled or square edges**.
    f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
    g. Bottom Edges: Close bottom edges of doors **where required for attachment of weather stripping** with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
    h. Core: **Manufacturer's standard**.
    i. Fire-Rated Core: Manufacturer's standard **vertical steel stiffener with insulation** core for fire-rated doors.

2. Frames:

    a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum **A60 (ZF180)** coating.
    b. Construction: **Full profile welded**.

2.4 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches (610 mm) of frame height above 7 feet (2.1 m).
3. Postinstalled Expansion Anchor: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized in accordance with ASTM A153/A153M, Class B.

2.5 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized in accordance with ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E136 for combustion characteristics.

G. Glazing: Comply with requirements in Section 088000 "Glazing."

2.6 FABRICATION

A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
   1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
   2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

      a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
      b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping in accordance with ANSI/SDI A250.6, the Door Hardware Schedule on Drawings, and templates.

   1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Hollow-Metal Frames: Comply with **ANSI/SDI A250.11**

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
b. Install frames with removable stops located on secure side of opening.

2. Fire-Rated Openings: Install frames in accordance with NFPA 80.
3. Floor Anchors: Secure with postinstalled expansion anchors.

a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

4. Solidly pack mineral-fiber insulation inside frames.
5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.

6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. **Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.**
7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

B. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with **ANSI/SDI A250.8.**
2. Fire-Rated Doors: Install doors with clearances in accordance with NFPA 80.
3. Smoke-Control Doors: Install doors in accordance with NFPA 105.

C. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 FIELD QUALITY CONTROL

A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint in accordance with manufacturer's written instructions.

C. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 08 11 13

DIVISION 08 – OPENINGS
SECTION 08 44 13
GLAZED ALUMINUM CURTAIN WALLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glazed aluminum curtain wall systems.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site** .

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include plans, elevations, sections, full-size details, and attachments to other work.

1. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.

C. Samples: For each type of exposed finish required.

D. Delegated-Design Submittal: For glazed aluminum curtain walls, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Energy Performance Certificates: NFRC-certified energy performance values for each glazed aluminum curtain wall.

B. Product test reports.

C. Source quality-control reports.

D. Field quality-control reports.

E. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer and that employs a qualified glazing contractor for this Project who is certified under the North American Contractor Certification Program (NACC) for Architectural Glass & Metal (AGM) contractors[**and that employs glazing technicians certified under the Architectural Glass and Metal Technician (AGMT) certification program**].

B. Testing Agency Qualifications: Qualified in accordance with ASTM E699 for testing indicated[**and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025**] and acceptable to Owner and Architect.

C. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.7 WARRANTY

A. Special Assembly Warranty: **Installer** agrees to repair or replace components of glazed aluminum curtain wall that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 5 years from date of Substantial Completion.

B. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazed aluminum curtain walls.

B. General Performance: Comply with performance requirements specified, as determined by testing of glazed aluminum curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Glazed aluminum curtain walls shall withstand movements of supporting structure, including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
2. Failure also includes the following:

a. Thermal stresses transferring to building structure.
b. Glass breakage.
c. Noise or vibration created by wind and thermal and structural movements.
d. Loosening or weakening of fasteners, attachments, and other components.
e. Failure of operating units.

C. Structural Loads:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: **As indicated on Drawings**

D. Deflection of Framing Members Supporting Glass: At design wind load, as follows:

1. Deflection Normal to Wall Plane: Limited to **1/175 of clear span for spans of up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans of greater than 13 feet 6 inches (4.1 m)**.
2. Deflection Parallel to Glazing Plane: Limited to **amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch (3.2 mm)**].

3. Cantilever Deflection: Limited to 2l/175 at unsupported cantilevers.

E. Structural: Test in accordance with ASTM E330/E330M as follows:

1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
2. When tested at **150** percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding **0.2** percent of span.
3. Test Durations: As required by design wind velocity, but not less than **10** seconds.

F. Water Penetration under Static Pressure: Test in accordance with ASTM E331 as follows:

1. No evidence of water penetration through fixed glazing and framing areas when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than **10 lbf/sq. ft. (480 Pa.)**.

G. Energy Performance: Certified and labelled by manufacturer for energy performance as follows:

1. Thermal Transmittance (U-factor):

a. Fixed Glazing and Framing Areas: U-factor for the system of not more than [**0.36 Btu/sq. ft. x h x deg F (2.04 W/sq. m x K)**as determined in accordance with NFRC 100.

2. Solar Heat Gain Coefficient (SHGC):

a. Fixed Glazing and Framing Areas: SHGC for the system of not more than **0.29** as determined in accordance with NFRC 200.

3. Air Leakage:

a. Fixed Glazing and Framing Areas: Air leakage for the system of not more than [**0.06 cfm/sq. ft. (0.30 L/s per sq. m)**] at a static-air-pressure differential of**6.24 lbf/sq. ft. (300 Pa)**] when tested in accordance with ASTM E283.

4. Condensation Resistance Factor (CRF):

a. Fixed Glazing and Framing Areas: CRF for the system of not less than **65** as determined in accordance with AAMA 1503.

H. Windborne-Debris Impact Resistance: Pass ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone **4** for **basic** protection.

1. Large-Missile Test: For glazing located within **30 feet (9.1 m)** of grade.
2. Small-Missile Test: For glazing located between 30 feet (9.1 m) and **60 feet (18.2 m)** above grade.

I. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 GLAZED ALUMINUM CURTAIN WALL SYSTEMS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Old Castle Builiding Envelope, Reliance Curtain Wall or a comparable product by one of the following:

1. EFCO Corporation.
2. Kawneer Company, Inc.; Arconic Corporation.
3. Tubelite Inc.;
4. YKK AP America Inc.

B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: **Nonthermal**
2. Glazing System: Gaskets on two sides and structural sealant on two sides.
3. Glazing Plane: Front.

4. Finish: **Clear anodic finish** Retain first option in "System" Subparagraph below to allow installation type to be determined by Contractor; second option requires field assembly; third option requires factory assembly. See the Evaluations.
5. System: **Either stick or unitized system**.
6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
7. Steel Reinforcement: As required by manufacturer.

C. Pressure Caps: Manufacturer's standard aluminum components that mechanically retain glazing.

1. Include snap-on aluminum trim that conceals fasteners.

D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

2.3 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."

B. Glazing Gaskets: ASTM C509 or ASTM C864. [**Manufacturer's standard**] [**Compression-type, replaceable EPDM**] [**Comply with Section 088000 "Glazing."**] <**Insert type**>.

1. Color: **Black**.

C. Glazing Sealants: **As recommended by manufacturer.**

2.4 MATERIALS

A. Sheet and Plate: ASTM B209 (ASTM B209M).

B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B221 (ASTM B221M).

C. Structural Profiles: ASTM B308/B308M.

D. Steel Reinforcement:

1. Structural Shapes, Plates, and Bars: ASTM A36/A36M.
2. Cold-Rolled Sheet and Strip: ASTM A1008/A1008M.
3. Hot-Rolled Sheet and Strip: ASTM A1011/A1011M.

E. Steel Reinforcement Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods in accordance with recommendations in SSPC-SP COM, and prepare surfaces in accordance with applicable SSPC standard.

2.5 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances..
5. Provisions for field replacement of glazing from **interior**.
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Fabricate components to resist water penetration as follows:

1. Internal guttering system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.
2. Pressure-equalized system or double barrier design with primary air and vapor barrier at interior side of glazed aluminum curtain wall and secondary seal weeped and vented to exterior.

E. Curtain-Wall Framing: Fabricate components for assembly using **manufacturer's standard assembly method**.

F. Factory-Assembled Frame Units:

1. Rigidly secure nonmovement joints.
2. Prepare surfaces that are in contact with structural sealant in accordance with sealant manufacturer's written instructions, to ensure compatibility and adhesion.
3. Preparation includes, but is not limited to, cleaning and priming surfaces.
4. Seal joints watertight unless otherwise indicated.
5. Install glazing to comply with requirements in Section 088000 "Glazing."

G. After fabrication, clearly mark components to identify their locations in Project in accordance with Shop Drawings.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, **AA-M12C22A41, Class I, 0.018 mm** or thicker.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with manufacturer's written instructions.

B. Do not install damaged components.

C. Fit joints to produce hairline joints free of burrs and distortion.

D. Rigidly secure nonmovement joints.

E. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.

F. Where welding is required, weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.

G. Seal joints watertight unless otherwise indicated.

H. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with primer, applying sealant or tape, or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

I. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.

J. Install components plumb and true in alignment with established lines and grades.

3.2 INSTALLATION OF GLAZING

A. Install glazing as specified in Section 088000 "Glazing."

3.3 FIELD QUALITY CONTROL

A. Test Area: Perform tests on **representative areas of glazed aluminum curtain walls**

1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested in accordance with AAMA 501.2 and shall not evidence water penetration.

a. Perform a minimum of **three** tests in areas as directed by Architect.

B. Glazed aluminum curtain walls will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

END OF SECTION 08 44 13

DIVISION 08 – OPENINGS
SECTION 08 71 00
DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hinges.
2. Self-closing hinges and pivots.
3. ~~Center-hung and offset pivots.~~
4. Continuous, pin-and-barrel-type hinges.
5. Continuous, gear-type hinges.
6. Bored locks.
7. Mortise locks.
8. Bored auxiliary locks.
9. Mortise auxiliary locks.
10. ~~Narrow-stile auxiliary locks.~~
11. Electric strikes.
12. Electromagnetic locks.
13. Delayed-egress electromagnetic locks.
14. Electromechanical locks.
15. Self-contained electronic locks.
16. Exit locks and alarms.
17. Surface bolts.
18. Manual flush bolts.
19. Automatic flush bolts.
20. Self-latching flush bolts.
21. Exit devices and auxiliary items.
22. Lock cylinders.
23. ~~Key control cabinet.~~
24. Operating trim.
25. Coordinators.
26. Carry-open bars.
27. Astragals.
28. Surface closers.
29. ~~Concealed closers.~~
30. Closer holder release devices.
31. Wall- and floor-mounted stops.
32. Electromagnetic door holders.
33. Overhead stops and holders.
34. Door gasketing.
35. Thresholds.
36. ~~Sliding door hardware.~~
37. ~~Folding door hardware.~~
38. Metal protective trim units.

39. Auxiliary door hardware.
40. Auxiliary electrified door hardware.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

B. Keying Conference: Conduct conference at [**Project site**] <**Insert location**>.

1.3 ACTION SUBMITTALS

A. Product data.

B. Shop Drawings: For electrified door hardware.

1. Diagrams for power, signal, and control wiring.
2. Details of interface of electrified door hardware and building safety and security systems.

C. Samples: For each exposed product in each finish specified.

D. Door hardware schedule.

E. Keying schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1. Scheduling Responsibility: Preparation of door hardware and keying schedule.
2. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as [**a Door and Hardware Specification Consultant (DHSC)**] [**an Architectural Hardware Consultant (AHC)**] [**an Architectural Hardware Consultant (AHC) and an Electrified Hardware Consultant (EHC)**] ~~[**an Architectural Opening Consultant (AOC)**]~~.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty Period: ~~[**Three**]~~ <**10**> years from date of Substantial Completion unless otherwise indicated below:

a. Electromagnetic and Delayed-Egress Locks: [**Five**] <**Insert number**> years from date of Substantial Completion.
b. Exit Devices: ~~[**Two**]~~ <**10**> years from date of Substantial Completion.
~~c. Manual Closers: [**10**] <**Insert number**> years from date of Substantial Completion.~~
~~d. Concealed Floor Closers: [**Five**] [**10**] [**25**] <**Insert number**> years from date of Substantial Completion.~~
e. Closers: 25 years

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain each type of door hardware from single manufacturer.

1. Provide electrified door hardware from same manufacturer as mechanical door hardware unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Where fire-rated doors are indicated, provide door hardware complying with NFPA 80 that is listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.

B. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that complies with requirements of assemblies tested in accordance with UL 1784 and installed in compliance with NFPA 105.

1. Air-Leakage Rate: Maximum air leakage of [**0.3 cfm per sq. ft. (3 cu. m per minute/sq. m)**] <**Insert rate**> at the tested pressure differential of [**0.3 inch wg (75 Pa)**] <**Insert value**> of water.

C. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with [**the USDOJ's "2010 ADA Standards for Accessible Design"**] [**the DOT's "ADA Standards for Transportation Facilities"**] [**the ABA standards of the Federal agency having jurisdiction**] [**ICC A117.1**] [**HUD's "Fair Housing Accessibility Guidelines"**] [**and**] <**Insert regulation**>.

2.3 HINGES

A. Hinges: ANSI/BHMA A156.1.[**Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.**]
   1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
      a. Three Hinges: For doors with heights 61 to 90 inches.
      b. Plus on hinge for every 30 inches of door height greater than 90 inches.
   2. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
      a. Steel Hinges: Steel pins
      b. Non-Ferrous Hinges: Stainless Steel pins
      c. Outswinging Exterior Doors: Non-removable pins
   3. Acceptable Manufacturers:
      a. Ives
      b. Hagger Companies
      c. McKinney Products

2.4 SELF-CLOSING HINGES AND PIVOTS

A. Self-Closing Hinges and Pivots: ANSI/BHMA A156.17.

2.5 CENTER-HUNG AND OFFSET PIVOTS

A. Center-Hung and Offset Pivots: ANSI/BHMA A156.4.

2.6 CONTINUOUS HINGES

A. Continuous, Gear-Type Hinges: ANSI/BHMA A156.26; minimum 0.120-inch-(3.0-mm-) thick, extruded-aluminum, pinless, geared hinge leaves joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings. Minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to

template screw locations; with components finished after milling and drilling are complete.

1. Acceptable Manufacturers:
a. Ives
b. Hagger Companies
c. McKinney Products

B. Continuous, Gear-Type Hinges: ANSI/BHMA A156.26; minimum 0.120-inch- (3.0-mm-) thick, extruded-aluminum, pinless, geared hinge leaves joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings. Minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete.

2.7 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

~~B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:~~

~~1. Bored Locks: Minimum 1/2 inch (13 mm) latchbolt throw.~~
~~2. Mortise Locks: Minimum 3/4 inch (19 mm) latchbolt throw.~~
~~3. Deadbolts: Minimum [**1 inch (25 mm)**] [**1.25 inch (32 mm)**] <**Insert dimension**> bolt throw.~~

Mortise Locks: ANSI/BHMA A156.13, Operational Grade 1 stamped steel case with steel or brass parts; Series 1000.

C. Lock Backset: 2-3/4 inches (70 mm) unless otherwise indicated.

D. Lockset trim (including knobs, levers, escutcheons, roses) to be the product of a single manufacturer. Furnish with standard 2 3/4" backset, 3/4" throw anti-friction stainless steel latchbolt, and a full 1" throw stainless steel bolt for deadbolt functions.

1. Acceptable Manufacturers:
a. Schlage L9000 series
b. Sargent 8200 series

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.

2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
4. Rabbet Front and Strike: Provide on locksets for rabbeted meeting stiles.

F. Bored Locks: ANSI/BHMA A156.2, [**Grade 1**] [**Grade 2**], Series 4000.

G. Mortise Locks: ANSI/BHMA A156.13, [**Operational Grade 1**] [**Security Grade 1**] [**Operational Grade 2**] [**Security Grade 2**]; stamped steel case with steel or brass parts; Series 1000.

2.8 AUXILIARY LOCKS

A. Bored Auxiliary Locks: ANSI/BHMA A156.36, [**Grade 1**] [**Grade 2**]; with strike that suits frame.

B. Mortise Auxiliary Locks: ANSI/BHMA A156.36, [**Grade 1**] [**Grade 2**]; with strike that suits frame.

C. Narrow-Stile Auxiliary Locks: ANSI/BHMA A156.36, [**Grade 1**] [**Grade 2**]; with strike that suits frame.

2.9 ELECTRIC STRIKES

A. Electric Strikes: ANSI/BHMA A156.31, [**Grade 1**] [**Grade 2**]; with faceplate to suit lock and frame.

2.10 ELECTROMAGNETIC LOCKS

A. Electromagnetic Locks: ANSI/BHMA A156.23; electrically powered; with electromagnet attached to frame and armature plate attached to door; full-exterior or full-interior type, as required by application indicated.

B. Delayed-Egress Electromagnetic Locks: ANSI/BHMA A156.24; electrically powered; with electromagnet attached to frame and armature plate attached to door; depressing push bar for more than three seconds initiates irreversible alarm and adjustable time delay for egress. When integrated with fire alarm, fire alarm voids time delay.

2.11 ELECTROMECHANICAL LOCKS

A. Electromechanical Locks: ANSI/BHMA A156.25, [**Grade 1**] [**Grade 2**]; motor or solenoid driven; with strike that suits frame.
1. Type: [**Bored**] [**Mortise latchbolt**] [**Mortise deadbolt**] [**Mortise deadlocking latchbolt**].

2.12 SELF-CONTAINED ELECTRONIC LOCKS

A. Self-Contained Electronic Locks: ANSI/BHMA A156.25, [**bored**] [**mortise**]; with internal, battery-powered, self-contained electronic locks; consisting of complete lockset, motor-driven lock mechanism, and actuating device; enclosed in zinc-dichromate-plated, wrought-steel case, and strike that suits frame. Provide key override, low-battery detection and warning, LED status indicators, and ability to program at the lock.

2.13 EXIT LOCKS AND EXIT ALARMS

A. Exit Locks and Alarms: ANSI/BHMA A156.29, Grade 1.

2.14 SURFACE BOLTS

A. Surface Bolts: ANSI/BHMA A156.16.

2.15 MANUAL FLUSH BOLTS

A. Manual Flush Bolts: ANSI/BHMA A156.16; minimum 3/4-inch (19-mm) throw; designed for mortising into door edge.

2.16 AUTOMATIC AND SELF-LATCHING FLUSH BOLTS

A. Automatic Flush Bolts: ANSI/BHMA A156.3, Type 25; minimum 3/4-inch (19-mm) throw; with dust-proof strikes; designed for mortising into door edge.[**Include wear plates.**]

B. Self-Latching Flush Bolts: ANSI/BHMA A156.3, Type 27; minimum 3/4-inch (19-mm) throw; with dust-proof strikes; designed for mortising into door edge.[**Include wear plates.**]

2.17 EXIT DEVICES AND AUXILIARY ITEMS

A. Exit Devices and Auxiliary Items: ANSI/BHMA A156.3.

2.18 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.[**Provide cylinder from same manufacturer of locking devices.**]

B. Standard Lock Cylinders: ANSI/BHMA A156.5, [**Grade 1**] [**Grade 1A**] [**Grade 2**] permanent cores; face finished to match lockset.

1. Core Type: [**Interchangeable**] [**Removable**].

C. High-Security Lock Cylinders: ANSI/BHMA A156.30, [**Grade 1**] [**Grade 2**] [**Grade 3**] permanent cores that are removable; face finished to match lockset.

1. [**Type M, mechanical**] [**Type E, electrical**].

D. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

E. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.19 KEYING

A. Keying System: Factory registered, complying with guidelines in ANSI/BHMA A156.28, appendix. Provide one extra key blank for each lock.[**Incorporate decisions made in keying conference.**]

1. No Master Key System: Only change keys operate cylinders.

a. Provide three cylinder change keys.

2. Master Key System: Change keys and a master key operate cylinders.

a. Provide three cylinder change keys and five master keys.

3. Grand Master Key System: Change keys, a master key, and a grand master key operate cylinders.

a. Provide three cylinder change keys and five each of master and grand master keys.

4. Great-Grand Master Key System: Change keys, a master key, a grand master key, and a great-grand master key operate cylinders.

a. Provide three cylinder change keys and five each of master, grand master, and great-grand master keys.

5. Existing System:

a. Master key or grand master key locks to Owner's existing system.
b. Re-key Owner's existing master key system into new keying system.

6. Keyed Alike: Key all cylinders to same change key.

B. Keys: [**Nickel silver**] [**Brass**].

1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

a. Notation: [**"DO NOT DUPLICATE."**] [**Information to be furnished by Owner.**]

2.20 KEY CONTROL SYSTEM

A. Key Control Cabinet: ANSI/BHMA A156.28; metal cabinet with baked-enamel finish, containing key-holding hooks, labels, two sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of [**150**] <**Insert number**> percent of the number of locks.
   1. Multiple-Drawer Cabinet: [**Grade 1**] [**Grade 2**] cabinet with drawers equipped with key-holding panels, key envelope storage, and progressive-type ball-bearing suspension slides. Include single cylinder lock to lock all drawers.
   2. Wall-Mounted Cabinet: [**Grade 1**] [**Grade 2**] cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.
   3. Portable Cabinet: [**Grade 1**] [**Grade 2**] tray for mounting in file cabinet, equipped with key-holding panels, envelopes, and cross-index system.

2.21 OPERATING TRIM

A. Operating Trim: ANSI/BHMA A156.6; [**aluminum**] [**brass**] [**bronze**] [**stainless steel**] unless otherwise indicated.

2.22 ACCESSORIES FOR PAIRS OF DOORS

A. Coordinators: ANSI/BHMA A156.3; consisting of active-leaf, hold-open lever, and inactive-leaf release trigger; fabricated from steel with nylon-coated strike plates; with built-in, adjustable safety release[**; and with internal override**].

B. Carry-Open Bars: ANSI/BHMA A156.3; prevent the inactive leaf from opening before the active leaf; provide polished brass or bronze carry-open bars with strike plate for inactive leaves of pairs of doors unless automatic or self-latching bolts are used.

C. Astragals: ANSI/BHMA A156.22.

2.23 SURFACE CLOSERS

A. Surface Closers: ANSI/BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

2.24 CONCEALED CLOSERS

A. Concealed Closers: ANSI/BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

2.25 CLOSER HOLDER RELEASE DEVICES

A. Closer Holder Release Devices: ANSI/BHMA A156.15, Grade 1; closer connected with separate or integral releasing and fire- or smoke-detecting devices. Door must become self-closing on interruption of signal to release device. Automatic release is activated by [**smoke detection system**] [**loss of power**].

2.26 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: ANSI/BHMA A156.16.

2.27 ELECTROMAGNETIC STOPS AND HOLDERS

A. Electromagnetic Door Holders: ANSI/BHMA A156.15, Grade 1; [**wall-mounted electromagnetic single**] [**floor-mounted electromagnet single**] [**floor-mounted electromagnet double**] unit with strike plate attached to swinging door; coordinated with fire detectors and interfaced with fire-alarm system for labeled fire-rated door assemblies.

2.28 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders: ANSI/BHMA A156.8.

2.29 DOOR GASKETING

A. Door Gasketing: ANSI/BHMA A156.22; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

B. Maximum Air Leakage: When tested in accordance with ASTM E283/E283M with tested pressure differential of 0.3 inch wg (75 Pa), as follows:

1. Smoke-Rated Gasketing: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
2. Gasketing on Single Doors: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
3. Gasketing on Double Doors: 0.50 cfm per ft. (0.000774 cu. m/s per m) of door opening.

2.30 THRESHOLDS

A. Thresholds: ANSI/BHMA A156.21; fabricated to full width of opening indicated.

2.31 SLIDING DOOR HARDWARE

A. Sliding Door Hardware: ANSI/BHMA A156.14; consisting of complete sets, including rails, hangers, supports, bumpers, floor guides, and accessories indicated.

2.32 FOLDING DOOR HARDWARE

A. Folding Door Hardware: ANSI/BHMA A156.14; complete sets, including overhead rails, hangers, supports, bumpers, floor guides, and accessories indicated.

2.33 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: ANSI/BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick [**aluminum**] [**brass**] [**bronze**] [**stainless steel**]; with manufacturer's standard machine or self-tapping screw fasteners.

2.34 AUXILIARY DOOR HARDWARE

A. Auxiliary Door Hardware: ANSI/BHMA A156.16.

2.35 AUXILIARY ELECTRIFIED DOOR HARDWARE

A. Auxiliary Electrified Door Hardware: ANSI/BHMA A156.35.

2.36 FINISHES

A. Provide finishes complying with ANSI/BHMA A156.18 as indicated in door hardware schedule.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights [**indicated on Drawings**] [**to comply with the following**] unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Wood Doors: DHI's "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

C. Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every

30 inches (760 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule, but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (760 mm) of door height greater than 90 inches (2286 mm).

E. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as [**indicated in keying schedule**] [**directed by Owner**].
2. Furnish permanent cores to Owner for installation.

F. Key Control System:

1. Key Control Cabinet: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

G. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, [**above accessible ceilings**] [**in equipment room**]. Verify location with Architect.

1. Configuration: Provide [**one power supply for each door opening**] [**least number of power supplies required to adequately serve doors**] with electrified door hardware.

H. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

I. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

J. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

1. Do not notch perimeter gasketing to install other surface-applied hardware.

K. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

L. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.2 FIELD QUALITY CONTROL

A. Independent Architectural Hardware Consultant: [**Owner will engage**] [**Engage**] a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.3 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.4 DOOR HARDWARE SCHEDULE

A. Hardware Set 1: Each door to have the following:

END OF SECTION 08 71 00

DIVISION 08 – OPENINGS
SECTION 08 80 00
GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glass products.
2. Glazing sealants.
3. Glazing tapes.
4. Miscellaneous glazing materials.

1.2 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.

C. Delegated Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For glass.

B. Product test reports.

C. Preconstruction adhesion and compatibility test report.

D. Sample warranties.

1.6 QUALITY ASSURANCE

A. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1021 to conduct the testing indicated.

1.7 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: **10** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazing.

B. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300:

1. Design Wind Pressures: As indicated on Drawings.
2. Design Snow Loads: As indicated on Drawings.
3. Thermal Loads: Design glazing to resist thermal stress breakage induced by differential temperature conditions and limited air circulation within individual glass lites and insulated glazing units.

C. Windborne-Debris-Impact Resistance: Exterior glazing shall pass ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone for **basic** protection.

1. Large-Missile Test: For glazing located within **30 feet (9.1 m)**] of grade.
2. Small-Missile Test: For glazing located between 30 feet (9.1 m) and **60 feet (18.3 m)**] above grade.

D. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

E. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. U-Factors: Center-of-glazing values, in accordance with NFRC 100 and based on most current non-beta version of LBL's WINDOW computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
2. SHGC and Visible Transmittance: Center-of-glazing values, in accordance with NFRC 200 and based on most current non-beta version of LBL's WINDOW computer program.
3. Visible Reflectance: Center-of-glazing values, in accordance with NFRC 300.

2.2 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. NGA Publications: Glazing Manual."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Thickness: Where glass thickness is indicated, it is a minimum.**Provide glass that complies with performance requirements and is not less than thickness indicated.**

D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.3 GLASS PRODUCTS

A. Clear Annealed Float Glass: ASTM C1036, Type I, Class 1 (clear), Quality-Q3.
1. Guardian Sunguard Low E-Coated Glass SNXCLR or equal.

B. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

C. Heat-Strengthened Float Glass: ASTM C1048, Kind HS (heat strengthened), Type I, Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. .

2.4 GLAZING SEALANTS

A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: **As selected by Architect from manufacturer's full range of industry colors**.

B. Neutral-Curing Silicone Glazing Sealant, Class 100/50: Complying with ASTM C920, Type S, Grade NS, Use NT.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   a. GE Construction Sealants; Momentive Performance Materials Inc.
   b. Pecora Corporation.
   c. Sika Corporation.
   d. The Dow Chemical Company.
   e. Tremco Incorporated.

2.5 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.6 MISCELLANEOUS GLAZING MATERIALS

A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

B. Setting Blocks:

1. **EPDM** with Shore A durometer hardness of 85, plus or minus 5.
2. Type recommended in writing by sealant or glass manufacturer.

C. Spacers:

1. **Neoprene** blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
2. Type recommended in writing by sealant or glass manufacturer.

D. Edge Blocks:

1. **EPDM** with Shore A durometer hardness per manufacturer's written instructions.
2. Type recommended in writing by sealant or glass manufacturer.

E. Cylindrical Glazing Sealant Backing: ASTM C1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications.

3.2 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Apply heel bead of elastomeric sealant.

F. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

G. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.3 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.4 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.5 CLEANING AND PROTECTION

A. Immediately after installation, remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

3.6 MONOLITHIC GLASS SCHEDULE

A. Clear Glass Type **Fully tempered** float glass.

1. Minimum Thickness: [**6 mm**] .
2. Safety glazing required.

END OF SECTION 08 80 00

DIVISION 09 – FINISHES
SECTION 09 24 23
PORTLAND CEMENT STUCCO

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes materials and installation of trowel applied air barrier and stucco brown coat over vertical above grade concrete and concrete masonry walls.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.3 ACTION SUBMITTALS

A. Product data.

B. Samples: For each type of factory-prepared finish coat and for each color and finish texture specified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. StoPowerwall ExtraSeal or Equal: Obtain primary air barrier, air barrier detail components, stucco, stucco primer and finish coat, and joint sealant from single source, except stucco brown coat may be any Sto listed ASTM C926 compliant material.

2.2 METAL LATH

A. Expanded Metal Lath: ASTM C847; cold-rolled carbon steel sheet, hot-dip galvanized with ASTM A653/A653M **G60 (Z180)** zinc coating.

a. Water-Resistive Barrier: Vapor-permeable paper, factory bonded to back of lath; complying with requirements in FS UU-B-790a for Type I, Grade D and with **60-minute** water resistance.

1) Provide water-resistive barrier **at exterior locations** .

2.3 ACCESSORIES

A. General: Comply with requirements in ASTM C1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Metal Accessories:
1. External- (Outside-) Corner Reinforcement: Fabricated from metal lath, hot-dip galvanized with ASTM A653/A653M [**G60 (Z180)**] [**G90 (Z275)**] zinc coating.
2. Cornerbeads: Fabricated from **zinc-coated (galvanized) steel**.

a. Smallnose cornerbead with expanded flanges; use **unless otherwise indicated**.

C. Plastic Accessories: Manufactured from high-impact PVC.
1. PVC plastic in compliance with ASTM D1784, cell classification 13244C
2. Cornerbeads: With perforated flanges.

2.4 BASE-COAT CEMENT PLASTER

A. General: Comply with requirements in ASTM C926 for applications indicated.

1. 102 StoPowerwall Stucco Pre-Blended: fiber reinforced one coat portland cement stucco pre-blended with graded sand, and in compliance with ICC AC 11. See ICC ESR 2323 or IAPMO ER 382.

2.5 STUCCO CRACK DEFENSE

A. Mesh:
1. Provide Mesh with any Base Coat Product: nominal 4.5 oz/yd^2 (153 g/m^2) glass fiber reinforcing mesh with alkaline resistant coating for compatibility with materials for embedment in base coats (refer to base coat product bulletins)

2.6 STUCCO PRIMER

A. Provide acrylic based primer/sealer for freshly placed (minimum 2 days after moist cure of stucco brown coat) and high pH stucco surfaces.

2.7 STUCCO FINISH

A. Provide exterior decorative and protective Textured Finish, Signature Finish, Specialty Finish, or StoCast Finish as selected and approved by design professional or owner on basis of job site installed mock-ups.

2.8 PERFORMANCE REQUIREMENTS (AIR AND WATER-RESISTIVE BARRIER)

B. Water Penetration: ASTM E514, no water penetration through concrete masonry after 4-hour spray period

C. Adhesion: ASTM D4541, ≥ 50 psi (345 kPA) on prepared CMU substrates

D. Water vapor permeance: ASTM E96 Method B, minimum 5 perms (286 ng/Pa·s·m^2)

E. Air permeance: ASTM E2178, ≤ 0.004 cfm/ft^2 (0.02 L/s·m^2) air leakage at 1.57 psf (75 Pa)

F. Field adhesion testing: ASTM D4541, strength requirements as dictated by design professional based on exposure conditions such as building height, orientation, climate, and building design

G. Surface burning: ASTM E84, ≤ 25 flame spread and ≤ 450 smoke developed

H. Building envelope air leakage: ASTM E779 or E1827, ≤ 0.4 cfm/ft^2 (2.0 L/s·m^2)

I. Volatile Organic Compounds: SCAQMD Rule 1113, primary air barrier material, < 50 g/L

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Install materials only when surface and ambient temperature are minimum 40 degrees F (4 degrees C) and rising during application and drying period and below 100 degrees F (38 degrees C). Install air barrier material to dry or damp surfaces (no standing or glistening water).

3.2 APPLICATION OF CEMENT PLASTER FINISH COATS

A. General: Comply with ASTM C926.

B. Skim Coat
1. Concrete Masonry – install one liberal coat of Sto ExtraSeal in a uniform, continuous application by trowel at nominal 1/8 inch (3mm) thick. Surface must be free of voids and pinholes when dry. Final application must not show CMU surface texture or joints. Do not install over working or moving joints or joint sealants.

C. Transitions
1. Install appropriate air barrier accessory material or auxiliary material at transition areas: foundation, floor lines, flashings, lintels and shelf angles, openings and penetrations such as pipes, vents, windows and doors, masonry anchors, rafters or beams, joints in construction, projections such as decks and balconies, and roof line. Limit extension of transition materials to limit of expanded flange accessories at stucco terminations.

D. Stucco Accessories
1. Install stucco accessories – casing beads, expansion and control joints – over air barrier with appropriate fasteners into supporting construction as required by ASTM C926.

E. Scratch coat: allow skim coat to dry minimum 24 hours and apply nominal 1/4 inch (6mm) scratch coat of Sto ExtraSeal by trowel. Scratch the surface horizontally with a stucco rake tool.

F. Brown Coat
1. Brown coat: allow scratch coat to dry minimum 24 hours and install stucco brown coat in accordance with applicable codes and manufacturer's requirements. Limit total thickness, including Sto ExtraSeal skim coat and scratch coat, and stucco brown coat, to 5/8 inches (16mm) maximum. Moist cure the brown coat in accordance with ASTM C926.

G. Crack Defense (optional, for added crack resistance of the stucco wall surface)
1. Apply Sto base coat over the moist cured stucco brown coat with appropriate spray equipment or a stainless steel trowel to a uniform thickness of approximately 1/8 inch (3 mm). Work horizontally or vertically in strips of 40 inches (1016mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2-½ inches (64 mm) at mesh seams and at overlaps of detail mesh. Feather seams and edges. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible. Do not install base coat or mesh over joints or accessories in the stucco wall assembly.

H. Primer Installation
1. StoPrime Hot – Moist cure stucco brown coat for a minimum of 48 hours. Allow stucco to dry an additional 48 hours, then apply primer evenly with brush, roller or proper spray equipment over the clean, dry stucco, and allow to dry. Age of stucco must be minimum 7 days before application of finish.

I. Textured Finish Installation
1. Apply coating or textured finish to primed stucco and foam build-outs when dry. Apply finish by spraying or troweling with a stainless steel trowel, depending on the finish specified. Follow these general rules for application of finish:
   a. Allow 28 day stucco age or check for pH < 10 before applying finish. If StoPrime Hot is used, allow minimum 7 day age of stucco.
   b. Avoid application in direct sunlight.
   c. Apply finish in a continuous application, and work a wet edge towards the unfinished wall area. Work to an architectural break in the wall before stopping to avoid cold joints.
   d. Do not install separate batches of finish side-by-side.
   e. Do not apply finish into or over sealant joints or joint accessories. Apply finish to outside face of wall only.
   f. Do not apply finish over irregular, high pH, or unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.

3.3 REPAIR

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

END OF SECTION 09 24 00

SECTION 21 00 00

FIRE PROTECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wet-pipe sprinkler system.

B. Dry-pipe sprinkler system.

C. Pre-action sprinkler system.

D. Dry-pipe pre-action active system.

E. System design, installation, and certification.

F. Fire department connections.

1.2 REFERENCES

A. NFPA 13 - Installation of Sprinkler Systems.
B. State and Local Building Code.
C. UL - Fire Protection Equipment Directory.
D. FM - Factory Mutual Approval Guide.
E. NFPA 2001 – Clean Agent Fire Extinguishing System.
F. ANSI/ASME B31.1 – Power Piping Code.
G. ASME – Boiler and Pressure Vessel Code.
H. NFPA 70 - National Electric Code.
I. NFPA 72 - Standard for Protective Signaling Systems
J. ASTM A 53 – Standard for Pipe, Steel, Black and Hot Dipped Galvanized.
K. ASTM E799 – Standard Test Method for Determining Air Leakage Rate by Fan Pressurization.
L. US Department of Transportation (DOT) standard CFR49 – Shipping of Pressurized Vessels.
M. Owner’s insurance carrier.

1.3 SYSTEM DESCRIPTION

A. System to provide coverage for building areas noted on drawings.

B. Provide Fire Sprinkler System per NFPA 13, Density/Area Method using light hazard and ordinary hazard, Group 1 occupancy requirements as required by State and Local Building Codes, hydraulically designed in accordance with NFPA 13 as referenced by Building Code and the authority having jurisdiction.

C. Existing Fire Sprinkler Systems shall be modified to accommodate the renovated building. It is this contractor's responsibility to verify that the existing fire sprinkler system is in fact installed as indicated on the drawings. Any discrepancies between the drawings and what actually exists is to be included in the contract amount for the part of the work.

E. Fire Sprinkler System calculations to be based on a new flow test performed under this contract where existing data is not up to date or available. Residual to be reduced 10 percent as an allowance for future growth on the system for calculative purposes. Calculations based on:

1. Light Hazard:

   a. Sprinklers: 0.10 GPM per square foot over most remote 1500 square feet.
   b. Hose Stream: 100 GPM
   c. Head Spacing: 225 square feet per head maximum.

2. Ordinary Hazard Group 1:

   a. Sprinklers: 0.15 GPM per square foot over most remote 1500 square feet.
   b. Hose Stream: 250 GPM
   c. Head Spacing: 130 square feet per head maximum.

3. Adjustments to the area of system operation without revising the density is allowed if the area has one of the following: Quick response heads, Sloped Ceilings, Dry Pipe and Double Interlock Preaction System, or High Temperature Sprinklers. See chapter 11 of NFPA 13 for adjustment amounts.

4. Automatic sprinklers.

   a. Heads to be rated 155F except heads in elevator shafts, elevator machine rooms to be rated 286F.

F. Dry Pipe System:

1. Areas subject to freezing and/or as indicated on the drawings to be provided with dry pendant sprinklers upright or sidewall installation or recessed with piping in heated area.

2. Provide complete systems with dry pipe valves, trim and air compressors. Piping shall be exposed in area with upright sprinklers.

G. Pre-action System:

1. Area as indicated on drawings shall be protected by a pre-action system.

2. Provide a complete system of heat detectors to actuate the pre-action valve. Provide pre-action valve, trim and air compressor.

3. Detection system shall be ceiling mounted with a maximum spacing of 250 square feet per detector and shall be mounted every 20 feet on exterior of wall between column line H and R at top of vertical glass. The system to have supervisory signal and alarm signal suitable for extension to the fire alarm system.

4. Special System:

a. Escalator to have sprinkler heads located 6’- 0" on center within 6 to 12 inches of smoke curtain.

D. Concealment: Unless otherwise specified all work above ground to be above suspended ceilings and in walls except in the Mechanical Equipment Room and areas without ceilings to be as high as possible.

E. Interface system with building fire and smoke alarm system.

F. Extend new water service from existing to serve sprinklers.

G. Record actual locations of sprinkler heads and deviations of piping from drawings. Indicate drain and test locations.

H. Provide same sprinkler orifice size throughout the project.

I. Provide seismic design of fire protection systems as required by state and local code authorities to meet existing building design requirements.

1.4 SUBMITTALS

A. Submit under provisions of Division 1.

B. Submit to Building Department having jurisdiction, Fire Marshal, and Owner's insurance underwriter for approval where required. Submit proof of approvals to Owner's Representative.

C. Preliminary Shop Drawings: Prior to detailed submission, submit preliminary layout of finished ceiling areas indicating only head locations coordinated with ceiling installation.

D. Indicate hydraulic calculations, detailed pipe layout, hangers and supports, components and accessories. Indicate system controls.

E. Product Data: Provide data on sprinkler heads, valves, and specialties, including manufacturers catalogue information. Submit performance ratings rough-in details, weights, support requirements, piping connections and all electrical data.

F. Manufacturer's Certificate: Certify that system has been tested and meets or exceeds specified requirements.

1.5 RECORD DRAWINGS

A. Contractor shall keep at least one set of colored corrected shop and design drawings at the site. Drawings shall be current, denoting approved modifications and installed departure. This set must be returned to the owner at the completion of the project for as-built work.

B. All utilities which are installed below grade or concealed within walls shall be dimensionally located on the record drawings.

1.6 CUTTING AND PATCHING

A. This Contractor is responsible for any cutting, patching, painting, supports, and roofing as required to complete work indicated on drawings. Restoration shall be handled in a manner acceptable to the engineer/architect. All floor or fire wall penetrations are to be firestopped. Use Dow Corning 3-6548 silicone RTV foam or approved equal.

B. Repair adjacent construction and finishes in ceilings, walls, floors or partitions that have been damaged during demolition or created during extension of work. Repair all penetrations in fire rated ceilings, walls, floors or partitions to the original fire ratings using approved fire stop materials.

1.7 PREPARATION

A. Coordinate the installation of equipment with the schedules of other trades to prevent unnecessary delays in the total project.

1.8 CLEANING, DEBRIS REMOVAL

A. This Contractor shall remove from the premises all accumulation of dirt, debris, waste materials and rubbish caused by his employees or work, at least once a week, except that combustible materials shall be removed daily.

B. Clean equipment to remove foreign objects and markings. Touch up paint as required. The Contractor is responsible for any damages caused by work of his trade.

1.9 DEMOLITION

A. Maintain service to other parts of the building during demolition.

B. Coordinate all demolition work with the new work of all other trades.

C. Patch all holes in floors and ceiling resulting from the demolition which will not be used for the new work with the material to match the existing finish and fire rating.

D. Turn over to the Owner all removed equipment that the Owner wishes to keep. Properly dispose of all remaining equipment according to all regulatory agency requirements.

E. Equipment and/or piping temporarily removed for access is to be stored on site and protected from damage. Any damaged occurred to equipment, piping, insulation, and

specialties are the responsibility of the contractor and shall be replaced with like equipment and materials.

1.10 PROTECTION OF BUILDING COMPONENTS

A. Provide protection from damage of any kind to the existing facility during all phases of this project.

1.11 CONTRACTOR USE OF PREMISES

A. Limit use of premises to allow Owner and tenant occupancy, work by others and Owner, and comfort conditions to be maintained in the occupied spaces during normal business hours.

1.12 OPERATION AND MAINTENANCE DATA

A. Submit per provisions of Division 1 and Division 21.

B. Maintenance Data: Include components of system, servicing requirements, Record Drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

1.13 QUALITY ASSURANCE

A. Perform Work in accordance with NFPA 13.

B. Equipment and Components: Bear UL label or marking.

C. Maintain one copy of all approved submittal items on site.

1.14 QUALIFICATIONS

A. Installer: Company specializing in performing work of this Section with minimum three years documented experience.

B. Designer: Licensed or certified in the State to design sprinkler systems. Licenses or certifications shall be current and in “good standing” with the State Building Standards.

C. Company shall be a registered contractor in the City of Cincinnati.

1.15 REGULATORY REQUIREMENTS

A. Provide system(s) as required by State and Local Building Codes, hydraulically designed and installed in accordance with NFPA 13 as referenced by the Building codes and authority having jurisdiction (AHJ).

B. Equipment and components shall bear UL label or marking.

C. Conform to NFPA 13 for installation and testing of sprinkler system(s).

D. Provide certificate of compliance from authority having jurisdiction indicating approval of field acceptance tests.

1.16 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and protect products on site per provisions of Division 1 and Division 21.

1.17 EXTRA MATERIALS

A. Furnish under provisions of Division 1 and Division 21.

B. Provide extra sprinkler heads under provisions of NFPA 13.

C. Provide suitable wrenches for each head type.

D. Provide metal storage cabinet in location designated.

PART 2 - PRODUCTS

2.1 SAMPLES

A. Provide one of each type of sprinkler head proposed to be used on project. Submit with materials drawings for approval. Sample will not be returned with approval.

2.2 SPRINKLER HEADS

A. Manufacturers: Tyco Gem, Grinnell, Viking, Reliable, Star Sprinkler Corp. and Central.

B. Suspended Ceiling:

1. Type: Recessed pendant quick response type with matching escutcheon plate.

2. Head Finish: White enamel.

3. Escutcheon Plate Finish: White enamel.

4. Fusible Link: Glass bulb type temperature rated for specific area hazard.

5. Model: Basis of Design is Gem/Grinnell Model A.

C. Drywall Ceilings and Linear Metal Ceilings:

1. Type: Concealed automatic quick response type (all metal construction).

2. Finish: White cover plate.

3. Fusible Link: Fusible solder link type or glass bulb type temperature rated for specific area hazard.

4. Model F976 with cover plate manufactured by Gem/Grinnell.

D. Dry Pendant:

1. Provide sprinkler heads complete with compressed charge to isolate head from freezing temperatures, minimum 8” into heated space. Type to match ceilings listed above.

2. Model: F960 manufactured by Gem/Grinnell.

E. Exposed Area Type:

1. Type: Standard upright quick response type provide guard where indicated, and for all sprinkler heads installed below 8’-0” above finished floor.

2. Head Finish: Brass.

3. Fusible Link: Glass bulb type temperature rated for specific area hazard.

4. Model: Basis of Design is Gem/Grinnell Model A.

F. Sidewall Type:

1. Type: Semi-recessed quick response horizontal sidewall type with matching push on escutcheon plate.

2. Head Finish: Chrome plated.

3. Escutcheon Plate Finish: Chrome plated.

4. Fusible Link: Glass bulb type temperature rated for specific area hazard.

5. Model: Basis of Design is Gem/Grinnell Model F960/Q46.

G. Acoustical Tile Ceilings (extended coverage):

1. Type: Extended coverage, quick response ordinary hazard, very extra large orifice recessed pendant with matching escutcheon plate.

2. Head Finish: White enamel.

3. Escutcheon Plate Finish: White enamel.

4. Fusible Links: Glass bulb type temperature rated for ordinary hazard. Quick response.

5. Listing: UL.

6. Model: Sprinkler head and escutcheon as manufactured by Gem/Grinnell.

7. Per acceptance of insurance company and local authorities.

2.3 PIPING

A. Fire protection, sprinkler piping, 2-1/2" and smaller:

P110: Steel Pipe; ASTM A53 Gr. B, Schedule 40, black.

1. Manufacturers:

   a. Victaulic
   b. Grinnell
   c. Gustin-Bacon

2. Fittings: Cast Iron

3. Joints: Grooved mechanical couplings.

4. Housing Clamps: Malleable iron to engage and lock, designed to permit some angular deflection, contraction, and expansion.

5. Sealing Gasket: C-shape elastomer composition for operating temperature range from -30 degrees F to 230 degrees F.

6. Accessories: Steel bolts, nuts, and washers.

P116: Corrosion Treated Steel Pipe; ASTM A5-135, NHA, 300 psi fm, Schedule 10 or XL for fire protection use. Roll groove only.

1. Mechanical Grooved Couplings and Fittings: ASTM A47, malleable iron housing clamps to engage and lock, "C" shaped composition sealing gasket, steel bolts, nuts and washers; UL listed for 175 psig couplings and fittings.

2.4 PIPING SPECIALTIES

A. Wet Pipe Sprinkler Alarm Valve: Check type valve with divided seat ring, rubber faced clapper to automatically actuate electrically and hydraulically operated alarms, with pressure retard chamber, variable pressure trim and pressure alarm switch.

B. Water Motor Alarm: Hydraulically operated impeller type alarm with aluminum alloy red enameled gong and motor housing, nylon bearings, and inlet strainer.

C. Water Flow Switch: UL Listed for fire protection system. Electric flow switch with two single pole, double throw, snap-action switches. Unit suitable for connection to either normally open or normally closed alarm circuit. Unit with adjustable time delay from 0-95 seconds. Viking Model VSR-D Star, Reliable or Potter equivalent flow switch or equal with time delay.

D. Dry Pipe Sprinkler Valve: Check type valve with divided seat ring, rubber faced clapper to automatically actuate [electrically] [and] [or] [hydraulically] operated alarms, with accelerator.

E. Deluge Valve: Gate type valve with rubber-faced disc actuated [manually] [pneumatically] [electrically] [hydraulically] with [electrically] [and] [or] [hydraulically] operated alarms, with alarm testing trim.

F. Control Valves:

1. Sectional control valve - cast iron gate type valve with field assembled deep box (“Ford” box) for direct burial, forged steel lid marked “fire “.

2. Branch control valves –Post indicator type, gate valve, 150 lb flanged, 175 lb rated shut-off, gear operator and flag type indicator, UL and FM listed/rated. Butterfly valve may be used where approved by local authorities.

G. Fire Department Connection: Snap Tite style FDC Stortz fitting or equivalent complete with 30-degree elbow with rocker lugs and blind cap per requirements of fire department.

H. Siamese Connection: Potter-Roemer Figure 5771 or equivalent Larsen or Elkhart, chrome plated fire department inlet connection. Size to be 4 inch with three 2-½ inch threaded hose connections with cap and chain and check valve. Threads to be per fire department requirements.

I. Pumper Connections

1. Potter-Roemer Model 5020 or equivalent Larsen or Elkhart two-way 6 x 2-½ x 2-½ fire department connection with check valve, clapper valve, ball drip valves, caps and chains with Fire Department required threads. Unit to be brushed chrome plated.

2. Potter-Roemer Model 5761 or equivalent Larsen or Elkhart two-way free standing 4 x 2-½ inch fire department connection with clapper valve, ball drip valve, caps and chains with Fire Department required threads. Unit to be rough chrome plated.

J. Heat Detectors: Pyr-A-Larm Model DT-200F or equivalent fixed temperature thermal fire detector rated 200F. Unit to have visual indication that alarm has been actuated. Provide 10 spare replacement elements to Owner. Exterior units to be suitable for exterior use. Provide mounting brackets, weather hood and all trim and accessories required to match color of window framing.

K. Wall Seals (Bolted Pressure Seals): Provide at each foundation wall penetration: Link Seal as manufactured by Thunder line Corp. Provide seal suitable for wall sleeve and type of pipe. Core drill foundation wall of size required to receive Link Seal. Where wall penetration is not suitable for Link Seal, provide steel pipe sleeve grouted into wall and secured to foundation wall.

L. Detector check

1. Manufacturer: Viking, Gem/Grinnell, Reliable.

2. Viking Model F-1 detector check valve assembly. By-pass meter and trimming, 3/4 x 5/8 meter per water works requirements.

3. Ductile iron body painted red. All moving parts to be corrosion resistant.

M. Tamper Switches

1. Manufacturer: Simplex, Autocall, Notifier, Potter.

2. Position switch with mounting hardware for valve installation with electrical characteristics to match fire alarm system.

3. Waterproof for exterior installation.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate work of this Section with other affected work.

B. Verify that electric power is available and of the correct characteristics.

3.2 INSTALLATION

A. Center heads in tiles where feasible, one direction only in ceiling tile with location in other direction variable, dependent upon spacing and coordination with ceiling elements.

B. Flexible connections to heads can be used if they are FM or UL listed and connected to ceiling grid using manufactured ceiling brackets to stabilize head.

C. Install air compressor on vibration isolators.

D. Hydrostatically test entire system. Dry & Pre-action systems shall first be tested under sustained air pressure per NFPA 13 and the Building Code Requirements.

E. Require test to be witnessed by authority having jurisdiction and/or Owner and building engineer.

F. Install piping in accordance with NFPA 13 for sprinkler systems, NFPA 24 for service mains.

G. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.

H. Install piping to conserve building space and not interfere with use of space and other work.

I. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

J. Do not penetrate building structural members unless indicated.

K. Provide tamper switches on each valve. Provide wire and conduit to fire alarm for all valves not shown on electrical drawings.

L. Provide drain valves at main shut-off valves, low points of piping and apparatus.

M. Slope dry pipe systems per requirements of NFPA 13.

N. Provide thrust blocks: Concrete thrust blocks to bear on undisturbed earth with bearing area based on bearing capacity of earth. See a soil test. Bearing area of earth shall equal cross sectional area of pipe times the maximum water test pressure plus 50 percent for tees and 125 percent for elbows.

O. Mechanical Joint Piping: Tie rods, clamps and metal harness field coated with acid resistant paint or bitumastic before backfilling.

P. Do not install piping directly above any transformer, control center or electrical panelboard. This requirement does not apply to individual starters, or switches.

Q. Draw-Off and Drainage Connections:

1. On each riser provide draw-off connections, complete with globe valve. Extend drains concealed to exterior or service sink per NFPA. Exterior piping to be brass.

R. Test Pipes:

1. Provide 1-inch test pipe at each flow switch on each floor. Extend discharge concealed to exterior or service sink per NFPA. Terminate in smooth brass outlet.

END OF SECTION

SECTION 22 00 00

PLUMBING SPECIFICATIONS

PART 1 – GENERAL

1.1 INTENT

A. The intent of this section is to cover Plumbing Requirements specifically applicable to Division 22 sections for Plumbing.

1.2 GENERAL REQUIREMENTS

A. Visit the building site prior to bidding, examine all existing conditions, and verify all dimensions. No extras will be awarded after the contract is signed if conflicts or obstructions between new work and existing construction are not reported.

B. Work installed by this Contractor which interferes with or affects the existing structures shall be changed as directed and all costs incident to such changes shall be paid by this Contractor.

C. Any existing condition uncovered during the construction process which by generally accepted construction practices should be addressed, shall be remedied by this contract. Other deficiencies shall be brought to the attention of the Engineer, Architect, and Owner immediately and in writing.

D. Specific locations, mounting heights and overall dimensions of devices and fixtures are to be obtained from the architectural details when available and from site data.

E. All work of this contract shall be done neatly and proficiently and only by workers skilled in their particular craft.

F. Except where modified by specific notation to the contrary, it shall be understood that the indication and/or description of any item in the drawings, specifications, or both carries with it the instruction to furnish and install the item, regardless of whether or not this instruction is explicitly stated as part of the indication or description.

G. All hands-free faucets shall include a temperature mixing appliance installed below the fixture in a neat and orderly manner.

H. Cleanouts uncovered through demolition below finished floors, carpeting, VCT and tiles shall be made level with final finishes through all reasonable standard construction practices, where possible.

I. All work shall be done during working hours specified in the Summary of Work.

1.3 SCOPE OF WORK

A. Provide all materials, labor, equipment and services necessary for the installation of all systems as indicated on the drawings.

1.4 CONTRACT DRAWINGS

A. The contract drawings for the plumbing work are diagrammatic, intended to convey the scope of work and indicate the general arrangement and approximate location of equipment and piping, the contractor shall be responsible for checking and verifying all conditions and dimensions. Do not scale drawings.

B. Drawing Definitions: Where the term "provide" is used, this shall mean furnish and install, complete and ready for the intended use. "Furnish" means supply and deliver to the Project site, ready for unloading, unpacking, assembly, and installation. "Install" describes the operations at the Project site including the actual assembly, erection, anchoring, and all similar operations.

C. Provide any offsets, fittings, etc., necessary for the complete installation of all work of this contract. Provide any accessories required for the complete installation and operation of all systems.

D. Include all costs to make any alterations and offsets of materials, pipe, conduit, etc., and of equipment as necessary to avoid installation conflicts with existing work.

E. The drawings and specifications are complementary and any work and material required by the drawings and not mentioned in the specifications or vice versa, shall be executed as if same were both specified and shown.

F. Any questions or conflict between drawings and specifications, shall be referred to the Engineer.

G. The Engineer reserves the right to require any or all Contractors to make minor changes in arrangements at no additional cost to the Owner.

1.5 CODES, STANDARDS AND TESTS

A. All systems and components shall be installed in accordance with all state, county and local codes and regulations.

B. All tests shall be performed in accordance with state, county, local, Owner's and engineer's requirements.

1.6 PERMITS

A. The Contractor is responsible for applying for all required permits and paying for all permit, inspection, licensing, and service fees to authorities having jurisdiction over the work. The Contractor is responsible for arranging for all inspection visits.

1.7 SUBMITTALS

A. The contractor shall issue all submittals to: submittals@davieseg.com

1. Include name of project, Davies EG project number, name of Owner, and Discipline in the body of the email.
2. Include the word "submittal" in the subject line of the email.

3. The contractor shall be responsible to copy and distribute the reviewed stamped submittals as needed for manufacturers, subcontractor, record, and information manuals, etc.

B. The information submitted shall be prepared and arranged in a format which will permit easy identification and comparison of the specified equipment. Each submitted item shall be marked with the equipment name (e.g., CWP-1, BLR-3, PXD-1) and shall include all related accessories. All ordering information shall be circled or highlighted so that it is clear which features, options, accessories are being ordered.

C. The make, type and finish of all materials, equipment and apparatus shall be approved by the engineer/architect in writing before the Contractor installs it. Any substitution for any specified equipment or material shall first be approved by the engineer/architect in writing.

1.8 RECORD DRAWINGS

A. Contractor shall keep at least one set of colored corrected shop and design drawings at the site. Drawings shall be current, denoting approved modifications and installed departure. This set must be returned to the owner at the completion of the project for as-built work.

B. All utilities which are installed below grade or concealed within walls shall be dimensionally located on the record drawings.

1.9 OWNER FURNISHED EQUIPMENT

A. All equipment that is furnished by the Owner is assigned to the Contractor that is designated to install the equipment as though the Contractor furnished the equipment itself. The Contractor is responsible for all aspects of the equipment including verifying the order, coordinating and accepting delivery, rigging, installation, start-up coordination, warranty repairs, collection and submittal of equipment manuals, and all other activities associated with the equipment unless specifically indicated otherwise. Refer to the pre-purchase specifications or order forms used by the Owner to select the equipment for any features included with each piece of equipment.

B. Products furnished to the site and paid for by the Owner: None.

1.10 WARRANTY

A. This Contractor shall provide a written warranty of all work done under this contract for a period of one year parts & labor and five years parts from date of substantial completion. The Contractor shall, at his own expense, remedy any defects due to faulty materials and or workmanship and pay any damage to other work resulting form such defects and or the remedying thereof, which shall appear within the warranty period.

B. All materials shall be free of defects or errors which would result in poor application or cause defects in workmanship.

1.11 CUTTING AND PATCHING

A. This Contractor is responsible for any cutting, patching, painting, supports, and roofing as required to complete work indicated on drawings. Restoration shall be handled in a manner acceptable to the engineer/architect. All floor or fire wall penetrations are to be firestopped. Use Dow Corning 3-6548 silicone RTV foam or approved equal.

B. Repair adjacent construction and finishes in ceilings, walls, floors or partitions that have been damaged during demolition or created during extension of work. Repair all penetrations in fire rated ceilings, walls, floors or partitions to the original fire ratings using approved fire stop materials.

1.12 PREPARATION

A. Coordinate the installation of equipment with the schedules of other trades to prevent unnecessary delays in the total project.

1.13 EQUIPMENT VERIFICATION

A. Verify all equipment ratings, connections and locations with installing Contractor before installation.

B. This Contractor shall verify and satisfy himself that all equipment furnished will properly fit in the space provided, that it will function properly, and that all parts of equipment requiring service are readily accessible.

1.14 CLEANING, DEBRIS REMOVAL

A. This Contractor shall remove from the premises all accumulation of dirt, debris, waste materials and rubbish caused by his employees or work, at least once a week, except that combustible materials shall be removed daily.

B. Clean equipment to remove foreign objects and markings. Touch up paint as required. The Contractor is responsible for any damages caused by work of his trade.

1.15 SUBSTITUTIONS

A. Certain makes of materials and equipment are specified and drawings are detailed according to this material. Contractor shall base his bid on furnishing and installing the specified make and model or the "equivalent" model of another of the specified manufacturers which meets all the qualifications of the specified items.

B. "Equivalent" materials and equipment are those of manufacturer which meet the same standards of performance, have equal or better materials of construction, and equal or better maintenance characteristics. All equivalents must fit the space provided in the building structure. Where the use of equivalents results in changes, this Contractor shall be responsible for such changes and any costs resulting from them.

C. If the Contractor intends to use equipment or materials not specified, he must receive written approval from the engineer/architect prior to the award of the contract. This prior approval only permits submittal of a particular manufacturer's equipment in general. The specified item to be used must again be submitted for final review as specified under "shop drawings."

1.16 DEMOLITION

A. Maintain service to other parts of the building during demolition.

B. Coordinate all demolition work with the new work of all other trades.

C. Patch all holes in floors and ceiling resulting from the demolition which will not be used for the new work with the material to match the existing finish and fire rating.

D. Turn over to the Owner all removed equipment that the Owner wishes to keep. Properly dispose of all remaining equipment according to all regulatory agency requirements.

E. Equipment and/or piping temporarily removed for access is to be stored on site and protected from damage. Any damaged occurred to equipment, piping, insulation, and specialties are the responsibility of the contractor and shall be replaced with like equipment and materials.

1.17 PROTECTION OF BUILDING COMPONENTS

A. Provide protection from damage of any kind to the existing facility during all phases of this project.

1.18 CONTRACTOR USE OF PREMISES

A. Limit use of premises to allow Owner and tenant occupancy, work by others and Owner, and comfort conditions to be maintained in the occupied spaces during normal business hours.

1.19 PROJECT CLOSEOUT

A. Contract shall self-perform a full punchlist and submit to engineer prior to engineer's punchlist denoted all items incomplete or unfinished.

B. Furnish three final copies of installation and maintenance manuals, warranties, and other submittal data indicated for inclusion. Bind in 3-ring binders with tabs for each division or major piece of equipment. Include wiring diagrams, parts listings, and other manufacturer's information.

C. Submit a certificate of final inspection and approval. Submit release of liens for all subContractors and suppliers. Submit record drawings

D. Final payment will not be approved until all closeout items are received.

1.20 REFERENCES

A. Where applicable, the following standards shall apply to materials, equipment, and workmanship provided to meet these specifications:

1. ASME Sec. 9 - Welding and Brazing Qualifications.
2. ASME B16.3 - Malleable Iron Threaded Fittings Class 150 and 300.
3. ANSI/ASME B16.9 - Factory-made Wrought Steel Buttwelding Fittings.
4. ANSI/ASME B16.25 - Buttwelding Ends.
5. ANSI/ASTM A135 - Electric-Resistance-Welded Steel Pipe.
6. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
7. ASME B31.5 - Refrigeration Piping.
8. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless (GR. B - seamless).
9. ASTM A120 - Pipe, Steel, Black and Hot-Dipped Zinc Coated (Galvanized), Welded and Seamless, for Ordinary Uses.
10. ASTM A795 - Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use.
11. AWS A5.8 - Brazing Filler Metal.
12. AWS D1.1 - Structural Welding Code.
13. MSS SP58 - Pipe Hangers and Supports - Materials, Design and Manufacture.
14. MSS SP69 - Pipe Hangers and Supports - Selection and Application.
15. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
16. AFBMA 9, 11 - Load Ratings and Fatigue Life for Ball and Roller Bearings.
17. IEEE 112 - Test Procedure for Polyphase Induction Motors.
18. NEMA MG1 - Motors and Generators.
19. NFPA 70 - National Electric Code.
20. ASTM E84 - Flame Spread/Smoke Developed Rating.
21. UL 778 - Motor Operate Water Pumps.
22. ARI 270 - Sound Rating of Outdoor Unitary Equipment.
23. ARI 365 - Commercial and Industrial Unitary Air Conditioning Condensing Units.
24. ASHRAE 14 - Methods for Testing and Rating Positive Displacement Condensing Units.
25. ASHRAE 15 - Safety Code for Mechanical Refrigeration.
26. NEMA 250 - Enclosure for Electrical Equipment.
27. UL 207 - Refrigerant Containing Components and Accessories.
28. AMCA 210 - Laboratory Methods for Testing Fans for Rating Purposes.
29. AMCA 300 - Test Code for Sound Rating Air Moving Devices.
30. AMCA 500 - Test Method for Louvers, Dampers, and Shutters.
31. ARI 410 - Forced Circulation Air-Cooling and Heating Coils.

32. ARI 430 - Central Station Air Handling Units.
33. SMACNA - HVAC Duct Construction Standards - Metal and Flexible.
34. UL 900 - Test Performance of Air Filter Units.
35. UL 705 - Power Ventilators.
36. ARI 650 - Air Outlets and Inlets.
37. ASHRAE 70 - Method of Testing for Rating the Air Flow Performance of Outlets and Inlets.
38. NFPA 90A - Installation of Air Conditioning and Ventilation Systems.
39. ANSI B16.18 - Cast Copper Alloy Solder-Joint Pressure Fittings.
40. ANSI B40.1 - Gauges, Pressure and Vacuum, Indicating Dial Type-Elastic Element.
41. ASME Boiler and Pressure Vessel Code.
42. ASTM A167 - Stainless and Heat-Resisting Chromium - Nickel Steel Plate.
43. ASTM A269 - Stainless and Welded Austentic Stainless Steel Tubing for General Service.
44. ASTM A403 - Wrought Austentic Stainless Steel Piping Fittings.
45. ASTM B32 - Solder Metal
46. ASTM B88 - Seamless Copper Water Tube.
47. ASTM B280 - Seamless Copper Tube for Air Conditioning and Refrigeration field Service.
48. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
49. ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.
50. ASTM D2564 - Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.
51. CGA G-7 - Compressed Air for Human Respiration.
52. CGA P-2.1 - Medical-Surgical Vacuum Systems in Health Care Facilities. Q. CGA V-5 - Diameter Index Safety System Non Interchangeable Low Pressure Connections for Medical Gas Applications.
53. FM - Factory Mutual System - Approval Guide.
54. FS TT-P-645 - Primer, Paint, Zinc Chromate, Alkyd Type.
55. FS W-C-596 - Electrical Power Connector, Plug, Receptacle, and Cable Outlet.
56. FS WW-V-35 - Valve Ball.
57. FS WW-V-54 - Valve, Gate, Bronze (125, 150 and 200 Pound, Screwed, Flanged, Solder End, For Land Use).
58. MIL-R-36557 - Regulator, Pressure, Medical Gas Administration Apparatus.
59. MIL-V-82026 - Valves, Diaphragm, Stop.
60. MSS SP-58 - Pipe Hangers and Supports - Materials, Design and Manufacture.
61. MSS SP-69 - Pipe Hangers and Supports - Selection and Application.
62. NFPA 50 - Bulk Oxygen Systems at Consumer Sites
63. NFPA 99 - Standard for Health Care Facilities.

PART 2 - PRODUCTS

A. All equipment and fixtures shall be as specified on the drawings and in the schedules.

2.2 IDENTIFICATION

A. Refer to Pipe Labeling Section.

2.3 PIPE

A. Storm Piping above or below grade:

P425: Cast Iron Pipe; CISPI 301, hubless, service weight.
1. Fittings: Cast iron.
2. Joints: Neoprene rubber gasket and stainless-steel clamp and shield.

B. Condensate drains piping above or below grade:

P200: Copper Tubing; ASTM B88, Type L, hard drawn.
1. Fittings: ASME B16.18, cast brass, or ASME B16.22, solder wrought copper.
2. Joints: Solder, lead free, ASTM B32, 95-5 tin- antimony, or tin and silver, with melting range 430 to 535 degrees F.
3. Flanges: Bronze.
4. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.4 PIPING SLEEVES

A. Provide and set sleeves to accommodate all pipes passing through walls, floors and partitions.

B. Sleeves shall be constructed of 16-gauge galvanized sheet steel and shall be fabricated to allow 1" clearance between pipe or insulation and sleeve. Sleeves shall be installed to allow for 1/2" minimum extension on both sides of floor or wall.

C. Where sleeves pass through a fire rated wall, floor or partition they shall have the same fire rating as the construction in which they are installed.

2.5 PIPE HANGERS

A. Insulated piping: "Grinnell" Fig. 65, carbon steel, galvanized, adjustable, clevis type, oversized to allow for insulation.

B. Uninsulated piping: "Grinnell" Fig. 65, carbon steel, galvanized, adjustable, clevis type, direct to pipe.

C. Hanger rods

1. "Grinnell" Fig. 146, carbon steel, galvanized, threaded rods. Attach hangers to concrete ceiling or bottom centerline of concrete beam using expansion cases, "Grinnell" Fig. 117.

2. Support hangers from roof joists using beam clamps, "Grinnell" Fig. 292. Do not attach hangers to roof deck.

3. Support spacing as follows:

PIPE SIZE	HANGER SPACING - FEET								ROD DIAM.
	MSS-SP69	B31.9 Steel	B31.9 Steel	B31.9 Copper	B31.9 PVC	B31.1 Steel	B31.1 Steel	NFPA CU*	
Inches	Liquid	Liquid	Gas	Liquid	Liquid	Water	Gas	Water	Inches
1/2 to 1-1/4	7	7	7	5	3	7	9	8	3/8
1-1/2, 2	9	11	13	8	4	10	13	10	3/8
2-1/2, 3	11	14	16	10	6	12	15	12	1/2
4	14	20	21	12	7	14	17	15	5/8
6	17	23	26	15	8	17	21	15	3/4

*For fire protection piping, conform to NFPA 13 Table 9.2.2.1

2.6 PIPE INSULATION

A. Storm Water Piping above grade, outdoors.

1. Class PB: Closed Cell, Flexible, Elastomeric Insulation

a. "K" Factor: 0.27 at 75F Mean Temperature
b. Minimum Service Temperature: -20 degrees F.
c. Maximum Service Temperature: 850 degrees F.
d. Maximum Moisture Absorption: 0.2 percent by volume.
e. Surface Burning Characteristic: 25/50 per ASTM E84
f. Manufacturers: Armstrong Armaflex AP, Rubatex, or approved equal.

2. Class CB15: PVC Plastic Jacketing

a. Manufacturers: Manville Zeston PVC (pipe), Knauf Fitting Covers (pipe), Ceel-Co PVC Covers (pipe), Owens-Corning PVC Fitting Covers (pipe), or insulation manufacturer approved equal.
b. PVC plastic covering:
1) ASTM C921 PVC plastic covering.
2) Pipe formed fittings covers for piping.
3) Sheet material for ductwork and equipment.
4) Minimum service temperature: -40 degrees F.
5) Maximum service temperature: 150 degrees F.
6) Moisture vapor transmission: ASTM E96, 0.002 perm inches.
7) Thickness: 15 mil pipe fittings; 15 mil min sheet material.
8) Surface Burning Characteristic: 25/50 per ASTM E84
9) Color: White unless noted in schedule.

B. Schedule

PIPING SYSTEM	PIPE SIZE	THICKNESS
STORMWATER – HORIZONTAL THRU FIRST ELBOW TO VERTICAL DROP	2" TO 6"	3/4"

2.7 PIPE LABELING

A. Materials: Furnish and install pipe markers on all indoor piping systems using the ANSI a13.1 standard scheme for identification of piping systems. Markers shall be the vinyl pressure sensitive type as manufactured by "Seton" Nameplate Corporation. Overwrap ends of markers with matching color 1/2" wide tape (2" overlap). Locate markers at each change of pipe direction and at 50 ft. Maximum spacing.

B. Colors, ANSI/ASME A13.1

1. Flammable & Oxidizing Fluids: Yellow/Black
2. Potable, Cooling, Boiler Feed & Other Waters: Green/White
3. Compressed Air: Blue/White
4. Fire Quenching Fluids: Red/White
5. Toxic & Corrosive Fluids: Orange/Black
6. Combustible Fluids: Brown/White
7. User Defined: Purple/White, White/Black, Gray/White. Black/White

PART 3 - EXECUTION

3.1 SCHEDULING OF WORK

A. The work shall be mutually scheduled by the Contractor and the Owner to accommodate the Owner's occupancy and to expedite the completion of the construction.

B. Coordinate the installation with all conditions and the work of other Contractors.

C. The Contractor shall incur all costs for relocation of equipment conflicting with existing equipment or new work by other disciplines.

3.2 PIPING AND EQUIPMENT INSTALLATION

A. All storm drain lines shall be gravity sloped a minimum of 1/8 inch per foot and a maximum of 1/2 inch per foot unless otherwise noted.

1. All storm piping serving the new headhouses should be sloped a minimum of 1/4 inch per foot.

B. Trenching, saw cutting, coring, or other structural modifications shall not be performed without notification of the Owner and careful field verification by the Contractor to insure that no adverse effect to the building's structural integrity will occur.

C. All piping shall be run parallel or perpendicular to building walls and framing system. All vertical runs shall be held against walls, columns, etc., As possible to permit making of pipe joints.

D. Perform all cutting, patching and repairing required for the installation of the mechanical systems unless otherwise noted on the drawings.

E. All systems and equipment shall be installed in accordance with all state and local codes, ANSI B31.9 Building Service Piping and all additional standards as listed.

F. Install all equipment and products in accordance with manufacturer's recommendations.

G. Provide all sleeves, caulking and sealants as required for the installation of piping and equipment.

H. At completion, clean fixtures and equipment.

END OF SECTION

SECTION 23 00 00
MECHANICAL SPECIFICATIONS

PART 1 – GENERAL

1.1 INTENT

A. The intent of this section is to cover Basic Mechanical Requirements specifically applicable to Division 23 sections.

1.2 SCOPE OF WORK

A. Provide all materials, labor, equipment and services necessary for the installation of all systems as indicated on the drawings and in the specifications.

1.3 GENERAL REQUIREMENTS

A. Visit the building site prior to bidding, examine all existing conditions, and verify all dimensions. No extras will be awarded after the contract is signed if conflicts or obstructions between new work and existing construction are not reported.

B. Work installed by this Contractor which interferes with or affects the existing structures shall be changed as directed and all costs incident to such changes shall be paid by this Contractor.

C. Any existing condition uncovered during the construction process which, by generally accepted construction practices, should be remedied, should be brought to the attention of the architect immediately and in writing.

D. Specific locations, mounting heights and overall dimensions of devices and fixtures are to be obtained from the architectural details when available and from site data.

E. All work of this contract shall be done neatly and proficiently and only by workers skilled in their particular craft.

F. Except where modified by specific notation to the contrary, it shall be understood that the indication and/or description of any item in the drawings, specifications, or both carries with it the instruction to furnish and install the item, regardless of whether or not this instruction is explicitly stated as part of the indication or description.

G. All work shall be done during normal working hours.

1.4 CONTRACT DRAWINGS

A. The contract drawings for the work are diagrammatic, intended to convey the scope of work and indicate the general arrangement and approximate location of equipment, piping, conduits. The contractor shall be responsible for checking and verifying all conditions and dimensions. Do not scale drawings.

B. Drawing Definitions: Where the term "provide" is used, this shall mean furnish and install, complete and ready for the intended use. "Furnish" means supply and deliver to the Project site, ready for unloading, unpacking, assembly, and installation. "Install" describes the operations at the Project site including the actual assembly, erection, anchoring, and all similar operations.

C. Provide any offsets, fittings, etc., necessary for the complete installation of all work of this contract. Provide any accessories required for the complete installation and operation of all systems.

D. Include all costs to make any alterations and offsets of materials, pipe, conduit, etc., and of equipment as necessary to avoid installation conflicts with existing work.

E. The drawings and specifications are complementary and any work and material required by the drawings and not mentioned in the specifications or vice versa, shall be executed as if same were both specified and shown.

F. Any questions or conflict between drawings and specifications, shall be referred to the Engineer.

G. The Engineer reserves the right to require any or all Contractors to make minor changes in arrangements at no additional cost to the Owner.

H. By necessity, these drawings reflect systems designed for specific reference products, the selection of which has impacted the designs of other trades. If alternate manufacturers, fuel or power sources, sizes, or model numbers are submitted or bid, it is the responsibility of the general Contractor and all subcontractors to coordinate all differences prior to bid. No extras will be allowed for changes required to other trades if alternate equipment is bid or installed at the Contractor's option. Engineering fees which result from redesign for alternate systems shall be paid by the general Contractor at no additional cost to the Owner. This Contractor shall take his own field measurements and be responsible for them.

I. It is the intent of the drawings and specifications to indicate the acceptable materials and construction methods to be utilized on this project. Materials and/or methods that are not listed on the drawings or in the specifications are **NOT** acceptable unless prior written authorization is obtained from the engineer.

1.5 COORDINATION DRAWINGS

A. Coordination drawings are to be provided by the contractor meeting the following requirements:

1. Drawings shall be submitted to other trades. Each trade will include their work as outlined below. All work shall be indicated on the drawings prior to Engineers review.

2. Top and bottom elevations of duct, equipment and piping.

3. Location and elevation of ceilings, existing ductwork, piping, structural members and other obstructions shall be shown. Existing pipe, ducts, or other items in close proximity to the duct must be dimensionally located. Field measurements are required.

4. The drawings shall include, but not be limited to the actual locations of access panels, fire dampers, air devices, fans, plumbing, medical gas piping, fire protection piping, HVAC piping and duct, pumps, air handlers, electrical panels and devices, pneumatic tubes and transfer stations, all new Contractor and Owner supplied equipment, as well as existing devices that may conflict with new work.

5. Sections or elevation views shall be provided where clearances are close, multiple layer ductwork must be installed, or where necessary to show equipment connections.

6. This contractor shall refer to architectural drawings and obtain structural shop drawings from the general contractor for accurate location and dimensions of structural members. Field verification of all conditions is this contractor's responsibility and must be accurately depicted.

7. No ductwork shall be fabricated or installed prior to these drawings being reviewed by the Engineer.

8. Drawings shall be prepared and submitted quickly so as to provide guidance for all other trades in order to prevent conflicts and relocation of installed piping, ductwork and equipment.

9. The Engineer's review and approval will not alleviate this contractor's responsibility for providing accurate drawings.

10. No change orders will be considered for any conflicts not addressed on these shop drawings.

11. The cost of these coordination drawings shall be shown as a line item on the contract breakdown used for pay requests. Excessive delay in providing drawings or inadequate drawings will be reason for reducing or withholding payment of this amount. The amount listed shall be approved by the Engineer.

1.6 CODES, STANDARDS AND TESTS

A. All systems and components shall be installed in accordance with all state, county and local codes and regulations.

B. All tests shall be performed in accordance with state, county, local, Owner's and engineer's requirements.

1.7 PERMITS

A. The Contractor is responsible for applying for all required permits and paying for all permit, inspection, licensing, and service fees to authorities having jurisdiction over the work. The Contractor is responsible for arranging for all inspection visits.

1.8 SUBMITTALS

A. Non-edited factory boiler plate manuals where the contractor has not specifically indicated what is and isn't included in the submittal package will not be accepted for review.

B. The contractor shall issue all submittals to: submittals@davieseg.com.

1. Include name of project, Davies EG project number, name of Owner, and Discipline in the body of the email.

2. Include the word "submittal" in the subject line of the email.

3. The contractor shall be responsible to copy and distribute the reviewed stamped submittals as needed for manufacturers, subcontractor, record, and information manuals, etc.

C. Submit certified shop drawings, descriptive data, diagrams and specifications on all specified materials and equipment for review in ample time before manufacturers are authorized to make shipment.

D. The information submitted shall be prepared and arranged in a format which will permit easy identification and comparison of the specified equipment. Each submitted item shall be marked with the equipment name (e.g., CWP-1, BLR-3, PXD-1) and shall include all related accessories. All ordering information shall be circled or highlighted so that it is clear which features, options, accessories are being ordered.

E. The make, type and finish of all materials, equipment and apparatus shall be approved by the engineer/ architect in writing before the Contractor installs it. Any substitution for any specified equipment or material shall first be approved by the engineer/architect in writing.

F. Submit a schedule showing all electrical characteristics and requirements for all electrically operated equipment. The schedule shall be used by the electrical Contractor from which he will prepare his work.

G. Shop drawings shall include, but are not limited to the following: make, model number, dimensions, electrical characteristics (rating). Shop drawings shall bear name of project and location.

H. Any changes to items specified must be submitted as a substitution with complete documentation of price differential and equipment details.

I. Items to be submitted include the following:

1. All new HVAC equipment.

2. Ductwork and duct insulation.

3. Piping and pipe insulation.

4. Hydronic specialties.

5. Building automation system controls.

1.9 RECORD DRAWINGS

A. Contractor shall keep at least one set of colored corrected shop and design drawings at the site. Drawings shall be current, denoting approved modifications and installed departure.

B. All utilities which are installed below grade or concealed within walls shall be dimensionally located on the record drawings.

C. Upon completion of project, provide a red-lined, straight-edged set of record drawings showing all deviations as to location of equipment, piping changes and schematic changes.

1.10 OWNER FURNISHED EQUIPMENT

A. All equipment that is furnished by the Owner is assigned to the Contractor that is designated to install the equipment as though the Contractor furnished the equipment itself. The Contractor is responsible for all aspects of the equipment including verifying the order, coordinating and accepting delivery, rigging, installation, start-up coordination, warranty repairs, collection and submittal of equipment manuals, and all other activities associated with the equipment unless specifically indicated otherwise. Refer to the pre-purchase specifications or order forms used by the Owner to select the equipment for any features included with each piece of equipment.

B. Products furnished to the site and paid for by the Owner: None

1.11 WARRANTY

A. This Contractor shall provide a written warranty of all work done under this contract for a period of at least one year from date of Owner Acceptance. The Contractor shall, at his own expense, remedy any defects due to faulty materials and or workmanship and pay any damage to other work resulting form such defects and or the remedying thereof, which shall appear within the warranty period.

B. All materials shall be free of defects or errors which would result in poor application or cause defects in workmanship.

C. The date of Owner Acceptance shall be when successful operation of the work has been demonstrated to the Owner and the Owner confirms that the work is acceptable.

1.12 CUTTING AND PATCHING

A. This Contractor is responsible for any cutting, patching, painting, supports, and roofing as required to complete work indicated on drawings. Restoration shall be handled in a manner acceptable to the engineer/architect. All floor or fire wall penetrations are to be firestopped. Use Dow Corning 3-6548 silicone RTV foam or approved equal.

B. Repair adjacent construction and finishes in ceilings, walls, floors or partitions that have been damaged during demolition or created during extension of work. Repair all penetrations in fire rated ceilings, walls, floors or partitions to the original fire ratings using approved fire stop materials.

1.13 PREPARATION

A. Coordinate the installation of equipment with the schedules of other trades to prevent unnecessary delays in the total project.

1.14 EQUIPMENT VERIFICATION

A. Verify all equipment ratings, connections and locations with installing Contractor before installation.

B. This Contractor shall verify and satisfy himself that all equipment furnished will properly fit in the space provided, that it will function properly, and that all parts of equipment requiring service are readily accessible.

1.15 CLEANING, DEBRIS REMOVAL

A. This Contractor shall remove from the premises all accumulation of dirt, debris, waste materials and rubbish caused by his employees or work, at least once a week, except that combustible materials shall be removed daily.

B. Clean equipment to remove foreign objects and markings. Touch up paint as required. The Contractor is responsible for any damages caused by work of his trade.

1.16 SUBSTITUTIONS

A. Certain makes of materials and equipment are specified and drawings are detailed according to this material. Contractor shall base his bid on furnishing and installing the specified make and model or the "equivalent" model of another of the specified manufacturers which meets all the qualifications of the specified items.

B. "Equivalent" materials and equipment are those of manufacturer which meet the same standards of performance, have equal or better materials of construction, and equal or better maintenance characteristics. All equivalents must fit the space provided in the building structure. Where the use of equivalents results in changes, this Contractor shall be responsible for such changes and any costs resulting from them.

C. If the Contractor intends to use equipment or materials not specified, he must receive written approval from the engineer/architect prior to the award of the contract. This prior approval only permits submittal of a particular manufacturer's equipment in general. The specified item to be used must again be submitted for final review as specified under "shop drawings."

1.17 DEMOLITION

A. Maintain service to other parts of the building during demolition.

B. Coordinate all demolition work with the new work of all other trades.

C. Patch all holes in floors and ceiling resulting from the demolition which will not be used for the new work with the material to match the existing finish and fire rating.

D. Turn over to the Owner all removed equipment that the Owner wishes to keep. Properly dispose of all remaining equipment according to all regulatory agency requirements.

E. The electrical Contractor shall disconnect and remove all existing light fixtures, receptacles, and other electrical equipment, in areas of construction unless otherwise noted on drawings. All equipment and fixtures not reused shall be disposed of by electrical Contractor as directed by Owner or his representative.

F. All changes or code corrections that are required to existing electrical work not noted on the contract documents, must be submitted to the electrical engineer for approval, prior to commencing work.

1.18 PROTECTION OF BUILDING COMPONENTS

A. Provide protection from damage of any kind to the existing facility, including the roof, paved surfaces, and landscaping, during all phases of this project.

1.19 CONTRACTOR USE OF PREMISES

A. Limit use of premises to allow Owner and tenant occupancy, work by others and Owner, and comfort conditions to be maintained in the occupied spaces during normal business hours.

1.20 PROJECT CLOSEOUT

A. Furnish an electronic copy in PDF format of installation and maintenance manuals, warranties, and other submittal data indicated for inclusion. Label sections with bookmarks for each division or major piece of equipment. Include wiring diagrams, parts listings, and other manufacturer's information.

B. Submit a certificate of final inspection and approval. Submit release of liens for all subContractors and suppliers. Submit record drawings

C. Final payment will not be approved until all closeout items are received.

1.21 REFERENCES

A. Where applicable, the following standards shall apply to materials, equipment, and workmanship provided to meet these specifications:

1. ASME Sec. 9 - Welding and Brazing Qualifications.
2. ASME B16.3 - Malleable Iron Threaded Fittings Class 150 and 300.
3. ANSI/ASME B16.9 - Factory-made Wrought Steel Buttwelding Fittings.
4. ANSI/ASME B16.25 - Buttwelding Ends.
5. ANSI/ASTM A135 - Electric-Resistance-Welded Steel Pipe.
6. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
7. ASME B31.5 - Refrigeration Piping.
8. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless (GR. B - seamless).
9. ASTM A120 - Pipe, Steel, Black and Hot-Dipped Zinc Coated (Galvanized), Welded and Seamless, for Ordinary Uses.
10. ASTM A795 - Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use.
11. AWS A5.8 - Brazing Filler Metal.
12. AWS D1.1 - Structural Welding Code.
13. MSS SP58 - Pipe Hangers and Supports - Materials, Design and Manufacture.
14. MSS SP69 - Pipe Hangers and Supports - Selection and Application.
15. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
16. AFBMA 9, 11 - Load Ratings and Fatigue Life for Ball and Roller Bearings.
17. IEEE 112 - Test Procedure for Polyphase Induction Motors.
18. NEMA MG1 - Motors and Generators.
19. NFPA 70 - National Electric Code.
20. ASTM E84 - Flame Spread/Smoke Developed Rating.
21. UL 778 - Motor Operate Water Pumps.
22. ARI 270 - Sound Rating of Outdoor Unitary Equipment.

23. ARI 365 - Commercial and Industrial Unitary Air Conditioning Condensing Units.

24. ASHRAE 14 - Methods for Testing and Rating Positive Displacement Condensing Units.

25. ASHRAE 15 - Safety Code for Mechanical Refrigeration.

26. NEMA 250 - Enclosure for Electrical Equipment.

27. UL 207 - Refrigerant Containing Components and Accessories.

28. AMCA 210 - Laboratory Methods for Testing Fans for Rating Purposes.

29. AMCA 300 - Test Code for Sound Rating Air Moving Devices.

30. AMCA 500 - Test Method for Louvers, Dampers, and Shutters.

31. ARI 410 - Forced Circulation Air-Cooling and Heating Coils.

32. ARI 430 - Central Station Air Handling Units.

33. SMACNA - HVAC Duct Construction Standards - Metal and Flexible, 2005.

34. UL 900 - Test Performance of Air Filter Units.

35. UL 705 - Power Ventilators.

36. ARI 650 - Air Outlets and Inlets.

37. ASHRAE 70 - Method of Testing for Rating the Air Flow Performance of Outlets and Inlets.

38. NFPA 90A - Installation of Air Conditioning and Ventilation Systems.

39. ANSI B16.18 - Cast Copper Alloy Solder-Joint Pressure Fittings.

40. ANSI B40.1 - Gauges, Pressure and Vacuum, Indicating Dial Type-Elastic Element.

41. ASME Boiler and Pressure Vessel Code.

42. ASTM A167 - Stainless and Heat-Resisting Chromium - Nickel Steel Plate.

43. ASTM A269 - Stainless and Welded Austentic Stainless Steel Tubing for General Service.

44. ASTM A403 - Wrought Austentic Stainless Steel Piping Fittings.

45. ASTM B32 - Solder Metal

46. ASTM B88 - Seamless Copper Water Tube.

47. ASTM B280 - Seamless Copper Tube for Air Conditioning and Refrigeration field Service.

48. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

49. ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

50. ASTM D2564 - Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

51. CGA G-7 - Compressed Air for Human Respiration.

52. CGA P-2.1 - Medical-Surgical Vacuum Systems in Health Care Facilities. Q. CGA V-5 - Diameter Index Safety System Non Interchangeable Low Pressure Connections for Medical Gas Applications.

53. FM - Factory Mutual System - Approval Guide.

54. FS TT-P-645 - Primer, Paint, Zinc Chromate, Alkyd Type.

55. FS W-C-596 - Electrical Power Connector, Plug, Receptacle, and Cable Outlet.

56. FS WW-V-35 - Valve Ball.

57. FS WW-V-54 - Valve, Gate, Bronze (125, 150 and 200 Pound, Screwed, Flanged, Solder End, For Land Use).

58. MIL-R-36557 - Regulator, Pressure, Medical Gas Administration Apparatus.

59. MIL-V-82026 - Valves, Diaphragm, Stop.

60. MSS SP-58 - Pipe Hangers and Supports - Materials, Design and Manufacture.

61. MSS SP-69 - Pipe Hangers and Supports - Selection and Application.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. All equipment shall be as specified on the drawings and in the schedules. Provisions for substitutions are listed in Part 1.

2.2 IDENTIFICATION

A. All equipment shall be identified with laminated three-layer plastic engraved plastic nameplates with black letters on white background. nameplates will be mechanically fastened to the equipment. Glued application is not acceptable.

2.3 PIPE, FITTINGS AND VALVES

A. Refrigerant and Compressed Air Piping

Copper Tubing; ASTM B88, B280, Type L, hard drawn.
1. Fittings: ASME B16.22, solder wrought copper.
2. Joints: Braze, AWS A5.8 BCuP silver/phosphorus/copper alloy, with melting range 1190 to 1480 degrees F.
4. Dielectric Connections: Union with copper solder end.

2.4 PIPING SPECIALTIES

A. Temperature indicators: Trerice AX9 7" scale, +/- 1 scale accuracy, cast aluminum case, adjustable angle stem, blue colored organic fill type, standard 1-1/4" 18 UNEF-2A coupling nut, ultraviolet protective acrylic window, lens front., magnifying type, white background with black graduations and markings, ABS top plate or equal. Provide all thermowells and extended wells in insulated piping as needed.

B. Pressure indicators: Trerice 600CB, 3-1/2" dial, select range appropriate for the system being measured. All pressure indicators to be installed with a small inline ball valve. Use a single common pressure indicator with isolated branch lines to entering and leaving ports of pumps, chillers, boilers, strainers, suction diffusers, and other similar equipment.

C. Flexible connectors: Flexonics Type BSFS SS hose with SS braid, flanged connections, 12" maximum length, rated for minimum 230 psi at 70°F.

D. Check valves: Centerline check valves - silent type, bronze body, bronze trim, flanged or threaded ends, 150 PSIG rating, ANSI B16.5. Mueller model 105M BP or equal.

E. Strainers: Bronze body, 150 psig, self cleaning "Y" type, flanged or threaded ends. Muessco model 351 with 20 mesh screen or equal.

F. Needle valves: Ashcroft model 7001, 1/2" threaded ends.

G. Calibrated balancing valves: Sizes per the drawings. Bell & Gossett CB series or equal with memory stop, readout ports, insulated cover.

H. Relief valves: Bronze body, Teflon seat, stainless steel stem and spring, automatic direct-pressure actuated, capacities ASME certified and labeled. Set as indicated. Consolidated, Watts, Crosby, or McDonnell Miller.

2.5 PIPING SLEEVES

A. Provide and set sleeves to accommodate all pipes passing through walls, floors and partitions.

B. Sleeves shall be constructed of 16 gauge galvanized sheet steel and shall be fabricated to allow 1" clearance between pipe or insulation and sleeve. Sleeves shall be installed to allow for 1/2" minimum extension on both sides of floor or wall.

C. Where sleeves pass through a fire rated wall, floor or partition they shall have the same fire rating as the construction in which they are installed.

2.6 PIPE HANGERS

A. Insulated piping: "Grinnell" Fig. 65, carbon steel, galvanized, adjustable, clevis type, oversized to allow for insulation.

B. Uninsulated piping: "Grinnell" Fig. 65, carbon steel, galvanized, adjustable, clevis type, direct to pipe.

C. Hanger rods

1. "Grinnell" Fig. 146, carbon steel, galvanized, threaded rods. Attach hangers to concrete ceiling or bottom centerline of concrete beam using expansion cases, "Grinnell" Fig. 117.

2. Support hangers from roof joists using beam clamps, "Grinnell" Fig. 292. Do not attach hangers to roof deck.

3. Support spacing as follows:

PIPE SIZE	MAXIMUM SPACING	ROD DIAMETER
1/2" TO 1-1/4"	5'-0"	3/8"
1-1/2" TO 2-1/2"	8'-0"	3/8"
3" TO 3-1/2"	10'-0"	1/2"
4" TO 6"	12'-0"	3/4"

2.7 PIPE INSULATION

A. Refrigerant Piping

1. AP/Armaflex or equal, closed cell NBR/PVC insulation with anti-microbial protection, Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of not less than R-3. and having external permeance not exceeding 0.05 perm when tested in accordance with ASTM E96.

2. Complies with ASTM E84 and C534, UL94 and 723, ASHRAE 90.1

3. Water vapor permeability less than 0.05 perm-inch.

4. Thermal K-value of no more than 0.25 BTU-in,hr.-ft2-°F at 75°F.

5. Provide UV protective coating/jacket for piping installed in exterior locations.

B. Inserts and shields

1. Piping 3" and below: Provide galvanized steel shield between hanger and pipe insulation.

2. Piping over 3": Provide hydrous calcium silicate insulation or other high density material of same thickness as adjoining insulation. Insert to be minimum of 6" long.

C. Schedule

PIPING SYSTEM	PIPE SIZE	THICKNESS
REFRIGERANT PIPING (SUCTION)	ALL	1/2" INTERIOR

2.8 PIPE LABELING

A. Materials: Furnish and install pipe markers on all indoor piping systems using the ANSI a13.1 standard scheme for identification of piping systems. Markers shall be the vinyl pressure sensitive type as manufactured by "Seton" Nameplate Corporation. Overwrap ends of markers with matching color 1/2" wide tape (2" overlap). Locate markers at each change of pipe direction and at 50 ft. Maximum spacing.

2.9 DUCTWORK

A. Fiberglass ductboard is not acceptable.

B. All HVAC units Supply, Return, and Outside Air Ductwork

Material: Galvanized sheet steel of lock-forming quality, with G90 zinc coating complying with ASTM A653 / A653M and ASTM A90 / A90M.

Static Pressure: 2" W.C. maximum positive or negative

Seal Class: Class C

Construction: All ductwork shall be fabricated and installed to SMACNA – HVAC Duct Construction Standards, with the exception that no ductwork may be fabricated of material lighter than 24-guage sheet metal

2.10 DUCTWORK ACCESSORIES

A. Air inlets and outlets: See drawing schedules for type and accessories.

B. Flexible ducts: Class I, helical wound steel with vinyl coating meeting UL Standard 181 and NFPA 90A for flexible ducts. Factory insulate with 1" insulation with vapor barrier maximum of 5' straight length (no bends). Genflex, Durodyne or equal.

C. Flexible connectors: Neoprene coated fabric mechanical fastened to sheet metal connections. Install minimum 6" long. Durodyne or equal.

D. Fire Dampers: Fire dampers shall be curtain type dampers of galvanized steel with interlocking blades with blades out of airstream. Dampers shall be fabricated in accordance with NFPA 90A and bear the UL 555 label. Assemblies shall be rated for 1-1/2 hours for wall penetrations and 2 hours for floor penetrations, unless otherwise noted on drawings. See drawings and schedules for sizes and accessories. Ruskin or equal.

E. Access Doors: Access doors shall be fabricated in accordance with SMACNA standards and shall be insulated where installed in lined ductwork. Durodyne, Ventfabrics or equal.

F. Spin-in collars: Spin-in collars shall be factory fabricated sheet metal construction with spin-in type connection, air extraction scoop and hand damper. Durodyne or equal.

G. Smoke Detectors: The duct mounted smoke detectors are provided and wired by E.C.

H. VOLUME CONTROL DAMPERS.

1. Fabricate in accordance with current SMACNA HVAC Duct Construction Standards - Metal and Flexible.

I. FASTENERS:

Rivets, bolts, or sheet metal screws.

J. HANGER ROD:

ASTM A36; steel, galvanized. Visible hanger rod shall be threaded one end or both ends. Concealed hanger rod may be continuously threaded.

2.11 DUCTWORK INSULATION

A. Duct Wrap

1. Interior Ductwork: Flexible, glass fiber duct insulation shall have a "K" value of 0.29 at 75 degrees F 1.0 lb/cu ft density and FSK vapor barrier jacket. Manville, Owens Corning or equal.

B. Schedule

Ductwork	**Thickness**	**Type**	**Finish**
All Rectangular Duct – SA, RA	1-1/2"	Wrap	FSK
All Round Duct – SA, RA	1-1/2"	Wrap	FSK

2.12 TEMPERATURE CONTROLS

A. Provide all necessary components including thermostats, wiring and devices to provide complete control of the HVAC equipment.

B. All controls shall be stand-alone DDC controls, factory furnished and installed on the new equipment. All control valves and damper actuators shall be electronic devices.

C. Integrate all new equipment into existing building automation system.

D. All control system cabling shall be plenum rated type per NFPA for installation above a ceiling.

PART 3 - EXECUTION

3.1 SCHEDULING OF WORK

A. The work shall be mutually scheduled by the Contractor and the Owner to accommodate the Owner's occupancy and to expedite the completion of the construction.

B. Coordinate the installation with all conditions and the work of other Contractors.

C. The Contractor shall incur all costs for relocation of equipment conflicting with existing equipment or new work by other disciplines.

D. Any power outages or work which interferes with use of facility must be scheduled 24 hours in advance.

E. Trenching, saw cutting, coring, or other structural modifications shall not be performed without notification of the Owner and careful field verification by the Contractor to ensure that no adverse effect to the building's structural integrity will occur.

3.2 PIPE TESTING AND CLEANING

A. Hydrostatically test all new domestic water piping to 1-1/2 times the maximum working pressure and held for a period of not less than 2 hours.

B. Pneumatically test all natural gas piping and hold for one hour or per standard of governing authority.

C. Hydrostatically test all heating hot water piping per ANSI/ASME B31.9 937.3 to 1-1/2 times the maximum working pressure.

D. Tests shall be witnessed by the Owner's representative. Test results shall be submitted to Engineer. Tests shall be completed prior to insulating any piping.

E. All potable water systems shall be sanitized in accordance with all state and local requirements.

F. Pressure test all refrigerant piping with dry nitrogen to 200 psig. Perform final tests at 27” vacuum and 200 psig using electronic leak detector. Test to no leakage.

G. Clean all heating hot water piping. Provide all necessary temporary equipment required for cleaning and flushing. Circulate cleaner at concentrations recommended by manufacturer for 48 hours, then drain system as quickly as possible. Refill with water, circulate for 8 hours, then drain. Repeat until system cleaner is removed.

H. Clean all natural gas piping. Thoroughly air blow piping such that discharge does not discolor a white plywood board after two minutes of blowing through piping with high velocity air. Care should be taken that the temporary discharge point of the piping is at a safe location and arranged that discharge will be dissipated harmlessly. All personnel shall be warned to keep clear of the discharge area during blow-out operation. Hearing and eye protection shall be used.

3.3 DUCT TESTING AND CLEANING

A. Clean duct system and force air at high velocity through duct to remove accumulated dust.

3.4 PIPING, DUCTWORK AND EQUIPMENT INSTALLATION

A. Trenching, saw cutting, coring, or other structural modifications shall not be performed without notification of the Owner and careful field verification by the Contractor to ensure that no adverse effect to the building's structural integrity will occur.

B. Coordinate the location of air terminal devices and equipment with the Contractors from other trades before ordering, fabricating or installing. Ceiling mounted sprinkler, lighting, and electrical requirements take precedence over ceiling mounted mechanical requirements. See reflected ceiling plans for ceiling grid and lighting layout for coordination of final diffuser locations.

C. All piping shall be run parallel or perpendicular to building walls and framing system. All vertical runs shall be held against walls, columns, etc., As possible to permit making of pipe joints.

D. Provide isolation valves, easily accessible, for all major HVAC or plumbing equipment, fixture groups, suites and/or tenant spaces.

E. Perform all cutting, patching and repairing required for the installation of the mechanical systems unless otherwise noted on the drawings.

F. All systems and equipment shall be installed in accordance with all state and local codes, ANSI B31.9 Building Service Piping and all additional standards as listed.

G. Install all equipment and products in accordance with manufacturer's recommendations.

H. Limit flex duct runs to a maximum of five feet. Elbows must have a minimum bending radius equal to 1.5 times the flex duct diameter. If a tighter radius is required, use hard duct.

I. Provide hand dampers in duct take-offs to all supply and return diffusers, grilles, and registers, regardless of whether shown on drawings or specified as part of the diffuser, grille or register. Install dampers a minimum of two duct widths from duct take-off.

J. Install ducts and all accessories in accordance with current SMACNA HVAC Duct Construction Standards – Metal and Flexible.

K. Provide MERV-8 filtration on all return diffusers or ductwork serving the project area and clean media on a regular basis during the construction process.

L. Follow manufacturer's recommendations for number of straight pipe diameters upstream and downstream of flow measurement devices.

M. Provide all sleeves, caulking and sealants as required for the installation of piping and equipment.

N. Provide inserts and shields on all piping 2 inch diameter and larger to protect insulation from being crushed by the piping weight. Insert to be heavy density insulating material, minimum 6 inch long. Shield to be galvanized steel, contoured to fit particular application and installed between the hanger and the insert.

O. Select system relief valve capacity so that it is greater than make-up pressure reducing valve capacity. Select equipment relief valve capacity to exceed rating of connected equipment.

P. Secure roof exhausters with cadmium plated lag screws to roof curb.

Q. Support air terminal units individually from structure. Do not support from adjacent work.

R. Provide duct access door at each fire damper, locate such that fire dampers can be re-set easily. For fire dampers in floors, provide duct access door just above the floor penetration.

3.5 BALANCING AND CALIBRATION

A. This Contractor shall be responsible for the balancing and adjusting of air and water systems to within 10% of the quantities shown on the drawings.

B. Submit balance reports to Owner's representative in AABC formats including all final readings of air flow, water flow, settings, current draw, etc.

C. Equipment Requiring Testing, Adjusting, and Balancing:
All fan coil units and associated ductwork.

END OF SECTION

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Copper building wire rated 2000V or less.

B. Metal-clad cable, Type MC, rated 2000V or less.

C. Fire alarm wire and cable.

D. Connectors, splices and terminations rated 2000V and less.

1.3 REFERENCES

A. Refer to Specification Section 26 05 00.

1.4 SUBMITTALS

A. Refer to Section 26 05 00 for specific submittal requirements.

B. Product Data: Provide for each cable assembly type.

C. Field quality-control reports produced by NETA member testing agency where required by drawings or scope of work.

1.5 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.6 COORDINATION

A. Coordinate Work under provisions of Division 26 05 00.

B. Determine required separation between cable and other work.

C. Determine cable routing to avoid interference with other work.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 2000 V or less.

B. Manufacturers:

1. Alpha Wire Company.
2. Belden Inc.
3. Cerro Wire LLC
4. General Cable Technologies Corp.
5. Okonite Company
6. Service Wire Co.
7. Southwire Company.
8. Wesco
9. Refer to Section 26 05 00 for specific substitution requirements.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 or ASTM B496 for stranded conductors.

E. Conductor Insulation:

1. Type TC-ER: VFD Cable.
2. Type THHN and Type THWN-2: Interior dry and damp.
3. Type XHHW-2: Underground and wet.

2.2 METAL-CLAD CABLE, TYPE MC

A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath, rated 600 V.

B. Manufacturers:

1. AFC Cable Systems; a part of Atkore International.
2. Alpha Wire Company.
3. American Bare Conductor.
4. Belden Inc.
5. Encore Wire Corporation.
6. General Cable Technologies Corporation.
7. Okonite Company (The).
8. Service Wire Co.
9. Southwire Company.
10. WESCO.
11. Refer to Section 26 05 00 for specific substitution requirements.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Comply with UL 1569.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Circuits:

1. Single circuit.
2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.

E. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

F. Ground Conductor: Insulated.

G. Conductor Insulation:

1. Type TFN/THHN/THWN-2: Indoor dry and damp locations.

H. Armor: interlocked.

2.3 FIRE-ALARM WIRE AND CABLE

A. Manufacturers:

1. Allied Wire & Cable Inc.
2. CommScope, Inc.
3. Comtran Corporation.
4. Genesis Cable Products; Honeywell International, Inc.
5. Radix Wire.
6. Rockbestos-Suprenant Cable Corp.
7. Superior Essex Inc.
8. West Penn Wire.
9. Refer to Section 26 05 00 for specific substitution requirements.

B. General Wire and Cable Requirements: NRTL listed and labeled as complying with NFPA 70, Article 760.

C. Signaling Line Circuits: Twisted, shielded pair, size as recommended by system manufacturer and designer.

1. Circuit Integrity Cable: Twisted shielded pair, NFPA 70, Article 760, Classification CI, for power-limited fire-alarm signal service Type FPL. NRTL listed and labeled as complying with UL 1424 and UL 2196 for a two-hour rating.

D. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation, and complying with requirements in UL 2196 for a two-hour rating.

1. Low-Voltage Circuits: No. 16 AWG, minimum, in pathway.
2. Line-Voltage Circuits: No. 12 AWG, minimum, in pathway.

3. Multiconductor Armored Cable: NFPA 70, Type MC, copper conductors, Type TFN/THHN conductor insulation, copper drain wire, copper armor[with outer jacket] with red identifier stripe, NTRL listed for fire-alarm and cable tray installation, plenum rated.

2.4 WIRING CONNECTORS

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Manufacturers:

1. 3M Electrical Products.

2. AFC Cable Systems; a part of Atkore International.
3. Gardner Bender.
4. Hubbell Power Systems, Inc.
5. Ideal Industries, Inc.
6. ILSCO.
7. NSi Industries LLC.
8. O-Z/Gedney; a brand of Emerson Industrial Automation.
9. Service Wire Co.
10. TE Connectivity Ltd.
11. Thomas & Betts Corporation; A Member of the ABB Group.
12. Refer to Section 26 05 00 for specific substitution requirements.

C. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.

D. Lugs: One piece, seamless, designed to terminated conductors specified in this Section.

1. Material: Aluminum or Bronze.
2. Type: One or Two hole, per application, with standard barrels.
3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper for feeders smaller than No. 2 AWG; copper or aluminum for feeders No. 2 AWG and larger. Conductors shall be stranded. Current carrying conductors shall be a minimum of 12 AWG.

B. Branch Circuits: Copper. Solid or stranded for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. Current carrying conductors shall be a minimum of 12 AWG.

C. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

D. VFD Output Circuits Cable: Flexible stranded for all sizes.

E. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

F. Control Wiring: All control wiring shall be stranded.

G. Use 10 AWG conductors for 20 ampere, 120-volt branch circuits longer than 75'-0".

H. Use 10 AWG conductors for 20 ampere, 277-volt branch circuits longer than 200'-0".

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN/THWN-2, single conductors in.

B. Exposed Branch Circuits, Including in Crawlspaces: Type THHN/THWN-2, single conductors in raceway.

C. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway where feasible, Metal-clad cable, Type MC where required.

D. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type XHHW-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Install products in accordance with manufacturers instructions.

B. Completely and thoroughly swab raceway before installing wire.

C. Clean conductor surfaces before installing lugs and connectors.

D. Wire and cable routing shown on drawings is approximate unless dimensioned. Route wire and cable as required by project conditions.

E. Where only destination is indicated on the drawings (wire and cable routing not shown), determine exact routing and lengths required.

F. Support cables above from structure. Do not rest cable on ceiling panels or support from ceiling support wires.

G. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

H. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

I. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway. Pull all conductors together.

J. Use suitable cable fittings and connectors.

K. Neatly train and lace wiring inside boxes, equipment, and panelboards.

L. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

M. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

N. Complete cable tray systems installation according to Section 260536 "Cable Trays for Electrical Systems" prior to installing conductors and cables.

3.4 INSTALLATION OF FIRE-ALARM WIRING

A. Comply with NECA 1 and NFPA 72.

B. Wiring Method: Install wiring in metal pathway according to Section 270528.29 "Hangers and Supports for Communications Systems."
   1. Install plenum cable in environmental airspaces, including plenum ceilings.
   2. Fire-alarm circuits and equipment control wiring associated with fire-alarm system shall be installed in a dedicated pathway system. This system shall not be used for any other wire or cable.

C. Wiring Method:
   1. Cables and pathways used for fire-alarm circuits, and equipment control wiring associated with fire-alarm system, may not contain any other wire or cable.
   2. Fire-Rated Cables: Use of two-hour, fire-rated fire-alarm cables, NFPA 70, Types MI and CI, is[not] permitted.
   3. Signaling Line Circuits: Power-limited fire-alarm cables [may] [shall not] be installed in the same cable or pathway as signaling line circuits.

D. Wiring within Enclosures: Separate power-limited and non-power-limited conductors as recommended by manufacturer. Install conductors parallel with or at right angles to sides and back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess. Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with fire-alarm system to terminal blocks. Mark each terminal according to system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

E. Cable Taps: Use numbered terminal strips in junction, pull, and outlet boxes; cabinets; or equipment enclosures where circuit connections are made.

F. Color-Coding: Color-code fire-alarm conductors differently from the normal building power wiring. Use one color-code for alarm circuit wiring and another for supervisory circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visible alarm-indicating devices. Paint fire-alarm system junction boxes and covers red.

G. Risers: Install at least two vertical cable risers to serve the fire-alarm system. Separate risers in close proximity to each other with a minimum one-hour-rated wall, so the loss of one riser does not prevent receipt or transmission of signals from other floors or zones.

H. Wiring to Remote Alarm Transmitting Device: 1-inch (25-mm) conduit between the fire-alarm control panel and the transmitter. Install number of conductors and electrical supervision for connecting wiring as needed to suit monitoring function.

3.5 INSTALLATION OF WIRING CONNECTORS

A. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

B. Use split bolt connectors or high-pressure long barrel compression connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.

C. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.

D. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.

E. Where purchased equipment or unit assemblies are not provided with connector lugs, this Contractor shall provide lugs for wire termination.

3.6 INTERFACE WITH OTHER PRODUCTS

A. Identify wire and cable under provisions of Section 26 05 53.

B. Identify each conductor with its circuit number or other designation indicated on Drawings.

3.7 FIELD QUALITY CONTROL

A. Test under provisions of Section 26 05 00.

B. Inspect wire and cable for physical damage and proper connection.

C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.

D. Perform each of the following visual and electrical tests:

1. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.

2. Test bolted connections for high resistance using one of the following:

a. A low-resistance ohmmeter.
b. Calibrated torque wrench.

c. Thermographic survey.

3. Inspect compression-applied connectors for correct cable match and indentation.

4. Inspect for correct identification.

5. Inspect cable jacket and condition.

6. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.

7. Continuity test on each conductor and cable.

8. Uniform resistance of parallel conductors.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes solid grounding of electrical systems and equipment. It includes basic requirements for grounding for protection of life, equipment, circuits, and systems. Grounding requirements specified in this Section may be supplemented in other sections of these Specifications.

1.2 PRODUCTS

A. Grounding and Bonding Products

B. Wire

C. Miscellaneous Conductors

D. Mechanical Connectors

1.3 REFERENCES

A. Refer to Specification Section 26 05 00

B. Refer to Specification Section 26 05 19

C. IEEE-80. “IEEE Guide for Safety in AC Substation Grounding”

D. IEEE-837. “IEEE Guide for Qualifying Permanent Connections Used in Substation Grounding”

E. IEEE-1100 "IEEE Recommended Practice for Powering and Grounding Electronic Equipment"

1.4 PROJECT RECORD DOCUMENTS

A. Refer to Section 26 05 00 for specific requirements.

B. Accurately record actual locations of grounding electrodes, rods, and wells.

C. Field-testing organization certificate, signed by the Contractor, certifying that the organization performing field tests complies with the requirements specified in Quality Assurance below.

D. Report of field tests and observations certified by the testing organization.

E. Where required, independent test report qualifying the grounding connections to IEEE-837.

1.5 QUALITY ASSURANCE

A. Installer: Qualified with at least 3 years of successful installation experience on projects with electrical grounding work similar to that required for the project. Installers making ground connections shall be trained and certified in the installation of the grounding connections by factory representatives.

B. Listing and Labeling: Provide products specified in this Section that are listed and labeled. The terms "listed" and "labeled" shall be defined as they are in the National Electrical Code, Article 100.

1. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" (NRTL) as defined in OSHA Regulation 1910.7.

C. Electrical Component Standard: Components and installation shall comply with NFPA 70, "National Electrical Code" (NEC). Grounding connections shall meet the applicable sections of IEEE Standard 80-2000 and IEEE Standard 837-2002 and shall be approved in NEC 250.8.

D. UL Compliance: Comply with applicable requirements of UL Standards Nos. 467 and 869 pertaining to electrical grounding and bonding.

E. IEEE Compliance: Comply with applicable requirements of IEEE Standard 142 and 241 pertaining to electrical grounding.

F. For overhead-line construction and medium-voltage underground construction, comply with IEEE C2.

1.6 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 GROUNDING AND BONDING PRODUCTS

A. Manufacturers:

1. Burndy Corp.

2. Eaton Corp.

3. Thomas and Betts Corp.

B. Products: Of types indicated and of sizes and ratings to comply with NEC. Where types, sizes, ratings, and quantities indicated are in excess of NEC requirements, the more stringent requirements and the greater size, rating, and quantity indications govern.

C. Conductor Materials: Copper with 98% conductivity.

1. Exception: Where aluminum conductors are used for power wiring, use aluminum for grounding system conductors (except provide copper for those insulated and uninsulated conductors in direct contact with earth, concrete, or crushed stone).

2.2 CONDUCTORS

A. General: Comply with Specification Section 26 05 19.

B. Equipment Grounding Conductor: Green insulated.

C. Grounding Electrode Conductor: Stranded cable.

D. Foundation Electrodes: #2 AWG minimum.

E. Grounding Electrode Conductor: Size to meet NFPA 70 requirements.

F. Isolated Ground Conductors: Insulated with green-colored insulation with yellow stripe. On feeders with isolated ground, use colored tape, alternating bands of green and yellow tape to provide a minimum of three bands of green and two bands of yellow.

G. Underground Conductors: Bare, tinned, stranded, unless otherwise indicated.

H. Ground Bus: Bare annealed copper bars of rectangular cross section with predrilled holes capable of receiving two-hole lugs.

I. Copper Bonding Conductors: As follows:

1. Bonding Cable: 28kcmil, 14 strands of No. 17 AWG copper conductor, ¼ inch (6.4 mm) in diameter.

2. Bonding Conductor: No. 4 or No. 6 AWG, stranded copper conductor.

3. Bonding Jumper: Bare copper tape, braided bare copper conductors, terminated with copper ferrules; 1-5/8 inches (42 mm) wide and 1/16 inch (1.5 mm) thick.

4. Tinned Bonding Jumper: Tinned-copper tape, braided copper conductors, terminated with copper ferrules; 1-5/8 inches (42 mm) wide and 1/16 inch (1.5 mm) thick.

J. Aluminum Bonding Conductors: As follows:

1. Bonding Cable: 10 strands of No. 14 AWG aluminum conductor, ¼ inch (6.4 mm) in diameter.

2. Bonding Conductor: No. 4 or No. 6 AWG, stranded aluminum conductor.

3. Bonding Jumper: Aluminum tape, braided bare aluminum conductors, terminated with aluminum ferrules; 1-5/8 inches (42 mm) wide and 1/16 inch (1.5mm) thick.

K. Ground Conductor and Conductor Protector for Wood Poles: As follows:

1. No. 4 AWG minimum, soft-drawn copper conductor.

2. Conductor Protector: Half-round PVC or wood molding. If wood, use pressure-treated fir, or cypress or cedar.

L. Braided Bonding Jumpers: Copper tape, braided No. 30 gage bare copper wire, terminated with copper ferrules.

M. Bonding Strap Conductor/Connectors: Soft copper, 0.05 inch thick and 2 inches wide, except as indicated.

N. Flexible Jumper Strap: Flexible flat conductor, 480 strands of 30-gage bare copper wire; 3/4" wide, 9-1/2" long; 48,250 cm. Protect braid with copper bolt hole ends with holes sized for 3/8" dia. bolts.

2.3 MECHANICAL CONNECTORS

A. General: Listed and labeled as grounding connectors for the materials used. All underground, concealed connections shall be exothermic welded except within a hazardous classified area or other area where hot work is prohibited.

B. Manufacturers:

1. Blackburn

2. Burndy

3. Oz Gedney

C. Pressure Connectors: High-conductivity-plated units.

D. Bolted Clamps: Bolted pressure type connectors, or compression type. Heavy-duty units listed for the application.

E. Aluminum-To-Copper Connections: Bimetallic type Bolted pressure type connectors.

PART 3 - EXECUTION

3.1 GENERAL

A. Provide electrical grounding systems indicated with assembly of materials, including, but not limited to, cables/wires, connectors, terminals (solderless lugs), grounding rods/electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for complete installation. Where more than one type unit meets indicated requirements, selection is Installer's option. Where materials or components are not indicated, provide products complying with NEC, UL, IEEE, and established industry standards for applications indicated.

3.2 EXAMINATION

A. Installer must examine areas and conditions under which electrical grounding connections are to be made and notify the Architect in writing of conditions detrimental to proper completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Provide neutral grounding, potential grounding and ground fault protection per NEC Article 250.

C. Neutral grounding is the intentional grounding of the neutral to hold all exposed metal enclosures at ground potential and to limit the voltage that can be impressed upon the electrical system due to lightning or other high voltage surges. Neutral grounding consists of:

1. Bonding together the following, if available on the premises of each building or structure, to form the grounding electrode system:

    a. A metal underground water pipe in direct contact with the earth for 10 feet or more.
    b. The metal frame of the building, where effectively grounded.
    c. 20 feet of more of 0.50 inch, or greater, rebar in a concrete footer.
    Note: This is a direct requirement of NEC 250. All rebar connections shall be made with listed exothermic type connectors, no welding will be permitted since such welding would cause embrittlement of the rebar. The Contractor may at his option, install #2 copper wire in lieu of connecting to rebar.
    d. Should only the water pipe electrode be available, drive copper-clad steel ground rods until 25 ohms resistance is achieved.

2. The grounding electrode conductor shall be connected to the neutral in only two locations, on the supply side of the service disconnect means and on separately derived systems per NEC 250. Because the ground is lost through the transformer, it must be re-established by use of a grounding conductor, minimum size per NEC 250, to the service entrance grounding conductor, connection.

3. Grounding electrode conductors shall be in PVC raceway whether in concrete slab or exposed. Do not use metallic raceway.

D. Potential grounding is the connection of metallic surfaces to ground to prevent a voltage differential above ground that would be an electrocution hazard. Potential grounding consists of:

1. Bonding the neutral of U/L service entrance equipment to enclosure.

2. Bonding the neutral of two-winding transformers to the housing.

3. Grounding structural building members and providing #4/0 jumper cables across building expansion joints. Connections to structural members shall be compression type, exothermic connections are not acceptable.

4. Equipment grounding conductors, minimum size #14 per NEC 290, shall be used to jumper flexible raceway used for make-up to lighting fixtures, transformers, and motors. The connection point must be on bare metal, and shall be UL listed grounding lug, screw, or clip. Do not terminate equipment grounding conductors under motor terminal box bolts, ballasts screws, etc.

5. Exposed noncurrent-carrying metal parts of fixed equipment that are likely to become energized during abnormal conditions shall be bonded and grounded per NEC 250.

6. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing. The isolated grounding conductor shall be separate from the equipment grounding conductor.

E. Ground fault protection is providing a low-impedance path for ground fault currents through the metallic raceway system, to the neutral through the main bonding jumper, and back through the phase conductor to the location of the ground fault. The path must be of low-impedance in order that a sufficient ground fault current will be generated to open the overcurrent device. Ground fault protection shall consist of:

1. An electrically continuous metallic raceway system.

2. Equipment grounding conductors, minimum size #14 per NEC 250, to jumper flexible raceway and for nonmetallic raceways.

3. An equipment grounding conductor, sized per NEC 250, shall be installed in all branch circuits and feeders indicated on the drawings. These conductors shall be bonded to the metallic raceway system at every accessible panel, junction box, pull box, fixture housing, motor terminal boxes and other metallic enclosures by means of U/L listed ground clips, screws or busses.

4. Ground fault equipment as specified elsewhere in these specifications. Submit tests per Section 26 05 00.

F. Provide bonding to meet Regulatory Requirements.

G. Bond together metal siding not attached to grounded structure; bond to ground.

H. Where designated in construction documents, provide isolated grounding conductor for branch circuits.

I. Provide grounding and bonding in patient care areas to meet requirements of NFPA 99 and NFPA 70.

3.3 APPLICATION

A. Provide electrical grounding systems where shown, in accordance with applicable portions of NEC, with NECA's "Standard of Installation" and in accordance with recognized industry practices to ensure that products comply with requirements and serve intended functions.

B. Provide a green insulated grounding conductor sized in accordance with NEC Table 250-122 in all raceways and cables where the conductor overcurrent protection is 15 AMPS or larger.

C. Separately derived systems required by NEC to be grounded shall be grounded in accordance with NEC paragraph 250-66.

D. Equipment Grounding Conductor Terminations: Use bolted pressure clamps.

E. Grounding Bus: Install in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as indicated.

1. Use insulated spacer; space 1 inch (25.4 mm) from wall and support from wall 6 inches (150 mm) above finished floor, unless otherwise indicated.

2. At doors, route the bus up to the door frame, across the top of the doorway, and down to the specified height above the door.

F. Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.

G. Nonmetallic Raceway: Install an equipment grounding conductor in nonmetallic raceways unless they are designated for telephone or data cables.

3.4 INSTALLATION

A. General: Ground electrical systems and equipment in accordance with NEC requirements except where the Drawings or Specifications exceed NEC requirements.

B. Coordinate with other electrical work as necessary to interface installation of electrical grounding system with other work.

C. Electrical Room Ground Bus: Size, location, and arrangement as indicated. Space 1 inch from wall and support from wall 6 inches above finished floor, except as otherwise indicated.

D. Braided-Type Bonding Jumpers: Install to connect ground clamps on water meter piping to bypass water meters electrically. Use elsewhere for flexible bonding and grounding connections.

E. Route grounding conductors along the shortest and straightest paths possible without obstructing access or placing conductors where they may be subjected to strain, impact, or damage, except as indicated.

F. Bonding Straps and Jumpers: Install so vibration by equipment mounted on vibration isolation hangers and supports is not transmitted to rigidly mounted equipment. Use exothermic-welded connectors for outdoor locations, unless a disconnect-type connection is required; then, use a bolted clamp. Bond straps directly to the basic structure taking care not to penetrate any adjacent parts. Install straps only in locations accessible for maintenance.

3.5 CONNECTIONS

A. General: Make connections in such a manner as to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to assure high conductivity and make contact points closer in order of galvanic series.

2. Make connections with clean bare metal at points of contact.

3. Aluminum to steel connections shall be with stainless steel separators and mechanical clamps.

4. Aluminum to galvanized steel connections shall be with tin-plated copper jumpers and mechanical clamps.

5. Coat and seal connections involving dissimilar metals with inert material such as red lead paint to prevent future penetration of moisture to contact surfaces.

B. Terminate insulated equipment grounding conductors for feeders and branch circuits with pressure-type grounding lugs. Where metallic raceways terminate at metallic housings without mechanical and electrical connection to the housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to the ground bus in the housing. Bond electrically non-continuous conduits at both entrances and exits with grounding bushings and bare grounding conductors.

C. Tighten grounding and bonding connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values for connectors and bolts. Where manufacturer's torqueing requirements are not indicated, tighten connections to comply with torque tightening values specified in UL 486A and UL 486B.

3.6 INTERFACE WITH OTHER PRODUCTS

A. Interface with site grounding system.

3.7 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation. Before concealing, verify that inspection authority has inspected work.

B. Use suitable test instrument to measure resistance to ground of system. Perform testing in accordance with test instrument manufacturer's recommendations using the fall-of-potential method. Should ground resistance be greater than that specified in this Section, additional ground rods shall be installed until the value is achieved.

C. Upon Completion of installation of electrical grounding systems, test ground resistance with ground resistance tester. Where tests show resistance to ground is over 3 ohms, take appropriate action to reduce resistance to 3 ohms, or less, by driving additional ground rods and/or by chemically treating soil encircling ground rod; then retest to demonstrate compliance.

D. Ground/resistance maximum values shall be as follows:

1. Equipment rated 500 kVA and less: 5 Ohms

2. Equipment rated 500 kVA to 1000 kVA: 5 Ohms

3. Equipment rated over 1000 kVA: 3 Ohms

E. Deficiencies: Where ground resistances exceed specified values, and if directed, modify the grounding system to reduce resistance values. Where measures are directed that exceed those indicated the provisions of the Contract, covering changes will apply.

F. Report: Prepare test reports, certified by the testing organization, of the ground resistance at each test location. Include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

END OF SECTION

SECTION 26 05 29

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Conduit and equipment supports.

B. Anchors and fasteners.

1.2 REFERENCES

A. Refer to Specification Section 26 00 00.

1.3 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Steel City Kindorf.

B. Unistrut.

C. B – Line.

D. Caddy.

E. Substitutions: Under provisions of Section 26 00 00.

2.2 PRODUCT REQUIREMENTS

A. Materials and Finishes: Provide adequate corrosion resistance.

B. Provide materials, sizes, and types of anchors, fasteners, and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products.

2.3 HARDWARE COMPOSITIONS AND FINISHES

A. In dry indoor areas, all threaded fasteners and associated hardware shall be steel, with a zinc of cadmium-plated finish.

B. In general, fasteners in outdoor, damp, or corrosive environments shall be of the largest trade size that will fit the item being fastened, shall have the coarsest threads commercially available in that size, and shall be hot-dip galvanized steel. Zinc electroplate will be acceptable only in the smaller sizes where hot dip galvanized is not commercially available. On metal construction, install with the full length of the threads and the hole wet with cold galvanized touch-up compound (Z.R.C.) or accepted equal).

C. Where PVC, liquidtight flex, or plastic-coated conduit is installed on wood construction in outdoor, damp, or corrosive environments, fasteners shall be made of monel or a stainless steel alloy suitable for marine environments, such as alloys 18-8, 304, 316, 347, 430, 446.

2.4 STRUT

A. U-channel strut for use in heated indoor areas shall be steel. For installations that will be finish painted as part of the project, factory finish of the strut shall be paintable galvanizing, or phosphatized and primed. For installations that will not be finish painted, the factory finish of the strut shall be galvanized.

B. For outdoor installation of galvanized conduits and boxes, strut shall be steel, with hot-dip galvanized finish. All field-cut ends and other breaks in the finish shall be thoroughly treated with cold galvanized touch-up compound (Z.R.C. or accepted equal).

C. U-channel strut for support of PVC or plastic-coated conduits in outdoor, damp, or corrosive environments shall be fiberglass, RobRoy “Rob-Glass” or accepted equal, assembled with the manufacturer’s standard and sealant and corrosion-protected hardware and accessories.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. All electrically related work shall be supported directly from building structural members. Electrically related work shall not be supported from ductwork, ductwork hangers, ceiling supports, existing conduit supports, etc. All conduit (and cable assemblies, where applicable) shall be routed parallel to building structural members. Any and all noncomplying work installed by the Electrical Contractor shall be removed and reinstalled to the satisfaction of the Owner's representative and the Engineer, at the expense of the electrical contractor.

C. Install hangers, supports, clamps and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports with spacing indicated and in compliance with NEC requirements.

D. Cut, fit, and place miscellaneous metal fabrications accurately in location, alignment, and elevation to support and anchor electrical materials and equipment. Field welding shall comply with AWS "Structural Welding Code".

E. Stem lengths of all pendant fixtures shall be as directed by the Owner's representative. All fasteners, hangers, and method of hanging exposed work in finished areas shall be submitted to the Owner's Representative for review before installation.

F. Provide safety wires (a minimum of two 12-guage hangers) or equivalent chains for each light fixture weighing less than 56 pounds installed in T-Bar or other ceiling suspension systems. Safety wires and chains shall be securely attached to diagonally opposite corners of each fixture and to structure. Fixtures weighting 56 pounds or more shall be supported from structure.

G. Surface mounted lighting fixtures supported from T-bar grid shall be attached to the grid with a positive clamp device that completely surrounds the supporting member similar to Caddy “IDS”. Provide safety wires as specified in the foregoing.

H. Provide safety wires (a minimum of two 12 gauge hangers) or equivalent aircraft cable for each pendant mounted fixture. Hangers or cable shall be securely attached to fixture, then routed through stem and securely attached to structure.

I. Fasteners shall be zinc-coated, type, grade, and class as required.

J. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".

K. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.

L. In wet and damp locations use steel channel supports to stand cabinets and panelboards one inch off wall.

M. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

3.2 FASTENING

A. Secure boxes, wall brackets, cabinets, and hangers by means of toggle bolts in hollow masonry, reset inserts or expansion bolts in solid masonry and concrete; machine screws, bolts, or welding on metal surfaces; and wood or sheet metal screws in wood construction.

3.3 CONCRETE BASES/HOUSEKEEPING PADS

A. Concrete bases/housekeeping pads shall be installed by the Electrical Contractor beneath all electrical power and systems distribution equipment which is floor mounted or wall mounted within 4" of the floor. Extend the pads at least 4" beyond the bed or frame of the supported equipment. Pads shall not extend beyond 6" of the bed or frame. Bases shall be least 4" thick and shall have straight and finished sides and a 1", 45-degree chamfer at the top perimeter. Reinforcing steel bars shall be placed in both directions of the bases. Where required for supplemental support, provide lateral support work to adjacent wall(s).

END OF SECTION

SECTION 26 05 33.13

CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

SECTION INCLUDES

1.1 TYPES
1.2 REFERENCES
1.3 DESIGN REQUIREMENTS
1.4 SUBMITTALS
1.5 PROJECT RECORD DOCUMENTS
1.6 REGULATORY REQUIREMENTS
2.1 CONDUIT REQUIREMENTS
3.1 INSTALLATION
3.2 INTERFACE WITH OTHER PRODUCTS
3.3 SPECIAL REQUIREMENTS
3.4 CONCEALED CONDUITS BELOW SLAB OR GRADE
3.5 CONDUITS IN CONCRETE SLABS

1.1 TYPES

A. RMC - Rigid Metal Conduit.

B. EMT - Electrical Metallic Tubing.

C. MC - Metal Clad Cable.

D. FMC - Flexible Metal Conduit.

E. LFMC - Liquid-Tight Flexible Galvanized Metal Conduit.

F. IMC - Intermediate Metal Conduit.

G. Fittings and Conduit Bodies.

1.2 REFERENCES

A. Refer to Specification Section 26 05 00.

1.3 DESIGN REQUIREMENTS

A. Conduit sizing per NFPA 70.

1.4 SUBMITTALS

A. Refer to Section 26 05 00 for specific submittal requirements.

1.5 PROJECT RECORD DOCUMENTS

A. Refer to Section 26 05 00 for specific requirements.

1.6 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 CONDUIT REQUIREMENTS

A. Refer to Conduit Table for conduit requirements.

CONDUIT TABLE

LOCATION	TYPE	MANUFACTURERS	FITTINGS	REMARKS
Areas subject to mechanical damage; Exposed work within 8 ft of floor, hazardous areas. Exterior exposed.	RMC Rigid metal conduit NEC 344	Allied Tube Republic Conduit Wheatland Tube	Threaded couplings	THHN/THWN shall not be installed under slab or wet locations. Grounding conductor required.
Dry locations for concealed work; Exposed work higher than 8 ft.	EMT electrical metallic tubing NEC 358	Allied Tube Republic Steel Wheatland Tube	Set screw or compression type, galvanized or zinc coated steel. Die cast not permitted Fittings by: Steel City T & B Regal Efcor	Grounding conductor required. Do not use in: 1) poured concrete 2) exposed to weather 3) underground 4) hazardous or corrosive atmosphere

LOCATION	TYPE	MANUFACTURERS	FITTINGS	REMARKS
Connection to lighting fixtures and narrow movable partitions where raceways are not practical. Connection to lighting fixtures between recessed fixture and outlet box, final connection to outlets on vibrating equipment and transformers, for short connection where rigid of EMT is impractical – length as approved by Owner.	MC Metal-Clad Cable NEC 330 FMC Flexible metal conduit NEC 348	Anaconda SEALTITE Electriflex Company	Straight connectors: one-piece body, female cord with clamp and deep slotted machine screw for securing conduit and male threaded end provided with locknut. 45 or 90 angle connectors: Two-piece body construction with removable upper section, female with clamp and deep slotted machine siren for securing conduit and male threaded, provided with locknut.	Maximum length = 6 feet Minimum length = 4 feet Grounding conductor required. Do not use for applications that serve patient care areas of health care facilities.

Connection to motors and other electrical equipment where subject to movement or vibration and where subjected to the following conditions: exterior, moist or humid atmosphere where condensate can be expected to accumulate, corrosive atmosphere subjected to winter spray, dripping oil, grease, water.	LFMC Liquid-tight flexible galvanized metal conduit NEC 350	Anaconda SEALTITE Electrifex Company	Cadium plated, malleable iron fittings with compression type steel ferrule and neoprene gasket sealing rings, with insulated throat.	Maximum length = 3 feet Grounding conductor required Do not use for applications that serve patient care areas of health care facilities.
Commercial installations.	IMC intermediate metal conduit NEC 342	Allied Tube Nucor Wheatland Tube	Threaded coupling	THHN/THWN shall not be installed under slab or wet locations. Grounding conductor required. Do not install in high traffic areas.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install conduit in accordance with NECA "Standard of Installation."

B. Install nonmetallic conduit in accordance with manufacturer's instructions.

C. Arrange supports to prevent misalignment during wiring installation.

D. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.

E. Group related conduits; support using conduit rack. Construct rack using steel channel, provide space on each for 25 percent additional conduits.

F. Fasten conduit supports to building structure and surfaces under provisions of Division 01.

G. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.

H. Do not attach conduit to ceiling support wires.

I. Arrange conduit to maintain headroom and present neat appearance.

J. Route exposed conduit parallel and perpendicular to walls.

K. Route conduit installed above accessible ceilings parallel and perpendicular to walls.

L. Maintain adequate clearance between conduit and piping.

M. Maintain 12-inch clearance between conduit and surfaces with temperatures exceeding 104 degrees F (40 degrees C).

N. Cut conduit square using saw or pipecutter; de-burr cut ends.

O. Bring conduit to shoulder of fittings; fasten securely.

P. Use conduit hubs to fasten conduit to sheet metal boxes in damp / wet locations and to cast boxes, similar to Meyers Scru-tite fittings.

Q. Install no more than equivalent of four 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch size.

R. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.

S. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control, or expansion joints.

T. Provide suitable nylon pull string in each empty conduit except sleeves and nipples.

U. Use suitable caps to protect installed conduit against entrance of dirt and moisture.

V. Ground and bond conduit under provisions of Division 26 05 26.

W. Identify conduit under provisions of Division 26 05 53.

X. Conceal all raceways, except those from surface mounted panelboards and in unfinished areas.

Y. After each conduit system is installed, pull cleaning mop through conduit to remove any remaining dirt or unwanted material.

3.2 INTERFACE WITH OTHER PRODUCTS

A. Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods under the provisions of Division 01.

3.3 SPECIAL REQUIREMENTS

A. In addition to other contract documents requirements, the following special requirements shall be strictly enforced.

B. Wiring of all systems shall be installed in conduit (sized per NEC, minimum 3/4" for feeder and branch circuits, 1/2 " will only be allowed for lighting switch locations). The only permitted expectations shall be where specifically permitted otherwise under Division 26.

C. All wiring for different power voltages shall be installed in raceway systems separate from each other (i.e. 24V separate from 208Y/120V etc.).

D. All wiring for the various electrical systems shall be installed in raceway systems separate from each other (i.e. fire alarm separate from security separate from telephone, etc.).

E. All conduit installed indoors above the slabs shall be steel as specified hereafter; all fittings for conduit shall be steel, as specified hereafter, with insulated throats.

F. Conduits runs exceeding 100 feet in length or having in excess of four 90 degree turns shall be provided with pull boxes.

G. Conduit fill shall not exceed 40 percent or per NEC, whichever is less.

H. Normal system power feeders and branch circuits shall be installed in separate raceways from emergency system power.

I. Power feeders and branch circuits of multiple branches of the emergency power system shall be installed in separate raceways from each other (i.e. life safety branch separate from critical branch separate from equipment branch.

J. Watertight hubs to be installed at enclosures for terminations of raceways in wet, and exterior locations.

K. Conduit sealing: Conduits passing through the roof shall be installed in accordance with and under the supervision of the roofing contractor, so as not to void any roof warranties.

L. Provide vapor seals on all conduit runs entering or existing through building exterior walls of roof. All vapor seals required shall be installed on the warm side of the wall, floor or roof at point within 6” of conduit passage, or as close to passage point as condition will allow.

M. Sleeves: Provide conduit sleeves fitted into place at time of construction for conduits passing through concrete foundations or masonry walls or concrete floors.

N. Do not install sleeves in structural members except where indicated or approved.

O. For rated walls/floors provide conduit sleeves for conduits passing through rated walls and floors. Each sleeve to extend through its respective wall, and cut flush sleeves through floor shall extend 1-1/2" above floor, with each size to provide a minimum of 1/4” all around clearance between bare conduit and sleeve, sleeves in non-bearing walls, floors, ceiling may be rigid steel conduit, electrical metallic tubing, or galvanized sheet metal with lock-type longitudinal seam. The annular space between conduit and sleeve to be sealed with fire-stopping sealant. Flexible conduits will not be permitted to pass through sleeves to be sealed with fire-stopping sealant. Flexible conduits will not be permitted to pass through sleeves of walls, floors, ceilings or roofs.

END OF SECTION

SECTION 26 05 33.16

BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Outlet boxes.

B. Pull boxes and junction boxes.

1.2 REFERENCES

A. Refer to Specification Section 26 05 00.

1.3 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Provide products listed and classified by Underwriters Laboratories, Inc., as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 OUTLET BOXES

A. Provide flush mounted, standard galvanized steel outlet boxes at least 1-1/2” deep in single or gang style (as indicated). For pendant lighting fixtures, provide outlet boxes with 3/8” studs.

1. Standard 4-inch or 6-inch walls: Provide outlet boxes sized 4 inches square minimum x 2-1/8 inch deep with single or double gang extension ring. Provide larger multiple gang boxes where required.

2. Shallow stud or furred out walls: Provide outlet boxes sized 4 inches square minimum x 1-1/2 inch deep with single or double gang extension ring. Provide larger multiple gang boxes where required.

3. Existing walls: Provide single or double gang old work style outlet boxes.

B. Flush mounted in masonry walls: Provide galvanized steel, masonry type outlet boxes that are 2-1/2 inch deep and have single or multiple gang configurations.

C. Provide surface mounted, cast-metal hub type outlet boxes for exterior locations and locations where outlet boxes would be subjected to exposure, water or other fluids up to 7 feet above finish floor (or grade for exterior locations). Provide sheet steel outlet boxes for other locations.

D. For pendant light fixtures or other devices, provide outlet boxes that have been approved for the weight of the fixture or equipment. Provide studs or other style support where needed.

2.2 PULL BOXES

A. Interior, non-hazardous, non-hosedown areas:

1. Provide steel, NEMA 1 pull boxes that are phosphatized and have a gray enamel finish.

B. Exterior and all process areas:

1. Provide NEMA 4 or 4X pull boxes, unless explosion-proof boxes are required.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify locations of floor boxes and outlets in prior to rough-in.

3.2 INSTALLATION

A. Install boxes in accordance with NECA "Standard of Installation."

B. Install in locations as shown on drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

C. Set wall mounted boxes at elevations to accommodate mounting heights as indicated on drawings or specified in outlet devices spec section.

D. Unless dimensioned, electrical boxes shown on drawings are in approximate locations. Adjust box location up to 6 feet to best accommodate intended purpose.

E. Orient boxes to accommodate wiring devices oriented as specified on drawings or in other specification sections.

F. Maintain headroom and present neat mechanical appearance.

G. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

H. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.

I. Install boxes to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Division 01.

J. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.

K. Locate outlet boxes to allow luminaires to be positioned as shown on the drawings.

L. Align adjacent wall mounted outlet boxes for switches, thermostats and similar devices.

M. Provide flush mounting outlet boxes in finished areas.

N. Locate flush mounting boxes in masonry walls so as to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.

O. Do not install flush mounting boxes back-to-back in walls; provide a minimum of 6 inches separation. Provide a minimum 24 inches separation in acoustic rated walls.

P. Secure flush mounting boxes to interior walls and partition studs. Accurately position boxes to allow for surface finish thickness.

Q. Use stamped steel bridges to fasten flush mounting outlet box between studs.

R. Install flush mounting boxes without damaging wall insulation or reducing its effectiveness.

S. Use adjustable steel channel fasteners for hung ceiling outlet boxes.

T. Do not fasten boxes to ceiling support wires.

U. Support boxes independently of conduit.

V. Use gang boxes where more than one device is mounted together. Do not use sectional boxes.

W. Use gang boxes with plaster rings for single device outlets.

X. Use cast outlet boxes in exterior locations and wet locations.

Y. Large Pull Boxes: Use hinged enclosures in interior dry locations. Use surface-mounted cast metal boxes in other locations.

Z. Outlet mounting heights as indicated on the plans are approximate to be used for bidding purposes only. The exact mounting height of outlets will be determined in the field with relation to architectural detail and equipment being served. Coordinate outlet location with equipment, furniture plans and architectural elevation plans. Where mounting heights are not detailed or dimensioned, contact the Owner's representative for direction.

3.3 INTERFACE WITH OTHER PRODUCTS

A. Coordinate installation of outlet boxes for equipment wiring systems.

3.4 ADJUSTING

A. Adjust floor boxes flush with finish flooring material.

B. Adjust flush-mounting outlets to make front flush with finished wall material.

C. Install knockout closures in unused box openings.

3.5 CLEANING

A. Clean box interiors; remove dust, debris, and other material.

B. Clean exposed surfaces and restore finish.

END OF SECTION

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

SECTION INCLUDES

1.1 REFERENCES
1.2 SUBMITTALS
1.3 REGULATORY REQUIREMENTS
2.1 NAMEPLATES AND LABELS
2.2 WIRE MARKERS
2.3 CONDUIT MARKERS
2.4 UNDERGROUND WARNING TAPE
2.5 ARC FLASH WARNING LABELS
2.1 PREPARATION
2.2 APPLICATION

1.1 REFERENCES

A. Refer to Specification Section 26 05 00.

1.2 SUBMITTALS

A. Submit per requirements of Division 01 and Section 26 05 00.

B. Submit product data indicating general assembly, components, controls, safety devices, and wiring diagrams with electrical characteristics and connection requirements, and service connections.

C. Submit manufacturer's installation instructions indicating assembly, support details, connection requirements. Include start-up instructions.

D. Submit Operation and Maintenance Data including manufacturer's descriptive literature, operating instructions, cleaning procedures, replacement parts list, and maintenance and repair data.

E. Submit manufacturer's field reports, start-up reports, warranty certificates, software, licensing agreements.

1.3 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Products requiring electrical connection: Listed and classified by Underwriters' Laboratories, Inc. or testing firm acceptable to the Authority Having Jurisdiction as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 NAMEPLATES AND LABELS

A. Nameplates: Engraved three-layer laminated plastic, black letters on white background, for normal power system. Where applicable, white letters on red background for emergency power system compartments.

B. High Voltage Warning Signs:

1. Marking of system voltage equipment (480 and above) shall be either by means of stenciling or with printed self-adhesive markers. Letters shall be on contrasting background, not less than 1 inch high with the following wording:

DANGER!
HIGH VOLTAGE
KEEP OUT!

C. Locations:

1. Each electrical distribution, control equipment enclosure, and communication cabinets, including but not limited to main distribution equipment, substations, switchboards, transformers, panelboards, motor controller, motor control centers, contactors, disconnect switches, etc.

D. Letter Size:

1. Use 1/8 inch letters for identifying individual equipment and loads.

2. Use 1/4 inch letters for identifying grouped equipment and loads.

E. Labels: Printed adhesive tape, with 3/16 inch black letters on clear background. Use only for identification of individual wall switches and receptacles, and control device stations.

2.2 WIRE MARKERS

A. Description: Cloth, tape, or tubing type wire markers.

B. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.

C. Legend:

1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.

2. Control Circuits: Control wire number indicated on schematic and interconnection diagrams on drawings.

2.3 CONDUIT MARKERS

A. Description: Pre-coiled plastic construction, screen printed with UV fade-resistant inks, sunlight, moisture, chemical and abrasion resistant.

B. Location: Furnish markers for each conduit longer than 10 feet.

C. Spacing: 20 feet on center.

D. Color:

1. 480 Volt System: Orange.

2. 208 Volt System: Blue.

3. Fire Alarm System: Red.

4. Telephone System: Yellow.

E. Legend:

1. 480 Volt System: 480 Volts.

2. 208 Volt System: 208 Volts.

3. Fire Alarm System: Fire Alarm.

4. Telephone System: Telephone.

2.4 UNDERGROUND WARNING TAPE

A. Description: 4 inch wide foil backed detectable type, colored red with suitable warning legend describing buried electrical lines.

2.5 ARC FLASH WARNING LABELS

A. Description: Self-adhesive marker notifying individuals of arc flash hazards in the area.

B. Locations:

1. Each electrical distribution, control equipment enclosure including but not limited to main distribution equipment, substations, switchboards, transformers, panelboards, motor controller, motor control centers, disconnects, safety switches, etc.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive nameplates and labels.

3.2 APPLICATION

A. Provide nameplate and label parallel to equipment lines in an easily readable manner.

B. Provide nameplate for all branch circuit disconnect means per NEC Article 110 and for all motor control – where all control stations are not immediately adjacent to motor being controlled. Nameplate shall indicate equipment number (first line) and equipment number and name of unit served (second and third lines).

C. Provide nameplates for distribution equipment including safety switches, enclosed circuit breakers and each overcurrent protective device for distribution panelboards.

D. Provide arc flash warning labels on all switchboards, panelboards, industrial control panels, motor control centers, etc., per the NEC Article 110 and NFPA 70E.

E. Nameplate shall indicate equipment number (first line), equipment rating (second line) and equipment number that feeds this equipment (third line).

F. Nameplates shall be affixed to equipment enclosures by mechanical means.

G. Panelboards shall have nameplates on inside of door. Type panelboard index cards to comply with wording indicated on drawing panelboard schedules. Do not type “spaces” or “spares” on index card.

H. Voltage warning signs (480 and above) shall be installed at the following locations:

1. At the door of a room containing high voltage equipment.

2. On all high-voltage equipment and accessible pull boxes where an unauthorized person may come in contact with high voltage equipment or cables.

I. If non-English speaking people will be occupying the facility, special considerations shall be taken.

J. Identify underground conduits using underground warning tape. Install one tape per trench along the entire length of trench.

END OF SECTION

SECTION 26 22 00

LOW-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Two-winding transformers.

B. Two-winding transformers rated for nonlinear loads.

1.2 REFERENCES

A. Refer to Specification Section 26 00 00.

1.3 SUBMITTALS

A. Refer to Section 26 00 00 for specific submittal requirements.

B. Product Data: Provide outline and support point dimensions of enclosures and accessories, unit weight, voltage, kVA, impedance ratings, tap configurations, insulation system type, and rated temperature rise.

C. Test Reports: Indicate loss data and efficiency at 25, 50, 75 and 100 percent rated load, sound level, and short circuit withstand rating.

D. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory.

E. Record actual locations of transformers in project record documents.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 TWO-WINDING TRANSFORMERS

A. Manufacturers:

1. Eaton.

2. Substitutions: Not permitted.

B. Provide 60 hertz, dry type, air cooled, two-winding insulated transformers with rating as indicated on the Drawings.

C. Single-phase transformers 250 VA and smaller shall be 55º C with 105º C insulation system.

D. Single-phase transformers larger than 250 VA and smaller than 5 kVA shall be 115º C rise with 180º C insulation system.

E. Single-phase transformers 5 kVA to 25 kVA shall be 115º C rise with 180º C encapsulated insulation system.

F. Single-phase transformer larger than 25 kVA to be ventilated 115º C rise with 220º C insulation system.

G. Three-phase transformers up to 15 kVA shall be totally enclosed and non-ventilated 115º C rise with 180º C insulation system.

H. Transformers larger than 15kVA shall incorporate a UL recognized Class 220 insulation system; with a 115º C maximum coil rise and a maximum case rise of 35º C, when in ambient of 40º C.

I. The following high voltage full-capacity taps shall be listed:

1. 3-15 kVA: (2) 2-1/2% AN and BN or (2) 5% BN.

2. 25-500 kVA: (2) 2-1/2% AN and (4) 2-1/2% BN.

2.2 TWO-WINDING TRANSFORMERS RATED FOR NONLINEAR LOADS

A. Manufacturers:

1. Eaton.

2. Substitutions: Not permitted.

B. Description:

1. Factory assembled, air cooled, dry type, K-rated, distribution transformer where shown, of size, characteristics, and rated capacity as indicated, listed for non-sinusoidal current loads of a specified K factor (UL standard 1561, CSA certified and labeled as such).

2. Transformer must incorporate an electrostatic shield for attenuation of spikes, line noise and transients.

3. Transformer coil to be wound to minimize heating effects caused by harmonic currents and designed to power non-linear loads with a K factor as high as 20.

4. Transformer neutral conductor shall be sized at 2 times rated phase current.

5. Transformer cases shall be grounded per NEC.

6. Provide taps as indicated above in 2.1.

7. All transformers with a “K” rating shall be supplied with a quality, full width electrostatic shield resulting in a maximum effective coupling capacitance between primary and secondary of 33 picofarads. With transformers connected under normal, loaded operating conditions, the attenuation of line noise and transients shall equal or exceed the following limits:

   Common Mode: 0 to 1.5 Hz – 120db; 1.5 to 10kHz – 90db; 10 to 100kHz - 65db; 100kHz to 40db.

   Transverse Mode: 1.5 to 10kHz – 52db; 10 to 100kHz – 30db.

2.3 SOUND RATINGS

A. Sound levels shall be guaranteed by the manufacturer not to exceed the following:

1. 10 to 50 KVA: 45db.

2. 51 to 150 KVA: 50db.

3. 151 to 300 KVA: 55db.

4. 301 to 500 KVA: 60db.

2.4 TRANSIENT INRUSH CURRENT

A. Primary overcurrent protection for dry type step down transformers shall be sized to allow for transient inrush current.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set transformer plumb and level on 4” thick concrete pad.

B. Provide all required structural provisions including floor, wall brackets, or trapeze suspended from structural members.

C. Transformers up to 100 KVA: Mount transformers on double-deflection neoprene-in-shear isolators (no harder than 50 durometer) sized for the following deflections:

1. 0.2” static deflection for slab on grade installations.

2. 0.75” static deflection for other than slab on grade installations.

D. Transformers over 100 KVA: Mount transformers on floor mounted spring isolators with seismic snubbers sized for the following static deflections:

1. 0.5” static deflection for slab on grade installations.

2. 0.75” static deflection for other than slab on grade installations.

E. Ceiling mounted transformers: Mount transformers on spring hangers with 0.5” static deflection.

F. Provide grounding and bonding in accordance with Section 26 05 26.

G. Release hold-down bolts on vibration isolation pads.

H. Terminate primary and secondary conductor with compression connectors. Mechanical lugs not acceptable.

I. Flexible raceway shall be used for each transformer to prevent noise transmission through raceway. Provide copper bonding jumper for associated flexible raceway and fittings.

3.2 ADJUSTMENT

A. Adjust transformer taps to provide rated voltage at the secondary bus with all connected loads “on” except the no-load secondary line-to-neutral voltage shall not exceed 125 volts on nominal 120 volt phases. Submit log of final voltage and current readings at no load and full load to Engineer in writing.

3.3 ELECTRICAL CONNECTIONS

A. Liquid-tight flexible metal conduit with supplemental ground jumper shall be used for all transformer connections. The flexible conduit shall be installed in a slack, shallow “U” form and shall prevent rigid contact between the transformer components and the nearby structure, conduits, etc. The ground jumper in flexible conduits shall be within the conduit.

3.4 GROUNDING AND BONDING

A. Transformer wye secondary shall be grounded as separately derived systems. Transformers and conduits shall be bonded per NEC requirements.

3.5 NEUTRAL CONDUCTORS ON K-RATED TRANSFORMERS

A. Provide 200 percent rated secondary neutral conductors on K-rated transformers.

END OF SECTION

SECTION 26 24 16

PANELBOARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Distribution panelboards.

B. Branch circuit panelboards.

1.2 REFERENCES

A. Refer to Specification Section 26 00 00.

B. NEMA Standard PB-1 - Panelboards

C. NEMA Standard PB-1.1 - General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less.

D. NEMA Standard AB-1 - Molded-Case Circuit Breakers, Molded Case Switches, and Circuit-Breaker Enclosures

E. U.L. Standard 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures

1.3 SUBMITTALS

A. Submit under provisions of Section 26 05 00.

B. Each panelboard submittal to indicate:

1. Main devices and lug sizes.
2. Branch circuit device sizes and arrangement.
3. Bus ampacities.
4. Withstand and short circuit rating.
5. Dimensions and construction.
6. Gutter and backbox dimensions.
7. Nameplate and legend.
8. Protective coating.
9. All pertinent details of panel, enclosure, cover, and method of securing cover and lock.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

1.5 MAINTENANCE MATERIALS

A. Furnish two of each panelboard key.

PART 2 - PRODUCTS

2.1 DISTRIBUTION PANELBOARDS

A. Manufacturers:

1. Eaton.
2. Substitutions: Not permitted.

B. Description: Circuit breaker type.

C. Panelboard Bus: Copper, ratings as indicated. Provide copper ground bus in each panelboard.

D. Minimum integrated short circuit rating: As indicated on Drawings.

E. Molded Case Circuit Breakers: Circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as Type HACR for air conditioning equipment branch circuits.

F. Circuit Breaker Accessories: Trip units and auxiliary switches as indicated.

G. Enclosure:

1. Interior, non-hazardous, non-hosedown areas, non-corrosive;

a. NEMA 1.

2. Exterior Areas:

a. NEMA 3R.

3. Process, interior damp and wet areas, corrosive areas;

a. NEMA 4X.

H. Cabinet Front: Flush cabinet front with hinged door-in-door cover, concealed hinge, metal directory frame, and flush lock all keyed alike. Finish in manufacturer's standard gray enamel.

2.2 BRANCH CIRCUIT PANELBOARDS

A. Manufacturers:

1. Eaton.
2. Substitutions: Not permitted.

B. Description: Circuit breaker type, branch circuit panelboard.

C. Panelboard Bus: Copper, ratings as indicated. Provide copper ground bus in each panelboard.

D. Minimum Integrated Short Circuit Rating: As indicated on Drawings.

E. Molded Case Circuit Breakers: Bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles, listed as Type SWD for lighting circuits, Type HACR for air conditioning equipment circuits, Class A ground fault interrupter circuit breakers where scheduled. Do not use tandem circuit breakers.

F. Enclosure:

1. Interior, non-hazardous, non-hosedown areas, non-corrosive;

a. NEMA 1.

2. Exterior Areas:

a. NEMA 3R.

3. Process, interior damp and wet areas, corrosive areas;

a. NEMA 4X.

G. Cabinet Box: 6 inches deep, 20 inches wide.

H. Cabinet Front: Flush cabinet front with hinged door-in-door cover, concealed hinge, metal directory frame, and flush lock all keyed alike. Finish in manufacturer's standard gray enamel.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install panelboards in accordance with NEMA PB 1.1 and the NECA "Standard of Installation."

B. Install panelboards plumb. Install recessed panelboards flush with wall finishes.

C. Height: 6 feet to top of panelboard; install panelboards taller than 6 feet with bottom no more than 4 inches above floor.

D. Provide filler plates for unused spaces in panelboards.

E. Provide typed circuit directory for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads.

F. Provide engraved plastic nameplates under the provisions of Section 26 05 53.

G. Provide spare conduits out of each recessed panelboard to an accessible location above ceiling or below floor. Minimum spare conduits: 3 empty 3/4 inch. Identify each as SPARE.

H. Ground and bond panelboard enclosure according to Section 26 05 26.

3.2 FIELD QUALITY CONTROL

A. Inspect and test in accordance with NETA Guidelines for Circuit Breakers:

B. Visual and Mechanical Inspection:

1. Check circuit breaker for proper mounting.

2. Operate circuit breaker to ensure smooth operation.

3. Inspect case for cracks or other defects.

4. Check tightness of connections with calibrated torque wrench. Refer to manufacturer’s instructions.

5. Check internals on unsealed units.

3.3 ADJUSTING

A. Measure steady state load currents at each panelboard feeder; rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wall switches.

B. Wall dimmers.

C. Receptacles.

D. Device plates and decorative box covers.

1.2 REFERENCES

A. Refer to Specification Section 26 00 00.

1.3 SUBMITTALS

A. Refer to Section 26 00 00 for specific submittal requirements.

B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

C. Submit manufacturer's installation instructions.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Provide products listed and classified by Underwriters Laboratories, Inc., and acceptable to the authority having jurisdiction as suitable for the purpose specified and indicated.

1.5 EXTRA MATERIALS

A. Submit under provisions of Division 01.

B. Furnish 10 of each style, size, and finish wall plate.

PART 2 - PRODUCTS

2.1 Wall Switches

A. Wall switch (toggle) 120/277 volt – 20 amp specification grade.

2.2 RECEPTACLES

A. 120 volt – 20 amp specification grade, extra hard use.

B. Provide with GFCI protection as indicated on drawings.

2.3 DEVICE PLATES AND DECORATIVE BOX COVERS

A. Wall switch cover plate specification grade stainless steel.

B. Receptacle cover plate specification grade stainless steel.

C. Blank over plates, strap mounted with adjustable yoke.

D. Stamped Steel Boxes: Provide boxes manufactured from formed, stamped steel and which comply with this spec section's part C. Provide boxes that are adjustable by a minimum of 1-3/4 inches pre-pour and a minimum of 1/2 inch post-pour.

1. Cover and Flanges: Provide floor boxes that accept both brass and nonmetallic cover plates and flanges. Provide flanges from a product line available in one, two and three-gang configurations. Provide flanges with a minimum of 1/2-inch vertical adjustment (to accommodate floor coverings and concrete depth).

2. Provide flanges that accommodate connectivity outlets and modular inserts. Where indicated, provide connectivity outlets and modular inserts by Otronics or approved equal.

3. Provide modular inserts that snap directly into each flange through the use of a mounting bezel.

PART 3 - EXECUTION

5.1 EXAMINATION

A. Verify existing conditions prior to beginning work.

B. Verify that outlet boxes are installed at proper height.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

5.2 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean debris from outlet boxes.

5.3 INSTALLATION

A. Install devices plumb and level.

B. Install standard 120V receptacles with grounding positioned below hot and neutral.

C. Install divider plates in outlet boxes that contain multiple voltage levels.

D. Install switches with OFF position down.

E. Connect wiring device grounding terminal to outlet box with bonding jumper and branch circuit equipment grounding conductor.

F. Install decorative plates on switch, receptacle, and blank outlets in finished areas.

G. Connect wiring devices by wrapping conductor around screw terminal.

H. Provide jumbo size plates for outlets installed in masonry walls.

I. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

5.4 INTERFACE WITH OTHER PRODUCTS

A. Coordinate locations of outlet boxes with other Contractors. All elevations below are unless directed otherwise by drawings.

B. Install wall switch 48 inches above finished floor.

C. Install convenience receptacle 18 inches above finished floor.

D. Install convenience receptacle 6 inches above backsplash of counter.

E. Install dimmer 48 inches above finished floor.

5.5 FIELD QUALITY CONTROL

A. Inspect completed installation for physical damage, proper alignment, anchorage, and grounding.

B. Inspect each wiring device for defects.

C. Operate each wall switch with circuit energized and verify proper operation.

D. Verify that each receptacle device is energized.

E. Test each receptacle device for proper polarity.

F. Test each GFCI receptacle device for proper operation.

5.6 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

5.7 CLEANING

A. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

SECTION 26 28 16

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Fusible switches.

B. Nonfusible switches.

1.2 REFERENCES

A. Refer to Specification Section 26 00 00.

1.3 SUBMITTALS

A. Refer to Section 26 00 00 for specific submittal requirements.

B. Product Data: Provide switch ratings and enclosure dimensions.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of NFPA 70.

B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Square D.

B. Eaton (Cutler Hammer).

C. Siemens.

D. General Electric.

E. Substitutions: Not permitted.

2.2 FUSIBLE SWITCH ASSEMBLIES

A. Description: Type HD with externally operable handle interlocked to prevent opening front cover with switch in ON position, enclosed load interrupter knife switch. Handle lockable in OFF position.

B. Fuse clips: Designed to accommodate fuses Class J & Class T.

2.3 NONFUSIBLE SWITCH ASSEMBLIES

A. Description: Type HD with externally operable handle interlocked to prevent opening front cover with switch in ON position enclosed load interrupter knife switch. Handle lockable in OFF position.

2.4 ENCLOSURES

A. Fabrication:

1. Interior Dry Locations: Type 1.

2. Exterior Locations: Type 3R.

3. Locations (Wastewater Treatment, Washdown, Food Production, Corrosive Environments, etc.): Type 4X (Stainless).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with NECA "Standard of Installation."

B. Install fuses in fusible disconnect switches.

C. Apply adhesive tag on inside door of each fused switch indicating NEMA fuse class and size installed.

END OF SECTION

SECTION 26 51 19

LED INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior solid-state luminaires that use LED technology.
2. Lighting fixture supports.

B. Related Requirements:

1. Section 26 09 23 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.
2. Section 26 09 33 "Architectural Lighting Control System" for architectural dimming systems.
3. Section 26 09 43 "Network Lighting Controls" for manual or programmable control systems with low-voltage control wiring or data communication circuits.

1.2 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color Rendering Index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. LED: Light-emitting diode.

F. Lumen: Measured output of lamp and luminaire, or both.

G. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Arrange in order of luminaire designation.
2. Include manufacturer and model number.
3. Include data on features, accessories, and finishes.

4. Include physical description and dimensions of luminaires.
5. Include emergency lighting units, including batteries and chargers.
6. Include life, output (lumens, CCT, and CRI), and energy-efficiency data.
7. Include photometric data and adjustment factors based on laboratory tests, complying with IESNA Lighting Measurements Testing and Calculation Guides, of each luminaire type. The adjustment factors shall be for lamps and accessories identical to those indicated for the luminaire as applied in this Project. IES LM-79 and IES LM-80.

    a. Manufacturers' Certified Data:
        1) Photometric data certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
        2) Indicate application conditions and limitations of use stipulated by manufacture's testing agency.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Product Schedule: For luminaires and lamps, use same designations indicated on Drawings.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires and lighting systems to include in operation and maintenance manuals.

1. Provide a list of all lamp types used on Project; use ANSI and manufacturers' codes.

1.5 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Luminaire manufacturer's laboratory that is accredited under the NVLAP for Energy Efficient Lighting Products.

B. Provide luminaires from a single manufacturer for each luminaire type.

C. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering before shipping.

1.7 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

B. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Luminaires shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified."

2.2 LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by an NRTL.

C. FM Global Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by FM Global.

D. Recessed Fixtures: Comply with NEMA LE 4.

E. Bulb shape complying with ANSI C79.1.

F. Lamp base complying with ANSI C81.61 or IEC 60061-1.

G. CRI of minimum 80. CCT of 4000 K.

H. Rated lamp/led life of 50,000 hours.

I. Lamps dimmable from 100 percent to 0 percent of maximum light output.

J. Integral driver.

K. Nominal Operating Voltage: 120 V ac.

L. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

M. Housings:

1. Extruded-aluminum housing and heat sink.
2. Clear anodized or white powder-coat painted finish as indicated on light fixture schedule

2.3 LUMINAIRE SCHEDULE

A. Furnish products as specified in luminaire schedule on Drawings.

B. Specifications given in the remarks section of the luminaire schedule apply in addition to features implied by the catalog numbers (whether or not included as part of catalog number).

C. Substitutions: Per provisions of Division 01 and Section 26 00 00.

2.4 MATERIALS

A. Metal Parts:

1. Free of burrs and sharp corners and edges.
2. Sheet metal components shall be steel unless otherwise indicated.
3. Form and support to prevent warping and sagging.

B. Doors, Frames, and Other Internal Access:

1. Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools.
2. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

C. Diffusers and Globes:

1. Clear Fresnel Glass (exterior), Opaque, UV-stabilized acrylic (interior).
2. Acrylic Diffusers: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
3. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

D. Housings:

1. Extruded-aluminum housing and heat sink.
2. Clear anodized or white powder-coat painted finish as indicated on light fixture schedule.

E. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Locate labels where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

1. Label shall include the following lamp characteristics:

a. "USE ONLY" and include specific lamp type.
b. Lamp diameter, shape, size, wattage, and coating.
c. CCT and CRI for all luminaires.

2.5 METAL FINISHES

A. Variations in finishes are unacceptable in the same piece. Variations in finishes of adjoining components are acceptable if they are within the range of approved Samples and if they can be and are assembled or installed to minimize contrast.

2.6 LUMINAIRE SUPPORT COMPONENTS

A. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

B. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fittings and ceiling canopy. Finish same as luminaire.

C. Wires: ASTM A 641/A 641 M, Class 3, soft temper, zinc-coated steel, 12 gage.

D. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.

E. Hook Hangers: Integrated assembly matched to luminaire, line voltage, and equipment with threaded attachment, cord, and locking-type plug.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for luminaire to verify actual locations of luminaire and electrical connections before fixture installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 TEMPORARY LIGHTING

A. If approved by the Architect/Engineer, use selected permanent luminaires for temporary lighting. When construction is sufficiently complete, clean luminaires used for temporary lighting and install new lamps.

3.3 INSTALLATION

A. Comply with NECA 1.

B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

C. Install luminaires in accordance with manufacturer's instructions.

D. Install lamps in each luminaire.

E. Install accessories furnished with each luminaire.

F. Install wall mounted luminaires, emergency lighting units, and exit signs at height as indicated on Drawings or per A.D.A. requirements.

G. Luminaire outlet boxes used for feed through wiring shall be UL listed for that purpose.

H. Luminaires shall be properly grounded.

I. Damaged, deformed, defective, or blemished luminaires shall be replaced.

J. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Provide support for luminaire without causing deflection of ceiling or wall.
4. Luminaire mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and vertical force of 400 percent of luminaire weight.

K. Flush-Mounted Luminaire Support:

1. Secured to junction box.
2. Attached to ceiling structural members at four points equally spaced around circumference of luminaire.
3. Trim ring flush with finished surface.

L. Wall-Mounted Luminaire Support:

1. Attached to structural members in walls.
2. Do not attach luminaires directly to gypsum board.

M. Ceiling-Mounted Luminaire Support:

1. Ceiling mount with two 5/32-inch diameter aircraft cable supports adjustable to 120 inches in length.

N. Suspended Luminaire Support:

1. Pendants and Rods: Where longer than 48 inches, brace to limit swinging.
2. Stem-Mounted, Single-Unit Luminaires: Suspend with twin-stem hangers. Support with approved outlet box and accessories that hold stem and provide damping of luminaire oscillations. Support outlet box vertically to building structure using approved devices.
3. Continuous Rows of Luminaires: Use tubing or stem for wiring at one point and wire support for suspension for each unit length of luminaire chassis, including one at each end.
4. Do not use ceiling grid as support for pendant luminaires. Connect support wires or rods to building structure.

O. Ceiling-Grid-Mounted Luminaires:

1. Secure to any required junction box.
2. Use approved devices and support components to connect luminaire to ceiling grid and building structure in a minimum of four locations, spaced near corners of luminaire.

P. Recessed Luminaires:

1. Located as indicated on reflected ceiling plan.
2. Install to permit removal from below.
3. Install with accessories and firestopping materials to meet regulatory requirements for fire rating.

Q. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections.

3.4 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.

B. Luminaire will be considered defective if it does not pass operation tests and inspections.

C. Prepare test and inspection reports.

3.6 STARTUP SERVICE

A. Comply with requirements for startup specified in Section 26 09 43 "Network Lighting Controls."

3.7 ADJUSTING

A. At Substantial Completion, provide on-site assistance in adjusting the direction of aim of luminaires to suit occupied conditions. Make up to two visits to Project during other-than-normal hours for this purpose. Some of this work may be required during hours of darkness.

1. During adjustment visit, inspect all luminaires. Replace lamps or luminaires that are defective.
2. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
3. Adjust the aim of luminaires in the presence of the Architect/Engineer.

3.8 CLEANING

A. Clean work under provisions of Division 01.

B. Clean electrical parts to remove conductive and deleterious materials,

C. Remove dirt and debris from enclosure.

D. Clean photometric control surfaces as recommended by manufacturer.

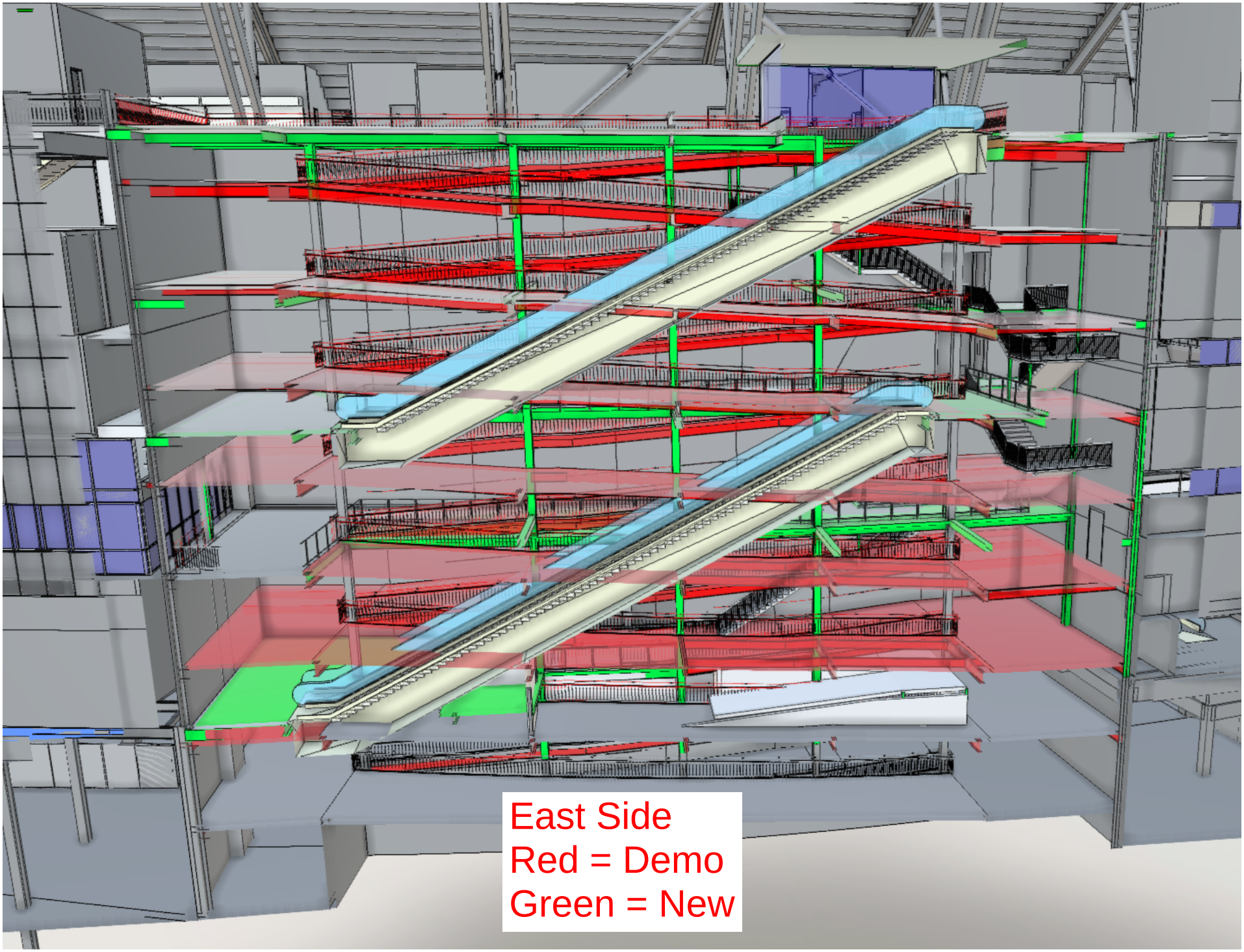
E. Clean finishes and touch up damage.

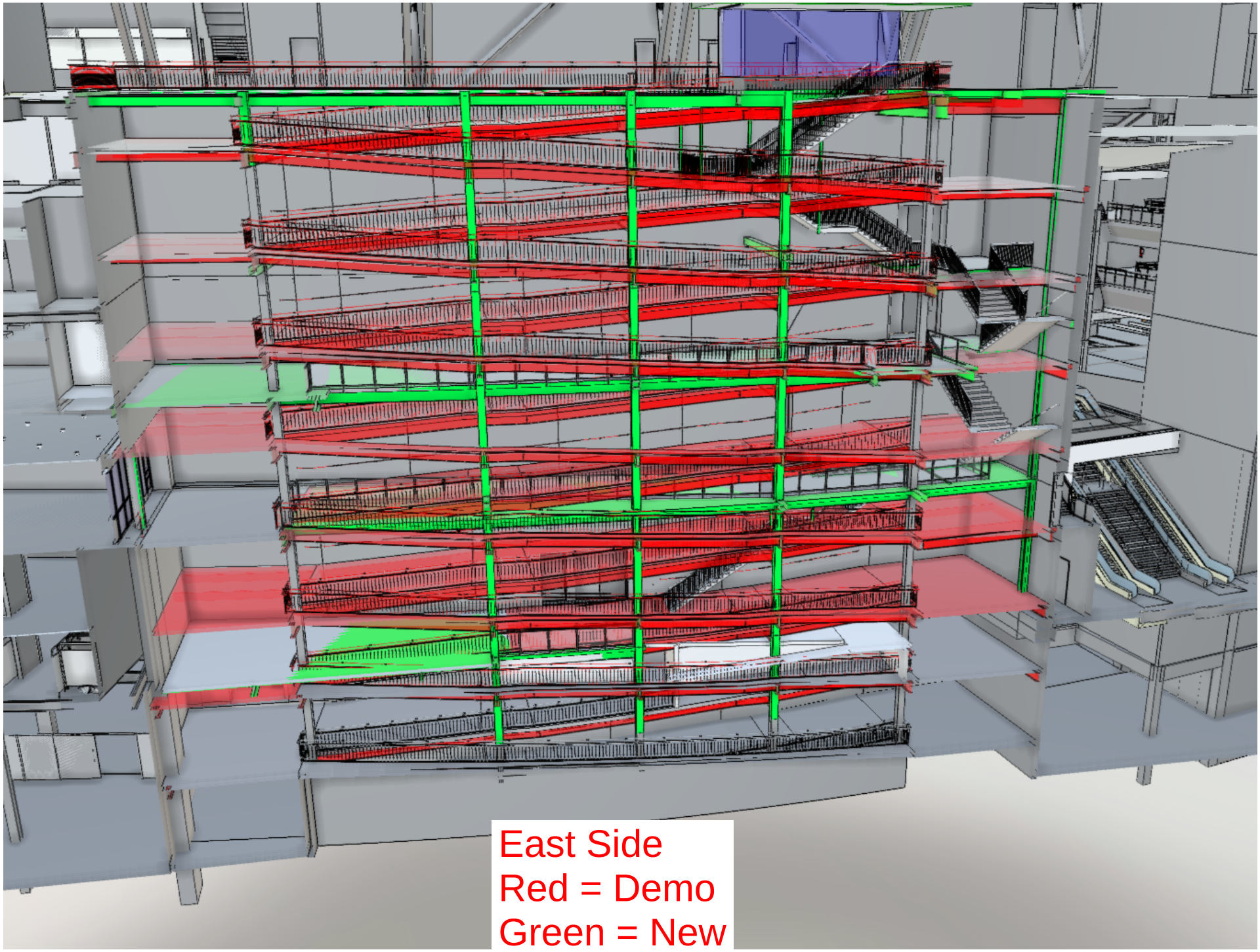
3.9 DEMONSTRATION

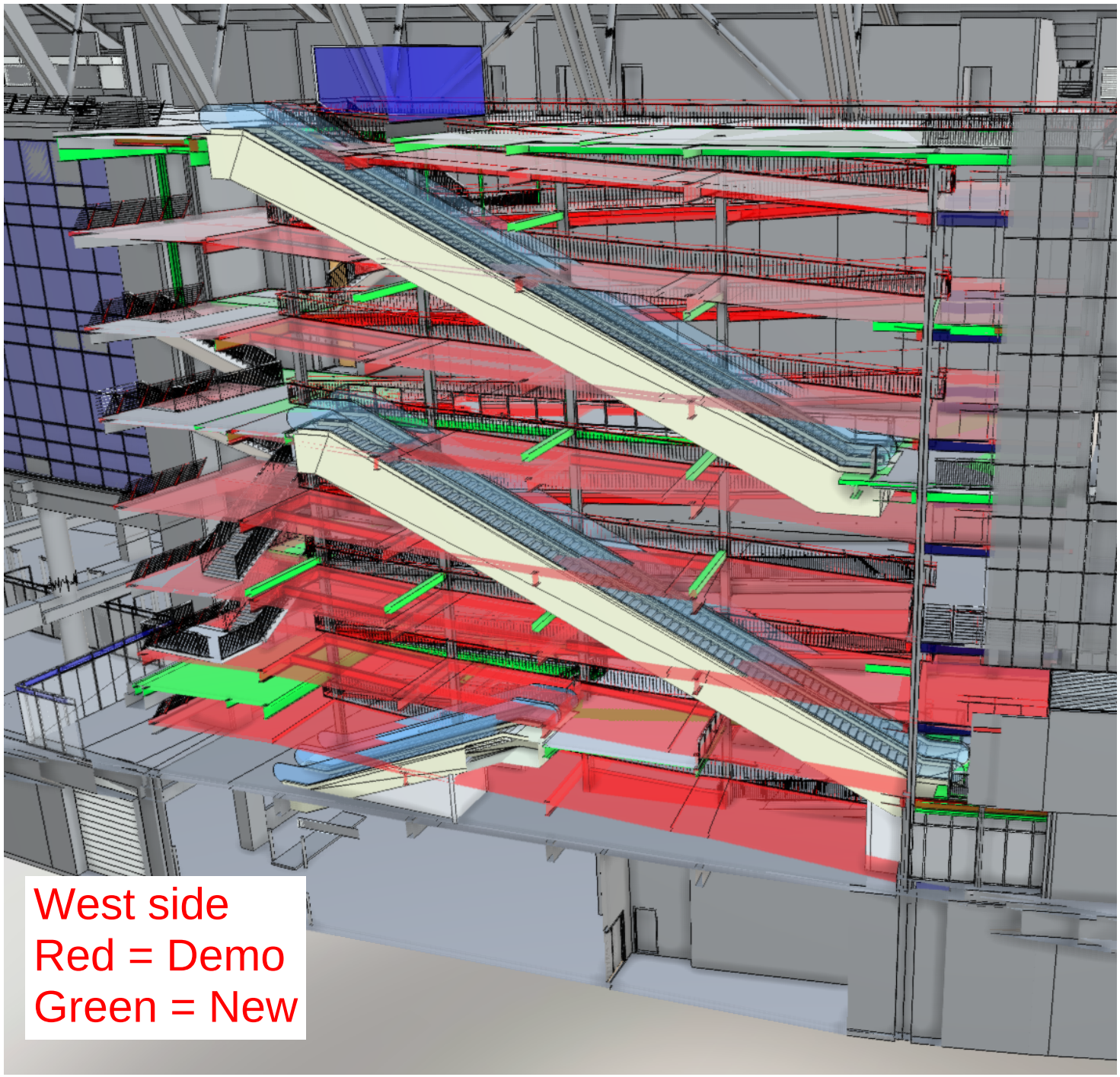
A. Provide systems demonstration under provisions of Division 01.

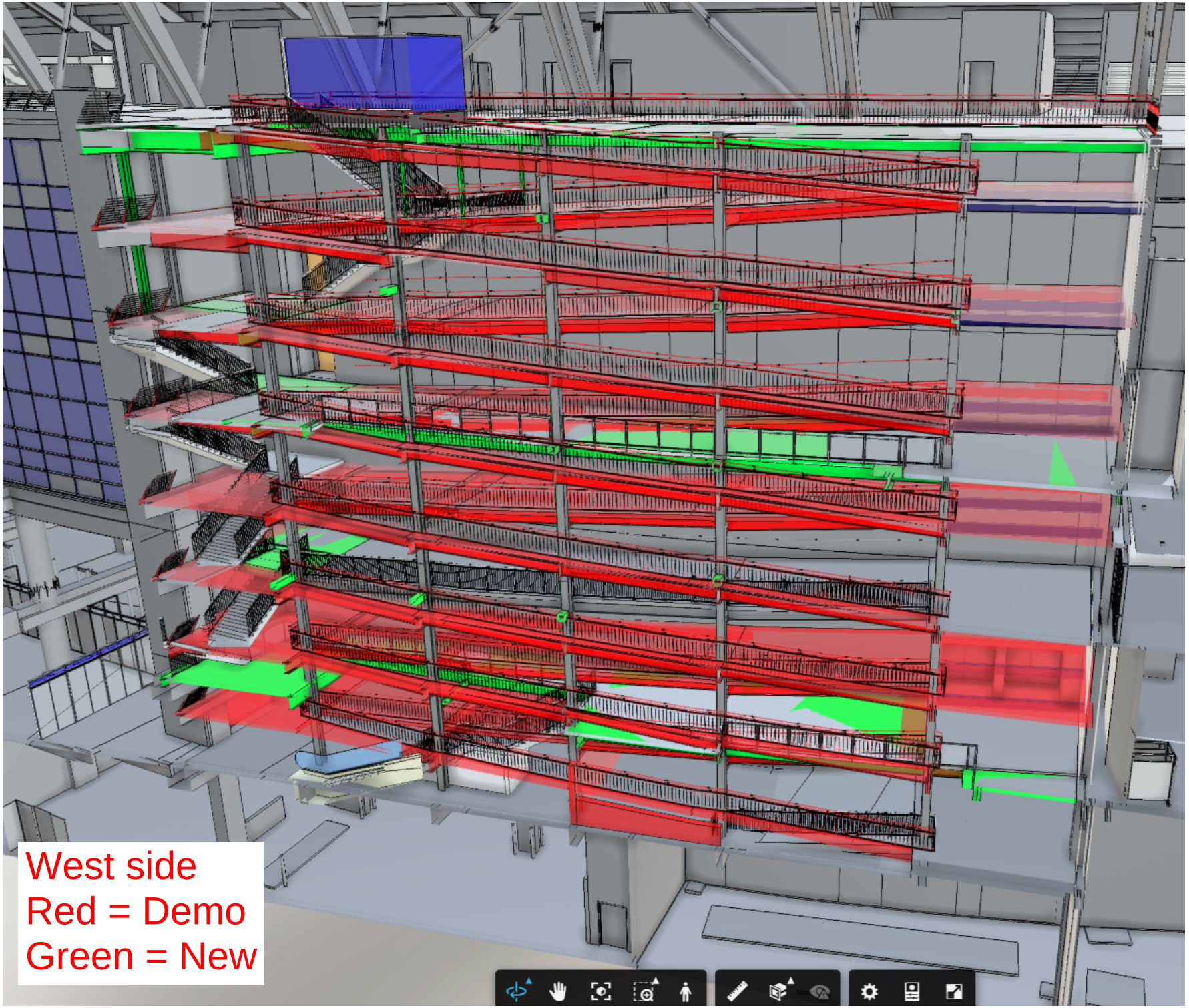
B. Provide minimum of two hours of demonstration of luminaire operation.

END OF SECTION 26 51 19

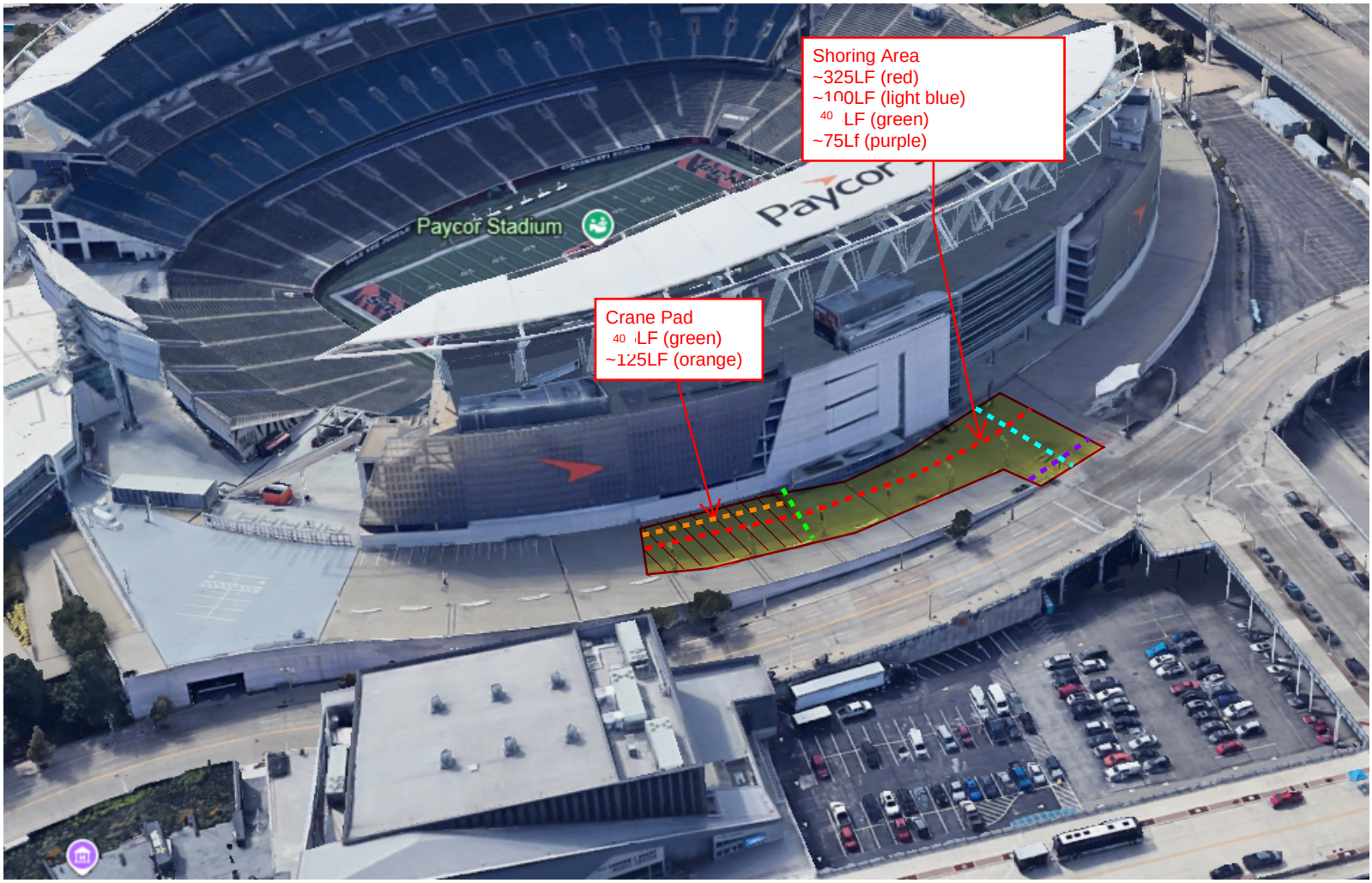

East Side
Red = Demo
Green = New


East Side
Red = Demo
Green = New

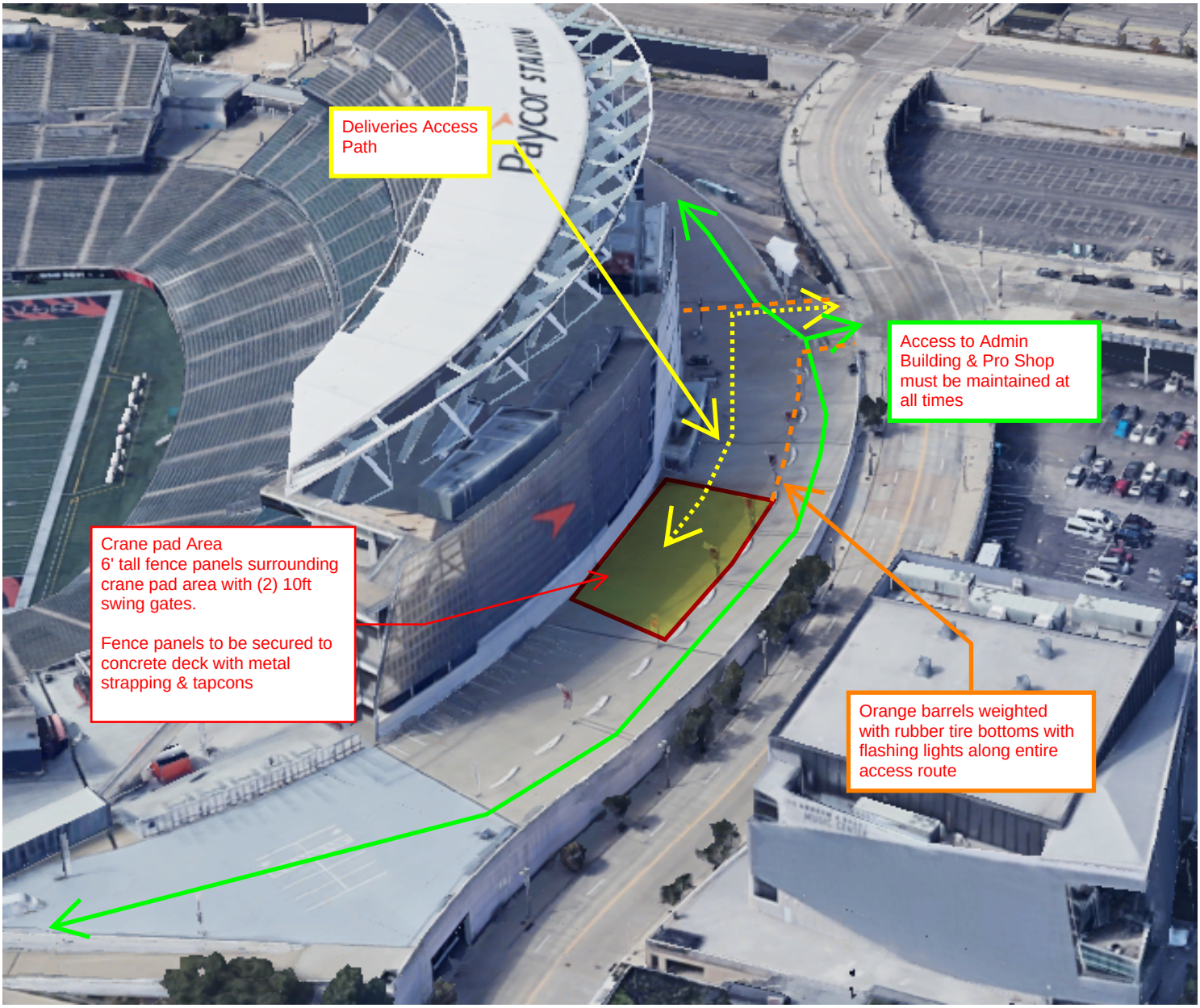

West side
Red = Demo
Green = New


West side
Red = Demo
Green = New

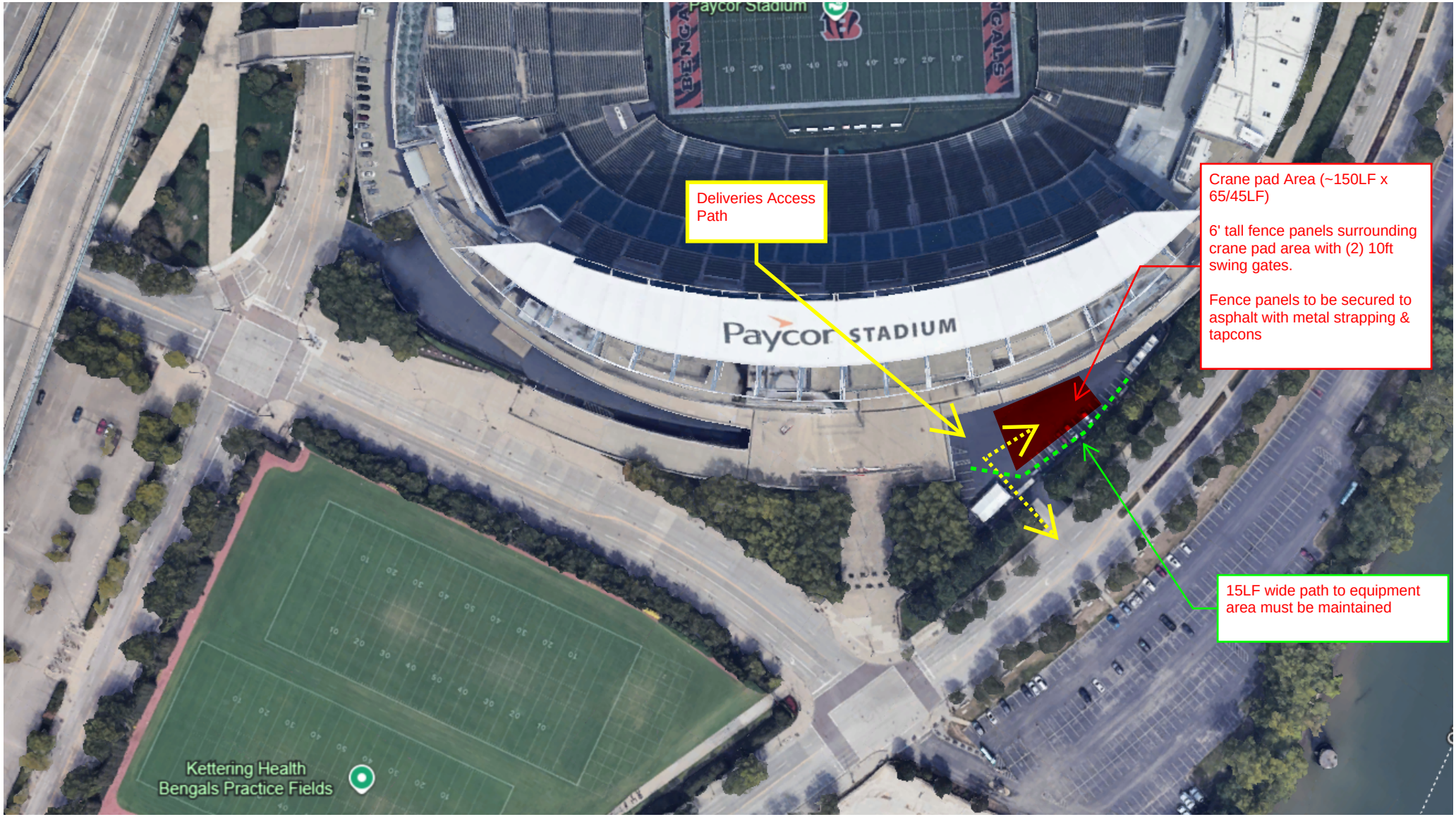
East Shoring & Crane Pad Areas



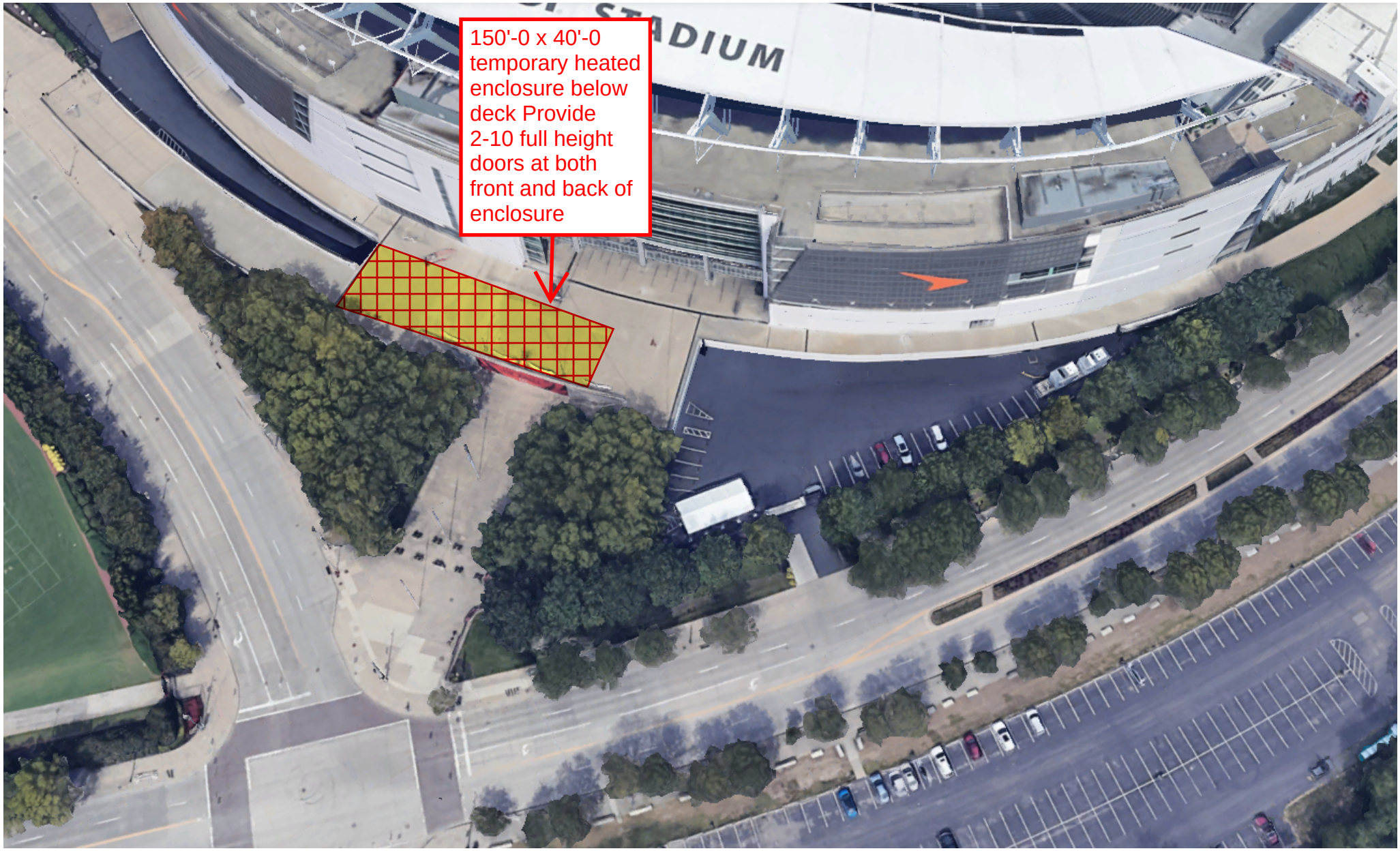
East Logistics Plan



West Logistics Plan



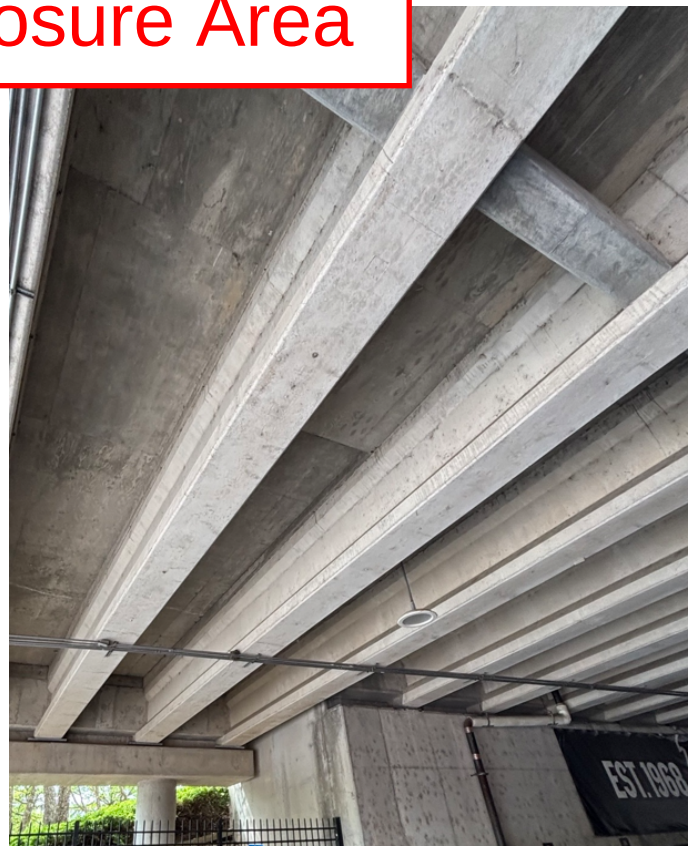
Escalator Pre-Fab Heated Enclosure Area



Escalator Pre-Fab Heated Enclosure Area

utilize concrete wall as portion of temp enclosure wall

Red dotted line is ~ footprint of enclosure area

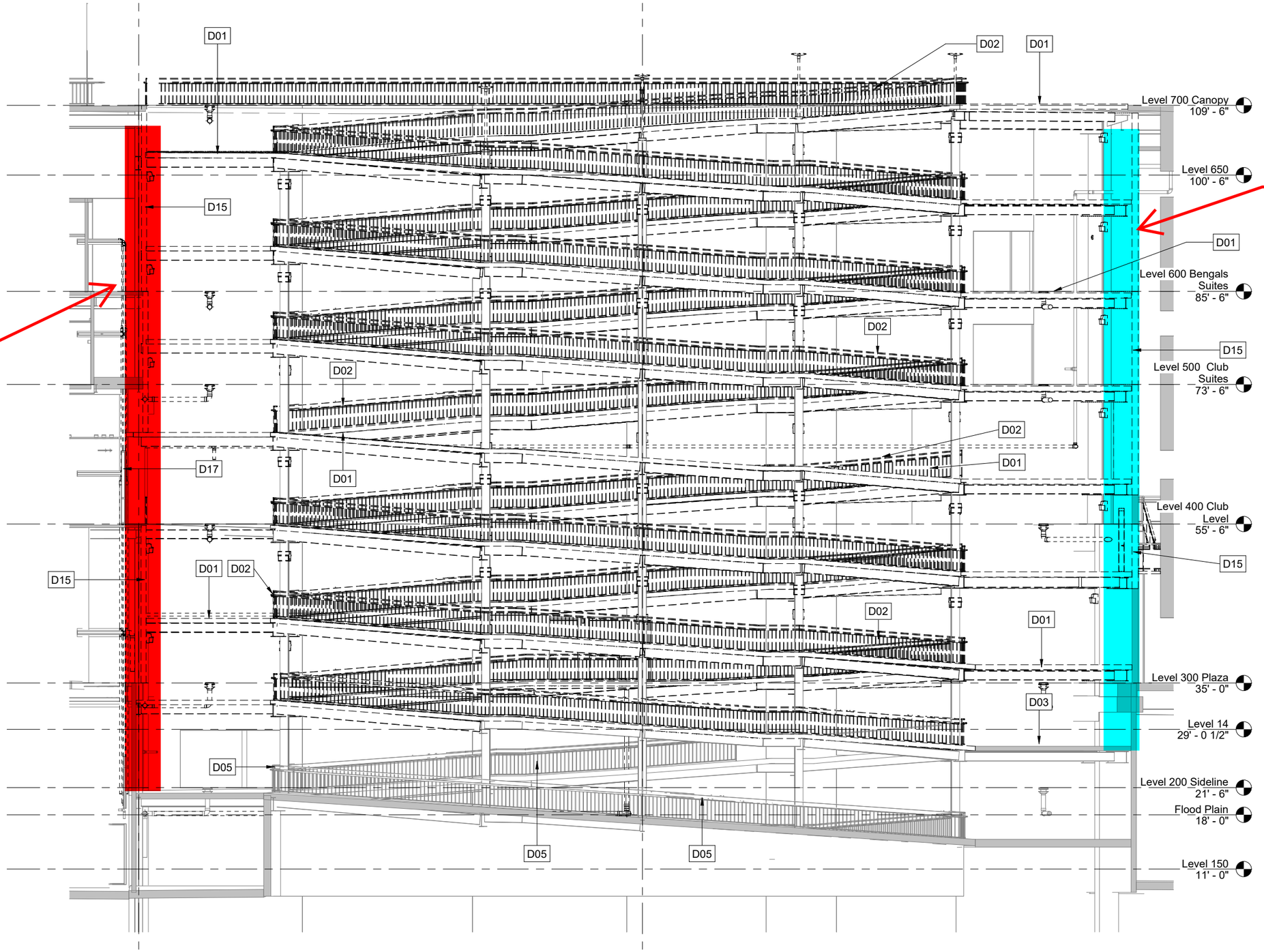


Enclosure area must be floor to ceiling and be extending up into joist space so that the temp inside the enclosure cab be maintained

Red CMU walls are NOT able to be saved utilizing 36/S203 and will need to be demolished

Steel contractor DO NOT include 36/S203 at these locations

Demo Contractor needs to INCLUDE demo of walls at these locations



02 **SECTOR 4 - DEMOLITION SECTION**
AD-211.4 1/8" = 1'-0"

East Side

Light blue CMU walls are able to be saved utilizing 36/S203

Steel contractor to INCLUDE installing 36/S203 at these locations

Demo contractor DO NOT include demo of CMU walls at these locations

Green CMU walls bypass the ramp SOM deck / structure and thus no further action is needed

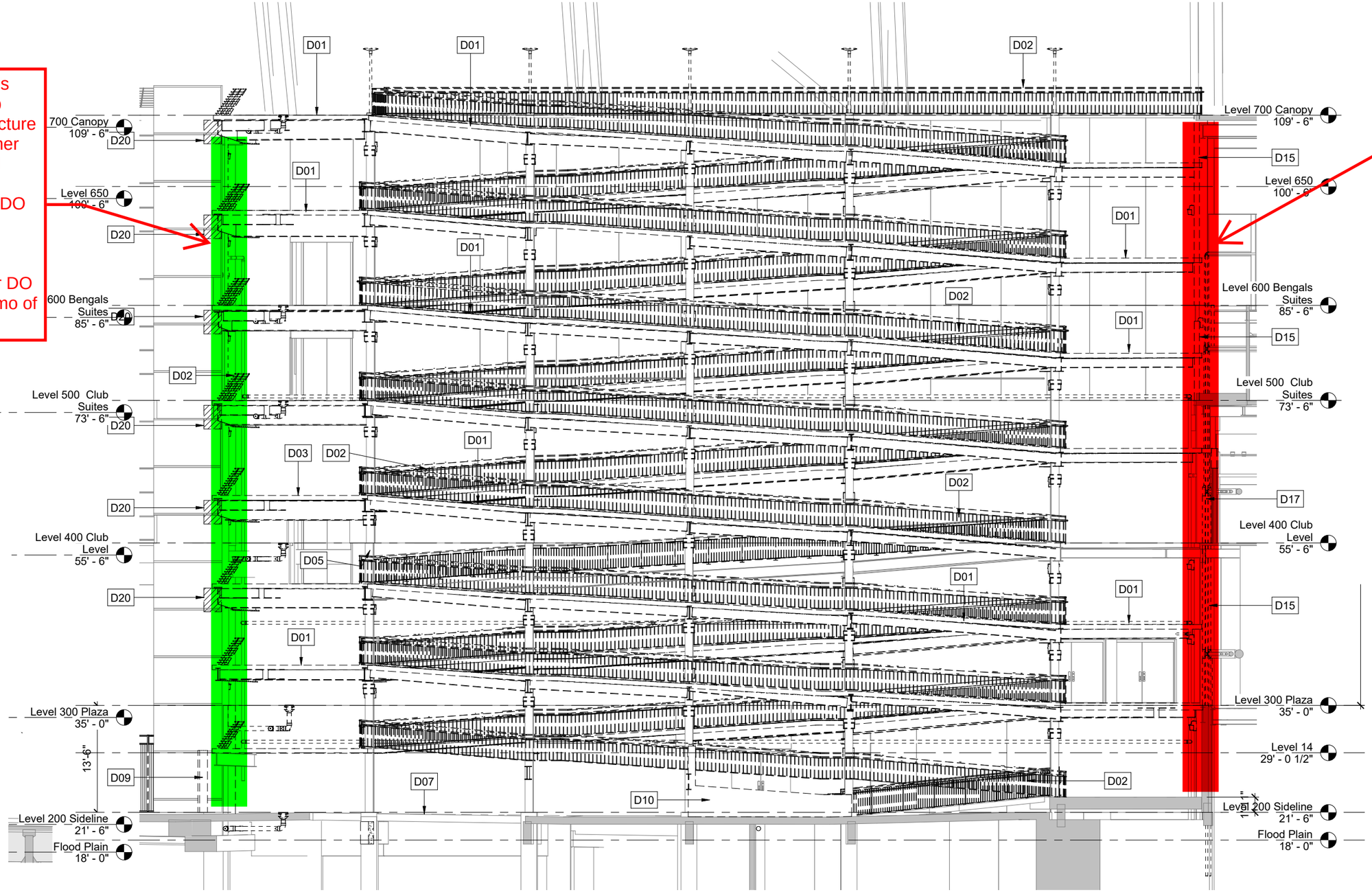
Steel contractor DO NOT include 36/S203

Demo contractor DO NOT include demo of CMU walls

Red CMU walls are NOT able to be saved utilizing 36/S203 and will need to be demolished

Steel contractor DO NOT include 36/S203 at these locations

Demo Contractor needs to INCLUDE demo of walls at these locations



02 **SECTION 9 - DEMOLITION SECTION**

AD-211.9 1/8" = 1'-0"

West Side

GROVE®
by Manitowoc

GMK5250XL-1
Product Guide

ASME B30.5
Imperial 85%

Features

- 250 t (300 USt) capacity
- 78,5 m (257.5 ft) eight-section main boom
- 17,8 m (58.4 ft) swingaway with jib and/or boom insert
- Maximum 33,8 m (111 ft) length and up to 50° offset
- VIAB turbo retarder clutch
- Single engine concept — less fuel consumption

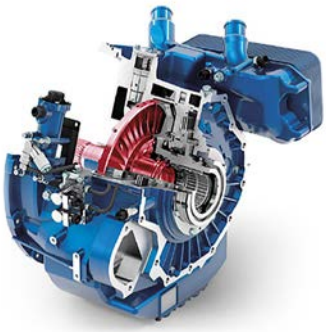
GROVE GMK5250XL-1

The GMK5250XL-1 puts power and performance to work for you with high capacities on a five-axle, all-terrain crane and 78,5 m (257.5 ft) main boom.

Features

> VIAB turbo retarder clutch option

The Grove five-axle is the first all-terrain crane to utilize a VIAB turbo clutch module, which is used by a number of heavy-duty trucks. It enables wear-free starting and braking, avoids overheating and burning, and reduces fuel consumption to a minimum, adding substantial fuel savings of approximately 30% compared with its predecessor, the GMK5275. VIAB is a turbo coupling and integrated retarder all in one, which means less weight and less space.



> Convenient transportation logistics

Logistic benefits due to interchangeable counterweight slabs and self-rigging auxiliary hoist. Once on the jobsite, the crane can be moved while carrying its full counterweight of 80 t (176,300 lb), and its ability to travel in this configuration saves valuable time on the job that would otherwise be taken up with installing and removing counterweight sections. In addition, some of the counterweight slabs are interchangeable with those of the GMK5180-1/5200-1, GMK5250L/L-1 and GMK6300L/L-1. The self-rigging auxiliary hoist eliminates the need for an assist crane during on-site rigging.

> Superior strength and reach

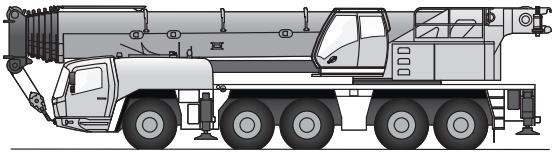
Boosting overall reach is a 17,8 m (58.4 ft) hydraulic swingaway jib, which can be extended with either an 8 m (26 ft) boom extension, 8 m (26 ft) jib insert or a combination of both, for a total possible jib length of 33.8 m (111 ft). For optimum usage, the full jib can also be operated while the crane is working with its 72 m (236 ft) boom length extended. Another beneficial feature of the jib is its ability to offer increased offset of up to 50° compared to a typical 40° offset on other Grove cranes in its class; plus there is an optional integrated heavy-duty jib available.

> CraneSTAR

CraneSTAR is an exclusive and innovative crane asset management system that helps improve your profitability and reduce costs by remotely monitoring critical crane data. Visit www.cranestar.com for more information.

CraneSTAR®

Jobsite benefits



- Five outrigger positions provide ultimate flexibility for jobsites with the ability to position the crane in tighter spaces.
- Mercedes-Benz engine and transmission with VIAB turbo clutch for premium maneuverability, optimized fuel consumption and powerful integrated retarder.
- Jobsite movement with full counterweight saves setup time.
- The GMK5250XL-1 is designed with a self-rigging auxiliary hoist, saving time and costs associated with operating an assist crane.
- Available swingaway configurations and extensions provide excellent flexibility and reach with up to 33,8 m (111 ft) and a 50° offset to reach over obstacles.
- Higher utilization, with load charts usually offered by six-axle cranes.
- Longest boom in class.

Manitowoc Crane Care™

Manitowoc Crane Care when you need it.
The assurance of the world's most advanced crane service and support to get you back to work fast.

Manitowoc Finance™

Manitowoc Finance helps you get right to work generating profits for your business.
Financial tools that help you capitalize on opportunity with solutions that fit your needs.

Contents

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Weights 9

Data 11

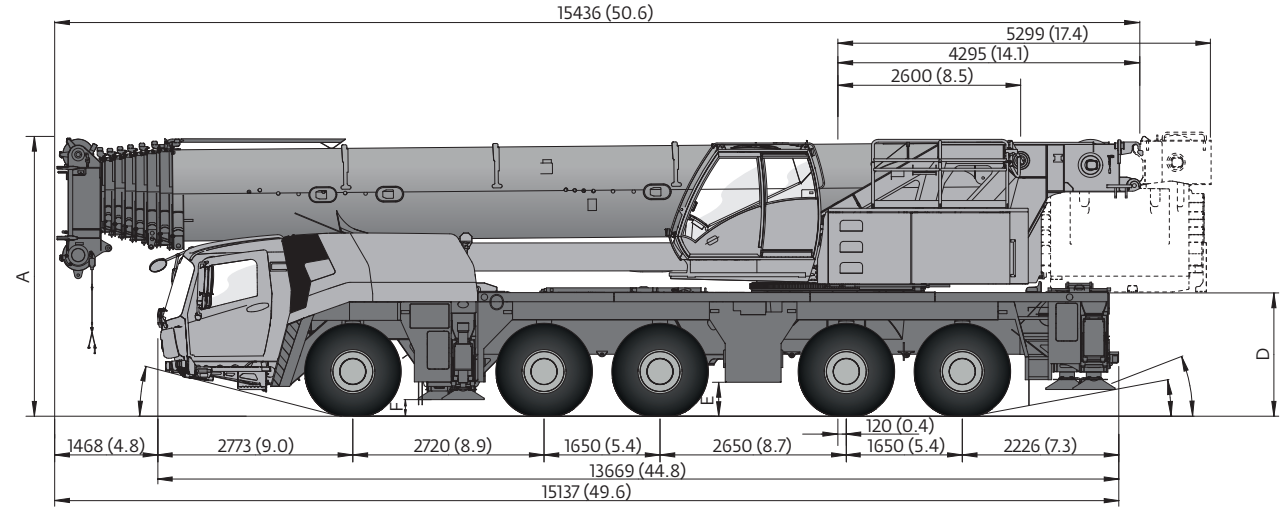
Working range (Main boom) 12

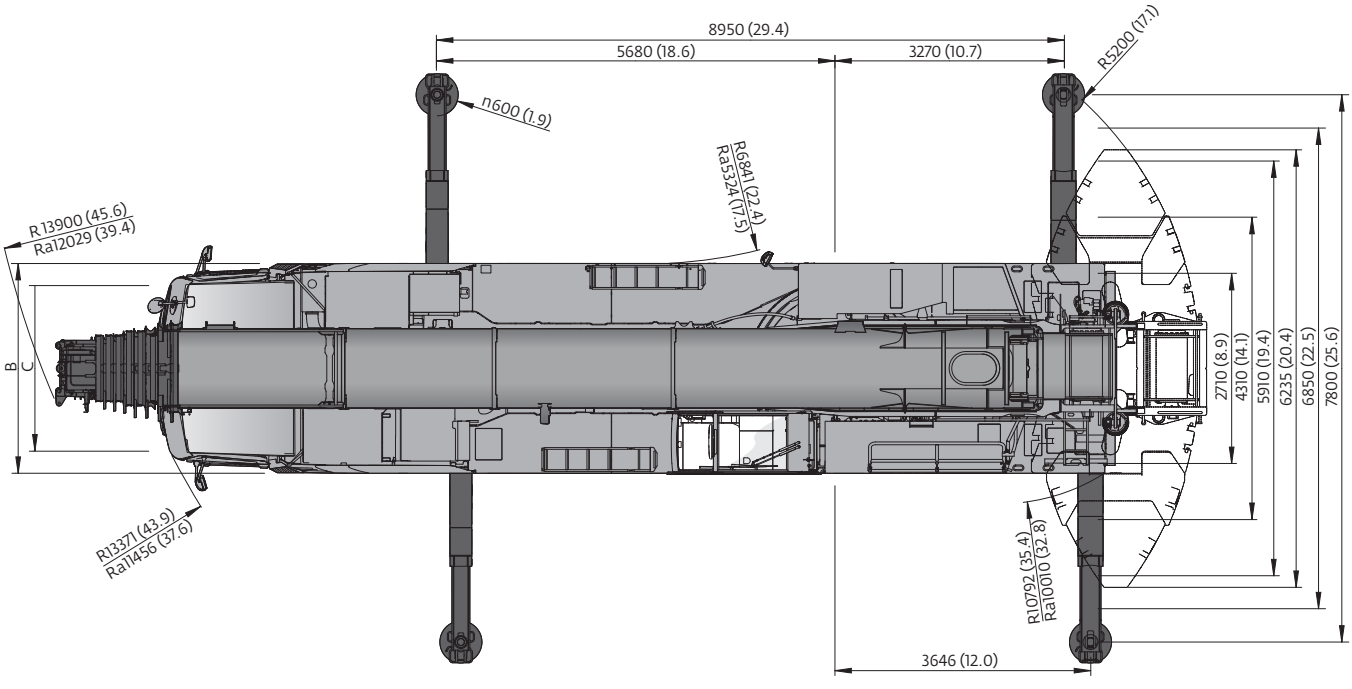
Load charts (Main boom) 13

Specifications 34

Symbols glossary 35

Dimensions





Dimensions shown are in mm (ft).

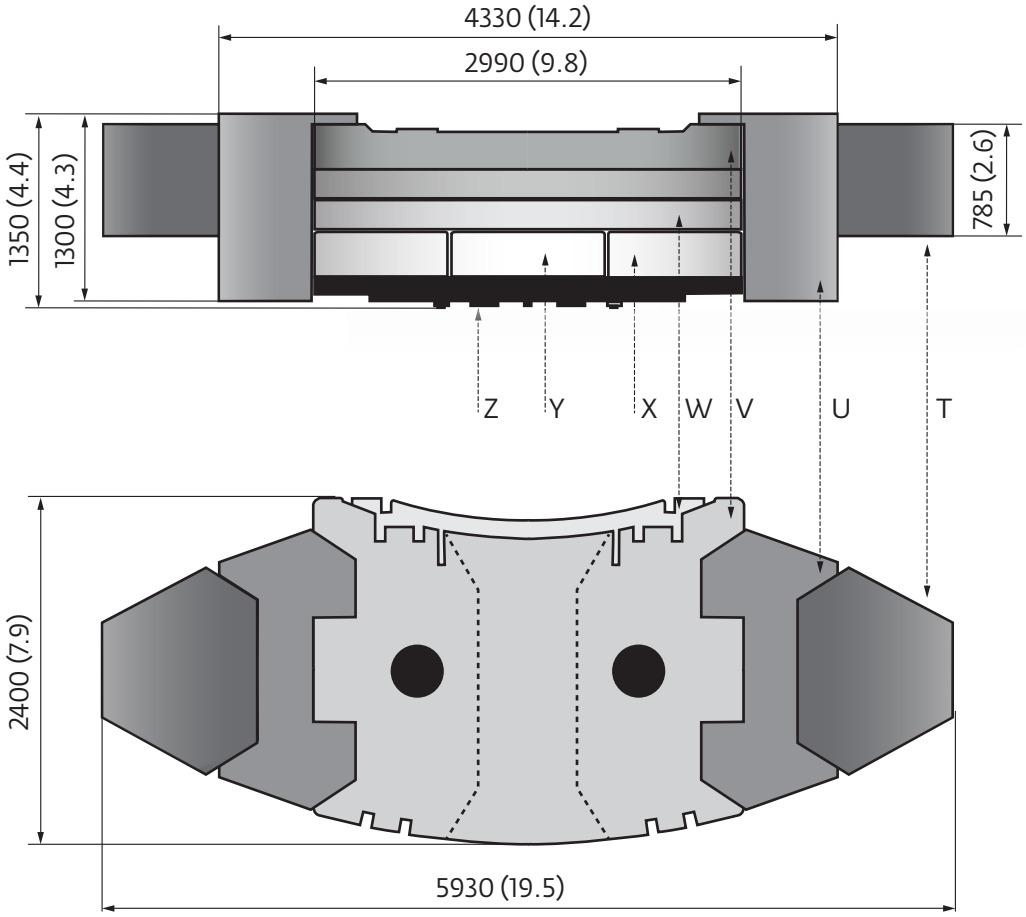
Ra = Radius all wheels steered

	A	A 130 mm**	B	C	D	E	F	α	β	β_1
385/95 R25	3950 (13.0)	3820 (12.5)	3000 (9.8)	2570 (8.4)	1822 (6.0)	486 (1.6)	228 (0.8)	14	8	6
445/95 R25	4000 (13.1)	3870 (12.7)	3000 (9.8)	2510 (8.2)	1872 (6.1)	536 (1.8)	278 (0.9)	16	10	8
525/80 R25	4000 (13.1)	3870 (12.7)	3100 (10.2)	2530 (8.3)	1872 (6.1)	536 (1.8)	278 (0.9)	16	10	8

** *Lowered*

Dimensions

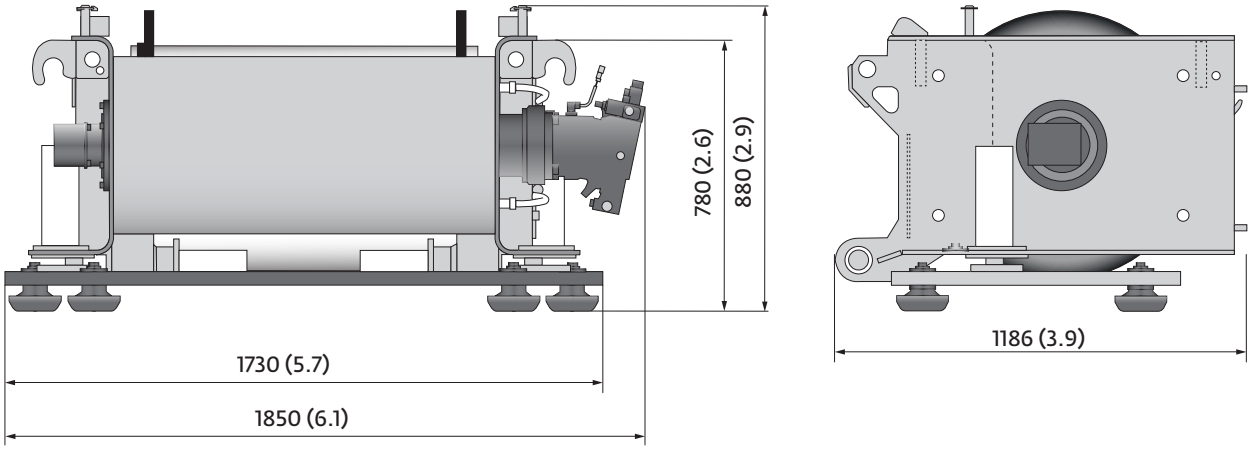
Counterweight



Dimensions shown are in mm (ft).

	Z 7,0 t (7.7 USt)	Y 4,5 t (5.0 USt)	X 4,75 t (5.2 USt)	W 9,5 t (10.5 USt)	V 10,0 t (11.0 USt)	U 10,0 t (11.0 USt)	T 5,0 t (5.5 USt)
7,0 t (7.7 USt)	x						
16,5 t (18.2 USt)	x		2 x				
21,0 t (23.1 USt)	x	x	2 x				
26,0 t (28.7 USt)	x		2 x	x			
30,5 t (33.6 USt)	x	x	2 x	x			
35,5 t (39.1 USt)	x		2 x	2 x			
40,0 t (44.1 USt)	x	x	2 x	2 x			
45,5 t (50.2 USt)	x		2 x	2 x	x		
50,0 t (55.1 USt)	x	x	2 x	2 x	x		
70,0 t (77.2 USt)	x	x	2 x	2 x	x	2 x	
80,0 t (88.2 USt)	x	x	2 x	2 x	x	2 x	2 x

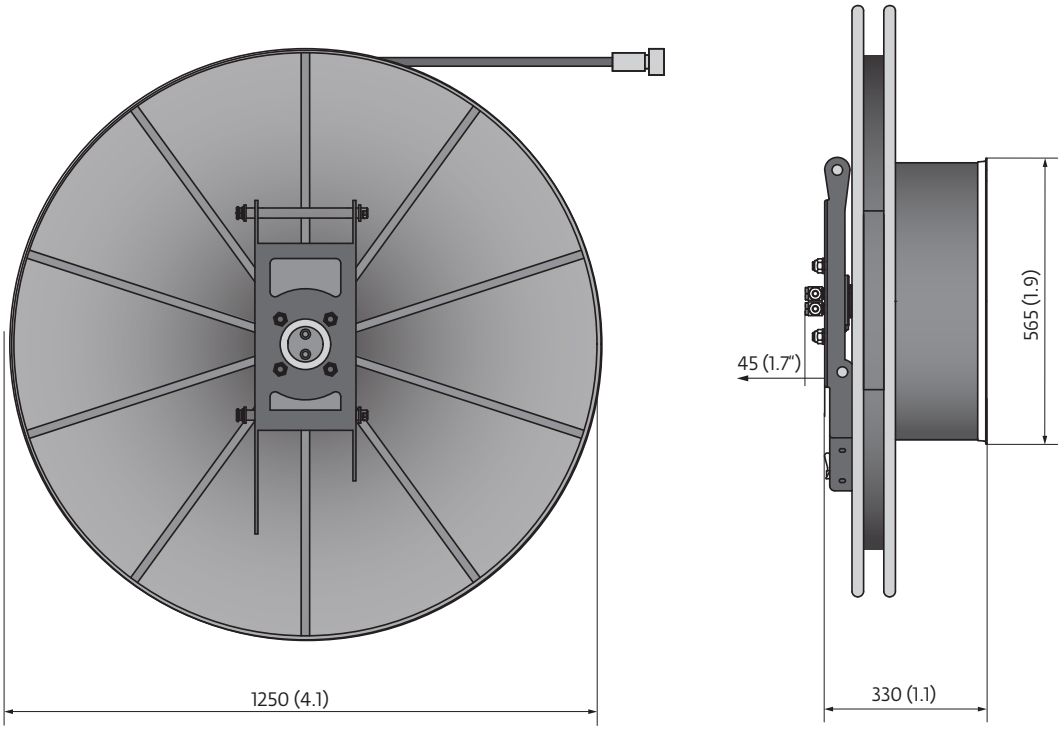
Auxiliary hoist



kg (lb)	2255 (4972)

Dimensions shown are in mm (ft).

Hose reel



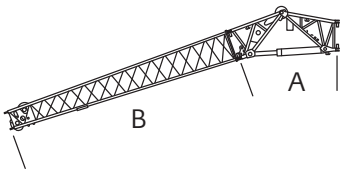
kg (lbs)	185 (408)

Dimensions shown are in mm (ft).

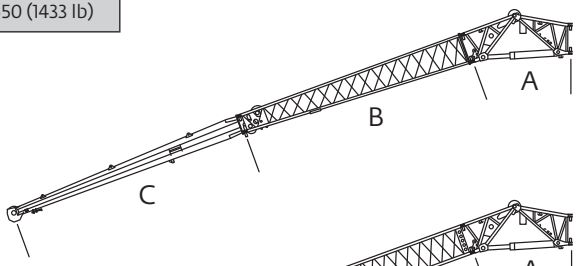
Dimensions

Jib combinations

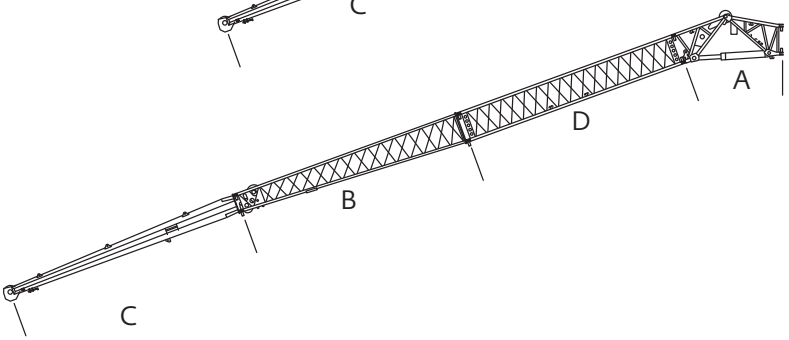
	L x W x h	kg lb
A	3,8 x 0,8 x 1,3 (12.5' x 2.6' x4.3')	950 (2094 lb)
B	8,5 x 0,8 x 1,1 (27.9' x 2.6' x 3.6')	575 (1268 lb)
C	6,9 x 0,5 x 0,7 (22.6' x 1.6' x 2.3')	350 (772 lb)
D	9,0 x 0,8 x 1,1 (29.5' x 2.6' x 3.6')	525 (1157 lb)
E	8,1 x 0,8 x 1,1 (26.6' x 2.6' x 3.6')	650 (1433 lb)



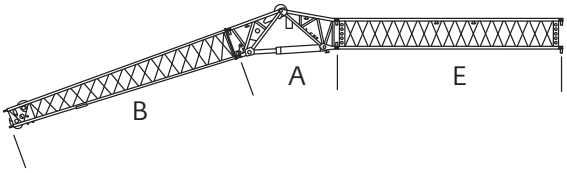
11,2 m (37 ft)



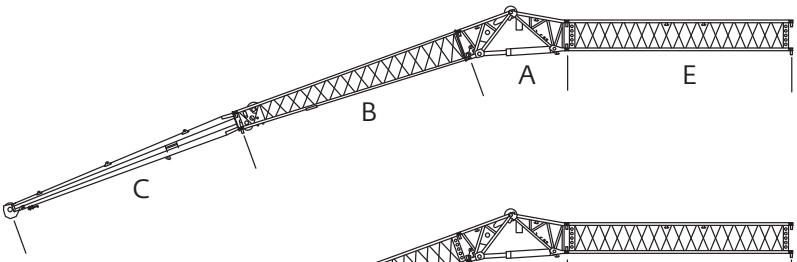
17,8 m (58 ft)



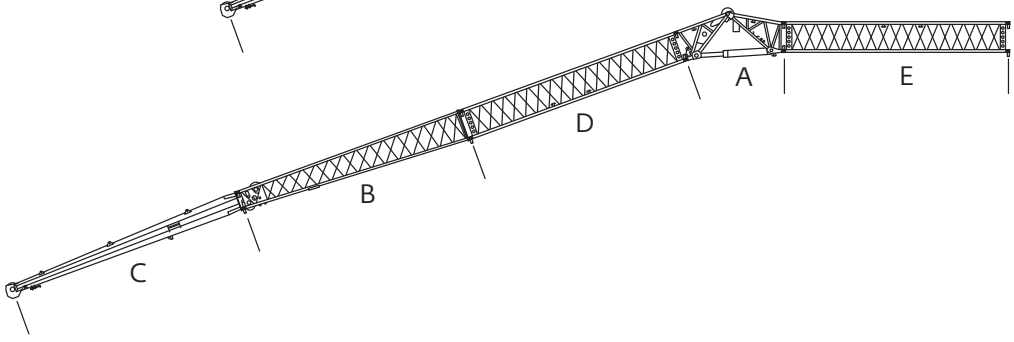
25,8 m (85 ft)



19,2 m (63 ft)



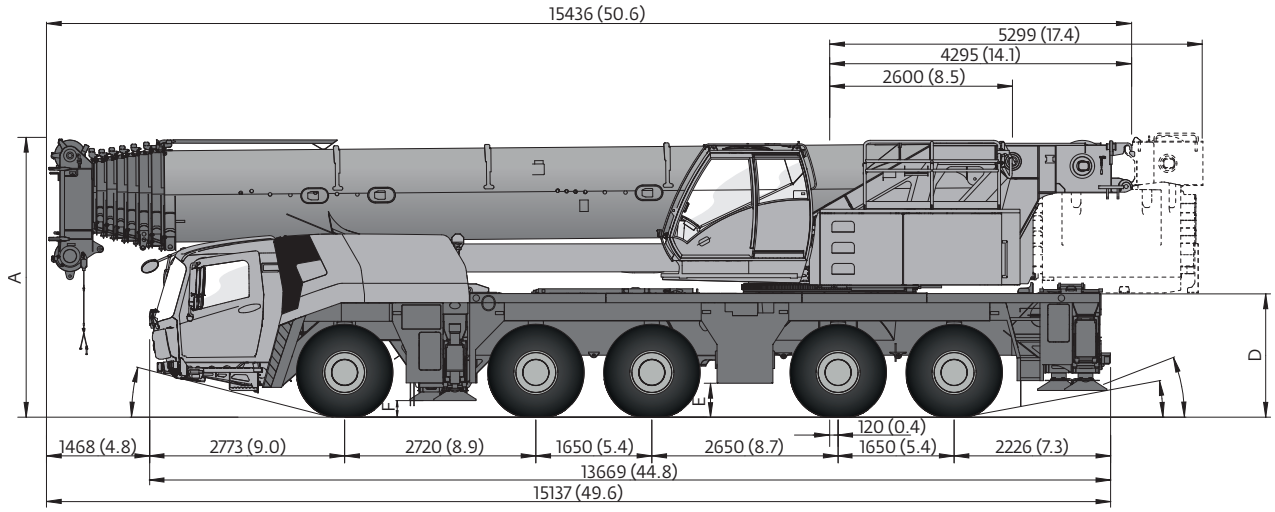
25,8 m (85 ft)



33,8 m (111 ft)

Dimensions shown are in mm (ft).

Boom over front

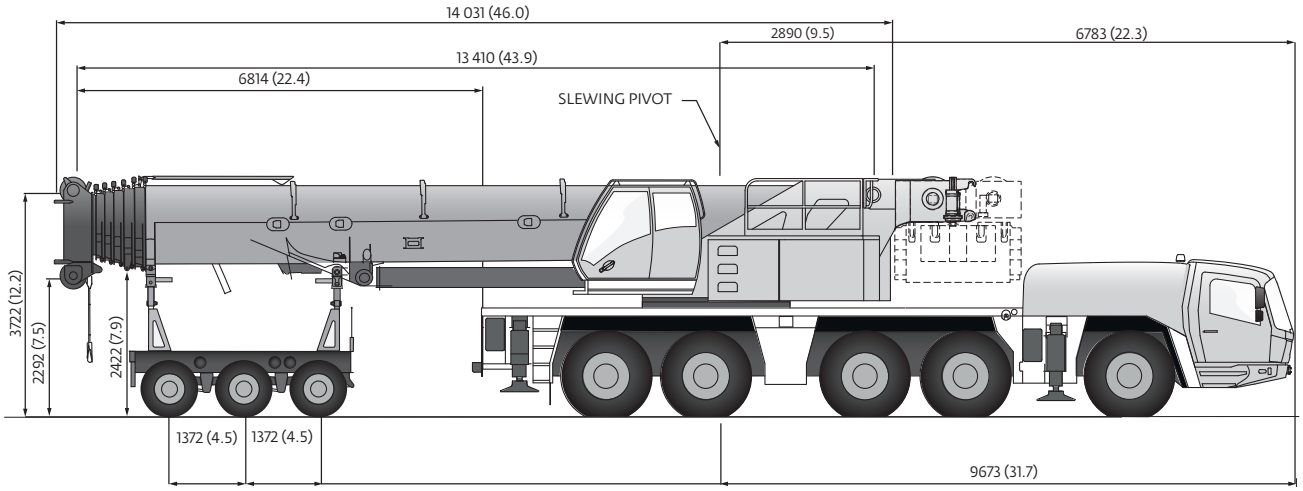


Dimensions shown are in mm (ft).

Basic Weights — kg (lb)	Axles 1 and 2	Axles 3 – 5	Total
Mercedes-Benz power T4f, VIAB, 16.00 R25 tires on aluminum, 10 x 6 x 10 drive/steer, 2nd oil cooler, nylatron outrigger pads, full fuel tank.	23.820 kg (52,514 lb)	35.190 kg (77,580 lb)	59.020 kg (130,110 lb)
Additions			
10 x 8 x 10 drive/steer	182 kg (401 lb)	209 kg (460 lb)	209 kg (861 lb)
Spare wheel 14.00 R25 XGC steel rim with stowage	-224 kg (-493 lb)	509 kg (1122 lb)	285 kg (628 lb)
Spare wheel 16.00 R25 XGC steel rim with stowage	-265 kg (-585 lb)	603 kg (1330 lb)	338 kg (745 lb)
Spare wheel 20.5 R25 XGC steel rim with stowage	-315 kg (-694 lb)	716 kg (1578 lb)	401 kg (884 lb)
Brackets for hydraulic swingaway	105 kg (232 lb)	2 kg (4 lb)	107 kg (236 lb)
Hose reel for hydraulic swingaway	270 kg (596 lb)	85 kg (-188 lb)	185 kg (408 lb)
11,2 m – 17,8 m (37 ft – 58 ft) hydraulic swingaway	1537 kg (3389 lb)	11 kg (23 lb)	1548 kg (3412 lb)
Auxiliary hoist	-2098 kg (-4626 lb)	4353 kg (9597 lb)	2255 kg (4971 lb)
7000 kg (15,400 lb) base plate stowed on carrier	4770 kg (10,515 lb)	1943 kg (4284 lb)	6713 kg (14,800 lb)
7000 kg (15,400 lb) base plate fixed to turntable	-5306 kg (-11,700 lb)	4349 kg (26,500 lb)	6713 kg (14,800 lb)
Substitutions			
14.00 R25 tires	-212 kg (-468 lb)	-318 kg (-702 lb)	-530 kg (-1170 lb)
20.5 R25 tires	252 kg (556 lb)	378 kg (834 lb)	630 kg (1390 lb)
Removals			
Boom assembly w/o lift cylinder	-14.994 kg (-33,055 lb)	-6518 kg (-14,370 lb)	-21.512 kg (-47,426 lb)
Front outriggers	-2063 kg (-4549 lb)	-15 kg (-34 lb)	-2078 kg (-4583 lb)
Rear outriggers	1772 kg (3907 lb)	-4349 kg (-9588 lb)	-2577 kg (-5681 lb)
Front and rear nylatron outrigger floats	-21 kg (-46 lb)	-179 kg (-394 lb)	-200 kg (-441 lb)

Weights

Trailing Boom



Dimensions shown are in mm (ft).

Basic Weights — kg (lb)	Axles 1 and 2	Axles 3–5	Dolly	Total
Mercedes-Benz power T4f, VIAB: 20.5 R25 tires, 10 x 8 x 10 drive/steer, 1,2 m – 17,8 m (37 – 58 ft) hydraulic luffing swingaway, 2-line boom nose, 2nd oil cooler, nylatron outrigger pads, auxiliary hoist, full fuel tank, 3-axle boom dolly (4300 kg/9400 lb)	18 980 kg (41,840 lb)	30 180 kg (66,510 lb)	18 330 kg (40,440 lb)	67 370 kg (148,500 lb)
Additions				
7000 kg (15,400 lb) base plate stowed on carrier	4770 kg (10,515 lb)	1943 kg (4285 lb)	0 kg (0 lb)	6713 kg (14,800 lb)
7000 kg (15,400 lb) base plate fixed to turntable	4770 kg (10,515 lb)	1943 kg (4285 lb)	0 kg (0 lb)	6713 kg (14,800 lb)
Removals				
Brackets for hydraulic swingaway incl. hose reel	400 kg (880 lb)	-691 kg (-1524 lb)	-260 kg (-573 lb)	-292 kg (-644 lb)
11,2 m – 17,8 m (37 ft – 58 ft) hydraulic swingaway	1661 kg (3662 lb)	-3208 kg (-7074 lb)	-880 kg (-1940 lb)	-1548 kg (-3413 lb)
Auxiliary hoist	-1917 kg (-4227 lb)	-337 kg (-744 lb)	0 kg (0 lb)	-2254 kg (-4971 lb)
2-line boom nose	18 kg (40 lb)	27 kg (60 lb)	-260 kg (-574 lb)	-215 kg (-474 lb)
Front outriggers	-2063 kg (-4549 lb)	-15 kg (-34 lb)	0 kg (0 lb)	-2078 kg (-4583 lb)
Rear outriggers	1772 kg (3907 lb)	-4349 kg (-9588)	0 kg (0 lb)	-2577 kg (-5681 lb)
Front and rear nylatron outrigger floats	-21 kg (-46 lb)	-179 kg (-394 lb)	0 kg (0 lb)	-200 kg (-441 lb)
Substitutions				
10 x 6 x 10 drive/steer	-182 kg (-401 lb)	-208 kg (-460 lb)	0 kg (0 lb)	-390 kg (-861 lb)
14.00 R25 tires	-464 kg (-1023 lb)	-696 kg (-1535 lb)	0 kg (0 lb)	-1160 kg (-2558 lb)
16.00 R25 tires	-252 kg (-555 lb)	-378 kg (-834 lb)	0 kg (0 lb)	-630 kg (-1389 lb)

Lifting Capacity	Sheaves	Weight	Parts of line	Possible load with crane
200 t (220 USt)	9	2400 kg (5291 lb)	2 – 18 ▪	180 t (198 USt) ▪
160 t (176 USt)	7	1750 kg (3858 lb)	2 – 15	150 t (165 USt)
125 t (137 USt)	5	1650 kg (3638 lb)	2 – 11	110 t (121 USt)
80 t (88 USt)	3	950 kg (2095 lb)	2 – 7	70 t (77 USt)
32 t (35 USt)	1	600 kg (1323 lb)	2 – 3	30 t (33 USt)
12 t (13 USt)	Overhaul Weight	300 kg (662 lb)	1	10 t (11 USt)

▪ *0° over rear with additional equipment*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	R	
mp/h	4.2	5.1	6.5	7.6	9.4	11.4	13.7	16.5	18.7	22.6	27.7	33.8	41.4	49.9	52.8	52.8	3.7	50%
	14.00R25 (385/95R25), 16.00R25 (445/95R25), 20.5R25 (525/80R25)																	

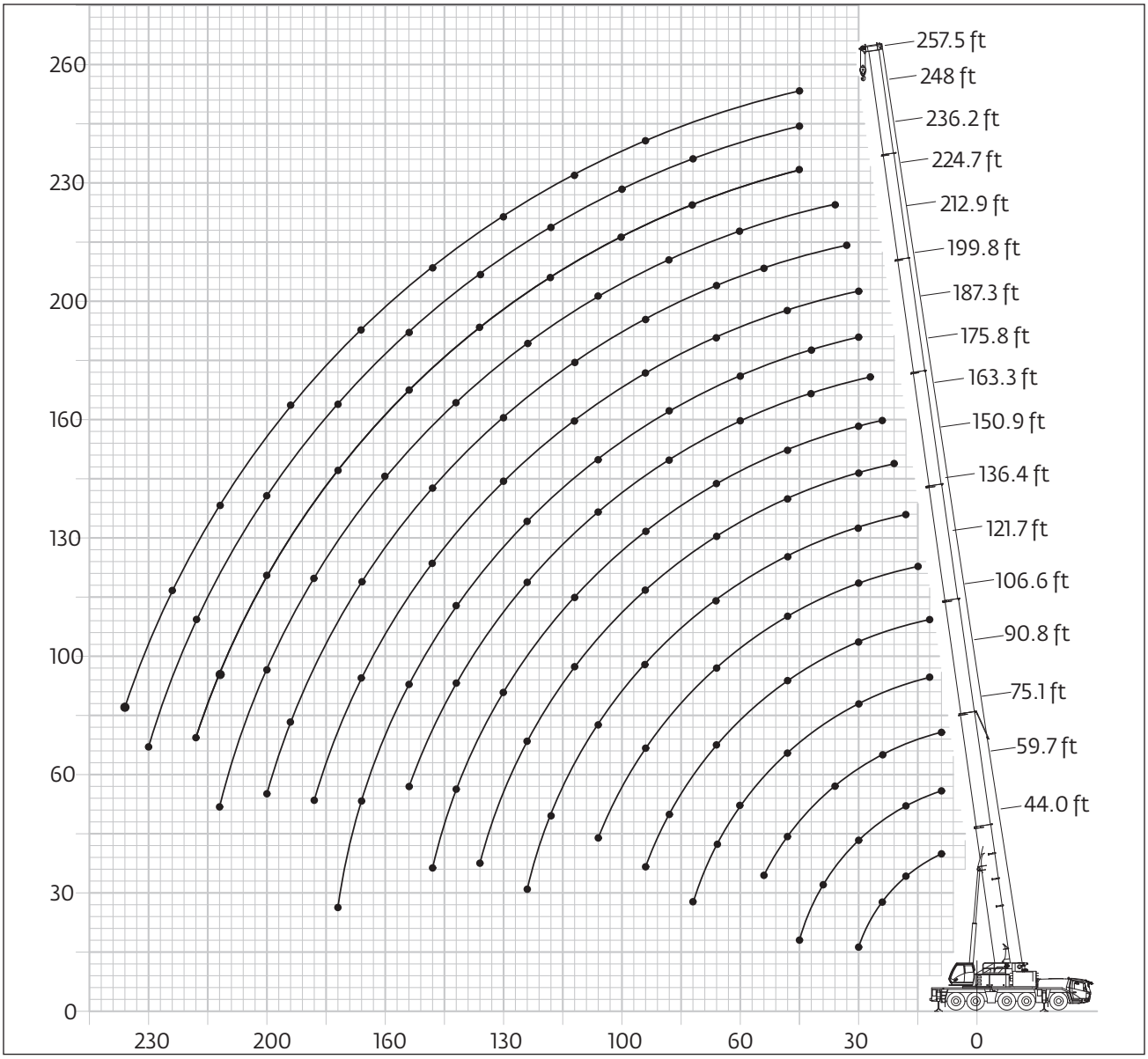
** Theoretical gradeability*

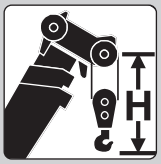
	Infinitely variable		Rope	Max. single line pull
1	0 – 125 m/min (0 – 410 FPm)	Single line	22 mm/300 m (984 ft)	93.5 kN (21,020 lb)
2	0 – 125 m/min (0 – 410 FPm)	Single line	22 mm/300 m (1083 ft)	93.5 kN (21,020 lb)
	0 – 1,45 min^{-1}			
	-1,5° to + 82°	approx. 65 s		
	13,4 to 78,5 m (44 to 157.5 ft)	approx. 600 s		

Working range

Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft) | 7,8 m (25.6 ft) | 360° | 80 t (176,300 lb)





Hook block t (USt)	H
200 D (220 D)	3800 mm (12.5 ft)
160 D (176 D)	3650 mm (12.0 ft)
125 D (138 D)	3600 mm (11.8 ft)
80 E/D (88 E/D)	3600 mm (11.8 ft)
32 E (35 E)	3400 mm (11.2 ft)
12 H/B (13 H/B)	2800 mm (9.2 ft)

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13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

80 t (176,300 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	284.0	282.0	256.0	213.0													
20	232.0	230.0	228.0	210.0	160.0	134.0											
25	195.0	195.0	194.0	191.0	160.0	129.0	110.0										
30	166.0	166.0	165.0	164.0	150.0	125.0	109.0	91.0	76.0								
35		144.0	143.0	142.0	140.0	122.0	105.0	89.0	76.0	64.0							
40		126.0	125.0	124.0	125.0	114.0	98.0	84.0	73.0	64.0	54.0	47.0					
45		109.0	110.0	109.0	110.0	106.0	92.0	80.0	68.0	63.0	54.0	47.0	38.0				
50			97.0	97.0	97.0	98.0	86.0	75.0	63.0	59.0	53.0	47.0	38.0	33.0	32.0	24.2	
55			86.0	87.0	86.0	88.0	80.0	70.0	59.0	56.0	51.0	46.0	38.0	33.0	32.0	24.2	22.0
60			79.0	78.0	77.0	79.0	75.0	66.0	56.0	52.0	48.0	44.0	37.8	33.0	32.0	24.2	22.0
65				71.0	69.0	71.0	71.0	62.0	52.0	49.0	45.0	42.4	36.8	33.0	32.0	24.2	22.0
70				64.0	63.0	64.0	66.0	58.0	48.0	45.0	42.4	40.4	35.2	32.2	31.4	24.2	22.0
75				57.0	57.0	59.0	60.0	55.0	45.0	42.0	39.6	38.2	33.8	31.2	30.2	24.2	22.0
80					55.0	54.0	55.0	52.0	42.2	38.8	37.2	36.2	32.4	30.0	28.8	24.2	21.8
85					51.0	49.0	51.0	50.0	40.4	36.4	34.6	34.2	31.0	28.8	27.4	23.4	21.2
90					46.0	46.0	47.0	47.0	38.8	34.0	32.4	32.2	29.6	27.6	26.2	22.6	20.6
95						43.2	43.0	45.0	37.2	31.8	30.4	30.4	28.4	26.6	25.0	21.8	19.8
100						40.8	39.4	41.2	36.0	29.8	28.6	28.6	26.8	25.4	24.0	21.0	19.2
110							35.4	35.4	33.4	26.6	25.2	25.2	24.0	23.4	21.8	19.4	17.8
120							31.0	30.6	31.2	23.4	22.0	22.0	21.2	20.6	20.2	18.0	16.4
130								27.6	27.6	21.0	19.6	19.6	18.6	18.6	18.4	16.4	15.0
140									24.2	19.8	17.8	17.6	16.6	16.8	16.8	15.2	13.8
150									16.2	18.4	16.2	15.8	14.8	15.0	15.2	14.0	12.8
160										16.8	14.8	14.2	13.4	13.4	13.8	13.2	11.8
170											13.6	12.8	12.0	12.2	12.4	12.2	10.8
180												11.4	10.8	10.8	11.2	11.2	9.8
190													9.6	9.8	10.0	10.0	9.0
200														9.0	9.0	9.0	8.2
210															8.2	8.2	7.4
220																7.4	6.6
230																	6.0
240																	4.0

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

70 t (154,300 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	282.0	278.0	256.0	213.0													
20	230.0	228.0	226.0	210.0	160.0	134											
25	192.0	192.0	191.0	190.0	160.0	129	110.0										
30	163.0	163.0	162.0	161.0	150.0	125	109.0	91.0	76.0								
35	57.0	140.0	140.0	139.0	140.0	122	105.0	89.0	76.0	64.0							
40		122.0	121.0	119.0	121.0	114	98.0	84.0	73.0	64.0	54.0	47.0					
45		107.0	105.0	106.0	105.0	106	92.0	80.0	68.0	63.0	54.0	47.0	38.0				
50		60.0	93.0	93.0	92.0	93	86.0	75.0	63.0	59.0	53.0	47.0	38.0	33.0	28.6	24.2	
55			83.0	83.0	81.0	82	80.0	70.0	59.0	56.0	51.0	46.0	38.0	33.0	28.6	24.2	21.8
60			75.0	74.0	73.0	73	74.0	66.0	56.0	52.0	48.0	44.0	37.8	33.0	28.6	24.2	21.8
65			56.0	67.0	68.0	66	66.0	62.0	52.0	49.0	45.0	42.4	36.8	33.0	28.6	24.2	21.8
70				59.0	61.0	60	60.0	58.0	48.0	45.0	42.4	40.4	35.2	32.2	28.6	24.2	21.8
75				53.0	55.0	56	54.0	55.0	45.0	42.0	39.6	38.2	33.8	31.2	28.6	24.2	21.8
80				41.0	50.0	52	50.0	51.0	42.2	38.8	37.2	36.2	32.4	30.0	27.8	24.2	21.6
85					45.0	47	45.0	47.0	40.4	36.4	34.6	34.2	31.0	28.8	27.0	23.4	21.0
90					41.0	42.8	43.0	43.0	38.8	34.0	32.4	32.2	29.6	27.6	26.0	22.6	20.4
95					33.8	39.2	41.0	39.4	37.2	31.8	30.4	30.4	28.4	26.6	25.0	21.8	19.8
100						36.2	37.8	36.2	36.0	29.8	28.6	28.6	26.8	25.4	24.0	21.0	19.2
110						25.4	32.4	31.0	32.0	26.6	25.2	25.2	24.0	23.4	21.8	19.4	17.8
120							28.0	29.0	27.4	23.4	22.0	22.0	21.2	20.6	20.2	18.0	16.4
130								25.4	23.4	21.0	19.6	19.6	18.6	18.6	18.4	16.4	15.0
140								14.8	20.2	19.8	17.8	17.6	16.6	16.8	16.8	15.2	13.8
150									16.2	18.2	16.2	15.2	14.8	15.0	15.2	14.0	12.8
160										15.8	14.0	12.8	12.8	13.4	13.8	13.2	11.8
170											12.0	10.6	10.8	12.0	12.4	12.2	10.8
180												8.8	8.8	10.8	10.6	10.8	9.8
190												2.4	7.2	9.8	9.6	9.2	9.0
200													5.4	8.4	8.8	7.8	7.6
210															7.4	6.4	6.2
220															6.2	5.2	5.0
230																	4.0
240																	2.8

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

50 t (110,200 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0													
15	276.0	272.0	256.0	213.0												
20	224.0	220.0	220.0	210.0	160.0	134.0										
25	185.0	185.0	184.0	183.0	160.0	129.0	110.0									
30	153.0	154.0	153.0	148.0	143.0	125.0	109.0	91.0								
35	57.0	129.0	127.0	125.0	117.0	114.0	105.0	89.0	64.0							
40		110.0	110.0	104.0	102.0	96.0	95.0	84.0	64.0	54.0	47.0					
45		92.0	93.0	88.0	87.0	87.0	82.0	80.0	63.0	54.0	47.0	38.0				
50		60.0	78.0	79.0	76.0	76.0	71.0	71.0	59.0	53.0	47.0	38.0	33.0	29.6	24.2	
55			67.0	70.0	66.0	67.0	66.0	63.0	56.0	51.0	46.0	38.0	33.0	29.6	24.2	22.0
60			58.0	60.0	61.0	59.0	60.0	56.0	52.0	48.0	44.0	37.8	33.0	29.6	24.2	22.0
65			50.0	53.0	55.0	53.0	54.0	50.0	46.0	45.0	42.4	36.8	33.0	29.6	24.2	22.0
70				47.0	49.0	47.0	48.0	45.0	41.2	40.2	40.4	35.2	32.2	29.2	24.2	22.0
75				41.4	43.8	42.4	43.8	40.6	37.0	37.6	36.8	33.8	31.2	28.6	24.2	22.0
80				34.2	39.2	37.8	39.8	36.8	33.4	35.2	33.2	32.4	30.0	27.8	24.2	21.8
85					35.2	34.0	36.0	33.4	31.0	32.0	30.0	29.6	28.8	27.0	23.4	21.2
90					31.8	30.6	32.6	30.4	29.6	29.2	27.4	27.0	27.2	26.0	22.6	20.6
95					28.8	27.4	29.6	27.6	28.4	26.6	24.8	24.4	24.8	25.0	21.8	19.8
100						24.8	26.8	25.0	26.8	24.4	22.6	22.2	23.6	23.2	21	19.2
110						20.4	22.2	20.4	22.8	20.4	18.8	18.4	21.0	18.6	19.4	17.8
120							18.6	16.6	19.0	17.2	15.6	15.2	17.8	17.0	16.6	16.2
130								13.6	15.8	14.0	12.8	12.6	15.2	15.4	14.0	13.6
140								11.0	13.2	11.4	10.2	10.2	12.8	13.0	11.6	11.4
150									11.0	9.2	7.8	8.0	10.6	11.0	9.8	9.4
160									9.0	7.2	6.0	6.0	8.8	9.2	8.0	7.8
170										5.6	4.2	4.4	7.0	7.4	6.4	6.2
180											2.8	2.8	5.4	6.0	4.8	4.6
190													4.2	4.6	3.6	3.4
200													3.0	3.4	2.4	2.2
210														2.4		

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

45,5 t (100,300 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	274.0	272.0	256.0	213.0													
20	222.0	220.0	218.0	210.0	160.0	134.0											
25	183.0	181.0	182.0	179.0	160.0	129.0	110.0										
30	149.0	146.0	149.0	144.0	134.0	125.0	109.0	91.0	76.0								
35	57.0	126.0	124.0	117.0	114.0	107.0	105.0	89.0	76.0	64.0							
40		104.0	103.0	97.0	96.0	95.0	89.0	84.0	73.0	64.0	54.0	47.0					
45		86.0	86.0	86.0	82.0	81.0	76.0	76.0	68.0	63.0	54.0	47.0	38.0				
50		60.0	75.0	75.0	72.0	71.0	71.0	67.0	63.0	59.0	53.0	47.0	38.0	33.0	28.6	24.2	
55			64.0	64.0	66.0	62.0	63.0	59.0	55.0	54.0	51.0	46.0	38.0	33.0	28.6	24.2	22.0
60			56.0	56.0	58.0	56.0	55.0	52.0	52.0	47.0	46.0	44.0	37.8	33.0	28.6	24.2	22.0
65			49.0	49.0	51.0	52.0	50.0	46.0	47.0	42.0	42.4	41.6	36.8	33.0	28.6	24.2	22.0
70				42.8	45.0	48.0	45.0	41.4	42.0	37.6	39.4	37.2	35.2	32.2	28.6	24.2	22.0
75				37.8	40.2	42.6	40.2	37.2	38.0	34.4	35.4	33.4	32.8	31.2	28.6	24.2	22.0
80				33.6	36.0	38.4	36.4	33.6	34.4	32.8	32.0	30.0	29.6	29.8	27.8	24.2	21.8
85					32.2	34.6	33.0	30.4	31.2	31.0	29.0	27.2	26.8	27.0	27.0	23.4	21.2
90					29.0	31.2	29.8	27.6	28.4	28.8	26.4	24.6	24.2	26.0	25.0	22.6	20.6
95					26.2	28.4	26.8	25.0	26.0	26.4	24.0	22.2	21.8	24.4	22.8	21.8	19.8
100						25.8	24.4	22.4	23.8	24.2	21.8	20.0	19.8	22.2	20.8	20.8	19.2
110						18.0	20.0	18.0	19.6	20.4	18.2	16.4	16.2	18.8	18.6	17.4	17.0
120							16.6	14.6	16.0	16.8	15.0	13.4	13.2	15.8	15.8	14.6	14.2
130								11.6	13.0	13.8	12.2	10.8	10.6	13.2	13.4	12.0	11.8
140								9.2	10.6	11.4	9.6	8.4	8.4	11.0	11.2	10.0	9.6
150									9.0	9.2	7.4	6.2	6.4	9.0	9.4	8.0	7.8
160										7.4	5.6	4.4	4.4	7.2	7.6	6.4	6.2
170											4.2	2.8	2.8	5.6	6.0	5.0	4.8
180														4.2	4.6	3.6	3.4
190														2.8	3.4	2.2	2.0
200															2.2		

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13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

40 t (88,100 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	272.0	270.0	256.0	213.0													
20	219.0	218.0	217.0	210.0	160.0	134.0											
25	179.0	179.0	178.0	165.0	158.0	129.0	110.0										
30	144.0	146.0	142.0	132.0	125.0	120.0	109.0	91.0	76.0								
35	57.0	119.0	114.0	108.0	105.0	104.0	97.0	89.0	76.0	64.0							
40		96.0	94.0	93.0	88.0	87.0	83.0	81.0	73.0	64.0	54.0	47.0					
45		79.0	78.0	79.0	79.0	74.0	74.0	70.0	66.0	63.0	54.0	47.0	38.0				
50		60.0	65.0	68.0	68.0	64.0	65.0	60.0	57.0	55.0	53.0	47.0	38.0	33.0	28.6	24.2	
55			55.0	58.0	59.0	56.0	57.0	53.0	53.0	48.0	48.0	46.0	38.0	33.0	28.6	24.2	21.8
60			47.0	50.0	52.0	49.0	50.0	49.0	47.0	42.4	44.0	41.6	37.8	33.0	28.6	24.2	21.8
65			41.0	43.6	46.0	43.6	45.0	45.0	42.0	38.4	39.2	37.0	36.2	33.0	28.6	24.2	21.8
70				38.2	40.6	38.8	40.0	40.8	37.6	36.4	35.0	33.0	32.4	32.2	28.6	24.2	21.8
75				33.6	36.0	34.6	36.0	36.8	33.8	34.0	31.4	29.4	28.8	29.4	28.6	24.2	21.8
80				29.6	32.0	30.6	32.4	33.4	30.4	30.8	28.2	26.4	25.8	28.2	26.6	24.2	21.6
85					28.4	27.2	29.4	30.4	27.6	28.0	25.4	23.6	23.2	25.6	24.0	23.4	21.0
90					25.6	24.2	26.2	27.8	25.0	25.4	23.0	21.2	20.8	23.4	22.2	21.8	20.4
95					23.0	21.6	23.6	25.2	22.6	23.0	20.8	19.0	18.6	21.2	21.2	19.8	19.0
100						19.2	21.2	22.8	20.6	21.0	18.8	17.0	16.8	19.4	19.4	18.0	17.2
110						15.4	17.2	18.8	16.8	17.6	15.2	13.6	13.4	16.0	16.2	14.8	14.0
120							14.0	15.4	13.4	14.4	12.4	10.8	10.6	13.2	13.4	12.0	11.4
130								12.6	11.0	11.6	9.8	8.4	8.4	10.8	11.0	9.8	9.2
140								7.2	10.0	9.2	7.4	6.2	6.2	8.8	9.0	7.8	7.2
150									9.0	7.2	5.6	4.2	4.4	7.0	7.4	6.0	5.6
160										5.6	3.8	2.6	2.6	5.4	5.8	4.6	4.0
170											2.4			3.8	4.2	3.2	2.8
180														2.4	3.0		

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Load charts

Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

35,5 t (78,200 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	212.9	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	270.0	270.0	256.0	213.0													
20	217.0	216.0	214.0	210.0	160.0	134.0											
25	175.0	175.0	168.0	159.0	147.0	129.0	110.0										
30	140.0	140.0	132.0	123.0	120.0	114.0	109.0	91.0	76.0								
35	57.0	110.0	106.0	104.0	97.0	96.0	90.0	89.0	76.0	64.0							
40		89.0	91.0	86.0	85.0	80.0	80.0	75.0	71.0	64.0	54.0	47.0					
45		73.0	75.0	73.0	72.0	71.0	68.0	64.0	60.0	58.0	54.0	47.0	38.0				
50		59.0	63.0	62.0	62.0	63.0	59.0	55.0	55.0	50.0	50.0	47.0	38.0	33.0	28.6	24.2	
55			53.0	53.0	54.0	55.0	52.0	52.0	49.0	43.6	45.0	42.8	38.0	33.0	28.6	24.2	21.8
60			46.0	46.0	48.0	49.0	46.0	46.0	42.8	40.6	39.8	37.6	36.8	33.0	28.6	24.2	21.8
65			39.4	39.4	42.0	43.4	40.4	41.4	38.0	38.2	35.4	33.2	32.6	32.6	28.6	24.2	21.8
70				34.4	36.8	38.8	36.2	37.0	34.0	34.2	31.4	29.4	28.8	30.6	28.6	24.2	21.8
75				30.0	32.4	34.8	32.4	33.4	30.4	30.6	28.0	26.0	25.6	28.0	26.4	24.2	21.8
80				26.4	28.6	31.0	29.0	30.2	27.2	27.6	25.0	23.2	22.8	25.4	24.6	23.6	21.6
85					25.4	27.8	26.2	27.4	24.6	25.0	22.4	20.6	20.4	22.8	22.8	21.2	20.6
90					22.6	25.0	23.4	24.8	22.2	22.6	20.2	18.4	18.0	20.6	20.8	19.2	18.4
95					20.2	22.4	20.8	22.6	20.0	20.4	18.0	16.4	16.0	18.6	18.8	17.2	16.6
100						20.2	18.6	20.2	18.0	18.4	16.2	14.6	14.2	16.8	17	15.6	14.8
110						15.6	15.0	16.4	14.4	15.2	13.0	11.4	11.2	13.8	14.0	12.6	11.8
120							12.0	13.4	12.2	12.2	10.2	8.8	8.6	11.2	11.4	10.0	9.4
130								10.8	11.0	9.6	7.8	6.6	6.4	9.0	9.2	7.8	7.2
140									10.0	7.4	5.8	4.4	4.4	7.0	7.2	6.0	5.4
150									9.0	5.6	3.8	2.6	2.8	5.4	5.6	4.4	3.8
160										4.0	2.2			3.8	4.2	3.0	2.4
170														2.4	2.8		

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13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

30.5 t (67,200 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	188.3	199.7	210.7	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	268.0	268.0	256.0	213.0													
20	214.0	213.0	213.0	193.0	160.0	134.0											
25	170.0	168.0	159.0	146.0	135.0	129.0	110.0										
30	127.0	129.0	121.0	118.0	110.0	107.0	100.0	91.0	76.0								
35	57.0	102.0	100.0	95.0	93.0	88.0	87.0	81.0	76.0	64.0							
40		80.0	82.0	78.0	77.0	77.0	72.0	67.0	63.0	61.0	54.0	47.0					
45		65.0	68.0	65.0	65.0	66.0	62.0	59.0	58.0	52.0	53.0	47.0	31.6				
50		52.0	56.0	56.0	56.0	57.0	53.0	54.0	50.0	46.0	46.0	43.4	30.4	33.0	28.6	24.2	
55			48.0	48.0	49.0	50.0	46.0	47.0	43.4	43.0	40.2	37.8	29.0	33.0	28.6	24.2	21.8
60			40.6	40.6	42.6	43.8	40.6	41.6	38.2	38.2	35.2	33.0	27.8	32.4	28.6	24.2	21.8
65			34.8	34.8	37.4	38.8	36.0	36.8	33.6	33.8	31.0	29.0	26.4	30.8	28.6	24.2	21.8
70				30.0	32.6	34.6	31.8	33.0	29.8	30.2	27.4	25.4	25.0	27.4	26.4	24.2	21.8
75				26.0	28.4	31.0	28.4	29.6	26.6	26.8	24.4	22.4	23.8	24.6	24.6	22.8	21.8
80				22.8	25.0	27.4	25.4	26.6	23.6	24.0	21.6	19.8	22.2	22.0	22.0	20.4	19.6
85					22.0	24.4	22.8	24.0	21.2	21.6	19.2	17.4	21.0	19.6	19.8	18.2	17.4
90					19.4	21.8	20.2	21.6	19.0	19.4	17.0	15.4	19.8	17.6	17.8	16.2	15.6
95					17.2	19.4	18.0	19.6	17.0	17.4	15.2	13.4	18.8	15.8	16.0	14.4	13.8
100						17.4	15.8	17.4	15.4	15.6	13.4	11.8	17.0	14.2	14.2	12.8	12.2
110						14.0	12.4	14.0	13.8	12.6	10.4	8.8	14.2	11.2	11.4	10.0	9.4
120							9.6	11.0	12.2	10.0	8.0	6.4	11.6	8.8	9.0	7.8	7.2
130								8.6	11.0	7.6	5.8	4.4	9.6	6.8	7.0	5.8	5.2
140									10.0	5.6	3.8	2.6	7.8	5.0	5.4	4.0	3.6
150									8.2	3.8	2.0		6.0	3.6	3.8	2.6	2.0
160										2.4			4.6	2.2	2.6		
170													3.2				
180													2.0				

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

26 t (57,300 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	187.3	199.7	210.7	224.7	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	268.0	266.0	256.0	213.0													
20	212.0	210.0	192.0	178.0	160.0	134.0											
25	165.0	157.0	146.0	135.0	123.0	120.0	110.0										
30	116.0	120.0	114.0	108.0	106.0	98.0	96.0	89.0	76.0								
35	57.0	94.0	91.0	86.0	85.0	84.0	79.0	73.0	69.0	64.0							
40		74.0	74.0	70.0	70.0	70.0	66.0	62.0	61.0	55.0	54.0	47.0					
45		60.0	61.0	59.0	59.0	60.0	56.0	56.0	52.0	48.0	48.0	45.0	31.6				
50		48.0	51.0	50.0	50.0	51.0	48.0	48.0	45.0	44.0	41.2	38.6	30.4	33.0	28.6	24.2	
55			42.4	42.4	43.4	45.0	41.4	42.2	38.6	38.8	35.6	33.4	29.0	32.6	28.6	24.2	21.8
60			36.0	36.0	37.8	39.2	36.2	37.2	33.8	34.0	31.0	29.0	27.8	30.8	28.6	24.2	21.8
65			30.6	30.6	33.2	34.6	31.8	32.8	29.6	30.0	27.2	25.2	26.4	27.2	26.4	24.2	21.8
70				26.2	28.8	30.6	28.0	29.2	26.2	26.4	23.8	22.0	25.0	24.0	24.0	22.4	21.4
75				22.6	25.0	27.4	24.8	26.0	23.0	23.4	21.0	19.2	23.8	21.2	21.4	19.8	19.0
80				19.4	21.8	24.2	22.0	23.2	20.4	20.8	18.4	16.6	22.0	18.8	19.0	17.4	16.6
85				14.8	19.0	21.4	19.6	20.8	18.6	18.6	16.2	14.4	19.8	16.8	16.8	15.4	14.6
90					16.6	18.8	17.4	18.6	17.4	16.6	14.2	12.6	18.0	14.8	15.0	13.6	12.8
95					14.6	16.6	15.2	16.8	16.4	14.6	12.4	10.8	16.2	13.2	13.4	12.0	11.2
100						14.8	13.2	14.8	15.4	13.0	10.8	9.2	14.6	11.6	11.8	10.4	9.8
110						11.6	10.0	11.6	13.8	10.2	8.0	6.6	11.8	9.0	9.2	7.8	7.2
120							7.6	9.0	12.2	7.8	5.8	4.2	9.6	6.8	7.0	5.8	5.2
130								6.8	10.2	5.6	3.8	2.4	7.6	4.8	5.2	3.8	3.4
140									8.2	3.8	2.0		6.0	3.2	3.6	2.2	
150									6.6	2.2			4.4		2.2		
160													3.0				

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

21 t (46,200 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	106.5	121.7	136.4	150.8	163.3	175.8	187.3	199.7	210.7	226.4	236.2	248.2	257.5
10	308.0	286.0	286.0														
15	266.0	264.0	256.0	213.0													
20	208.0	196.0	182.0	168.0	151.0	134.0											
25	148.0	143.0	132.0	127.0	117.0	113.0	104.0										
30	103.0	108.0	103.0	96.0	94.0	93.0	86.0	80.0	74.0								
35	57.0	84.0	81.0	76.0	79.0	75.0	70.0	65.0	64.0	58.0							
40		66.0	66.0	62.0	66.0	63.0	58.0	58.0	54.0	51.0	49.0	46.0					
45		54.0	54.0	51.0	56.0	53.0	49.0	50.0	45.0	45.0	41.8	39.0	31.6				
50		40.4	44.0	43.2	48.0	45.0	41.8	42.6	38.8	38.8	35.6	33.2	30.4	28.0	28.6	24.2	
55			36.8	36.8	41.6	39.2	36.0	37.0	33.6	33.6	30.6	28.4	29.0	27.8	28.2	24.2	21.8
60			31.0	30.8	36.4	34.0	31.2	32.4	29.0	29.2	26.4	24.4	27.8	26.8	26.2	24.2	21.8
65			26.0	26.0	32.0	29.8	27.2	28.4	25.2	25.6	23.0	21.0	26.4	24.6	23.0	21.2	20.4
70				22.0	27.8	26.4	23.8	25.0	22.0	22.4	20.0	18.0	23.4	21.8	20.2	18.6	17.8
75				18.6	24.2	23.4	21.0	22.2	19.2	19.8	17.2	15.4	21.0	19.2	17.8	16.2	15.4
80				15.8	21.4	20.6	18.4	19.6	16.8	17.4	15.0	13.2	18.6	17.0	15.6	14.2	13.4
85					18.8	18.0	16.2	17.4	14.8	15.2	13.0	11.2	16.6	15.0	13.8	12.2	11.6
90					16.6	15.6	14.2	15.4	12.8	13.4	11.2	9.4	14.8	13.4	12.0	10.6	10.0
95					14.6	13.8	12.2	13.6	11.2	11.8	9.4	7.8	13.2	11.8	10.6	9.2	8.4
100						12.0	10.4	12.0	9.6	10.2	8.0	6.4	11.8	10.4	9.2	7.8	7.2
110						9.2	7.6	9.0	7.0	7.6	5.6	4.0	9.4	8.0	6.8	5.4	4.8
120							5.2	6.6	4.6	5.6	3.4		7.2	5.8	4.8	3.4	2.8
130								4.6	2.6	3.6			5.4	4.2	3.0		
140													4.0	2.6			
150													2.6				

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Load charts

Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

16,5 t (36,300 lb)

Pounds x 1000

Feet	44.0	59.6	75.2	90.9	106.1	121.7	135.2	146.7	162.3	172.3	184.1	195.1	210.7	226.4	235.7	248.2	257.5
10	308.0	286.0	286														
15	264.0	262.0	256	213.0													
20	200.0	184.0	168	152.0	144.0	130.0											
25	133.0	129.0	124	114.0	111.0	103.0	99.0										
30	91.0	98.0	92	86.0	88.0	83.0	77.0	68.0	66.0								
35	57.0	74.0	72	68.0	72.0	67.0	62.0	62.0	57.0	54.0							
40		59.0	58	54.0	59.0	55.0	51.0	52.0	47.0	47.0	46.0	34.2					
45		47.0	47	45.0	50.0	47.0	43.0	43.8	39.8	40.0	40.2	32.6	31.6				
50		37.4	38.4	37.4	42.2	39.6	36.4	37.4	33.6	34.2	34.4	31.0	30.4	28.0	26.4	24.2	
55			31.8	31.4	36.4	34.0	31.2	32.2	28.8	29.4	29.8	29.4	29.0	27.4	25.8	23.8	21.8
60			26.4	26.2	31.6	29.6	26.8	28.0	24.8	25.4	25.8	27.6	25.8	23.8	22.4	20.6	19.6
65			21.8	21.8	27.6	25.6	23.2	24.4	21.4	22.0	22.6	24.4	22.6	20.8	19.4	17.6	16.8
70				18.2	24.0	22.4	20.0	21.2	18.4	19.2	19.8	21.6	20.0	18.2	16.8	15.2	14.4
75				15.2	20.8	19.6	17.4	18.6	15.8	16.6	17.2	19.2	17.6	16.0	14.6	13.0	12.4
80				12.6	18.0	17.2	15.0	16.4	13.6	14.4	15.2	17.0	15.6	14.0	12.6	11.2	10.4
85					15.6	14.8	13.0	14.2	11.6	12.6	13.2	15.2	13.8	12.2	11	9.4	8.8
90					13.6	12.8	11.2	12.6	10.0	10.8	11.6	13.4	12.2	10.6	9.4	8.0	7.2
95					11.8	11.0	9.6	11.0	8.4	9.4	10.0	12.0	10.6	9.2	8	6.6	6.0
100						9.4	8.0	9.6	7.0	8.0	8.6	10.6	9.4	7.8	6.6	5.4	4.8
110						6.8	5.2	6.8	4.6	5.6	6.4	8.2	7.0	5.6	4.6	3.2	2.6
120							3.2	4.6	2.6	3.6	4.4	6.2	5.2	3.8	2.6		
130								2.8			2.8	4.6	3.6	2.2			
140												3.2	2.2				

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13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

7 t (15,400 lb)

Pounds x 1000

Feet	44.0	59.6	75.3	90.9	105.2	119.5	135.2	146.7	162.3	172.3	184.8	195.1	210.7	226.4	235.7
10	308.0	286.0	286.0												
15	254.0	248.0	214.0	191.0											
20	161.0	146.0	137.0	123.0	117.0	112.0									
25	100.0	102.0	94.0	86.0	84.0	82.0	75.0								
30	67.0	73.0	68.0	63.0	63.0	63.0	57.0	57.0	52.0						
35	47.0	56.0	52.0	49.0	49.0	50.0	46.0	46.0	41.4	41.4					
40		42.8	41.0	38.6	39.4	40.6	36.8	37.6	33.6	34.0	31.6	34.2			
45		33.4	33.0	30.8	32.0	33.4	30.2	31.2	27.6	28.0	26.0	30.2	28.0		
50		25.2	26.2	25.0	26.4	28.0	25.0	26.2	22.8	23.4	21.6	25.6	23.6	21.6	20.0
55			20.8	20.2	21.8	23.4	20.8	22.0	18.8	19.6	17.8	22.0	20.2	18.2	16.8
60			16.6	16.4	18.0	19.8	17.4	18.6	15.6	16.4	14.8	19.0	17.2	15.4	14.0
65			13.0	13.0	15.0	16.8	14.4	15.6	12.8	13.8	12.2	16.2	14.8	13.0	11.6
70				10.0	12.4	14.2	12.0	13.2	10.6	11.4	10.0	14.0	12.6	11.0	9.6
75				7.6	10.0	12.0	9.8	11.2	8.6	9.4	8.0	12.0	10.6	9.2	7.8
80				5.6	7.8	10.0	8.0	9.4	6.8	7.6	6.4	10.4	9.0	7.6	6.2
85					6.0	8.4	6.4	7.8	5.2	6.2	4.8	8.8	7.6	6.0	4.8
90					4.4	6.8	5.0	6.2	3.8	4.8	3.6	7.6	6.2	4.8	3.6
95					3.0	5.2	3.6	5.0	2.6	3.6	2.4	6.4	5.0	3.6	2.6
100						4.0	2.6	3.8		2.4		5.2	4.0	2.6	
110						2.0						3.4	2.2		

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Load charts
Main boom

13,4 m – 78,5 m (44 ft – 257.5 ft)

7,8 m (25.6 ft)

360°

0 t (0 lb)

Pounds x 1000

Feet	44.0	59.6	75.2	90.4	103.9	119.5	129.5	146.7	157.7	172.3	184.1	195.1	210.7
10	308.0	286.0	286.0										
15	244.0	213.0	182.0	163.0									
20	127.0	120.0	108.0	97.0	99.0	89.0	56.0						
25	77.0	79.0	72.0	66.0	70.0	64.0	51.0						
30	50.0	57.0	52.0	48.0	53.0	48.0	46.0	44.0	46.0				
35	33.4	42.2	38.6	35.8	41.2	37.8	41.2	34.6	38.2	30.8			
40		31.4	29.4	27.4	32.8	30.0	34.4	27.8	31.4	24.6	24.8	26.6	
45		23.6	22.8	21.0	26.6	24.2	28.6	22.4	26.2	19.8	20.2	22.0	20.0
50		14.2	17.8	16.2	21.6	19.6	24.0	18.2	22.0	15.8	16.4	18.4	16.6
55			13.2	12.4	17.8	16.0	20.4	14.8	18.6	12.8	13.4	15.4	13.6
60			9.8	9.4	14.6	13.0	17.2	12.0	15.8	10.0	10.8	12.8	11.2
65			6.8	6.8	12.0	10.4	14.8	9.6	13.4	7.8	8.6	10.6	9.2
70			6.4	4.4	9.8	8.4	12.6	7.6	11.4	6.0	6.8	8.8	7.4
75				2.4	8.0	6.6	10.8	6.0	9.6	4.4	5.2	7.2	5.8
80					6.2	5.0	9.2	4.4	8.0	3.0	3.8	5.8	4.4
85					4.6	3.6	7.6	3.0	6.6		2.4	4.4	3.2
90					3.2	2.4	6.4		5.6			3.4	2.2
95					2.2		5.4		4.4			2.4	
100							4.4		3.4				
110							2.4						

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

11,2 m (36.7 ft)

7,8 m (25.6 ft)

360°

80 t (176,000 lb)

Pounds x 1000

Feet	150.8				200.8				236.2				257.5			
	5.9 + 30.8				5.9 + 30.8				5.9 + 30.8				5.9 + 30.8			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
30.0	37.4															
35.0	37.4															
40.0	36.4	31.4														
45.0	35.4	30.4			24.0											
50.0	34.2	29.6	24.8		24.0											
55.0	33.4	28.8	24.2	19.0	24.0				14.8				11.0			
60.0	32.4	28.0	23.2	18.6	24.0	24.0	21.4		14.8				11.0			
65.0	31.4	27.2	22.4	18.2	24.0	23.8	21.0		14.8				11.0			
70.0	30.4	26.4	21.6	18.0	24.0	23.4	20.8	18.4	14.8	14.8			11.0			
75.0	29.2	25.6	21.2	17.6	24.0	22.8	20.6	18.0	14.8	14.8	14.8		11.0	11.0		
80.0	28.0	24.6	20.6	17.4	24.0	22.6	20.2	17.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
85.0	26.8	23.6	20.0	17.2	24.0	22.2	20.0	17.6	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
90.0	25.4	22.4	19.6	17.0	24.0	21.8	19.8	17.4	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
95.0	24.2	21.6	19.2	16.8	23.4	21.6	19.4	17.2	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
100.0	23.2	20.8	18.8	16.8	23.0	21.2	19.2	17.2	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
105.0	22.0	20.0	18.4	16.6	22.2	21.0	19.0	17.0	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
110.0	21.2	19.4	18.0	16.6	21.2	20.4	18.8	16.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
115.0	20.4	18.8	17.8	16.4	20.4	19.8	18.6	16.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
120.0	19.6	18.2	17.4	16.4	19.4	19.2	18.4	16.6	14.8	14.8	14.6	14.6	11.0	11.0	11.0	11.0
125.0	19.0	17.8	17.0	16.4	18.4	18.4	18.2	16.6	14.8	14.4	14.2	14.2	11.0	11.0	11.0	11.0
130.0	18.4	17.2	16.8	16.4	17.6	17.6	17.4	16.4	14.2	14.0	13.8	13.8	11.0	11.0	11.0	11.0
135.0	17.8	16.8	16.4		16.6	16.6	16.6	16.2	13.8	13.6	13.4	13.4	11.0	11.0	11.0	11.0
140.0	17.2	16.4	16.0		15.8	15.8	15.8	15.8	13.4	13.2	13.0	13.0	10.6	10.6	10.6	10.6
145.0	16.6	16.0	15.8		14.8	14.8	14.8	14.8	12.8	12.6	12.6	12.6	10.2	10.2	10.2	10.2
150.0	16.2	15.6	15.6		14.0	14.0	14.0	14.0	12.4	12.2	12.2	12.2	9.8	9.8	9.8	9.8
155.0	15.8	15.2	15.2		13.2	13.2	13.2	13.2	11.8	11.8	11.8	11.8	9.4	9.4	9.4	9.4
160.0	15.4	15.0	15.0		12.4	12.4	12.4	12.4	11.4	11.4	11.4	11.4	9.2	9.2	9.2	9.2
165.0	15.0	14.8	14.8		11.8	11.8	11.8	11.8	11.0	11.0	11.0	11.0	8.8	8.8	8.8	8.8
170.0	14.4				11.2	11.2	11.2	11.2	10.6	10.6	10.6	10.6	8.4	8.4	8.4	8.4
175.0	7.4				10.4	10.4	10.4		10.2	10.2	10.2	10.2	8.0	8.0	8.0	8.0
180.0					9.8	9.8	9.8		9.8	9.8	9.8	9.8	7.6	7.6	7.6	7.6
185.0					9.4	9.4	9.4		9.4	9.4	9.4	9.4	7.0	7.0	7.0	7.0
190.0					8.8	8.8	8.8		9.0	9.0	9.0	9.0	6.6	6.6	6.6	6.6
195.0					8.2	8.2	8.2		8.4	8.4	8.4	8.4	6.2	6.2	6.2	6.2
200.0					7.8	7.8	7.8		8.0	8.0	8.0		5.8	5.8	5.8	5.8
205.0					7.2	7.2	7.2		7.6	7.6	7.6		5.4	5.4	5.4	5.4
210.0					6.6	6.6			7.0	7.0	7.0		5.0	5.0	5.0	
215.0					6.0	6.0			6.6	6.6	6.6		4.6	4.6	4.6	
220.0					3.8				6.2	6.2	6.2		4.2	4.2	4.2	
225.0									5.8	5.8	5.8		4.0	4.0	4.0	
230.0									5.4	5.4	5.4		3.6	3.6	3.6	
235.0									4.8	4.8	5.0		3.2	3.2	3.2	
240.0									4.2	4.2	4.4		3.0	3.0	3.0	
245.0									3.8	3.8			2.6	2.6	2.6	
250.0									3.4	3.4			2.4	2.4	2.4	
255.0													2.0	2.0	2.0	

** Luffing under load*

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

17.8 m (58.4 ft)

7,8 m (25.6 ft)

360°

80 t (176,000 lb)

Pounds x 1000

Feet	150.8				200.8				236.2				257.5			
	5.9 + 52.5				5.9 + 52.5				5.9 + 52.5				5.9 + 52.5			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
35.0	17.0															
40.0	17.0															
45.0	17.0															
50.0	16.8	14.2			13.8											
55.0	16.4	14.0			13.8											
60.0	16.0	13.6			13.8				9.8							
65.0	15.6	13.4			13.8				9.8							
70.0	15.2	13.2	11.6		13.8	12.4			9.8				8.0			
75.0	15.0	12.8	11.4	9.6	13.8	12.2			9.8	9.8			8.0			
80.0	14.6	12.6	11.2	9.4	13.6	12.2	10.8		9.8	9.8			8.0			
85.0	14.2	12.4	11.0	9.2	13.4	12.0	10.8		9.8	9.8			8.0			
90.0	14.0	12.2	10.8	9.0	13.2	11.8	10.6	9.2	9.8	9.8			8.0	8.0		
95.0	13.6	12.0	10.4	9.0	13.0	11.6	10.6	9.2	9.8	9.8	9.8		8.0	8.0		
100.0	13.4	11.8	10.2	8.8	12.8	11.4	10.4	9.0	9.8	9.8	9.6	9.0	8.0	8.0	8.0	
105.0	13.0	11.6	10.0	8.8	12.6	11.4	10.4	9.0	9.8	9.8	9.6	9.0	8.0	8.0	8.0	
110.0	12.8	11.4	9.8	8.6	12.4	11.2	10.2	8.8	9.8	9.8	9.6	8.8	8.0	8.0	8.0	
115.0	12.6	11.2	9.6	8.6	12.4	11.0	10.2	8.8	9.8	9.8	9.6	8.8	8.0	8.0	8.0	8.0
120.0	12.2	11.0	9.4	8.6	12.2	11.0	10.0	8.8	9.8	9.8	9.4	8.8	8.0	8.0	8.0	8.0
125.0	12.0	10.6	9.4	8.4	12.0	10.8	9.8	8.6	9.8	9.8	9.4	8.6	8.0	8.0	8.0	8.0
130.0	11.8	10.4	9.2	8.4	11.8	10.6	9.6	8.6	9.8	9.8	9.4	8.6	8.0	8.0	8.0	8.0
135.0	11.6	10.2	9.0	8.4	11.6	10.6	9.6	8.6	9.8	9.8	9.2	8.6	8.0	8.0	8.0	8.0
140.0	11.2	10.0	8.8	8.4	11.6	10.4	9.4	8.6	9.8	9.8	9.2	8.6	8.0	8.0	8.0	8.0
145.0	11.0	9.8	8.8	8.4	11.4	10.4	9.2	8.4	9.8	9.6	9.2	8.6	8.0	8.0	8.0	8.0
150.0	10.6	9.6	8.6	8.4	11.2	10.2	9.2	8.4	9.8	9.6	9.0	8.4	8.0	8.0	8.0	8.0
155.0	10.2	9.4	8.6	8.4	11.0	10.2	9.0	8.4	9.8	9.6	9.0	8.4	8.0	8.0	8.0	8.0
160.0	10.0	9.2	8.4		11.0	10.0	9.0	8.4	9.8	9.4	9.0	8.4	8.0	8.0	8.0	8.0
165.0	9.8	9.0	8.4		10.8	9.8	8.8	8.4	9.8	9.4	8.8	8.4	8.0	8.0	8.0	8.0
170.0	9.4	8.8	8.4		10.6	9.6	8.8	8.4	9.6	9.2	8.8	8.4	7.8	7.8	7.8	7.8
175.0	9.2	8.8	8.4		10.4	9.6	8.6	8.4	9.4	9.0	8.8	8.4	7.6	7.6	7.6	7.6
180.0	9.0	8.6	8.4		10.2	9.4	8.6	8.4	9.0	8.8	8.6	8.4	7.2	7.2	7.2	7.2
185.0	8.8	8.6			9.8	9.2	8.6	8.4	8.8	8.6	8.6	8.4	7.0	7.0	7.0	7.0
190.0	8.6				9.2	9.0	8.4	8.4	8.6	8.4	8.4	8.2	6.8	6.8	6.8	6.8
195.0	8.4				8.8	8.8	8.4		8.2	8.2	8.2	8.2	6.4	6.4	6.4	6.4
200.0	5.0				8.2	8.2	8.2		8.0	7.8	7.8	7.8	6.0	6.0	6.0	6.0
205.0					7.8	7.8	7.8		7.6	7.6	7.6	7.6	5.8	5.8	5.8	5.8
210.0					7.4	7.4	7.4		7.2	7.2	7.2	7.2	5.4	5.4	5.4	5.4
215.0					6.8	6.8	6.8		7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
220.0					6.4	6.4	6.4		6.6	6.6	6.6		4.6	4.6	4.6	4.6
225.0					6.0	6.0	6.0		6.2	6.2	6.2		4.4	4.4	4.4	4.4
230.0					5.6	5.6			5.8	5.8	5.8		4.0	4.0	4.0	4.0
235.0					5.0	5.0			5.4	5.4	5.4		3.6	3.6	3.6	3.6
240.0					4.6				5.2	5.2	5.2		3.4	3.4	3.4	
245.0									4.8	4.8	4.8		3.0	3.0	3.0	
250.0									4.4	4.4	4.4		2.8	2.8	2.8	
255.0									4.0	4.0	4.2		2.4	2.4	2.4	
260.0									3.6	3.6	3.8		2.2	2.2	2.2	
265.0									3.2	3.2						
270.0									2.6	2.6						
275.0									2.2							

** Luffing under load*

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

11,2 m (36.7 ft)

7,8 m (25.6 ft)

360°

50 t (110,200 lb)

Pounds x 1000

Feet	150.8				200.8 - 201.4				229.5 - 236.2				257.5			
	5.9 + 30.8				5.9 + 30.8				5.9 + 30.8				5.9 + 30.8			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
30.0	37.4															
35.0	37.4															
40.0	36.4	31.4														
45.0	35.4	30.4			24.0											
50.0	34.2	29.6	24.8		24.0				14.8							
55.0	33.4	28.8	24.2	19.0	24.0				14.8				11.0			
60.0	32.4	28.0	23.2	18.6	24.0	24.0	21.4		14.8				11.0			
65.0	31.4	27.2	22.4	18.2	24.0	23.8	21.0		14.8				11.0			
70.0	30.4	26.4	21.6	18.0	24.0	23.4	20.8	18.4	14.8	14.8			11.0			
75.0	29.2	25.6	21.2	17.6	24.0	22.8	20.6	18.0	14.8	14.8	14.8		11.0	11.0		
80.0	28.0	24.6	20.6	17.4	24.0	22.6	20.2	17.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
85.0	26.8	23.6	20.0	17.2	24.0	22.2	20.0	17.6	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
90.0	25.4	22.4	19.6	17.0	24.0	21.8	19.8	17.4	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
95.0	24.2	21.6	19.2	16.8	23.0	21.6	19.4	17.2	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
100.0	23.2	20.8	18.8	16.8	21.0	21.0	19.2	17.2	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
105.0	22.0	20.0	18.4	16.6	19.0	19.0	19.0	17.0	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
110.0	21.2	19.4	18.0	16.6	17.4	17.4	18.4	16.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
115.0	19.6	18.8	17.8	16.4	15.6	15.6	16.6	16.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
120.0	18.0	18.0	17.4	16.4	14.2	14.2	15.2	16.0	13.6	14.8	14.6	14.6	11.0	11.0	11.0	11.0
125.0	16.4	16.4	17.0	16.4	13.0	12.8	13.8	14.4	13.8	13.6	14.2	14.2	11.0	11.0	11.0	11.0
130.0	14.8	14.8	15.6	16.0	12.4	12.4	12.4	13.0	13.4	13.0	13.2	13.8	11.0	11.0	11.0	11.0
135.0	13.6	13.6	14.0		12.0	11.8	11.6	11.8	12.6	12.6	12.2	12.6	10.6	10.6	11.0	11.0
140.0	12.2	12.2	12.8		11.4	11.4	11.2	11.2	11.6	11.6	11.8	11.8	9.6	9.6	10.4	10.6
145.0	11.0	11.0	11.6		11.0	11.0	10.8	10.8	10.6	10.6	11.2	11.6	8.6	8.6	9.2	9.8
150.0	10.0	10.0	10.4		10.6	10.4	10.4	10.4	9.6	9.6	10.2	10.8	7.6	7.6	8.4	9.0
155.0	9.0	9.0	9.4		10.0	10.0	10.0	10.0	8.8	8.8	9.4	9.8	6.8	6.8	7.4	8.0
160.0	8.0	8.0	8.4		9.6	9.6	9.6	9.6	8.0	8.0	8.6	9.0	6.0	6.0	6.6	7.2
165.0	7.2	7.2	7.4		9.2	9.2	9.2	9.2	7.2	7.2	7.8	8.2	5.2	5.2	5.8	6.4
170.0	6.4				8.8	8.8	8.8	8.8	6.6	6.6	7.0	7.4	4.6	4.6	5.2	5.6
175.0	5.8				8.0	8.0	8.4		5.8	5.8	6.2	6.6	4.0	4.0	4.4	4.8
180.0					7.4	7.4	7.6		5.0	5.0	5.6	5.8	3.4	3.4	3.8	4.2
185.0					6.6	6.6	7.0		4.4	4.4	4.8	5.2	2.8	2.8	3.2	3.6
190.0					6.0	6.0	6.2		3.8	3.8	4.2	4.4	2.2	2.2	2.6	3.0
195.0					5.4	5.4	5.6		3.2	3.2	3.6				2.0	2.4
200.0					4.8	4.8	5.0		2.6	2.6	2.8					
205.0					4.2	4.2	4.4		2.0	2.0	2.4					
210.0					3.8	3.8										
215.0					3.2	3.2										

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

17.8 m (58.4 ft)

7,8 m (25.6 ft)

360°

50 t (110,200 lb)

Pounds x 1000

Feet	150.8				200.8 - 201.4				229.5				257.5			
	5.9 + 52.5				5.9 + 52.5				5.9 + 52.5				5.9 + 52.5			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
35.0	17.0															
40.0	17.0															
45.0	17.0															
50.0	16.8	14.2			13.8											
55.0	16.4	14.0			13.8				10.0							
60.0	16.0	13.6			13.8				10.0							
65.0	15.6	13.4			13.8				10.0							
70.0	15.2	13.2	11.6		13.8	12.4			10.0				8.0			
75.0	15.0	12.8	11.4	9.6	13.8	12.2			10.0	10.0			8.0			
80.0	14.6	12.6	11.2	9.4	13.6	12.2	10.8		10.0	10.0			8.0			
85.0	14.2	12.4	11.0	9.2	13.4	12.0	10.8		10.0	10.0			8.0			
90.0	14.0	12.2	10.8	9.0	13.2	11.8	10.6	9.2	10.0	10.0	9.8		8.0	8.0		
95.0	13.6	12.0	10.4	9.0	13.0	11.6	10.6	9.2	10.0	10.0	9.8		8.0	8.0		
100.0	13.4	11.8	10.2	8.8	12.8	11.4	10.4	9.0	10.0	10.0	9.6	9.0	8.0	8.0	8.0	
105.0	13.0	11.6	10.0	8.8	12.6	11.4	10.4	9.0	10.0	10.0	9.6	9.0	8.0	8.0	8.0	
110.0	12.8	11.4	9.8	8.6	12.4	11.2	10.2	8.8	10.0	10.0	9.6	8.8	8.0	8.0	8.0	
115.0	12.6	11.2	9.6	8.6	12.4	11.0	10.2	8.8	10.0	10.0	9.4	8.8	8.0	8.0	8.0	8.0
120.0	12.2	11.0	9.4	8.6	12.2	11.0	10.0	8.8	10.0	10.0	9.4	8.8	8.0	8.0	8.0	8.0
125.0	12.0	10.6	9.4	8.4	12.0	10.8	9.8	8.6	10.0	9.8	9.4	8.6	8.0	8.0	8.0	8.0
130.0	11.8	10.4	9.2	8.4	11.8	10.6	9.6	8.6	10.0	9.8	9.2	8.6	8.0	8.0	8.0	8.0
135.0	11.6	10.2	9.0	8.4	11.6	10.6	9.6	8.6	10.0	9.6	9.0	8.6	8.0	8.0	8.0	8.0
140.0	11.2	10.0	8.8	8.4	10.8	10.4	9.4	8.6	10.0	9.4	8.8	8.4	8.0	8.0	8.0	8.0
145.0	11.0	9.8	8.8	8.4	9.8	9.8	9.2	8.4	10.0	9.2	8.6	8.4	8.0	8.0	8.0	8.0
150.0	10.6	9.6	8.6	8.4	9.2	8.8	9.2	8.4	9.8	9.0	8.4	8.4	8.0	8.0	8.0	8.0
155.0	10.2	9.4	8.6	8.4	9.0	8.4	9.0	8.4	9.6	8.8	8.4	8.2	7.8	7.8	8.0	8.0
160.0	10.0	9.2	8.4		8.8	8.2	8.2	8.4	9.0	8.6	8.2	8.0	7.0	7.0	8.0	8.0
165.0	9.0	9.0	8.4		8.4	8.0	7.8	8.2	8.2	8.2	8.0	8.0	6.4	6.4	7.4	8.0
170.0	8.2	8.2	8.4		8.2	7.8	7.6	7.6	7.6	7.6	7.8	7.8	5.6	5.6	6.6	7.6
175.0	7.4	7.4	8.0		8.0	7.6	7.4	7.4	6.8	6.8	7.8	7.8	5.0	5.0	6.0	6.8
180.0	6.8	6.8	7.2		7.6	7.4	7.2	7.2	6.2	6.2	7.0	7.6	4.4	4.4	5.4	6.0
185.0	6.0	6.0			7.4	7.2	7.2	7.2	5.6	5.6	6.4	7.0	3.8	3.8	4.6	5.4
190.0	5.4				7.0	7.0	7.0	7.0	5.0	5.0	5.8	6.4	3.2	3.2	4.0	4.8
195.0	4.8				6.6	6.6	6.8		4.4	4.4	5.2	5.8	2.6	2.6	3.4	4.2
200.0	4.2				6.0	6.0	6.4		3.8	3.8	4.6	5.0	2.2	2.2	3.0	3.6
205.0					5.4	5.4	6.0		3.2	3.2	4.0	4.4			2.4	3.0
210.0					4.8	4.8	5.4		2.8	2.8	3.4					2.4
215.0					4.4	4.4	4.8		2.2	2.2	2.8					
220.0					3.8	3.8	4.2				2.4					
225.0					3.4	3.4	3.8									
230.0					3.0	3.0										
235.0					2.6	2.6										
240.0					2.2											

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

11,2 m (36.7ft)

7,8 m (25.6 ft)

360°

35.5 t (78,200 lb)

Pounds x 1000

Feet	150.8 - 151.8				200.8 - 201.4				229.5 - 236.2				257.5			
	5.9 + 30.8				5.9 + 30.8				5.9 + 30.8				5.9 + 30.8			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
30.0	37.4															
35.0	37.4															
40.0	36.4	31.4														
45.0	35.4	30.4			24.0											
50.0	34.2	29.6	24.8		24.0											
55.0	33.4	28.8	24.2	19.0	24.0				14.8				11.0			
60.0	32.4	28.0	23.2	18.6	24.0	24.0	21.4		14.8				11.0			
65.0	31.4	27.2	22.4	18.2	24.0	23.8	21.0		14.8				11.0			
70.0	30.4	26.4	21.6	18.0	24.0	23.4	20.8	18.4	14.8	14.8			11.0			
75.0	29.0	25.6	21.2	17.6	24.0	22.8	20.6	18.0	14.8	14.8	14.8		11.0	11.0		
80.0	26.0	24.6	20.6	17.4	21.4	21.4	20.2	17.8	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
85.0	23.4	23.4	20.0	17.2	19.0	19.0	20.0	17.6	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
90.0	21.2	21.2	19.6	17.0	17.0	16.8	18.2	17.4	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
95.0	19.0	19.0	19.2	16.8	16.6	15.8	16.2	17.2	14.8	14.8	14.8	14.8	11.0	11.0	11.0	11.0
100.0	17.2	17.2	18.2	16.8	16.0	15.2	14.4	15.4	14.4	14.4	14.8	14.8	11.0	11.0	11.0	11.0
105.0	15.4	15.4	16.4	16.6	15.4	14.6	14.0	13.6	13.8	13.8	14.4	14.2	11.0	11.0	11.0	11.0
110.0	14.0	14.0	14.8	15.4	14.8	14.2	13.6	13.2	12.4	12.4	13.4	13.6	10.2	10.2	11.0	11.0
115.0	12.6	12.6	13.4	14.0	14.0	13.6	13.2	13.0	11.0	11.0	12.0	12.8	9.0	9.0	10.0	10.8
120.0	11.2	11.6	12.0	12.6	12.8	12.8	12.8	12.6	9.8	9.8	10.8	11.4	7.8	7.8	8.8	9.6
125.0	11.0	11.0	11.0	11.2	11.6	11.6	12.4	12.4	8.8	8.8	9.6	10.2	6.8	6.8	7.6	8.4
130.0	10.4	10.4	10.4	10.4	10.6	10.6	11.2	11.8	7.8	7.8	8.6	9.2	5.8	5.8	6.6	7.2
135.0	9.8	9.8	9.8		9.6	9.6	10.2	10.6	6.8	6.8	7.6	8.2	4.8	4.8	5.6	6.2
140.0	9.4	9.4	9.4		8.8	8.8	9.2	9.8	6.0	6.0	6.6	7.2	4.0	4.0	4.8	5.4
145.0	8.8	8.8	8.8		7.8	7.8	8.4	8.8	5.2	5.2	5.8	6.4	3.2	3.2	4.0	4.6
150.0	8.4	8.4	8.4		7.0	7.0	7.6	8.0	4.4	4.4	5.0	5.4	2.4	2.4	3.2	3.8
155.0	8.0	8.0	8.0		6.4	6.4	6.8	7.2	3.8	3.8	4.2	4.6			2.4	3.0
160.0	7.6	7.6	7.6		5.6	5.6	6.0	6.4	3.0	3.0	3.6	4.0				2.2
165.0	7.2	7.2	7.2			4.8	5.4	5.6	2.4	2.4	3.0	3.2				
170.0	6.8	6.8				4.2	4.6	4.8			2.2	2.6				
175.0	6.2	6.2				3.6	4.0					2.0				
180.0						3.0	3.4									
185.0						2.4	2.8									
190.0							2.2									

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m
(150.8 ft -257.5 ft)

17.8 m
(58.4 ft)

7,8 m
(25.6 ft)

360°

35.5 t (78,200 lb)

Pounds x 1000

Feet	150.8 - 151.8 5.9 + 52.5				200.8 - 201.4 5.9 + 52.5				229.5 5.9 + 52.5				257.5 5.9 + 52.5			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
35.0	17.0															
40.0	17.0															
45.0	17.0															
50.0	16.8	14.2			13.8											
55.0	16.4	14.0			13.8				10.0							
60.0	16.0	13.6			13.8				10.0							
65.0	15.6	13.4			13.8				10.0							
70.0	15.2	13.2	11.6		13.8	12.4			10.0				8.0			
75.0	15.0	12.8	11.4	9.6	13.8	12.2			10.0	10.0			8.0			
80.0	14.6	12.6	11.2	9.4	13.6	12.2	10.8		10.0	10.0			8.0			
85.0	14.2	12.4	11.0	9.2	13.4	12.0	10.8		10.0	10.0			8.0			
90.0	14.0	12.2	10.8	9.0	13.2	11.8	10.6	9.2	10.0	10.0	9.8		8.0	8.0		
95.0	13.6	12.0	10.4	9.0	13.0	11.6	10.6	9.2	10.0	10.0	9.8		8.0	8.0		
100.0	13.4	11.8	10.2	8.8	12.8	11.4	10.4	9.0	10.0	10.0	9.6	9.0	8.0	8.0	8.0	
105.0	13.0	11.6	10.0	8.8	12.6	11.4	10.4	9.0	10.0	10.0	9.6	9.0	8.0	8.0	8.0	
110.0	12.8	11.4	9.8	8.6	11.6	11.2	10.2	8.8	10.0	10.0	9.6	8.8	8.0	8.0	8.0	
115.0	12.6	11.2	9.6	8.6	11.0	10.2	10.2	8.8	10.0	10.0	9.4	8.8	8.0	8.0	8.0	8.0
120.0	12.2	11.0	9.4	8.6	11.0	10.0	10.0	8.8	10.0	10.0	9.4	8.8	8.0	8.0	8.0	8.0
125.0	11.6	10.6	9.4	8.4	10.8	9.8	9.6	8.6	9.8	9.8	9.4	8.6	7.8	7.8	8.0	8.0
130.0	10.6	10.4	9.2	8.4	10.4	9.6	9.0	8.6	8.8	8.8	9.2	8.6	6.8	6.8	8.0	8.0
135.0	9.6	9.6	9.0	8.4	10.2	9.2	8.8	8.6	8.0	8.0	9.0	8.6	6.0	6.0	7.4	8.0
140.0	9.2	9.2	8.8	8.4	9.6	9.0	8.6	8.4	7.0	7.0	8.4	8.4	5.2	5.2	6.4	7.6
145.0	8.6	8.6	8.6	8.4	8.8	8.8	8.4	8.2	6.2	6.2	7.4	8.4	4.4	4.4	5.6	6.8
150.0	8.2	8.2	8.2	8.4	8.0	8.0	8.2	8.2	5.4	5.4	6.6	7.6	3.6	3.6	4.8	6.0
155.0	7.8	7.8	7.8	7.8	7.4	7.4	8.0	8.0	4.8	4.8	5.8	6.8	3.0	3.0	4.2	5.2
160.0	7.4	7.4	7.4		6.6	6.6	7.6	7.8	4.2	4.2	5.2	6.0	2.2	2.2	3.4	4.4
165.0	7.0	7.0	7.0		6.0	6.0	6.8	7.4	3.4	3.4	4.4	5.2			2.8	3.6
170.0	6.6	6.6	6.6		5.4	5.4	6.2	6.8	2.8	2.8	3.8	4.6			2.2	3.0
175.0	6.4	6.4	6.4		4.8	4.8	5.6	6.0	2.4	2.4	3.2	4.0				2.4
180.0	6.0	6.0	6.0		4.2	4.2	5.0	5.4			2.6	3.2				
185.0	5.8	5.8			3.6	3.6	4.4	4.8			2.2	2.8				
190.0	5.4	5.4			3.0	3.0	3.8	4.2				2.2				
195.0	5.0				2.6	2.6	3.2									
200.0	4.6				2.0	2.0	2.6									
205.0							2.2									

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Load charts

Main boom and bi-fold swingaway

46m - 78.5 m (150.8 ft -257.5 ft)

11,2 m (36.7 ft)

7,8 m (25.6 ft)

360°

21 t (46,200 lb)

Pounds x 1000

Feet	150.8 - 151.8				200.8 - 201.4				229.5				257.5			
	5.9 + 30.8				5.9 + 30.8				5.9 + 30.8				5.9 + 30.8			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
30.0	37.4															
35.0	37.4															
40.0	36.4	31.4														
45.0	35.4	30.4			24.0											
50.0	34.2	29.6	24.8		24.0											
55.0	31.8	28.8	24.2	19.0	24.0				14.4				11.0			
60.0	27.6	27.6	23.2	18.6	22.0	22.0	21.4		14.4	14.4			11.0			
65.0	24.0	24.0	22.4	18.2	18.8	18.8	20.8		14.4	14.4			11.0			
70.0	21.0	21.0	21.6	18.0	17.0	17.0	18.0	18.4	14.4	14.4			11.0			
75.0	19.8	19.2	19.8	17.6	17.0	17.0	16.8	17.0	14.4	14.4	14.4	14.4	11.0	11.0		
80.0	18.6	18.2	17.6	17.4	17.0	17.0	16.2	15.4	13.8	13.8	14.4	14.4	11.0	11.0	11.0	11.0
85.0	17.6	17.2	16.8	16.4	15.2	15.2	15.8	15.0	12.0	12.0	13.4	14.4	9.6	9.6	11.0	11.0
90.0	16.6	16.2	16.0	15.8	13.6	13.6	14.6	14.6	10.4	10.4	11.6	12.6	8.2	8.2	9.4	10.6
95.0	15.6	15.4	15.2	15.2	12.0	12.0	13.0	13.8	9.0	9.0	10.0	11.0	6.8	6.8	8.0	9.0
100.0	14.4	14.4	14.4	14.4	10.6	10.6	11.6	12.4	7.6	7.6	8.8	9.6	5.4	5.4	6.6	7.6
105.0	13.0	13.0	13.6	13.8	9.4	9.4	10.2	11.0	6.4	6.4	7.4	8.2	4.4	4.4	5.4	6.4
110.0	11.8	11.8	12.4	12.8	8.2	8.2	9.0	9.8	5.4	5.4	6.2	7.0	3.2	3.2	4.4	5.2
115.0	10.6	10.6	11.2	11.6	7.2	7.2	8.0	8.6	4.4	4.4	5.2	6.0	2.4	2.4	3.2	4.2
120.0	9.6	9.6	10.2	10.6	6.2	6.2	7.0	7.4	3.4	3.4	4.2	5.0			2.4	3.2
125.0	8.6	8.6	9.2	9.4	5.2	5.2	6.0	6.6	2.6	2.6	3.4	4.0				2.2
130.0	7.6	7.6	8.2	8.6	4.4	4.4	5.2	5.6			2.6	3.2				
135.0	6.8	6.8	7.2		3.8	3.8	4.4	4.8				2.4				
140.0	6.0	6.0	6.4		3.0	3.0	3.6	4.0								
145.0	5.2	5.2	5.6		2.4	2.4	2.8	3.2								
150.0	4.4	4.4	4.8				2.2	2.6								
155.0	3.8	3.8	4.0													
160.0	3.2	3.2	3.4													
165.0	2.6	2.6	2.8													
170.0	2.0	2.0														

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

Load charts

Main boom and bi-fold swingaway

46m - 78.5 m
(150.8 ft -257.5 ft)

17.8 m
(58.4 ft)

7,8 m
(25.6 ft)

360°

21 t (46,200 lb)

Pounds x 1000

Feet	150.8 - 151.8				200.8 - 201.4				229.5				248.2			
	5.9 + 52.5				5.9 + 52.5				5.9 + 52.5				5.9 + 52.5			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
35.0	17.0															
40.0	17.0															
45.0	17.0															
50.0	16.8	14.2			13.8											
55.0	16.4	14.0			13.8				10.0							
60.0	16.0	13.6			13.8				10.0				8.6			
65.0	15.6	13.4			13.8				10.0				8.6			
70.0	15.2	13.2	11.6		13.8	12.4			10.0				8.6			
75.0	15.0	12.8	11.4	9.6	13.8	12.2			10.0	10.0			8.6			
80.0	14.6	12.6	11.2	9.4	13.0	12.2	10.8		10.0	10.0			8.6	8.6		
85.0	14.2	12.4	11.0	9.2	11.2	11.2	10.8		10.0	10.0			8.6	8.6		
90.0	13.6	12.2	10.8	9.0	11.0	10.8	10.6	9.2	10.0	10.0	9.8		8.6	8.6		
95.0	12.4	12.0	10.4	9.0	11.0	10.8	10.4	9.2	10.0	10.0	9.8		8.6	8.6	8.6	
100.0	12.2	11.0	10.2	8.8	11.0	10.6	10.0	9.0	8.8	8.8	9.6	9.0	7.2	7.2	8.6	
105.0	12.0	10.8	10.0	8.8	10.4	10.4	9.8	9.0	7.6	7.6	9.4	9.0	6.2	6.2	8.0	8.6
110.0	11.8	10.8	9.8	8.6	9.2	9.2	9.8	8.8	6.4	6.4	8.2	8.8	5.0	5.0	6.8	8.4
115.0	11.4	10.6	9.4	8.6	8.2	8.2	9.6	8.6	5.4	5.4	7.0	8.6	4.0	4.0	5.8	7.4
120.0	10.6	10.4	9.2	8.6	7.2	7.2	8.6	8.6	4.6	4.6	6.0	7.4	3.2	3.2	4.8	6.2
125.0	9.6	9.6	9.2	8.4	6.4	6.4	7.6	8.6	3.8	3.8	5.2	6.4	2.4	2.4	4.0	5.2
130.0	8.8	8.8	9.0	8.4	5.6	5.6	6.8	7.8	3.0	3.0	4.4	5.4			3.0	4.4
135.0	8.0	8.0	8.8	8.4	4.8	4.8	6.0	6.8	2.2	2.2	3.6	4.6			2.4	3.6
140.0	7.2	7.2	8.0	8.4	4.0	4.0	5.2	6.0			2.8	3.8				2.8
145.0	6.6	6.6	7.4	7.8	3.4	3.4	4.4	5.2			2.0	3.0				
150.0	5.8	5.8	6.6	7.2	2.8	2.8	3.8	4.6				2.4				
155.0	5.2	5.2	5.8	6.4	2.2	2.2	3.2	3.8								
160.0	4.4	4.4	5.2				2.6	3.2								
165.0	4.0	4.0	4.4					2.6								
170.0	3.4	3.4	3.8					2.0								
175.0	2.8	2.8	3.2													
180.0	2.4	2.4	2.8													

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

Load charts

Main boom, boom insert and bi-fold swingaway with insert

46m - 78.5 m
(150.8 ft -257.5 ft)

33,8 m
(110.9 ft)

7,8 m
(25.6 ft)

360°

80 t (176,000 lb)

Pounds x 1000

Feet	150.8				200.8				236.2			
	26.2 + 84.6				26.2 + 84.6				26.2 + 84.6			
	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°	0°	*0°-15°	*15°-30°	*30°-50°
50.0	8.2											
55.0	8.2											
60.0	8.2				6.4							
65.0	8.2				6.4							
70.0	8.2				6.4							
75.0	8.2	8.2			6.4				4.4			
80.0	8.2	8.2			6.4				4.4			
85.0	8.2	8.0			6.4				4.4			
90.0	8.2	7.8			6.4	6.4			4.4			
95.0	8.2	7.6	6.8		6.4	6.4			4.4			
100.0	8.2	7.4	6.6		6.4	6.4			4.4	4.4		
105.0	8.0	7.2	6.4		6.4	6.4	5.8		4.4	4.4		
110.0	7.8	7.0	6.4		6.4	6.4	5.8		4.4	4.4		
115.0	7.6	6.8	6.2	5.6	6.4	6.4	5.8		4.4	4.4		
120.0	7.2	6.6	6.0	5.6	6.4	6.4	5.8		4.4	4.4	4.2	
125.0	7.0	6.4	6.0	5.4	6.4	6.4	5.8	4.2	4.4	4.4	4.2	
130.0	6.8	6.2	5.8	5.4	6.4	6.2	5.8	4.2	4.4	4.4	4.2	
135.0	6.6	6.0	5.6	5.4	6.4	6.2	5.6	4.2	4.4	4.4	4.2	2.8
140.0	6.6	6.0	5.6	5.2	6.4	6.0	5.6	4.2	4.4	4.4	4.2	2.8
145.0	6.4	5.8	5.4	5.2	6.4	6.0	5.4	4.2	4.4	4.4	4.2	2.8
150.0	6.2	5.6	5.2	5.0	6.4	5.8	5.4	4.2	4.4	4.4	4.2	2.8
155.0	6.0	5.4	5.2	5.0	6.2	5.6	5.4	4.2	4.4	4.4	4.2	2.8
160.0	5.8	5.4	5.0	5.0	6.0	5.6	5.2	4.2	4.4	4.4	4.2	2.8
165.0	5.6	5.2	5.0	4.8	6.0	5.4	5.2	4.2	4.4	4.4	4.2	2.8
170.0	5.4	5.0	4.8	4.8	5.8	5.4	5.0	4.2	4.4	4.4	4.2	2.8
175.0	5.4	5.0	4.8	4.8	5.6	5.2	5.0	4.2	4.4	4.4	4.2	2.8
180.0	5.2	4.8	4.6	4.6	5.6	5.2	4.8	4.2	4.4	4.4	4.2	2.8
185.0	5.0	4.8	4.6	4.6	5.4	5.0	4.8	4.2	4.4	4.4	4.2	2.8
190.0	5.0	4.6	4.4	4.4	5.4	5.0	4.6	4.2	4.4	4.4	4.2	2.8
195.0	4.8	4.6	4.4	4.4	5.2	4.8	4.6	4.2	4.4	4.4	4.2	2.8
200.0	4.6	4.4	4.4	4.4	5.2	4.8	4.6	4.2	4.4	4.4	4.2	2.8
205.0	4.6	4.4	4.2		5.0	4.6	4.4	4.2	4.4	4.4	4.2	2.8
210.0	4.4	4.2	4.2		4.8	4.6	4.4	4.2	4.4	4.4	4.2	2.8
215.0	4.4	4.2	4.2		4.8	4.4	4.4	4.2	4.4	4.4	4.2	2.8
220.0	4.2	4.0	4.0		4.6	4.4	4.2	4.2	4.4	4.2	4.2	2.8
225.0	4.2	4.0	4.0		4.6	4.4	4.2	4.2	4.4	4.2	4.0	2.8
230.0	4.0	4.0	4.0		4.6	4.2	4.2	4.2	4.2	4.0	4.0	2.8
235.0	4.0	3.8	3.8		4.4	4.2	4.2	4.2	4.2	4.0	4.0	2.8
240.0	3.8	3.8			4.4	4.2	4.0		4.0	4.0	3.8	2.8
245.0	3.8				4.2	4.0	4.0		4.0	3.8	3.8	2.8
250.0					4.2	4.0	4.0		3.8	3.8	3.6	2.8
255.0					4.0	4.0	4.0		3.6	3.6	3.6	2.8
260.0					3.6	3.6	3.8		3.6	3.6	3.6	2.8
265.0					3.2	3.2	3.6		3.4	3.4	3.4	
270.0					2.8	2.8	3.4		3.2	3.2	3.2	
275.0					2.4	2.4	2.8		2.8	2.8	3.0	
280.0							2.4		2.4	2.4	2.8	
285.0										2.0	2.6	

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The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

Specifications

Superstructure

Boom
13,4 m to 78,5 m (44 ft to 257.5 ft) eight-section TWIN-LOCK boom. Maximum tip height 81,0 m (266 ft).

Boom elevation
1 cylinder with safety valve, boom angle from -1.5° to +82°.

Load moment and independent anti-two-block system
Load moment and independent anti-two-block system with audio visual warning and control lever lock-out. These systems provide graphic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition with lock-out hoist function.

Cab
Aluminium, full vision, tiltable (approx. 20°), safety glass, adjustable operator's seat with suspension, engine-independent heater. Armrest-integrated crane controls. Ergonomically arranged instrumentation and crane operating controls.

Slewing
3 slewing gears with axial piston motors, planetary gears, automatic brake.

Counterweight
80 t (176,300 lb), consisting of various sections (50 t [110,200 lb] within 3,00 m [9.84 ft] vehicle width). Hydraulic removal system.

Hydraulic system
2 separate circuits, 1 axial piston variable displacement pump with electronic power limiting control and axial piston variable displacement pump for slewing. Thermostatically controlled oil cooler. Tank capacity: 890 l (235 gallons).

Control system
Full electronic control of all crane movements using electrical control levers with automatic reset to zero. Integrated with the RCL and engine management system by CANbus. Crane Control System (CCS) with system with graphic display.

Hoist
Axial piston motor with planetary gear and brake. Drum rotation indicator. Hoist camera with light.

Optional equipment*
- Bi-fold swingaway, 11/18 m (37/58 ft) with hydraulic offset and luffing under load (5° – 50°), controlled from the crane cab
- 8 m (26 ft) boom and 8 m (26 ft) jib extensions (maximum total length 33,8 m [111 ft])
- Auxiliary hoist, self-rigging via counterweight
- Auxiliary boom nose using one part of line
- Auxiliary boom nose using two parts of line
- Air conditioning system
- 2,0 m (6.6 ft) side-stowed stub jib using 4 parts of line. Offset 8° and 30°

Carrier

Chassis
Special five-axle chassis, all-welded torsion-resistant box type construction in high-strength steel.

Outriggers
4 double hydraulically telescoping beams with vertical cylinders and outrigger pads. Independent horizontal and vertical movement control on each side of the carrier and from the operator's cab. Electronic level indicator with automatic leveling system.

Engine
Mercedes-Benz OM471LA, diesel, six cylinders, water-cooled, turbocharged, 390 kW (532 hp) at 1700 rpm (80/1269 EWG fan loose). Max. torque: 2460 Nm (1814 ft lb) at 1300 rpm. Fuel tank: 300 l + 350 l (79 + 92,5 gallons). Engine emission: Euromot 5/EPA/CARB Tier 4 final (non-road).

Transmission
Mercedes-Benz G 280, 16 gears forward and 2 reverse. 2 stage transfer case with longitudinal locks and water retarder.

Drive/Steer
10 x 6 x 10

Axle lines
5 axle lines; axle lines 2, 4 and 5 steered and driven; axle lines 1 and 3 steered.

Suspension
MEGATRAK®. All wheels with independent hydropneumatic suspension and hydraulic lockout. Longitudinal and transverse level control with automatic on-highway leveling system. Range +170 mm/-130 mm (6.69 in/-5.12 in). Active suspension control on outrigger control units.

Tires
10 tires, size 385/95 R25 (14.00 R25).

Steering
Dual-circuit, hydraulic power-assisted steering with emergency steering pump. Axle lines 1, 2, 3 and 5 steer on highway (steer by wire). Separate electronic hydraulic (steer by wire) steering of axle lines 4 and 5 for all-wheel steering and crabbing.

Brakes
Service brake: pneumatic dual circuit disc brakes acting on all wheels, air dryer. Permanent brake: exhaust brake and constant throttle brake. Parking brake: pneumatically operated spring-loaded brake acting on axle lines 2, 3, 4 and 5.

Driver's cab
Composite-designed aluminum and fibre-reinforced plastic, 2-person design, safety glass, driver seat with pneumatic suspension, engine-dependent hot water heater. Complete instrumentation and driving controls. Air conditioned. 12 V plug. Two rotating beacons. Fire extinguisher. Additional engine-independent diesel cab heater, also serves as engine preheater incl. 24-hr timer.

Electrical system
Three-phase alternator 28 V/100A, 2 batteries 12 V/170 Ah. Lighting system and signals 24 V.

Optional equipment*
- 10 x 8 x 10
- 10 tires, size 445/95 R25 (16.00 R25)
- 10 tires, size 525/80 R25 (20.5 R25)
- Vehicle width 3,10 m (10.17 ft)
- Folding bunk bed in carrier cab
- MAXbase variable outrigger positioning
- Reverse camera system
- CraneSTAR telematics system
- VIAB turbo clutch

* Other optional equipment on request.

Symbols glossary

Axles

Counterweight

Auxiliary hoist

Slewing/working range

Block height

Crane functions

Hook block/capacity

Speed

Boom

Crane travel

Hydraulic system

Suspension

Boom elevation

Drive/steer

Lattice extension

Tires

Boom telescoping

Electrical system

Lattice extension (luffing)

Transmission/gear

Brakes

Engine

Luffing jib

Travel speed

Cab

Gradeability

Outriggers

Carrier frame

Main hoist

Radius

Manitowoc Cranes

Regional headquarters

Americas
Milwaukee, Wisconsin, USA
Tel: +1 414 760 4600

Shady Grove, Pennsylvania, USA
Tel: +1 717 597 8121

Europe and Africa
Dardilly, France - TOWERS
Tel: +33 (0) 4 72 18 20 20

Wilhelmshaven, Germany - MOBILE
Tel: +49 (0) 4421 294 0

APAC
Shanghai, China
Tel: +86 21 6457 0066

Singapore
Tel: +65 6264 1188

Middle East and India
Dubai, UAE
Tel: +971 4 8862677

Manitowoc Crane Care™

Manitowoc Finance™

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Form No. GMK5250XL-1
Part No. 20-006/1M/0321

www.manitowoc.com

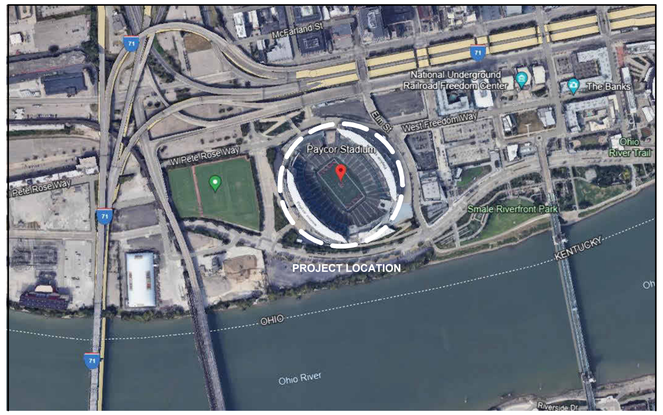
Hamilton County
Board of County Commissioners

The Cincinnati Bengals

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

ARCHITECTURAL & MEP BID DRAWINGS



OWNER

HAMILTON COUNTY
THREE PAYCOR STADIUM
CINCINNATI, OHIO 45202
P. 513.946.4000

ARCHITECTURE AND INTERIORS

KZF DESIGN
700 BROADWAY ST.
CINCINNATI, OHIO 45202
P. 513.621.6211

MEP/FIRE PROTECTION

THERMALTECH ENGINEERING
3960 RED BANK RD., STE 250
CINCINNATI, OHIO 45227
P. 513.561.2271

STRUCTURAL

THP LTD.
221 EAST FOURTH ST., STE 1150
CINCINNATI, OHIO 45202
P. 513.241.3222

ESCALATOR CONSULTANT

AECOM SPORTS AND VENUES
300 SOUTH GRAND AVE.
LOSANGELES, CA 90071
P. 213.593.6100

TENANT

CINCINNATI BENGALS
ONE PAYCOR STADIUM
CINCINNATI, OHIO 45202
P. 513.455.4800

THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION IN THIS PROJECT SPACE IS 480' THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

KZF DESIGN

Architecture | Engineering | Interiors | Planning

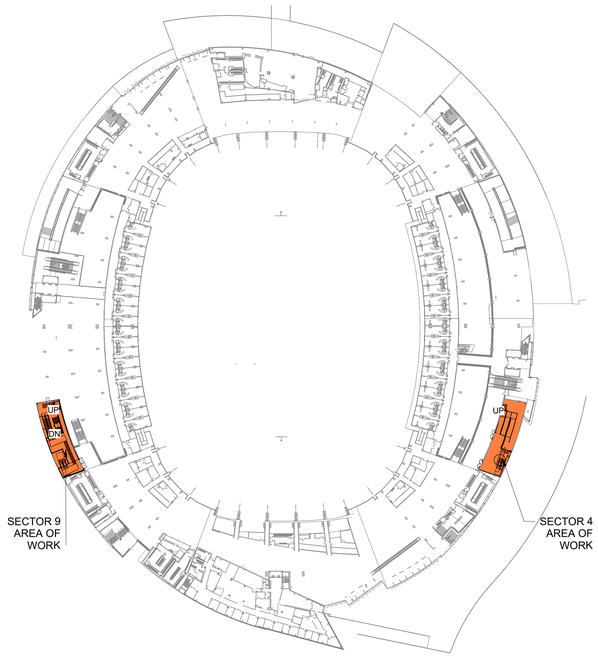
OWNER

HAMILTON COUNTY DEPARTMENT OF STADIA & PARKING
THREE PAYCOR STADIUM
CINCINNATI, OHIO 45202
P. 513.946.4000

Hamilton County Stadia & Parking

TENANT

CINCINNATI BENGALS
ONE PAYCOR STADIUM
CINCINNATI, OHIO 45202
P. 513.455.4800



1 / G-000 **300 LEVEL - OVERALL PLAN**

NTS

NO.	DATE	DESCRIPTION
1	4/17/26	STRUCTURAL AND DEMOLITION BID PACKAGE
3	5/1/26	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

COVER SHEET

DRAWING NUMBER ISSUE

G-000 3

NOT FOR CONSTRUCTION

GENERAL		
G-000	COVER SHEET	05/01/26
G-001	SHEET INDEX	05/01/26
ARCHITECTURE		
A-001	SYMBOLS & ABBREVIATIONS	05/01/26
AD-101	SECTOR 4 & 9 EXISTING PHOTOS	REF.
AD-102.4	SECTOR 4 – LEVEL 200 & 300 DEMOLITION FLOOR PLAN	REF.
AD-103.4	SECTOR 4 – LEVEL 400 & 500 DEMOLITION FLOOR PLAN	REF.
AD-104.4	SECTOR 4 – LEVEL 600 & 700 DEMOLITION FLOOR PLAN	REF.
AD-211.4	SECTOR 4 – DEMOLITION SECTION	REF.
AD-106.9	SECTOR 9 – LEVEL 200 & 300 DEMOLITION FLOOR PLAN	REF.
AD-107.9	SECTOR 9 – LEVEL 400 & 500 DEMOLITION FLOOR PLAN	REF.
AD-108.9	SECTOR 9 – LEVEL 600 & 700 DEMOLITION FLOOR PLAN	REF.
AD-211.9	SECTOR 9 – DEMOLITION SECTION	REF.
A-102.4	SECTOR 4 – LEVEL 200 & 300 PLANS	05/01/26
A-103.4	SECTOR 4 – LEVEL 400 & 500 PLANS	05/01/26
A-104.4	SECTOR 4 – LEVEL 600 & 650 PLANS	05/01/26
A-105.4	SECTOR 4 – LEVEL 700 PLAN & ROOF PLAN	05/01/26
A-106.4	SECTOR 4 – LEVEL 700 HEAD HOUSE PLANS	05/01/26
A-106.9	SECTOR 9 – LEVEL 200 & 300 PLANS	05/01/26
A-107.9	SECTOR 9 – LEVEL 400, 450 & 500 PLANS	05/01/26
A-108.9	SECTOR 9 – LEVEL 600 & 650 PLANS	05/01/26
A-109.9	SECTOR 9 – LEVEL 700 PLANN & ROOF PLAN	05/01/26
A-110.9	SECTOR 9 – LEVEL 700 HEAD HOUSE PLANS	05/01/26
A-111.4	SECTOR 4 – LEVEL 200 & 300 CEILING PLANS	05/01/26
A-112.4	SECTOR 4 – LEVEL 400 & 500 CEILING PLANS	05/01/26
A-113.4	SECTOR 4 – LEVEL 600, 650 & 700 CEILING PLANS	05/01/26
A-116.9	SECTOR 9 – LEVEL 200 & 300 CEILING PLANS	05/01/26
A-117.9	SECTOR 9 – LEVEL 400 & 500 CEILING PLANS	05/01/26
A-118.9	SECTOR 9 – LEVEL 600, 650 & 700 CEILING PLANS	05/01/26
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A-202.4	SECTOR 4 – HEAD HOUSE ELEVATIONS	05/01/26
A-211.4	SECTOR 4 – SECTIONS	05/01/26
A-212.4	SECTOR 4 – SECTIONS	05/01/26
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A-220.9	SECTOR 9 – 3D AXON	05/01/26
A-301	SECTOR 4 – SECTIONS	05/01/26
A-502	GUARDRAIL DETAILS	REF.
A-701.4	SECTOR 4 – STAIR PLANS & SECTIONS	05/01/26
A-702.4	SECTOR 4 – LEVELS 300, 400, 500, & 600 STAIR PLANS	05/01/26
A-703.4	SECTOR 4 – LEVEL 650 & 700 STAIR PLANS	05/01/26
A-704.4	SECTOR 4 – LEVEL 200 TO 300 RAMP	05/01/26
A-701.9	SECTOR 9 – STAIR SECTIONS	05/01/26
A-702.9	SECTOR 9 – LEVEL 200 & 300 STAIR & RAMP PLANS	05/01/26
A-703.9	SECTOR 9 – LEVEL 450, 500 & 600 STAIR PLANS	05/01/26
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A-705.4	TYPICAL STAIR SECTIONS & DETAILS	REF.
A-801.4	SECTOR 4 – LEVEL 300, 500 FLOOR GRAPHIC	05/01/26
A804.4	SECTOR 4 – WALL TIGER STRIPES GRAPHIC	05/01/26
STRUCTURAL (Issued for Reference)		
S-001	GENERAL STRUCTURAL NOTES	REF.
S-002	TYPICAL DETAILS	REF.
S-102	SECTOR 4 – LEVEL 200 & 300 FRAMING PLANS	REF.
S-103	SECTOR 4 – LEVEL 400, 450 & 500 FRAMING PLANS	REF.
S-104	SECTOR 4 – LEVEL 600 & 650 FRAMING PLANS	REF.
S-105	SECTOR 4 – LEVEL 700 & 750 FRAMING PLANS	REF.
S-106	SECTOR 9 – LEVEL 200 & 300 FRAMING PLANS	REF.
S-107	SECTOR 9 – LEVEL 400,450 & 500 FRAMING PLANS	REF.
S-108	SECTOR 9 – LEVEL 600 & 650 FRAMING PLANS	REF.
S-109	SECTOR 9 – LEVEL 700 & 750 FRAMING PLANS	REF.
S-201	FRAMING DETAILS	REF.
S-202	FRAMING DETAILS	REF.
S-203	FRAMING DETAILS	REF.
S-204	FRAMING DETAILS	REF.
S-205	FRAMING DETAILS	REF.
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PLUMBING		
P-001	PLUMBING LEGEND & GENERAL NOTES	05/01/26
P-200	PLUMBING PARTIAL PLANS LEVEL 200 NEW WORK	05/01/26
P-201	PLUMBING PARTIAL PLANS LEVEL 300 NEW WORK	05/01/26
P-202	PLUMBING PARTIAL PLANS LEVEL 400 NEW WORK	05/01/26
P-203	PLUMBING PARTIAL PLANS LEVEL 500 NEW WORK	05/01/26
P-204	PLUMBING PARTIAL PLANS LEVEL 600 NEW WORK	05/01/26
P-205	PLUMBING PARTIAL PLANS LEVEL 650 NEW WORK	
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P-600	PLUMBING RISER DIAGRAM - SOUTHEAST RAMP	05/01/26
P-601	PLUMBING RISER DIAGRAM - SOUTHWEST RAMP	05/01/26
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H-001	HVAC LEGEND & GENERAL NOTES	05/01/26
H-200	HVAC PARTIAL PLANS LEVEL 200 NEW WORK	05/01/26
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FIRE PROTECTION		
FP-001	FIRE PROTECTION LEGEND & GENERAL NOTES	05/01/26
FP-200	FIRE PROTECTION PARTIAL PLANS LEVEL 200 NEW WORK	05/01/26
FP-201	FIRE PROTECTION PARTIAL PLANS LEVEL 300 NEW WORK	05/01/26
FP-202	FIRE PROTECTION PARTIAL PLANS LEVEL 400 NEW WORK	05/01/26
FP-203	FIRE PROTECTION PARTIAL PLANS LEVEL 500 NEW WORK	05/01/26
FP-204	FIRE PROTECTION PARTIAL PLANS LEVEL 600 NEW WORK	05/01/26
FP-205	FIRE PROTECTION PARTIAL PLANS LEVEL 700 NEW WORK	05/01/26
ELECTRICAL		
E-001	ELECTRICAL LEGEND & GENERAL NOTES	05/01/26
E-200	ELECTRICAL PARTIAL PLANS LEVEL 200 NEW WORK POWER	05/01/26
E-201	ELECTRICAL PARTIAL PLANS LEVEL 300 NEW WORK POWER	05/01/26
E-202	ELECTRICAL PARTIAL PLANS LEVEL 400 NEW WORK POWER	05/01/26
E-203	ELECTRICAL PARTIAL PLANS LEVEL 500 NEW WORK POWER	05/01/26
E-204	ELECTRICAL PARTIAL PLANS LEVEL 600 NEW WORK POWER	05/01/26
E-205	ELECTRICAL PARTIAL PLANS LEVEL 700 NEW WORK POWER	05/01/26
E-206	ELECTRICAL PARTIAL PLANS LEVEL 200 NEW WORK LIGHTING	05/01/26
E-207	ELECTRICAL PARTIAL PLANS LEVEL 300 NEW WORK LIGHTING	05/01/26
E-208	ELECTRICAL PARTIAL PLANS LEVEL 400 NEW WORK LIGHTING	05/01/26
E-209	ELECTRICAL PARTIAL PLANS LEVEL 500 NEW WORK LIGHTING	05/01/26
E-210	ELECTRICAL PARTIAL PLANS LEVEL 600 NEW WORK LIGHTING	05/01/26
E-211	ELECTRICAL PARTIAL PLANS LEVEL 700 NEW WORK LIGHTING	05/01/26
E-600	ELECTRICAL SINGLE LINE DIAGRAMS	05/01/26
E-601	ELECTRICAL SINGLE LINE DIAGRAMS	05/01/26
E-700	ELECTRICAL SCHEDULES	05/01/26
E-701	ELECTRICAL SCHEDULES	05/01/26
E-702	ELECTRICAL SCHEDULES	05/01/26

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
2.2	04/28/2026	STRUCT. & DEMO. ADDENDUM 1
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

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kzf.com

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CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SHEET INDEX

DRAWING NUMBER	ISSUE
G-001	3.1

FINISH SCHEDULE

PAINT (PT)

PT-1 MFR: SHERWIN WILLIAMS
COLOR: SW 7008 ALABASTER
FINISH: SATIN
LOCATION: CONCRETE WALL GRAPHIC

PT-1 MFR: SHERWIN WILLIAMS
COLOR: SW 6258 TRICORN BLACK
FINISH: SATIN
LOCATION: CONCRETE WALL GRAPHIC

PT-3 MFR: SHERWIN WILLIAMS
COLOR: SW 7015 REPOSE GRAY
FINISH: SATIN
LOCATION: STEEL STRUCTURE

PT-4 MFR: SHERWIN WILLIAMS
COLOR: BENGALS ORANGE,MATCH PMS 1655-C
FINISH: SEMI-GLOSS
LOCATION: EXTERIOR METAL, CONCRETE ACCENT

PT-5 MFR: SHERWIN WILLIAMS
COLOR: BENGALS ORANGE,MATCH PMS 1655-C
FLOOR GRAPHIC: PPG MMAX TRAFFIC MARKING PAINT
FINISH: SEMI-GLOSS
LOCATION: CONCRETE FLOOR

PT-6 MFR: SHERWIN WILLIAMS
COLOR: SW 6203 SPARE WHITE
FINISH: SEMI-GLOSS
LOCATION: HEAD HOUSE STRUCTURE (LEVEL 700)

METAL (MT)

MT-1 MATERIAL: STEEL
COLOR: NATURAL
FINISH: GALVANIZED
LOCATION: RAILINGS

MT-2 MATERIAL: STAINLESS STEEL
COLOR: NATURAL
TYPE: 304, PATTERN AS NOTED
LOCATION: ESCALATOR

MT-3 MATERIAL: METAL DECK
COLOR: NATURAL, DO NOT PAINT
TYPE: SEE STRUCTURAL SPECIFICATIONS
LOCATION: CEILING

MT-4 MATERIAL: PERFORATED PANEL, STAINLESS STEEL, TYPE 304
TYPE: PERFORATED ROUND 3/8" ROUND ON 1/2" STAGGERED CENTERS, 11 GAUGE (.125" THICK), 51% OPEN AREA
LOCATION: HEAD HOUSE

MT-5 MATERIAL: MCM ALUMINUM PANEL
COLOR: PURE WHITE (RVW)
TYPE: ALUCOBOND DRY SYSTEM
LOCATION: LEVEL 400, HEAD HOUSE

MT-6 MATERIAL: GALVANIZED SHEET
COLOR: UNFINISHED
TYPE: G165, SPANGLE FREE
LOCATION: LEVEL 300 EAST

DRAWING ABBREVIATIONS

NOTE: THIS SHEET CONTAINS STANDARD ABBREVIATIONS & SYMBOLS AND APPLIES TO THIS SET OF DRAWINGS TO THE EXTENT APPLICABLE

A/E	ARCHITECT/ENGINEER
A/V	AUDIO / VISUAL
ABV	ABOVE
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
ADJT	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZE
APPROX	APPROXIMATE
ARCH	ARCHITECT
ASSOC	ASSOCIATION
AUX	AUXILIARY
AVG	AVERAGE

B/	BOTTOM OF
BD	BOARD
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOC
BLDG	BUILDING
BLKG	BLOCKING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BRK	BRICK
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING

CCTV	CLOSED CIRCUIT TV
CD	CONSTRUCTION DOCUMENTS
CDR	CARD READER
CEM	CEMENT
CER	CERAMIC
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CG	CORNER GUARD
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLG HT	CEILING HEIGHT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR, CORRUGATED
CPT	CARPET
CT	CERAMIC TILE

D	DEPTH
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG****	DIAGONAL
DIAG****	DIAGRAM
DIM	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DWG	DRAWING

EA	EACH
EB	EXPANSION BOLT
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATOR
EMER	EMERGENCY
EPS	EXPANDED POLYSTYRENE BOARD (INSULATION)
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT****	EXTERIOR

F/	FACE OF
F/F	FACE TO FACE, FLOOR TO FLOOR
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FF	FINISH FLOOR
FF&E	FIXTURE, FURNISHING & EQUIPMENT
FIN	FINISH
FLR	FLOOR
FR	FRAME
FUR	FURRING
FUT	FUTURE

GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GL	GLASS
GUT	GUTTER

GYP BD	GYPSUM BOARD

H	HIGH
HB	HOSE BIBB
HC	HANDICAPPED
HD	HEAVY DUTY
HDR	HEADER
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HWD	HARDWOOD

IBC	INTERNATIONAL BUILDING CODE
IN	INCH
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT

JAN	JANITOR
JT	JOINT

KD	KNOCK DOWN
KIT	KITCHEN
KO	KNOCKOUT
KPL	KICKPLATE

LAM	LAMINATE
LAV	LAVATORY
LB	POUND
LBR	LUMBER
LF	LINEAR FEET (FOOT)
LH	LEFT HAND
LIN	LINEAR
LKR	LOCKER
LP	LOW POINT
LVR	LOUVER

MO	MASONRY OPENING

NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE

OC	ON CENTER

PCT	PERCENT
PERF	PERFORATED
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR
PRKG	PARKING
PSF	POUNDS PER SQUARE FOOT
PT	PAINT
PT	PRESSURE TREATED
PTN	PARTITION
PWR	POWER

QT	QUARRY TILE
QTY	QUANTITY

R	RISER
RDG INS	RIGID INSULATION, SOLID

SGL	SINGLE
SHT	SHEET
SIM	SIMILAR
SM	SHEET METAL
SQ IN	SQUARE INCH
STC	SOUND TRANMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL
SYM	SYMMETRICAL

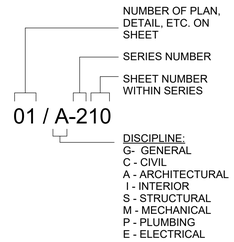
T	TREAD
T&B	TOP AND BOTTOM
T/	TOP OF
T/S	TOP OF STEEL
TEMP	TEMPORARY
THK	THICK
TYP	TYPICAL

UL	UNDERWRITERS LABORATORY

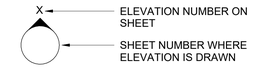
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD

W	WIDTH
W/	WITH
W/O	WITHOUT
WD	WOOD
WH	WALL HYDRANT
WP	WATERPROOFING
WSCT	WAINSCOT
WT	WEIGHT

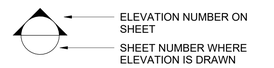
DRAWING REFERENCE



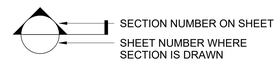
REFERENCE SYMBOLS



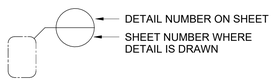
INTERIOR ELEVATION



EXTERIOR ELEVATION

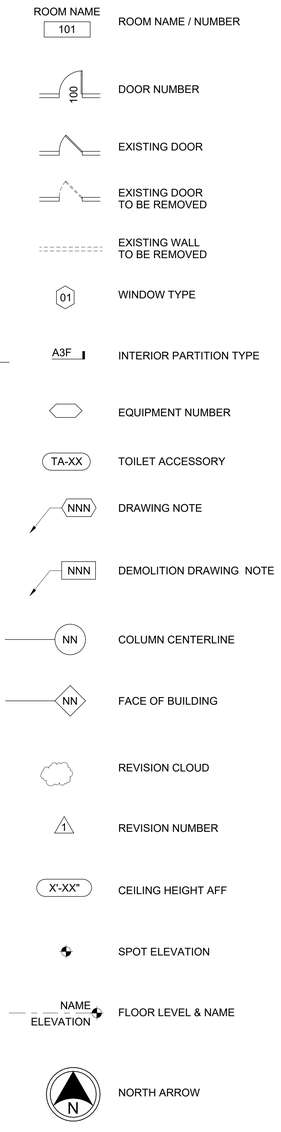


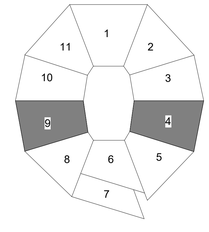
SECTION



DETAIL

DRAWING SYMBOLS





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SCALE: 1/8"=1'-0"

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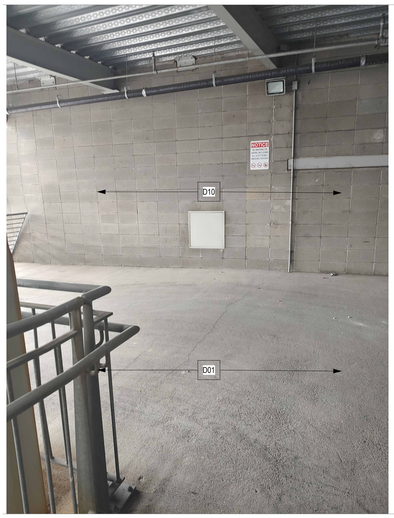
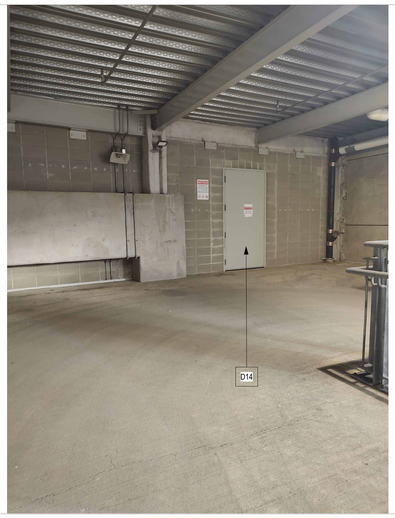
THAMANN	SHULTZ

SYMBOLS & ABBREVIATIONS

DRAWING NUMBER **A-001** ISSUE 3.1



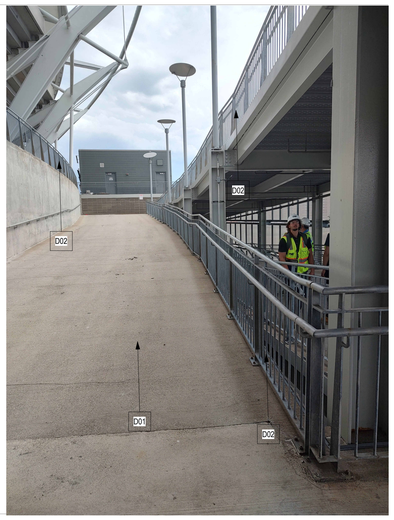
SECTOR 4 - LEVEL 550 SOUTH LANDING



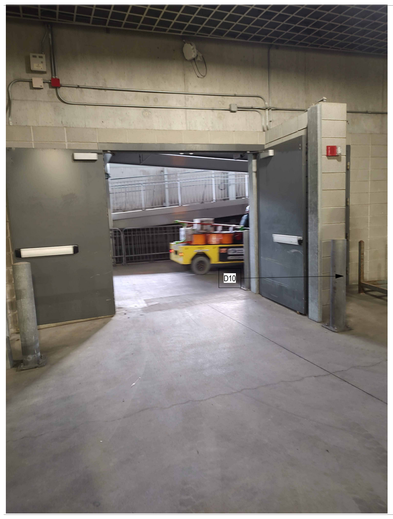
SECTOR 4 - LEVEL 400 NORTH LANDING

SECTOR 9 - LEVEL 350 NORTH LANDING

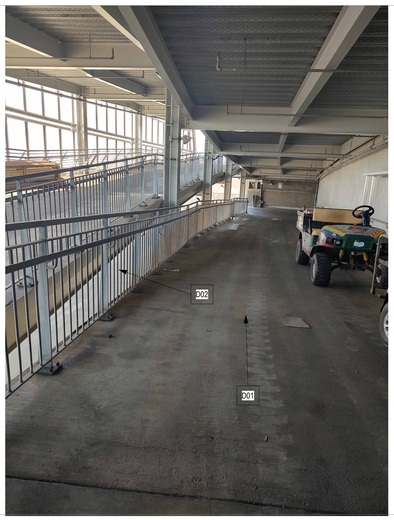
SECTOR 9 - LEVEL 700 RAMP



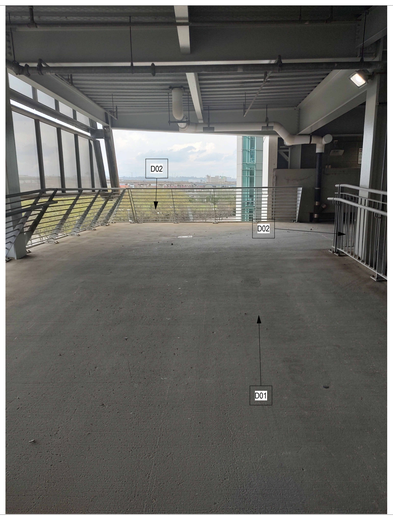
SECTOR 9 - LEVEL 700 RAMP



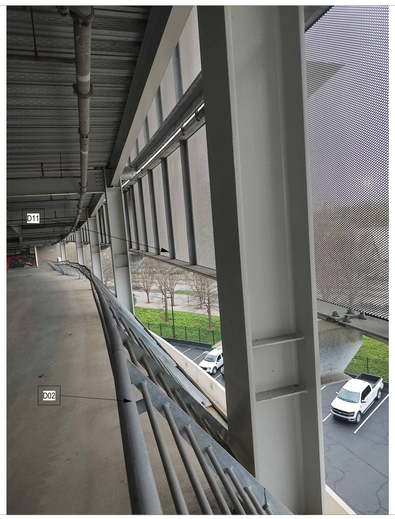
SECTOR 4 - LEVEL 300 EXISTING RAMP ENTRANCE



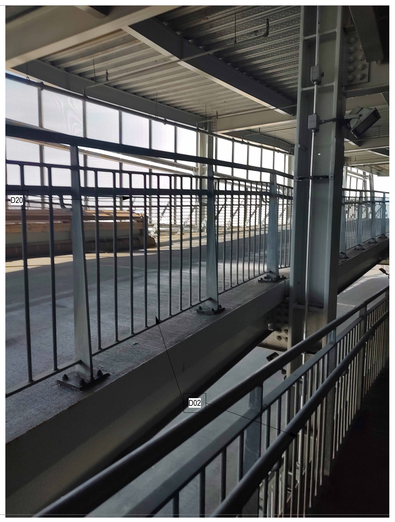
SECTOR 4 - LEVEL 350 RAMP



SECTOR 9 - LEVEL 500 NORTH



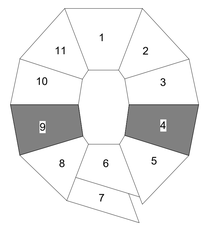
SECTOR 9 - LEVEL 350 RAMP EXISTING SCREEN



SECTOR 4 - LEVEL 400 RAMP CENTER COLUMN

☐ DRAWING NOTES

D01 RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02 REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D10 REMOVE EXISTING WALL
D11 EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION
D14 REMOVE EXISTING DOOR AND FRAME
D20 NOTCH EXISTING PRECAST FOR NEW STEEL BEAM. SEE STRUCTURAL DRAWINGS.



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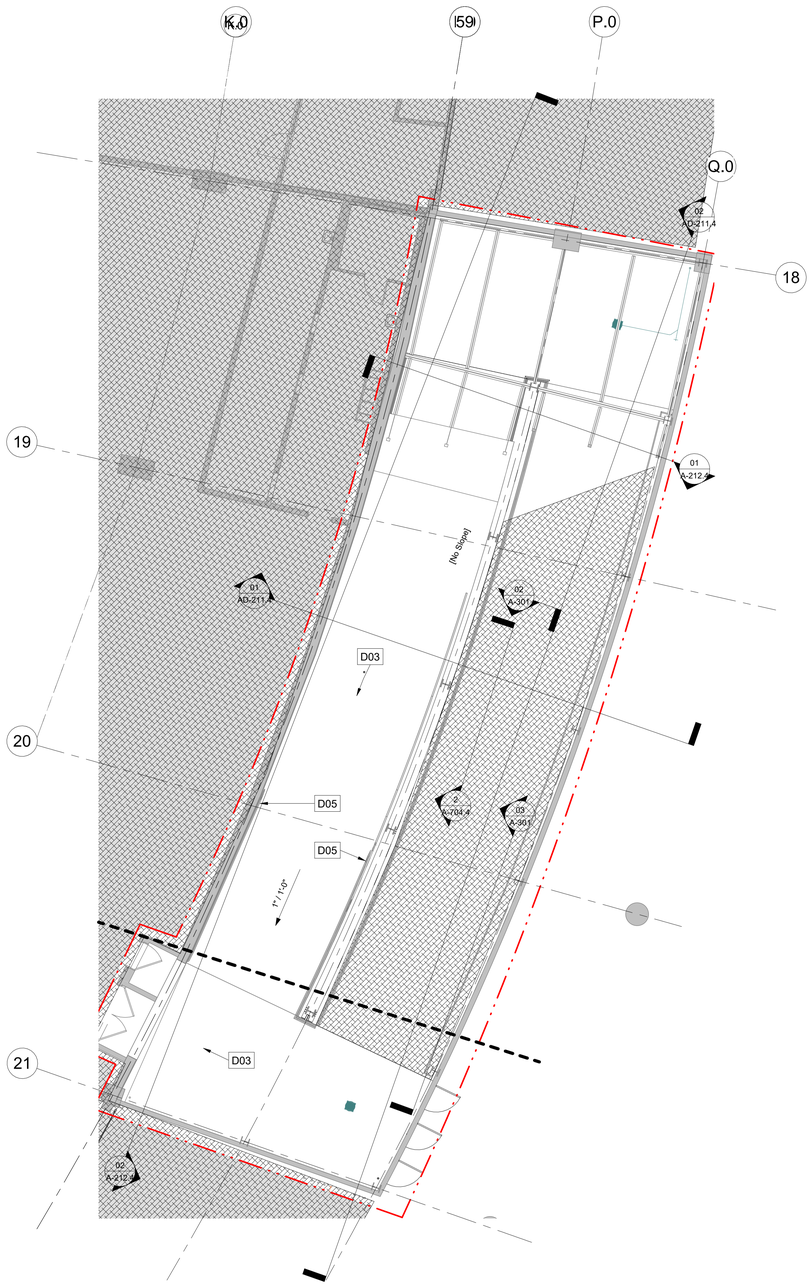
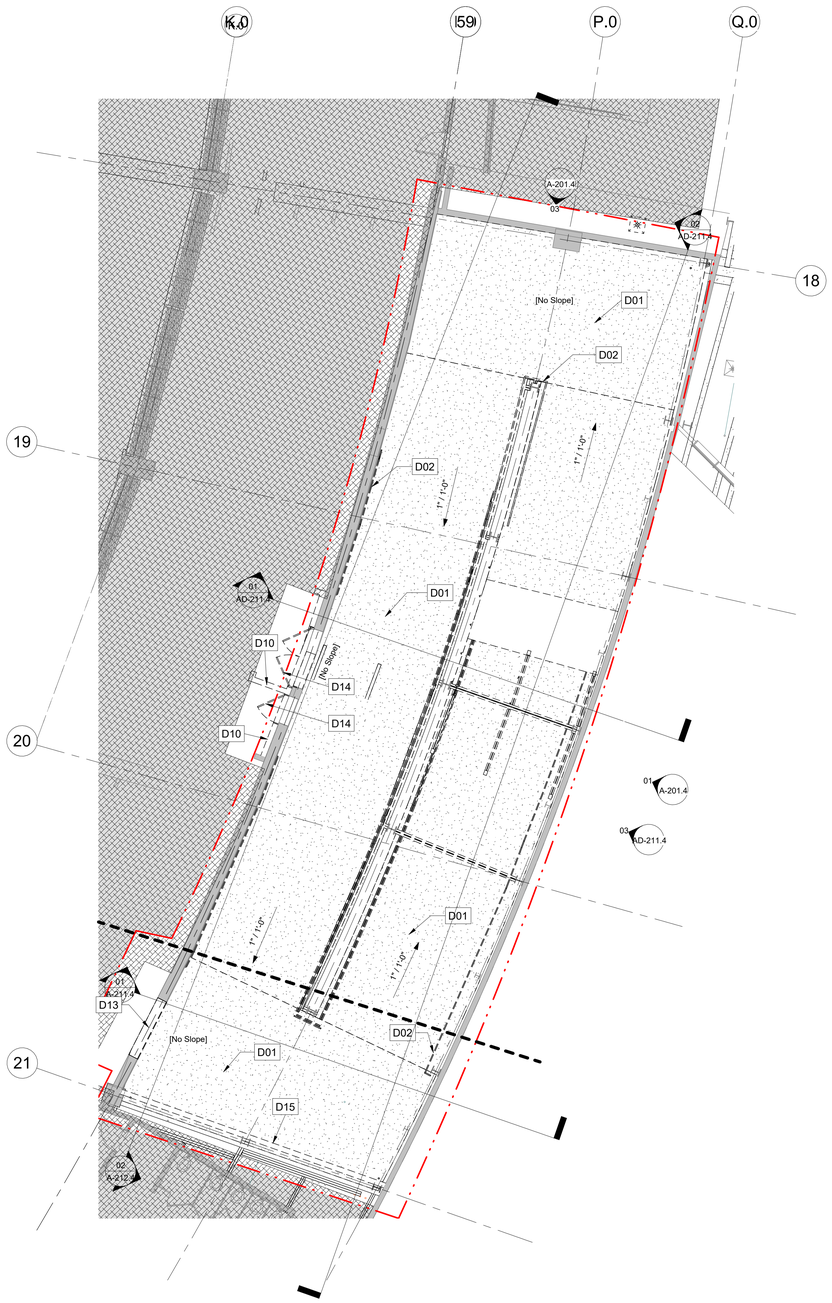
THAMANN	SHULTZ

SECTOR 4 & 9 EXISTING PHOTOS

DRAWING NUMBER ISSUE
AD-101 3.1



1 AD-102.4 **SECTOR 4 - LEVEL 200 DEMOLITION**
1/8" = 1'-0"



2 AD-102.4 **SECTOR 4 - LEVEL 300 DEMOLITION**
1/8" = 1'-0"

GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

B. DEMOLISH ALL EXISTING FLOORING FINISHES, WALL BASE, UNDERLAYMENTS, TRANSITIONS STRIPS, ETC. IN AREAS SCHEDULED TO RECEIVE NEW FINISHES UNLESS NOTED OTHERWISE. PATCH AND/OR REPAIR DAMAGED WALLS AS REQUIRED FOR INSTALLATION OF NEW WALL BASE. PREPARE EXISTING SLABS AS REQUIRED FOR NEW FLOOR FINISHES, INCLUDING ANY NECESSARY REPAIR AND/OR LEVELING FOR NEW FINISHES

C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D03	RETAIN PORTION OF EXISTING LANDING AND/OR RAMP
D05	EXISTING RAILING TO REMAIN
D10	REMOVE EXISTING WALL
D13	OPENING FOR NEW DOOR
D14	REMOVE EXISTING DOOR AND FRAME
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

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Cincinnati, OH 45202

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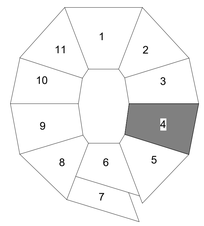


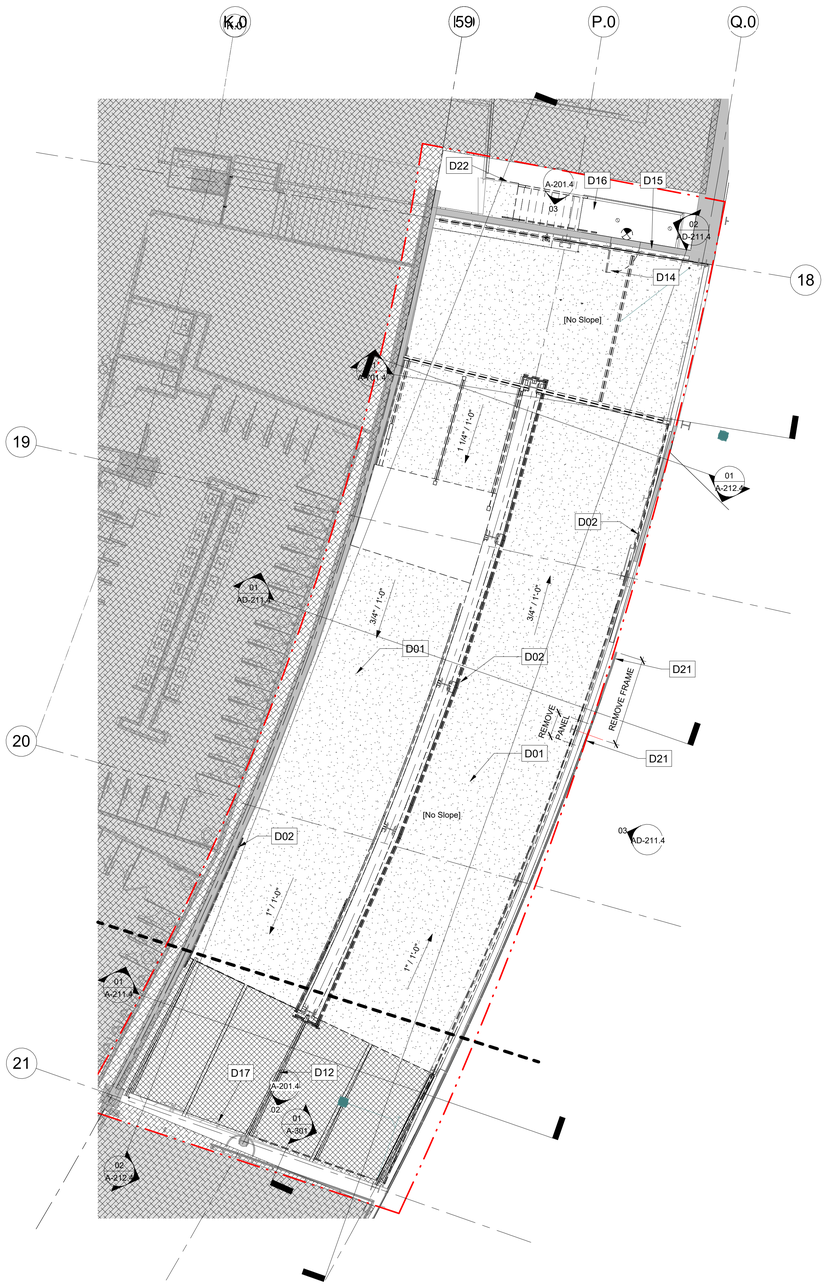
N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

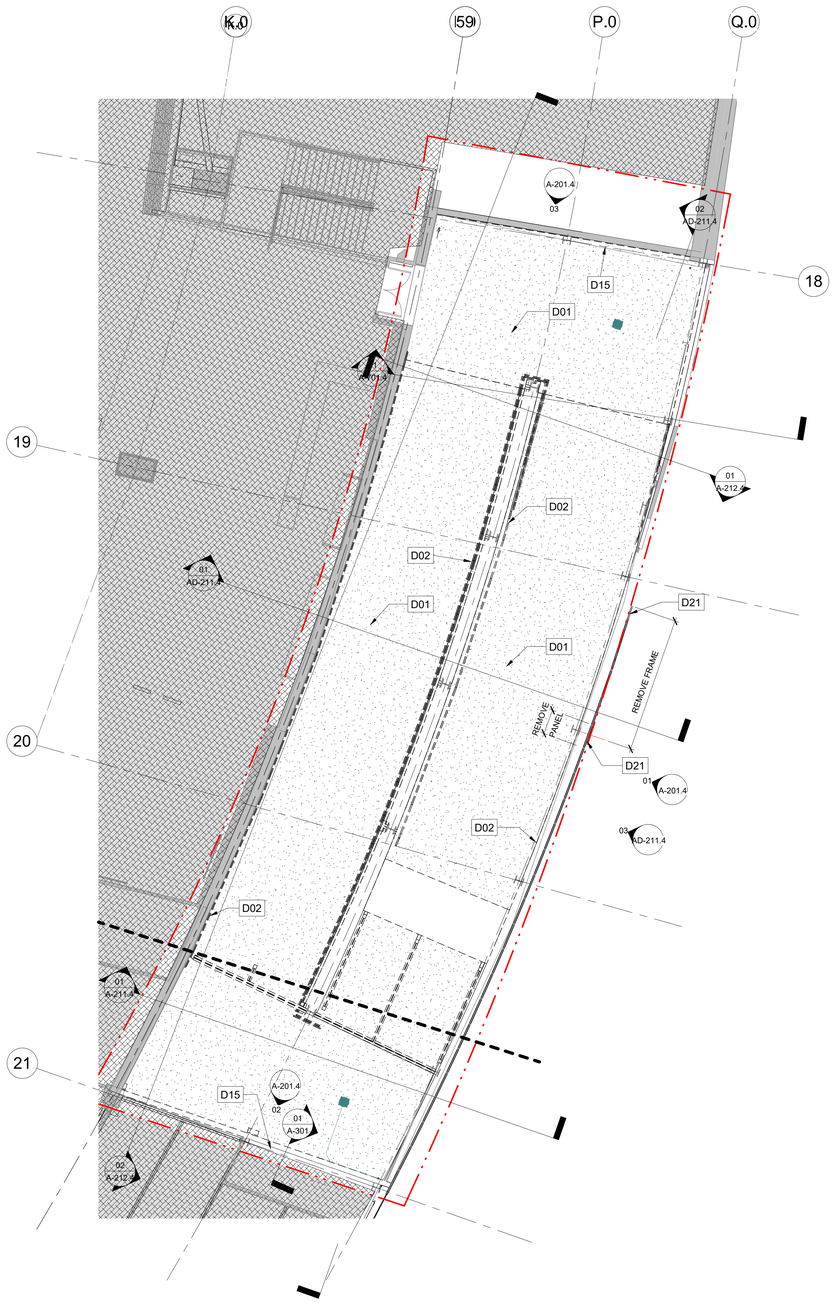
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 200 & 300 DEMOLITION FLOOR PLAN

DRAWING NUMBER ISSUE
AD-102.4 3.1



01 **SECTOR 4 - LEVEL 400 DEMOLITION**
AD-103.4 1/8" = 1'-0"



02 **SECTOR 4 - LEVEL 500 DEMOLITION**
AD-103.4 1/8" = 1'-0"

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

B. DEMOLISH ALL EXISTING FLOORING FINISHES, WALL BASE, UNDERLAYMENTS, TRANSITIONS STRIPS, ETC. IN AREAS SCHEDULED TO RECEIVE NEW FINISHES UNLESS NOTED OTHERWISE. PATCH AND/OR REPAIR DAMAGED WALLS AS REQUIRED FOR INSTALLATION OF NEW WALL BASE. PREPARE EXISTING SLABS AS REQUIRED FOR NEW FLOOR FINISHES, INCLUDING ANY NECESSARY REPAIR AND/OR LEVELING FOR NEW FINISHES

C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D12	EXISTING CONCRETE AND METAL DECK TO BE REMOVED. STRUCTURE TO REMAIN. SEE STRUCTURAL DRAWINGS.
D14	REMOVE EXISTING DOOR AND FRAME
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D16	REMOVE EXISTING STAIR, LANDING AND HANDRAIL
D17	EXISTING STOREFRONT TO REMAIN AND BRACED. WALL ABOVE TO BE REMOVED
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT
D22	REMOVE EXISTING INTERIOR RAILING IN CLUB INTERIOR SPACE. SAVE HORZ. SECTION TO REINSTALL.

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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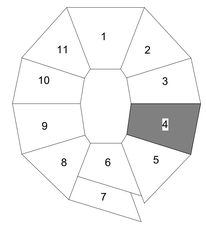
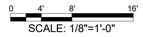


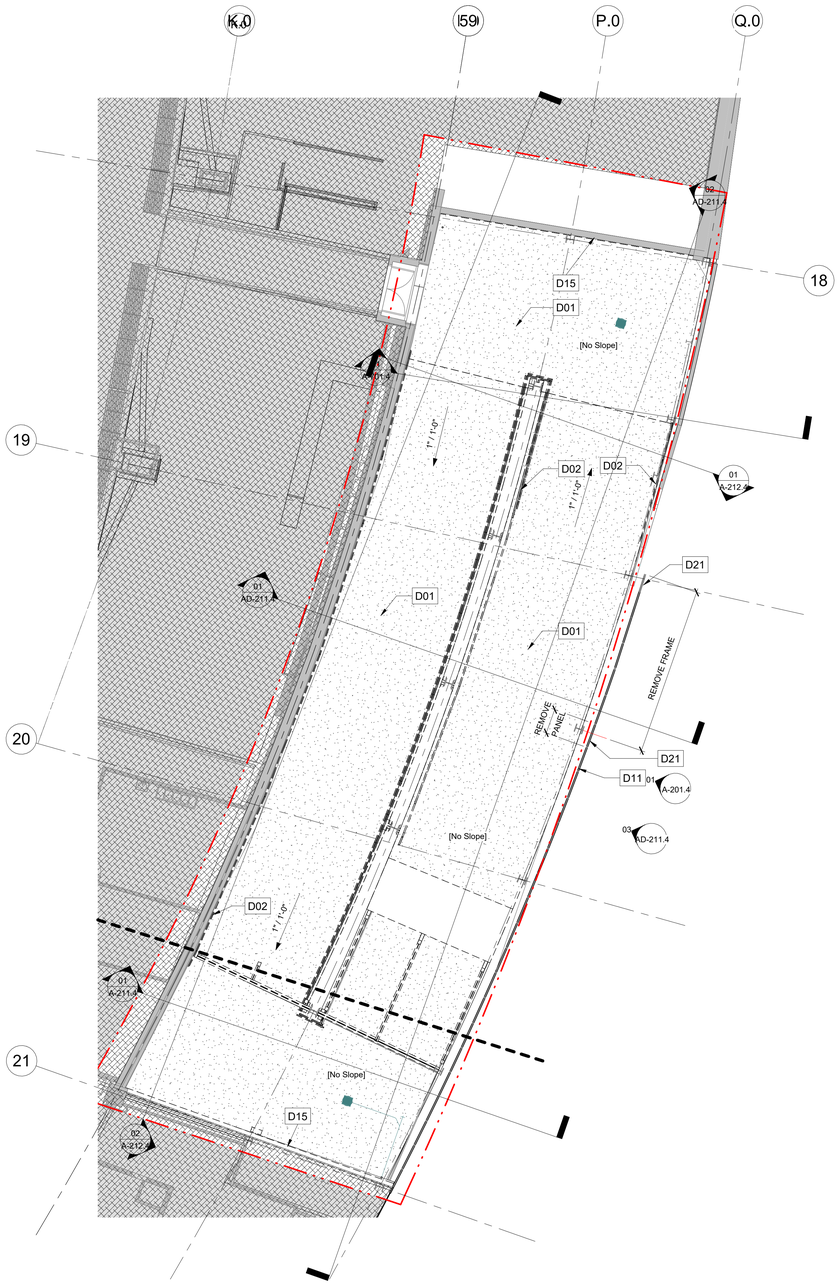


SCALE: 1/8"=1'-0"

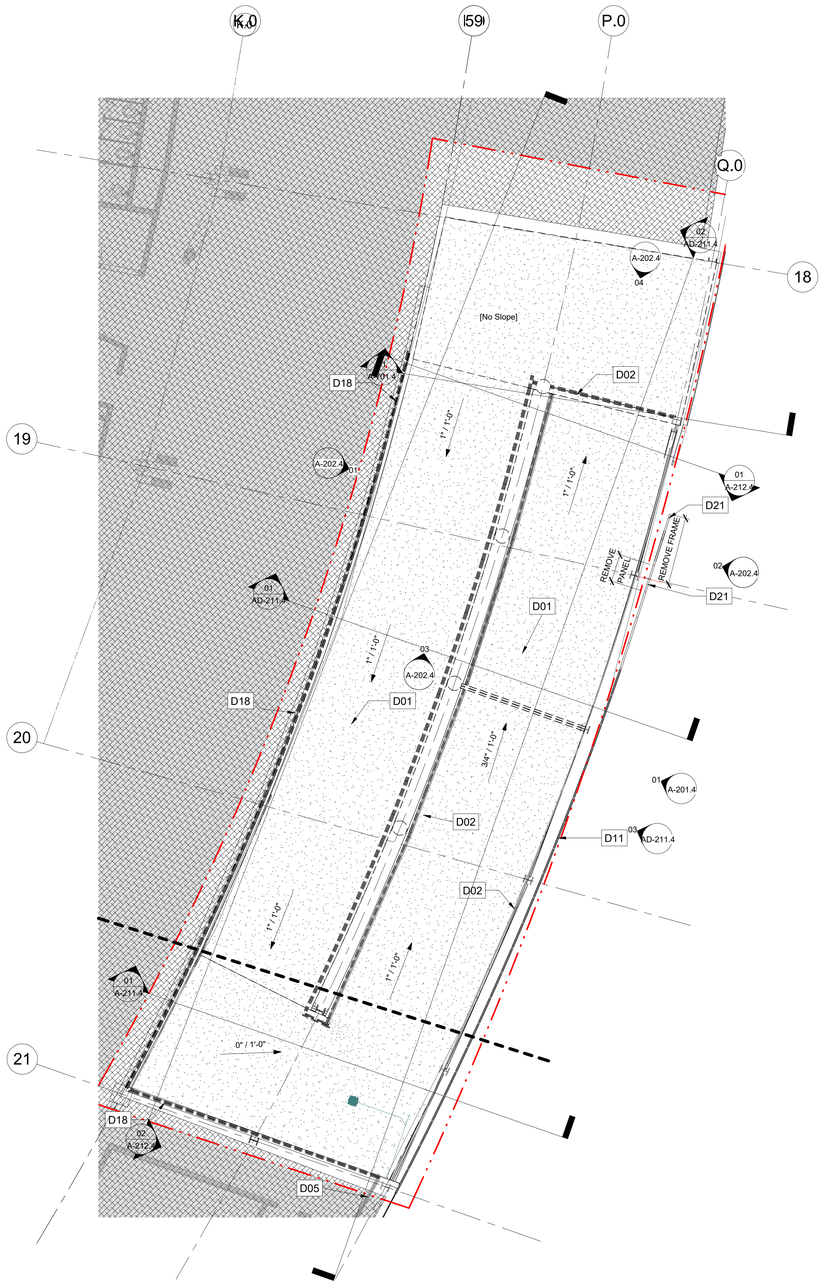
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 400 & 500 DEMOLITION FLOOR PLAN

DRAWING NUMBER ISSUE
AD-103.4 3.1



1 AD-104.4 **SECTOR 4 - LEVEL 600 DEMOLITION**
1/8" = 1'-0"



2 AD-104.4 **SECTOR 4 - LEVEL 700 DEMOLITION**
1/8" = 1'-0"

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

B. DEMOLISH ALL EXISTING FLOORING FINISHES, WALL BASE, UNDERLAYMENTS, TRANSITIONS STRIPS, ETC. IN AREAS SCHEDULED TO RECEIVE NEW FINISHES UNLESS NOTED OTHERWISE. PATCH AND/OR REPAIR DAMAGED WALLS AS REQUIRED FOR INSTALLATION OF NEW WALL BASE. PREPARE EXISTING SLABS AS REQUIRED FOR NEW FLOOR FINISHES, INCLUDING ANY NECESSARY REPAIR AND/OR LEVELING FOR NEW FINISHES

C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D05	EXISTING RAILING TO REMAIN
D11	EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION.
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D18	REMOVE EXISTING GUARDRAIL AND CONCRETE CURB
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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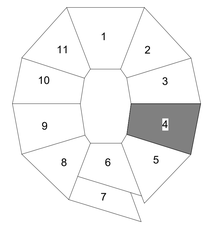


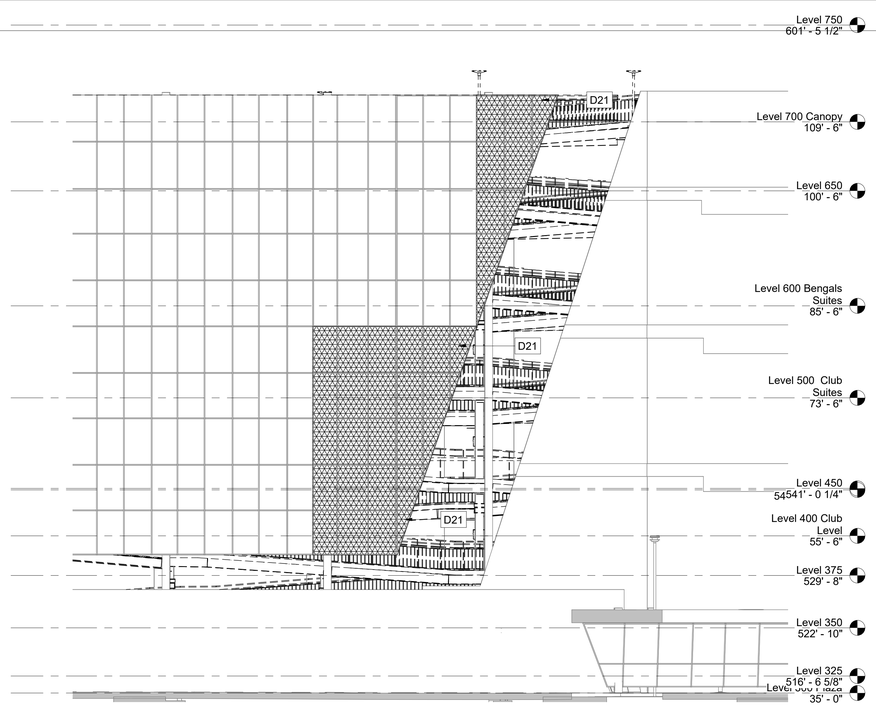
N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 600 & 700 DEMOLITION FLOOR PLAN

DRAWING NUMBER ISSUE
AD-104.4 3.1



03 **SECTOR 4 - DEMOLITION ELEVATION**
AD-211.4 1/8" = 1'-0"

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D03	RETAIN PORTION OF EXISTING LANDING AND/OR RAMP
D05	EXISTING RAILING TO REMAIN
D11	EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION.
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D16	REMOVE EXISTING STAIR, LANDING AND HANDRAIL
D17	EXISTING STOREFRONT TO REMAIN AND BRACED. WALL ABOVE TO BE REMOVED
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT
D23	LIMITED DEMOLITION FOR REMOVAL OF STEEL RELATED TO EXISTING STAIR IN CLUB INTERIOR SPACE

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

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C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

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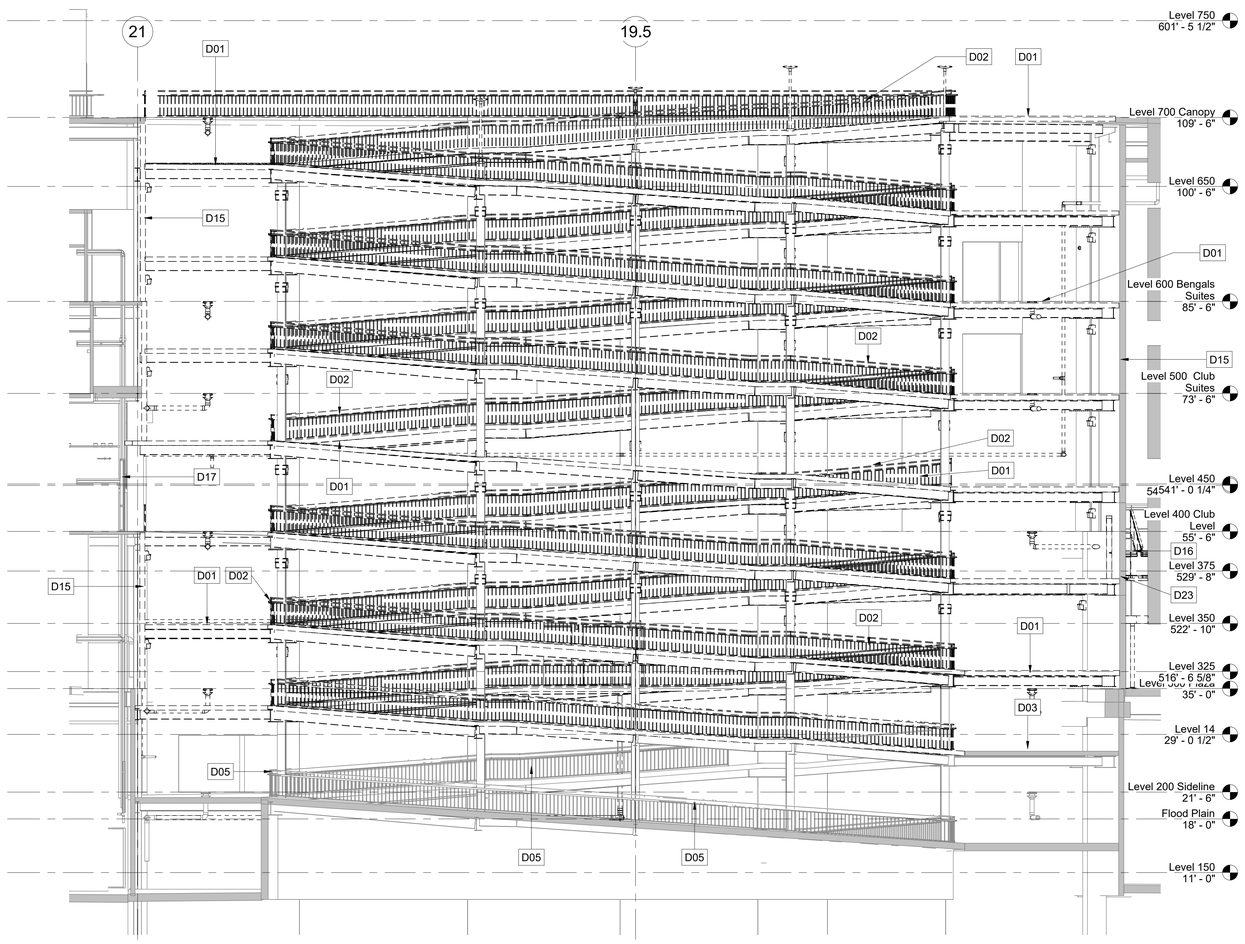
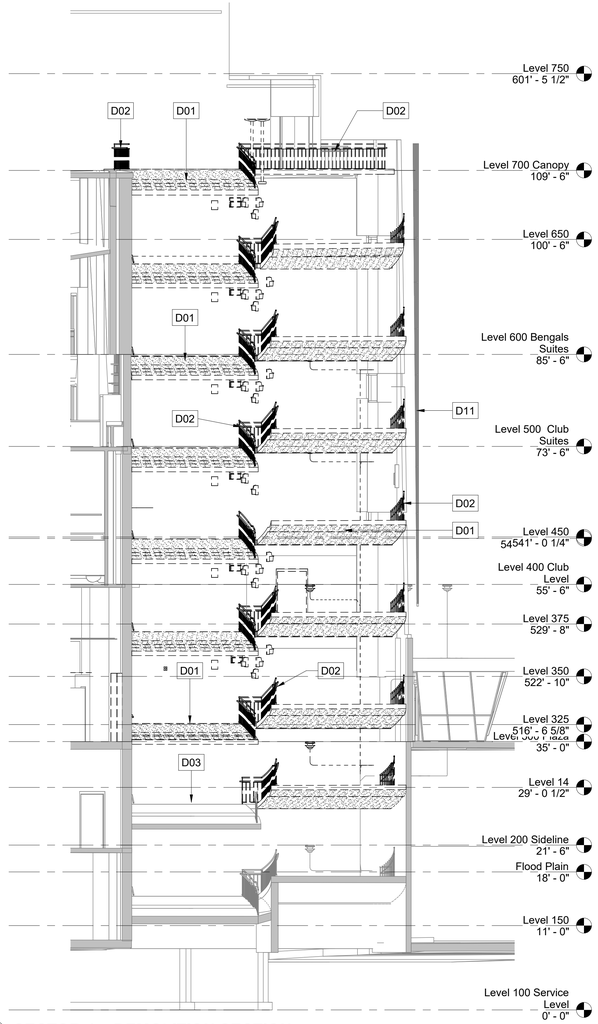
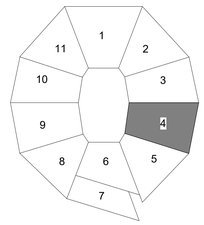


02 **SECTOR 4 - DEMOLITION SECTION**
AD-211.4 1/8" = 1'-0"



01 **SECTOR 4 - DEMOLITION SECTION**
AD-211.4 1/8" = 1'-0"



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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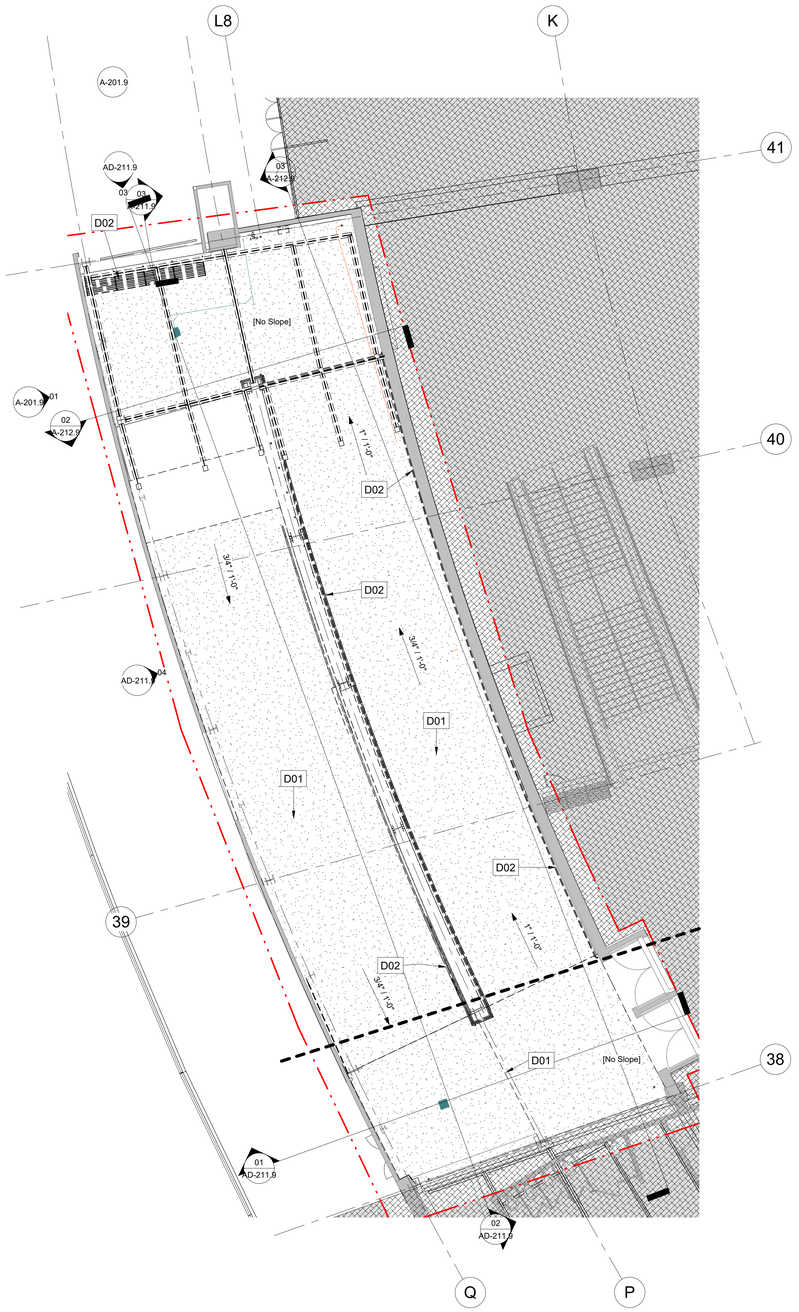
DESIGNED CARLETON	COMM. NO. 8445.01
DRAWN ALMOND	DATE 05/01/26
CHECKED THAMANN	PROJ. MGR. SHULTZ

SECTOR 4 - DEMOLITION SECTION & ELEVATION

DRAWING NUMBER ISSUE
AD-211.4 3.1

1 AD-106.9 **SECTOR 9 - LEVEL 200 DEMOLITION**
1/8" = 1'-0"



2 AD-106.9 **SECTOR 9 - LEVEL 300 DEMOLITION**
1/8" = 1'-0"

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

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C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D04	NEW OPENING. STADIUM GATES TO BE RECONFIGURED
D07	REMOVE EXISTING SLAB FOR NEW ESCALATOR PIT. SEE STRUCTURAL DRAWINGS.
D08	REMOVE EXISTING GATES. SAVE TO INSTALL AFTER NEW CONSTRUCTION
D09	REMOVE EXISTING WIRE MESH FENCE STRUCTURE. SAVE TO INSTALL AFTER NEW CONSTRUCTION.
D10	REMOVE EXISTING WALL
D19	EXISTING GATES TO REMAIN

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

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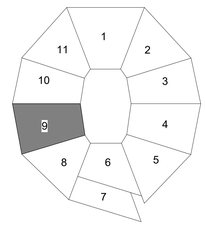
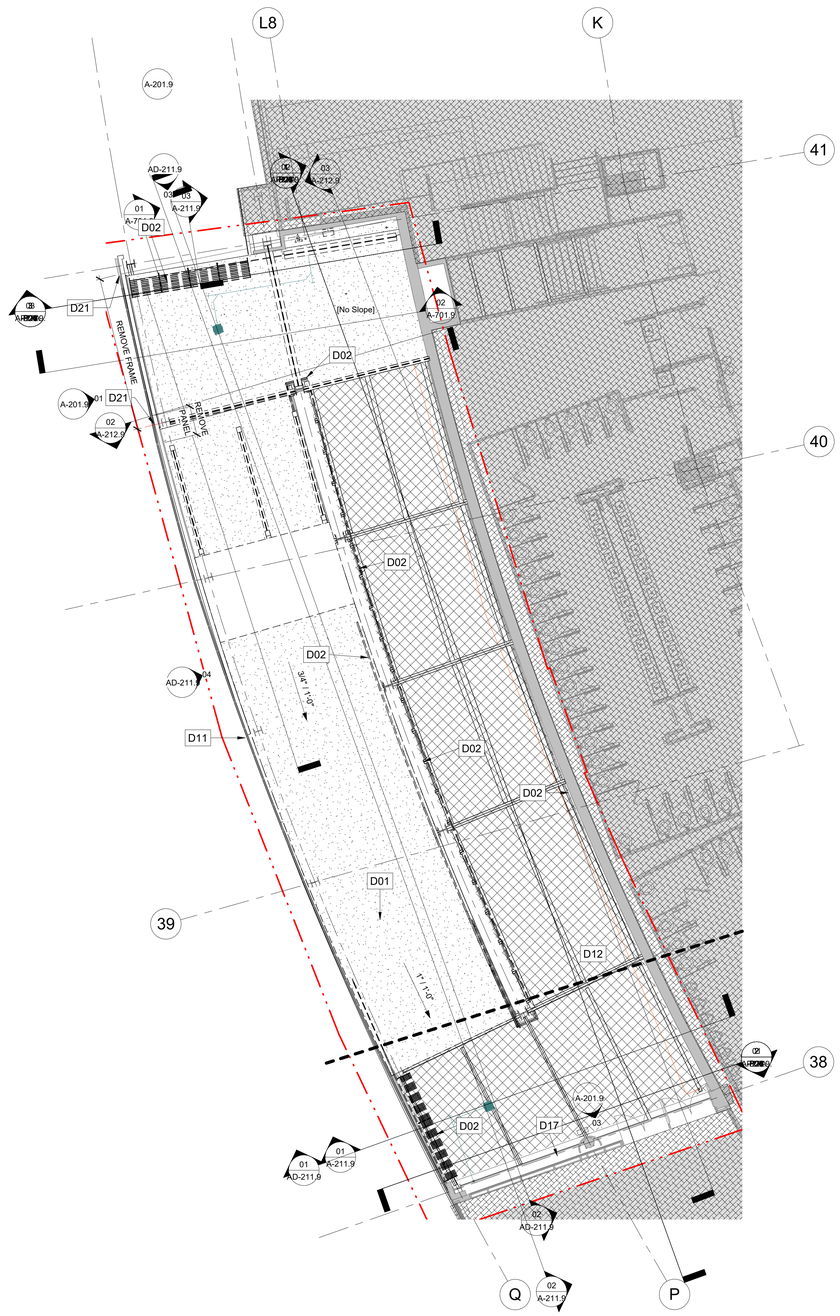


0 4' 8' 16'
SCALE: 1/8"=1'-0"

DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 200 & 300 DEMOLITION FLOOR PLAN

DRAWING NUMBER ISSUE
AD-106.9 3.1



02 **SECTOR 9 - LEVEL 400 DEMOLITION**
AD-107.9 1/8" = 1'-0"

01 **SECTOR 9 - LEVEL 500 DEMOLITION**
AD-107.9 1/8" = 1'-0"

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

B. DEMOLISH ALL EXISTING FLOORING FINISHES, WALL BASE, UNDERLAYMENTS, TRANSITIONS STRIPS, ETC. IN AREAS SCHEDULED TO RECEIVE NEW FINISHES UNLESS NOTED OTHERWISE. PATCH AND/OR REPAIR DAMAGED WALLS AS REQUIRED FOR INSTALLATION OF NEW WALL BASE. PREPARE EXISTING SLABS AS REQUIRED FOR NEW FLOOR FINISHES, INCLUDING ANY NECESSARY REPAIR AND/OR LEVELING FOR NEW FINISHES

C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

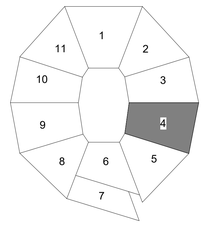
H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D11	EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION.
D12	EXISTING CONCRETE AND METAL DECK TO BE REMOVED. STRUCTURE TO REMAIN. SEE STRUCTURAL DRAWINGS.
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D17	EXISTING STOREFRONT TO REMAIN AND BRACED. WALL ABOVE TO BE REMOVED
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT



0 4" 8" 16"
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

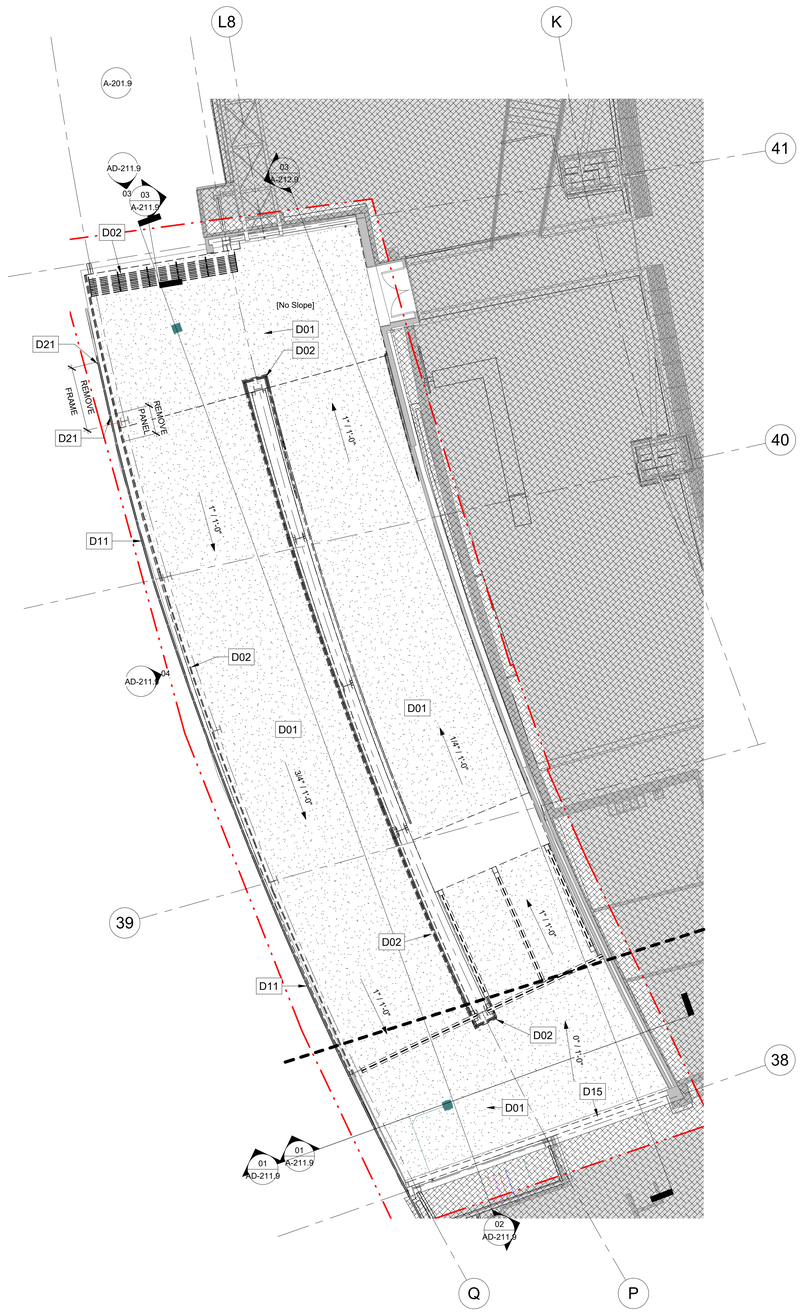
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

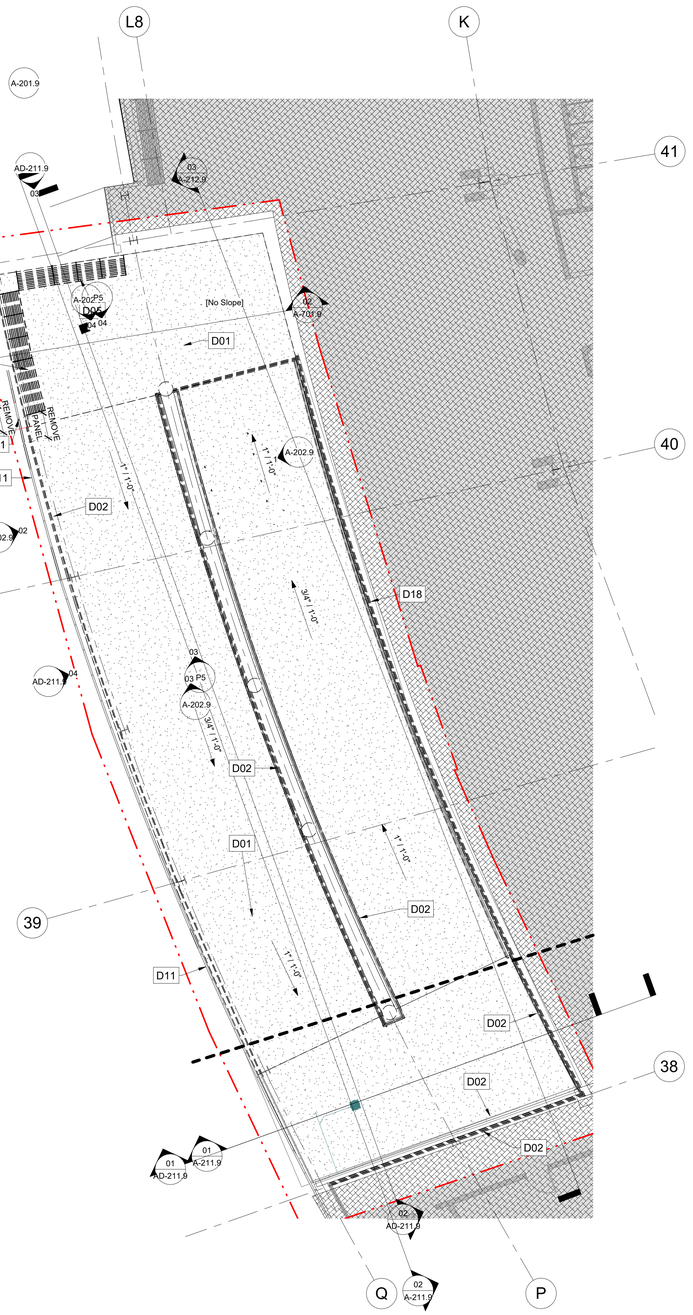
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 400 & 500 DEMOLITION FLOOR PLAN

DRAWING NUMBER ISSUE
AD-107.9 3.1



02 AD-108.9 **SECTOR 9 - LEVEL 600 DEMOLITION**
1/8" = 1'-0"



01 AD-108.9 **SECTOR 9 - LEVEL 700 DEMOLITION**
1/8" = 1'-0"

DEMOLITION GENERAL NOTES

A. MEP EQUIPMENT, PIPING, DUCTWORK, CONDUITS, ETC. SHALL BE DEMOLISHED AS REQUIRED FOR NEW WORK, INCLUDING, BUT NOT LIMITED TO ALL ASSOCIATED ITEMS SUCH AS FOUNDATIONS, HOUSEKEEPING PADS, ANCHORS, HANGERS, ACCESSOROES AND OTHER ASSOCIATED ITEMS NO LONGER NEEDED.

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C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

D. ALL REMOVED/DEMOLISHED JUNCTION BOXES, ETC. IN WALLS SLATED TO REMAIN SHALL BE INFILLED - INFILL MATERIAL TO MATCH ADJACENT MATERIAL AND FINISH

E. ALL GLAZING AND DOORS SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE

F. PATCH FLOOR AT ALL REMOVED PIPING & CONDUIT

G. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION & REMOVAL OF ALL MEP & TELECOM ITEMS - COORDINATE WITH FACILITIES MANAGEMENT - REMOVE ITEMS BACK TO NEAREST TRUNK LINE, RISER, ETC. SLATED TO REMAIN AND CAP OFF DEMOLISHED LINES AS REQUIRED

H. SUITES AND CLUB AREAS ARE NOT IN SCOPE

I. PROTECT ALL EXISTING T.V. VIDEO SCREENS, ARTWORK ADJACENT TO AREAS OF DEMOLITION

J. EXISTING EXTERIOR METAL SCREEN IS TO REMAIN. PROTECT PANELS AND RELATED STRUCTURE DURING DEMOLITION.

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D05	EXISTING RAILING TO REMAIN
D11	EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION.
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D18	REMOVE EXISTING GUARDRAIL AND CONCRETE CURB
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT

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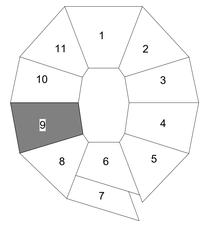

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DRAWN	DATE
CARLETON	05/01/26
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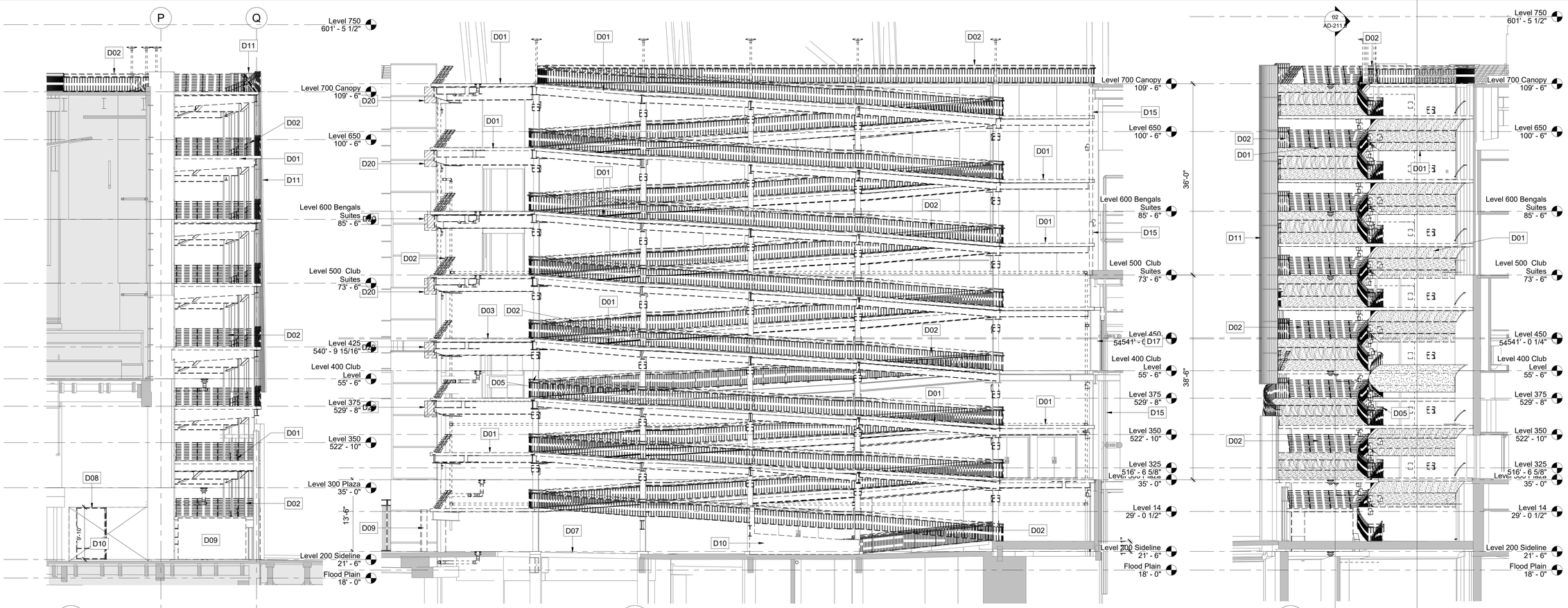
THAMANN	SHULTZ

SECTOR 9 - LEVEL 600 & 700 DEMOLITION FLOOR PLAN

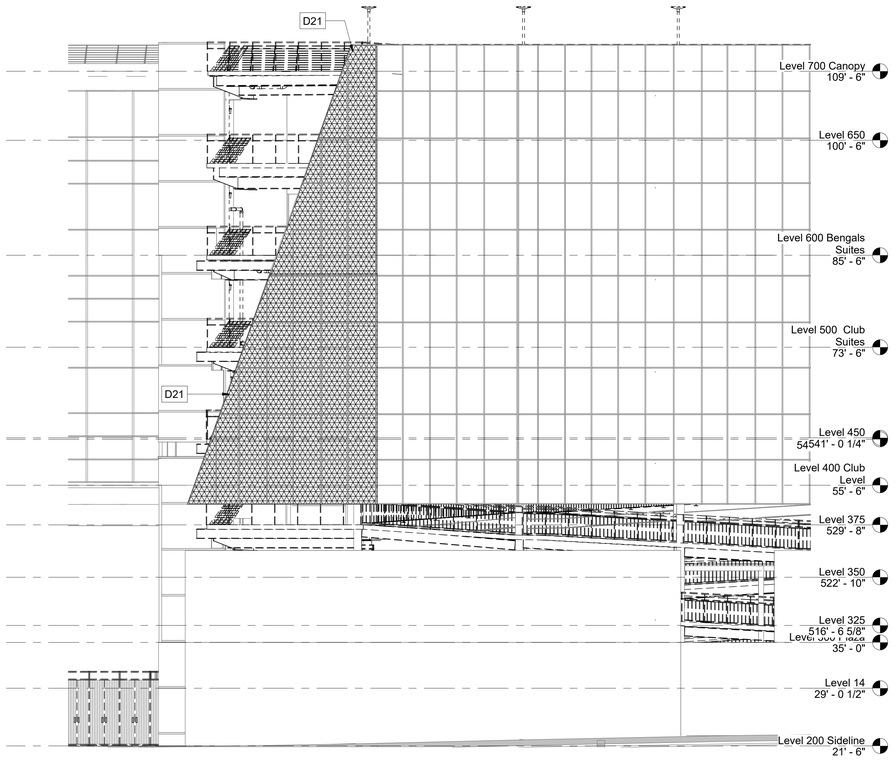
DRAWING NUMBER ISSUE
AD-108.9 3.1



03 **SECTION 9 - DEMOLITION ELEVATION**
AD-211.9 1/8" = 1'-0"

02 **SECTION 9 - DEMOLITION SECTION**
AD-211.9 1/8" = 1'-0"

01 **SECTION 9 - DEMOLITION SECTION**
AD-211.9 1/8" = 1'-0"



04 **SECTION 9 - DEMOLITION ELEVATION**
AD-211.9 1/8" = 1'-0"

☐ DRAWING NOTES

D01	RAMP FLOOR AND STRUCTURE TO BE REMOVED
D02	REMOVE EXISTING RAILINGS AND ASSOCIATED HARDWARE
D03	RETAIN PORTION OF EXISTING LANDING AND/OR RAMP
D05	EXISTING RAILING TO REMAIN
D07	REMOVE EXISTING SLAB FOR NEW ESCALATOR PIT. SEE STRUCTURAL DRAWINGS.
D08	REMOVE EXISTING GATES. SAVE TO INSTALL AFTER NEW CONSTRUCTION
D09	REMOVE EXISTING WIRE MESH FENCE STRUCTURE. SAVE TO INSTALL AFTER NEW CONSTRUCTION.
D10	REMOVE EXISTING WALL
D11	EXISTING METAL PERFORATED PANELS TO REMAIN. PROTECT PANELS DURING CONSTRUCTION.
D15	REMOVE EXISTING CONCRETE BLOCK WALL. PROTECT EXISTING FINISH SPACES BEYOND AS REQUIRED.
D17	EXISTING STOREFRONT TO REMAIN AND BRACED. WALL ABOVE TO BE REMOVED
D20	NOTCH EXISTING PRECAST FOR NEW STEEL BEAM. SEE STRUCTURAL DRAWINGS.
D21	REMOVE FRAME SECTION WITH PERFORATED PANEL TO BE REMOVED FOR STEEL DEMOLITION. STORE AND PROTECT PERFORATED PANELS TO REINSTALL AT COMPLETION OF PROJECT

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C. SEE STRUCTURAL DRAWINGS FOR DEMOLITION SCOPE OF COLUMNS, BEAMS, BRACES, ETC. **DO NOT START DEMOLITION WITHOUT STRUCTURAL BRACING AND SHORING AS NOTED ON STRUCTURAL DRAWNGS.**

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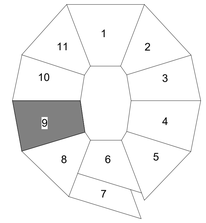

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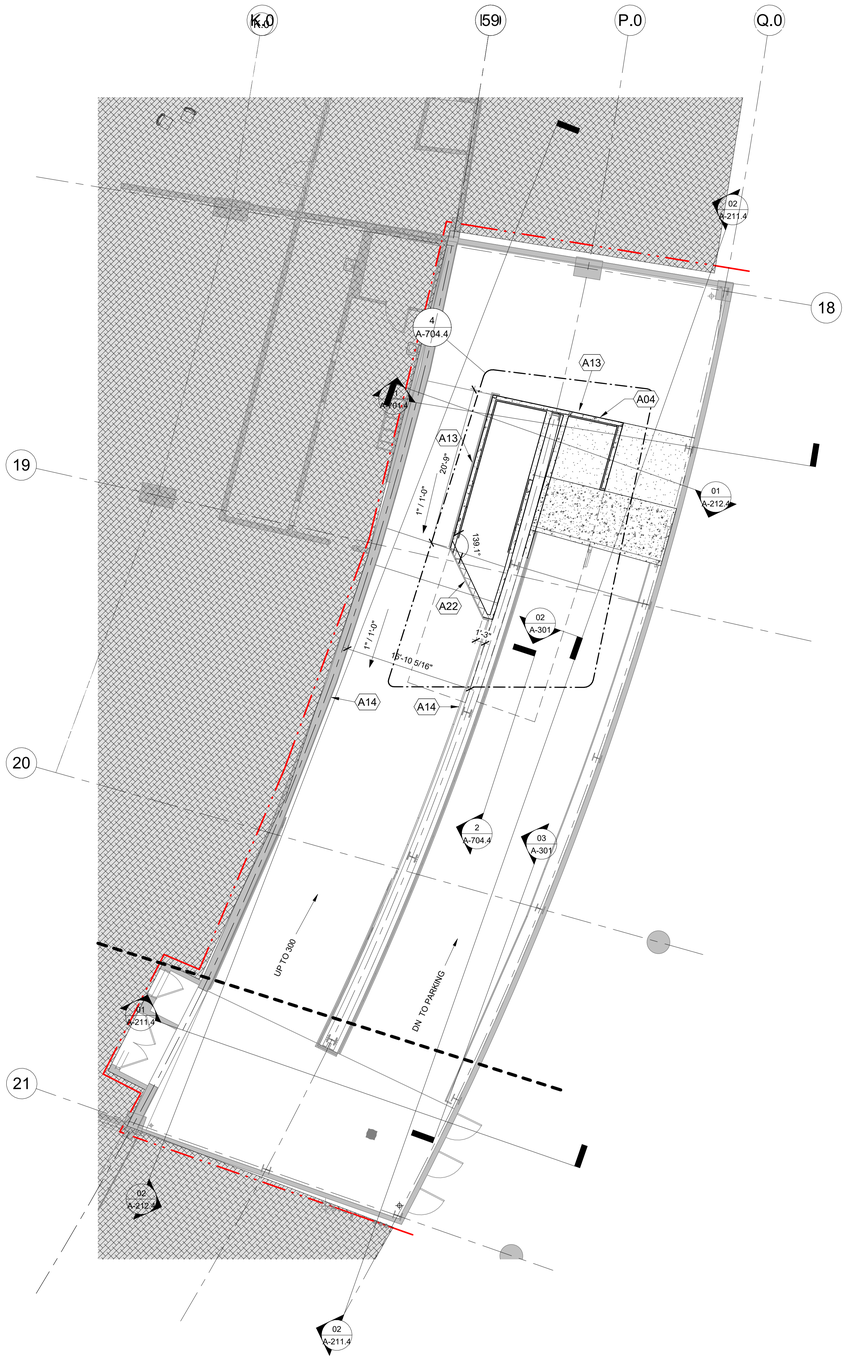
THAMANN	SHULTZ

SECTOR 9 - DEMOLITION SECTIONS

DRAWING NUMBER ISSUE
AD-211.9 3.1



01 A-102.4 **SECTOR 4 - LEVEL 200 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

02 A-102.4 **SECTOR 4 - LEVEL 300 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
D. USE ONLY WRITTEN DIMENSIONS - DO NOT SCALE DRAWINGS.
E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
I. ALL NEW STANDARD DOORS IN CMU PARTITIONS TO BE LOCATED 8" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
J. PROVIDE BULLNOSE MASONRY UNITS AT ALL EXPOSED OUTSIDE CORNER LOCATIONS UNLESS SCHEDULED TO RECEIVE TILE, CORNER GUARD, OR INDICATED OTHERWISE
K. HANDRAILS ARE REQUIRED ON ALL GUARDRAILS AT STAIRS AND RAMPS. ALL HANDRAILS TO MEET ANSI 117.1. HANDRAIL TYPES ARE NOTED ON FLOOR PLAN SHEETS A-102.4 - A109.9.
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A02	ALIGN 8" CMU WALL WITH FACE OF ESCALATOR ABOVE
A04	ALIGN CONCRETE WALL WITH RAMP AND LANDING ABOVE
A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A11	GUARDRAIL D, HANDRAIL ONLY W/STRAIGHT BALUSTERS
A13	HANDRAIL ATTACHED TO WALL
A14	EXISTING RAILING
A15	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT LANDINGS WITH HANDRAIL
A22	8" CMU WALL. STACKED BOND. SEE STRUCTURAL DRAWINGS FOR WALL ATTACHMENT AND REINFORCING
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.

DOOR AND FRAME SCHEDULE SECTOR 4

	DOOR								FRAME			DETAILS					
MARK	# OF LEAFS	WIDTH	HEIGHT	THK	TYPE	MATL	FINISH	GLASS	TYPE	MATL	FINISH	HEAD	JAMB	RATING	HDW SET	REMARKS	MARK
2.04.01	1	3' - 0"	7' - 0"	0' - 2"	F	HM				HM							2.04.01
3.04.02	2	4' - 0"	7' - 10"	0' - 2"	F												3.04.02
3.04.03	2	4' - 0"	8' - 4"	0' - 2"	F												3.04.03

DOOR SCHEDULE ABBREVIATIONS

AL ALUMINUM
AN CLEAR ANODIZED
FP FACTORY PAINTED FINISH
HM HOLLOW METAL
PT PAINT
ST STAIN
STL STEEL
WD WOOD

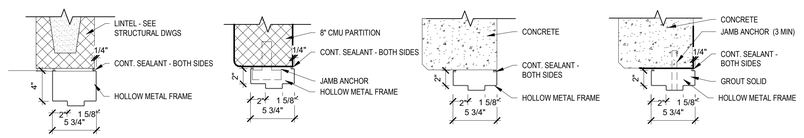
HARDWARE SETS

H1 MORTISE LOCK & 8204 (STOREROOM FUNCTION)
F LEVER – LN ROSE
SARGENT 351 WITH HOLD OPEN CLOSER

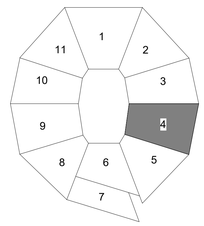
H2 SARGENT 80 SERIES/RIM EXIT DEVICE (CLUB SIDE)
NO EXTERIOR HARDWARE (RAMP SIDE)
DOOR KEYLOCK CORE SARGENT L SERIES SIGNATURE
HOLD OPEN BOTH DOORS
LCM2034 CONCEALED CLOSER

REMARKS

R1 HOLLOW METAL DOOR AND FRAME
R2



3 A-102.4 **HEAD AND JAMB DETAILS**
1 1/2" = 1'-0"



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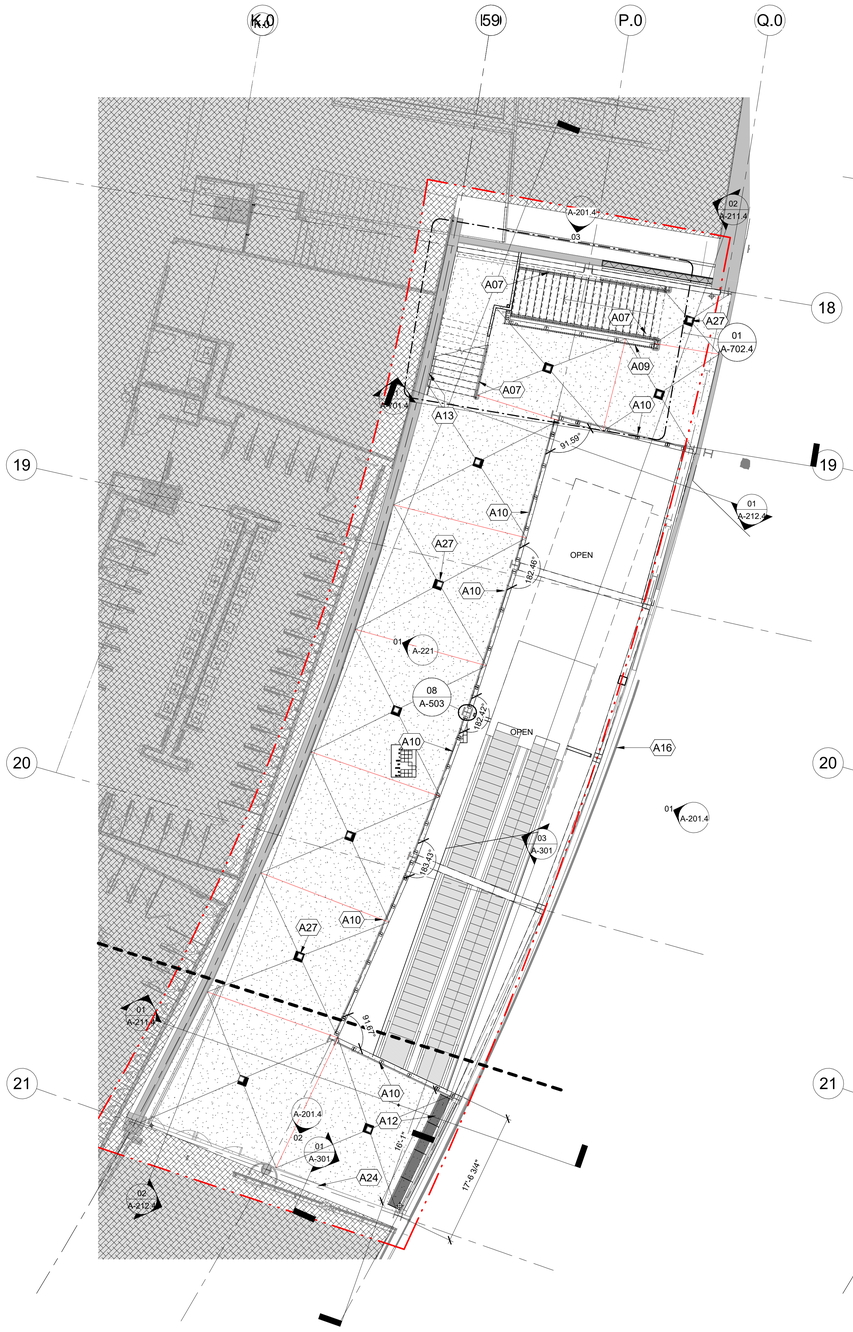
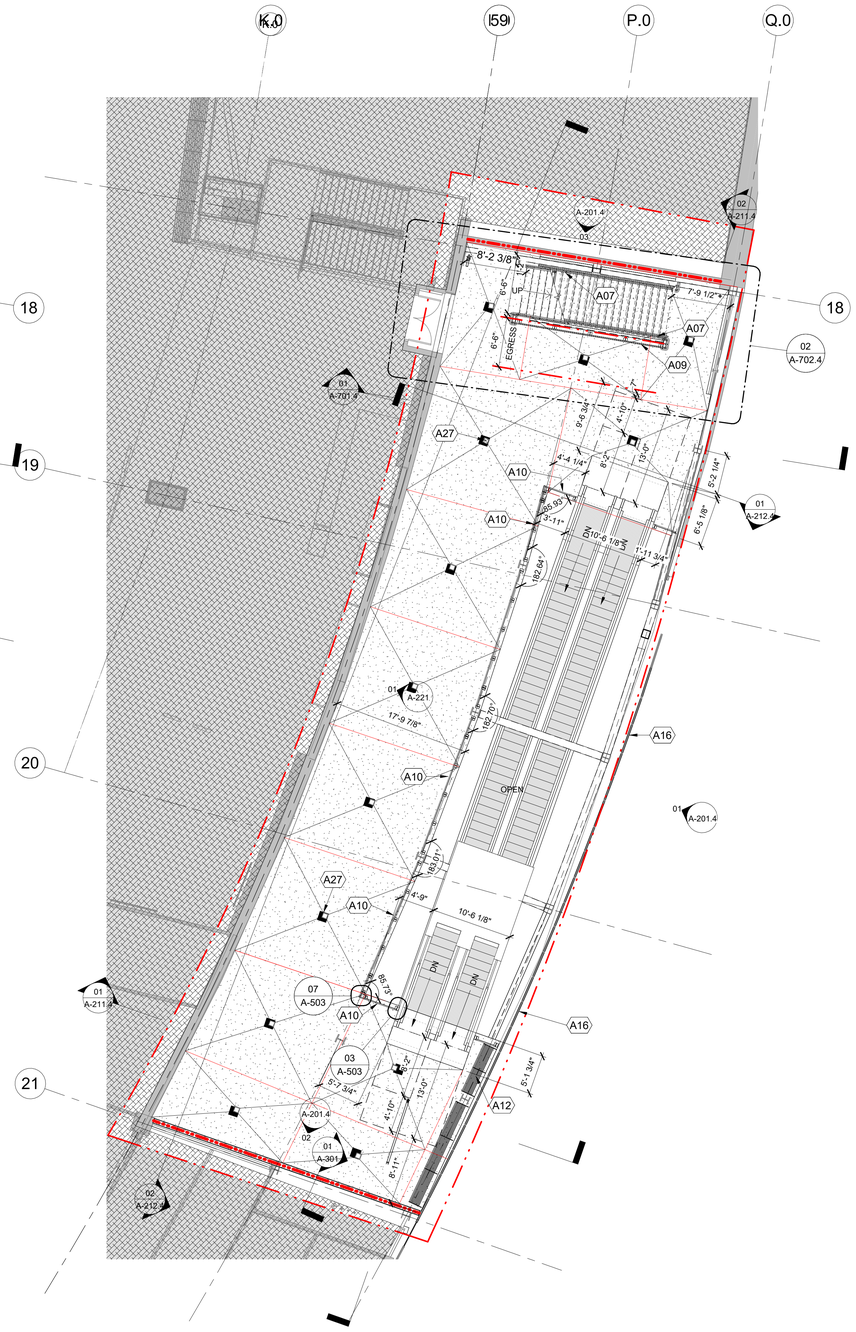
SECTOR 4 - LEVEL 200 & 300 PLANS

DRAWING NUMBER ISSUE
A-102.4 3.1



01 A-103.4 **SECTOR 4 - LEVEL 400 NEW WORK FLOOR PLAN**
1/8" = 1'-0"



02 A-103.4 **SECTOR 4 - LEVEL 500 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
D. USE ONLY WRITTEN DIMENSIONS - DO NOT SCALE DRAWINGS.
E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
I. ALL NEW STANDARD DOORS IN CMU PARTITIONS TO BE LOCATED 8" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
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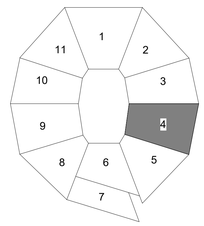
K. HANDRAILS ARE REQUIRED ON ALL GUARDRAILS AT STAIRS AND RAMPS. ALL HANDRAILS TO MEET ANSI 117.1. HANDRAIL TYPES ARE NOTED ON FLOOR PLAN SHEETS A-102.4 - A109.9.
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

⬡ DRAWING NOTES

A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A12	GUARDRAIL C, HORIZONTAL GUARD W/ANGLED BALUSTERS
A13	HANDRAIL ATTACHED TO WALL
A16	PERFORATED METAL SCREEN TO REMAIN
A24	ACM PANELS ON 6" STUD ABOVE EXISTING STOREFRONT.
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.



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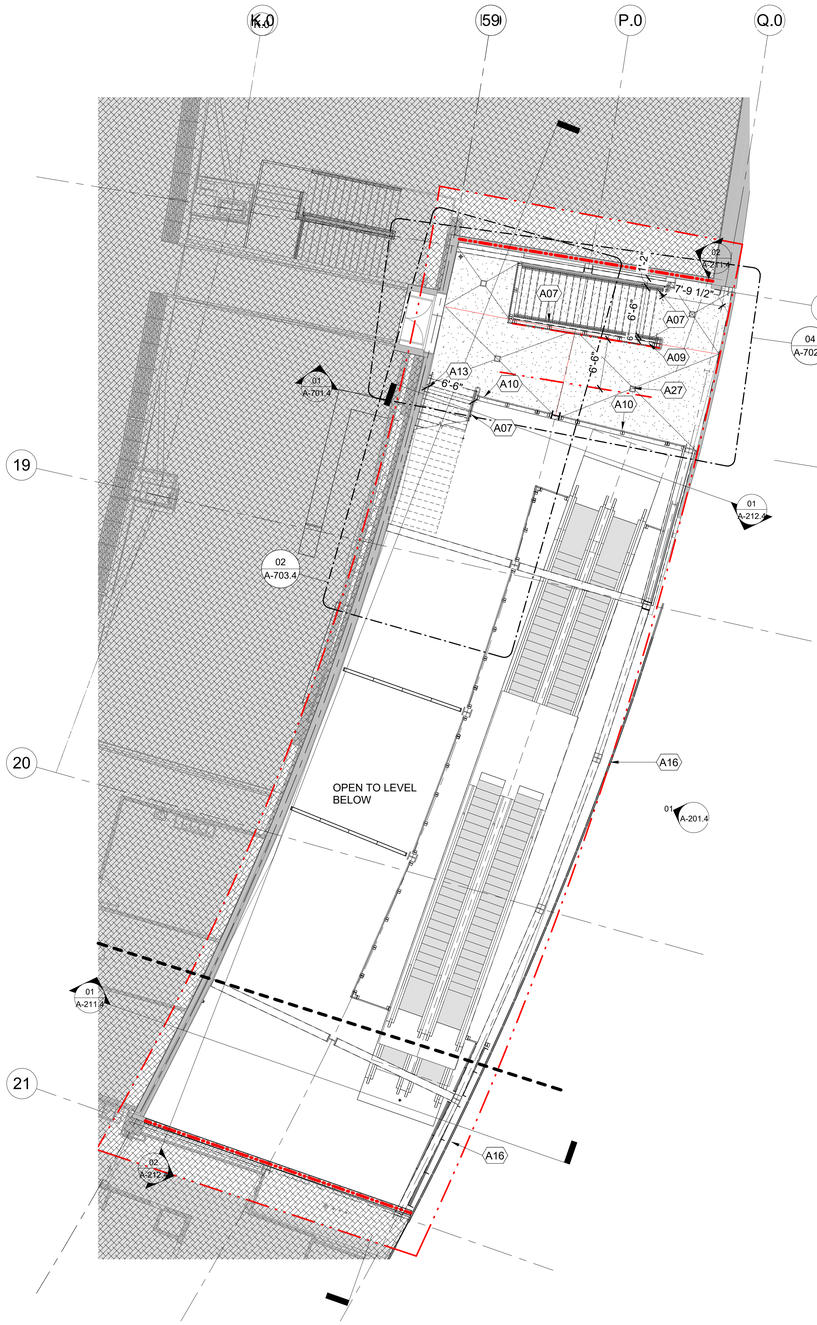
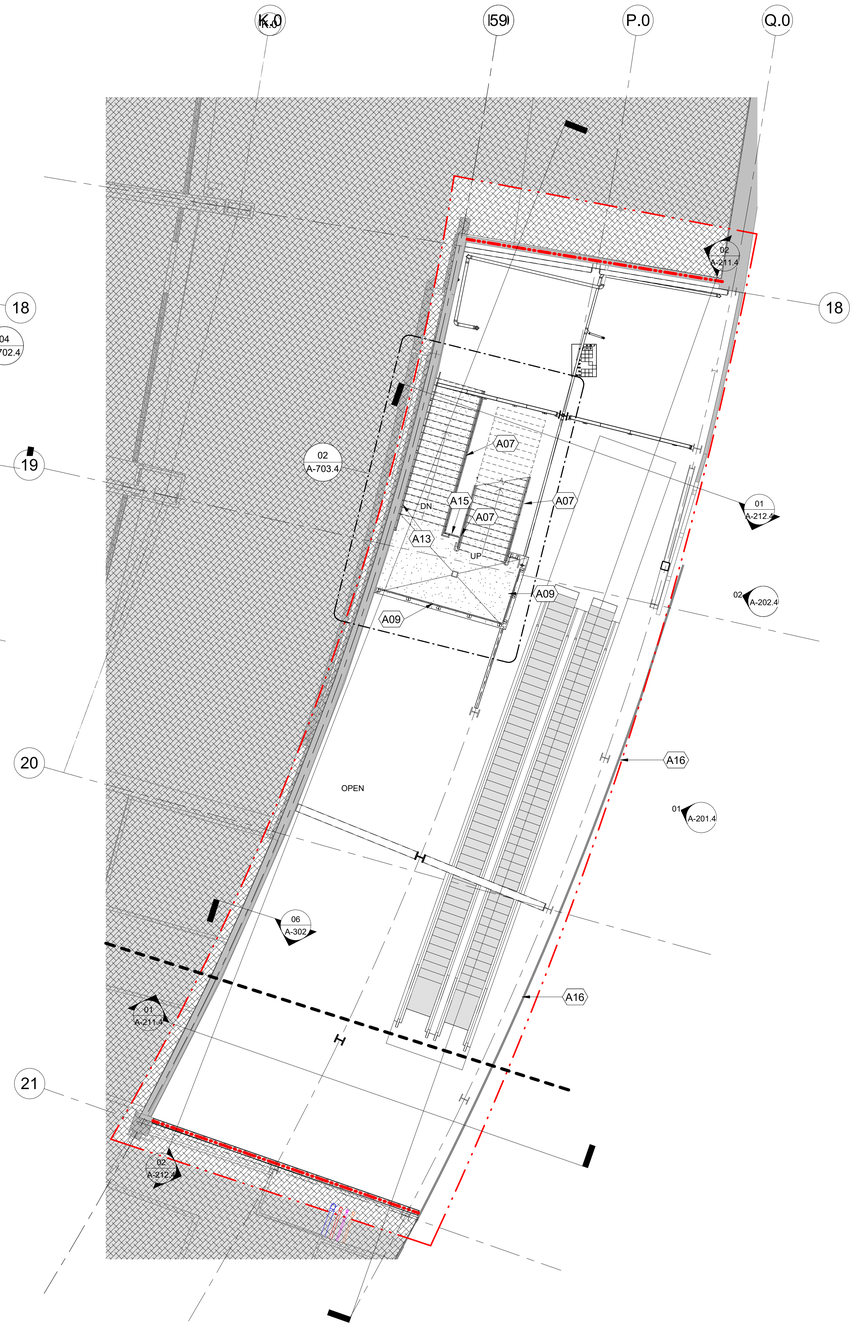
SECTOR 4 - LEVEL 400 & 500 PLANS

DRAWING NUMBER ISSUE
A-103.4 3.1



02 **SECTOR 4 - LEVEL 600 NEW WORK FLOOR PLAN**
A-104.4 1/8" = 1'-0"



01 **SECTOR 4 - LEVEL 650 NEW WORK FLOOR PLAN**
A-104.4 1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
D. USE ONLY WRITTEN DIMENSIONS - DO NOT SCALE DRAWINGS.
E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
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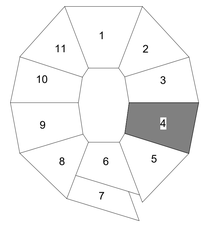
J. PROVIDE BULLNOSE MASONRY UNITS AT ALL EXPOSED OUTSIDE CORNER LOCATIONS UNLESS SCHEDULED TO RECEIVE TILE, CORNER GUARD, OR INDICATED OTHERWISE
K. HANDRAILS ARE REQUIRED ON ALL GUARDRAILS AT STAIRS AND RAMPS. ALL HANDRAILS TO MEET ANSI 117.1. HANDRAIL TYPES ARE NOTED ON FLOOR PLAN SHEETS A-102.4 - A109.9.
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A13	HANDRAIL ATTACHED TO WALL
A15	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT LANDINGS WITH HANDRAIL
A16	PERFORATED METAL SCREEN TO REMAIN
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

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2.2	04/28/2026	STRUCT. & DEMO. ADDENDUM 1
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

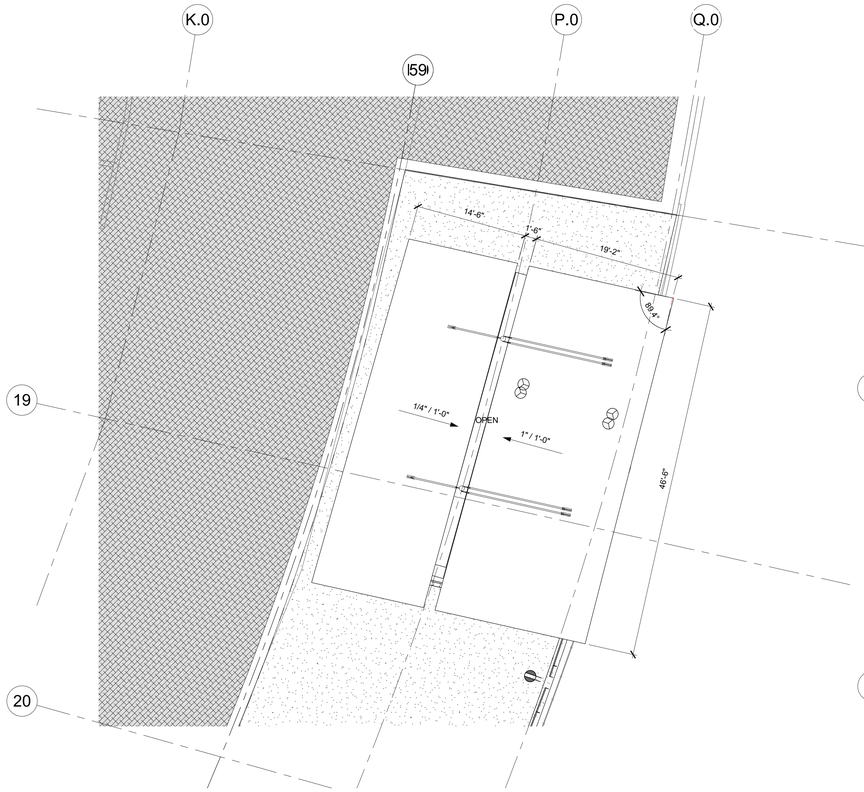
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 600 AND 650 PLANS

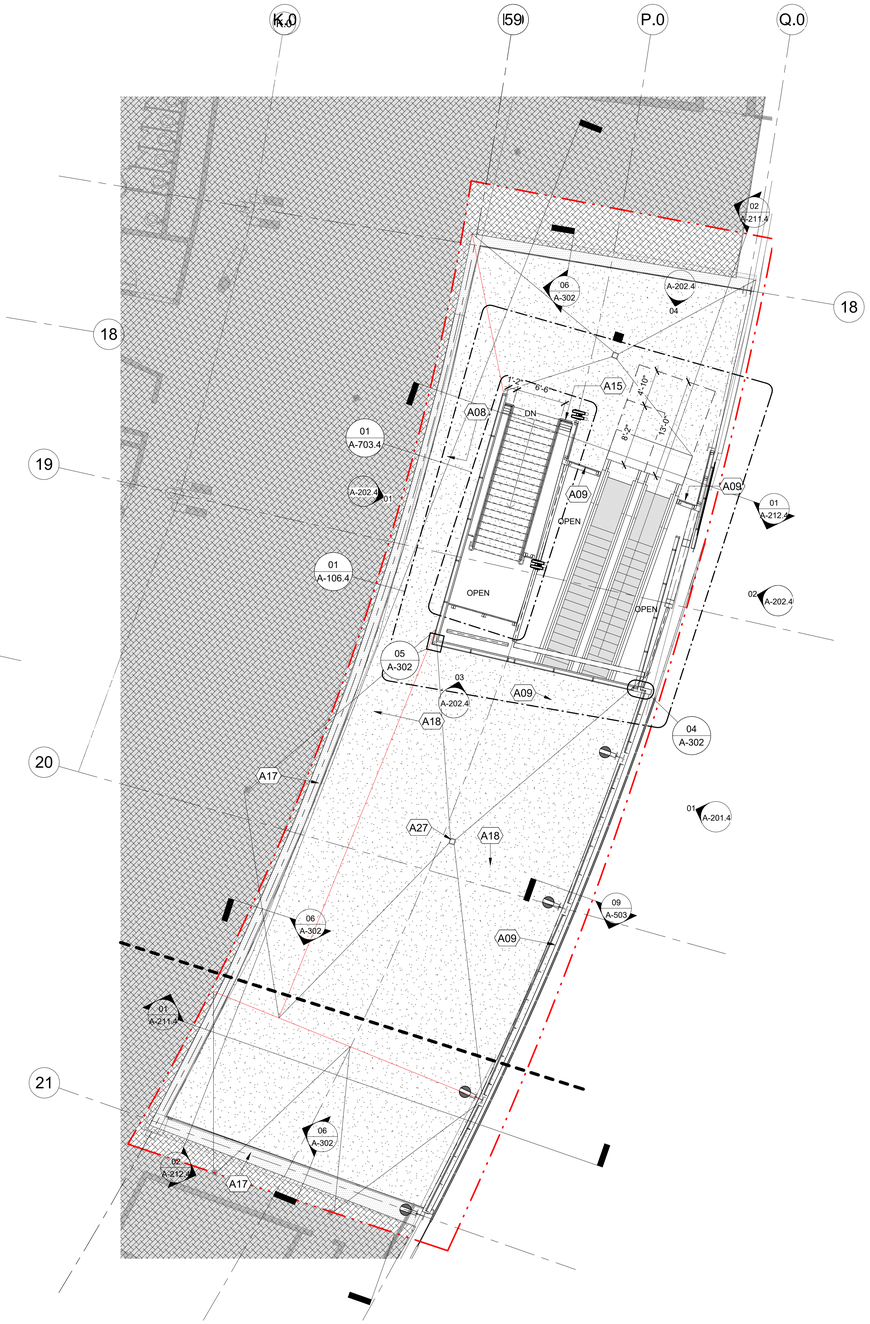
DRAWING NUMBER ISSUE
A-104.4 3.1



2 A-105.4 **SECTOR 4 - LEVEL 700 NEW WORK ROOF PLAN**
1/8" = 1'-0"

GENERAL NOTES - ROOF PLAN

A. ALL DISSIMILAR METALS TO BE SEPARATED BY PAINT COAT TO AVOID ELECTROLYTIC REACTION
B. EQUIPMENT & PENETRATIONS AS SHOWN ARE APPROXIMATE LOCATIONS AND SIZES - FINAL LOCATIONS ARE SUBJECT TO COORDINATION - CONDUIT AND SMALLER PENETRATIONS NOT SHOWN
C. ALL PENETRATIONS IN THE ROOF DECK ARE TO BE REINFORCED WITH STEEL ANGLES. SEE ALSO STRUCTURAL DRAWINGS FOR TYPICAL REINFORCEMENT REQUIREMENTS
D. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS, PER FLUID-APPLIED WATER PROOFING MEMBRANE SYSTEM MANUFACTURER'S INSTRUCTIONS & DETAILS
E. HEM ALL METAL EDGES
F. SEAL ALL OPENINGS ABOVE ROOF SUCH AS DOOR, LOUVERS, ETC. WITH SEALANT & BACKER ROD - PREPARE JOINT AS PER MANUFACTURER'S RECOMMENDATIONS
G. ALL FASTENERS TO BE 316 STAINLESS STEEL UNLESS OTHERWISE REQUIRED BY ROOF MANUFACTURER
H. TAPER TOPPING SLAB A MIN. OF 1/4-INCH PER FOOT - TAPER CRICKETS AND SADDLES A MIN OF 1/2-INCH PER FOOT
I. PROVIDE CRICKETS AT ALL PENETRATIONS / CURBS
J. ALL ROOF EDGE METAL SHALL BE ES-1 TESTED
K. COORDINATE FINAL LOCATIONS OF MECHANICAL EQUIPMENT TO MAINTAIN POSITIVE DRAINAGE TO ROOF DRAINS - KEEP EQUIPMENT OFF OF CRICKET VALLEYS, ETC.



01 A-105.4 **SECTOR 4 - LEVEL 700 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES

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M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A08	GUARDRAIL A.2, VERTICAL GUARD W/STRAIGHT BALUSTERS
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A15	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT LANDINGS WITH HANDRAIL
A17	EXISTING CONCRETE DECK
A18	NEW CONCRETE DECK
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.

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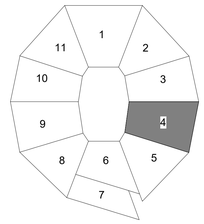

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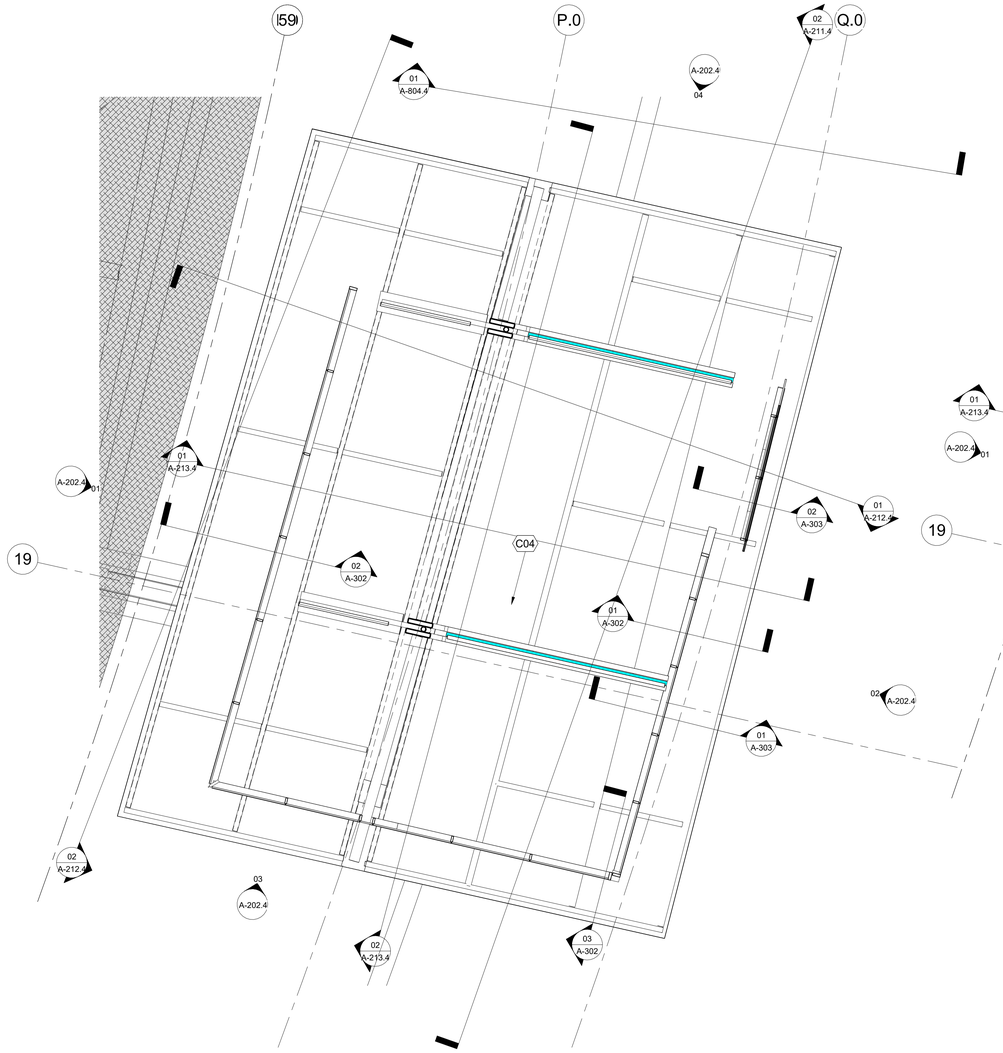
THAMANN	SHULTZ

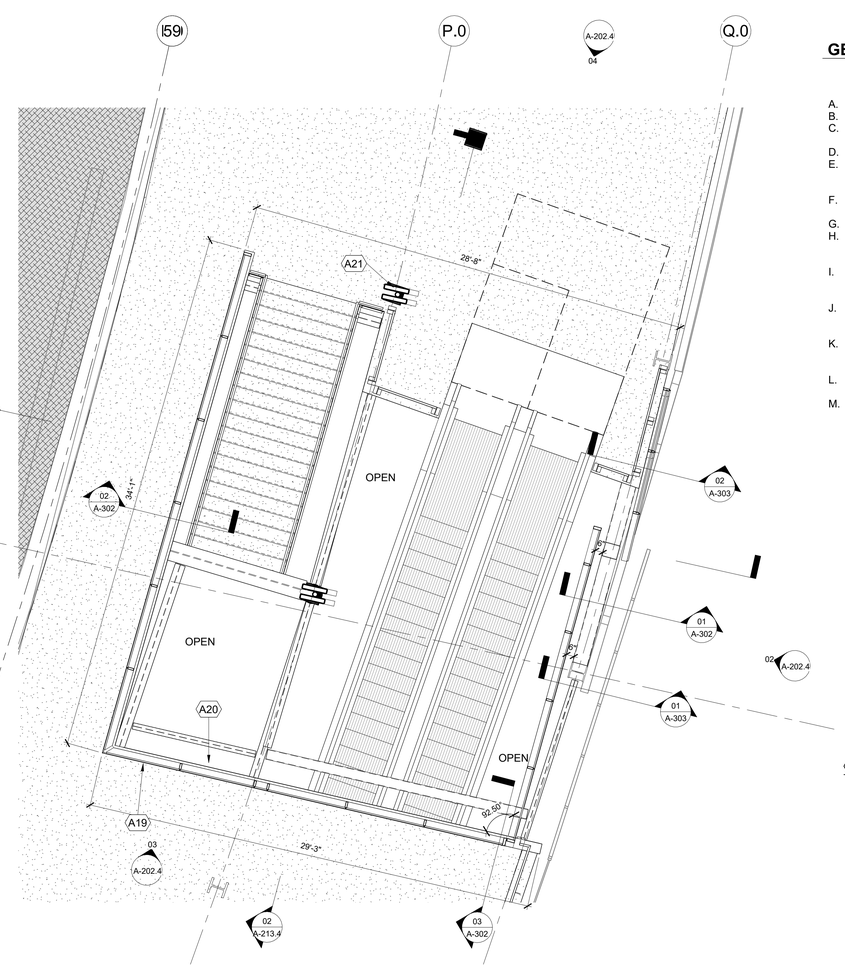
SECTOR 4 - LEVEL 700 PLAN & ROOF PLAN

DRAWING NUMBER ISSUE
A-105.4 3.1

0 4' 8' 16'
SCALE: 1/8"=1'-0"



02 A-106.4 **SECTOR 4 - REFLECTED CEILING PLAN**
1/4" = 1'-0"



01 A-106.4 **SECTOR 4 - LEVEL 700 NEW WORK HEAD HOUSE PLAN**
1/4" = 1'-0"

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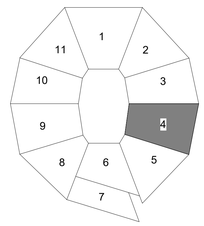
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A19	CONCRETE CURB
A20	BUTT GLAZED STOREFRONT. NON-INSULATED.
A21	PAINTED STEEL COLUMN W/ROOF DRAIN
C04	PAINT STEEL PT-6



N

0 2' 4' 8'
SCALE: 1/4"=1'-0"

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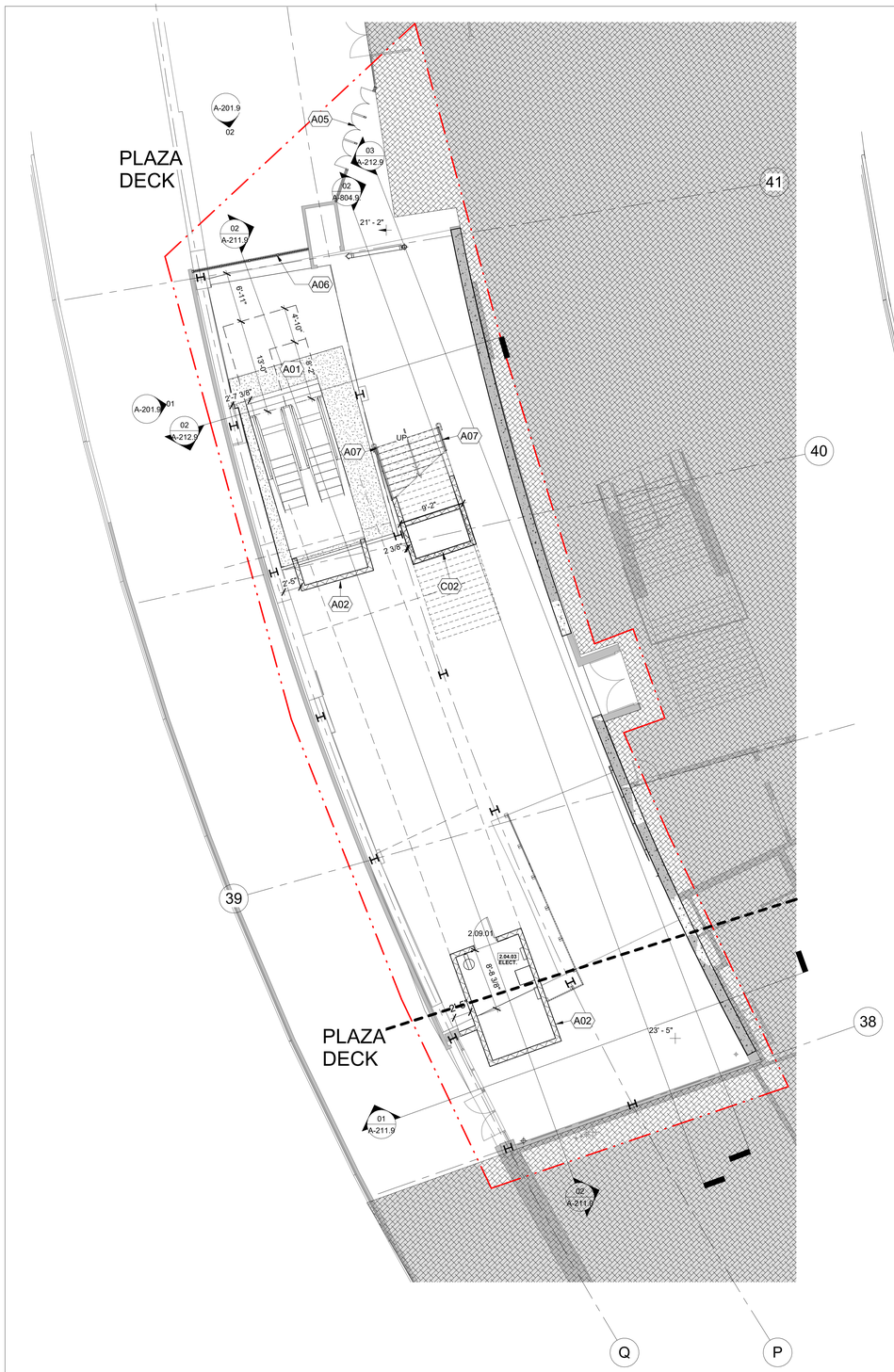
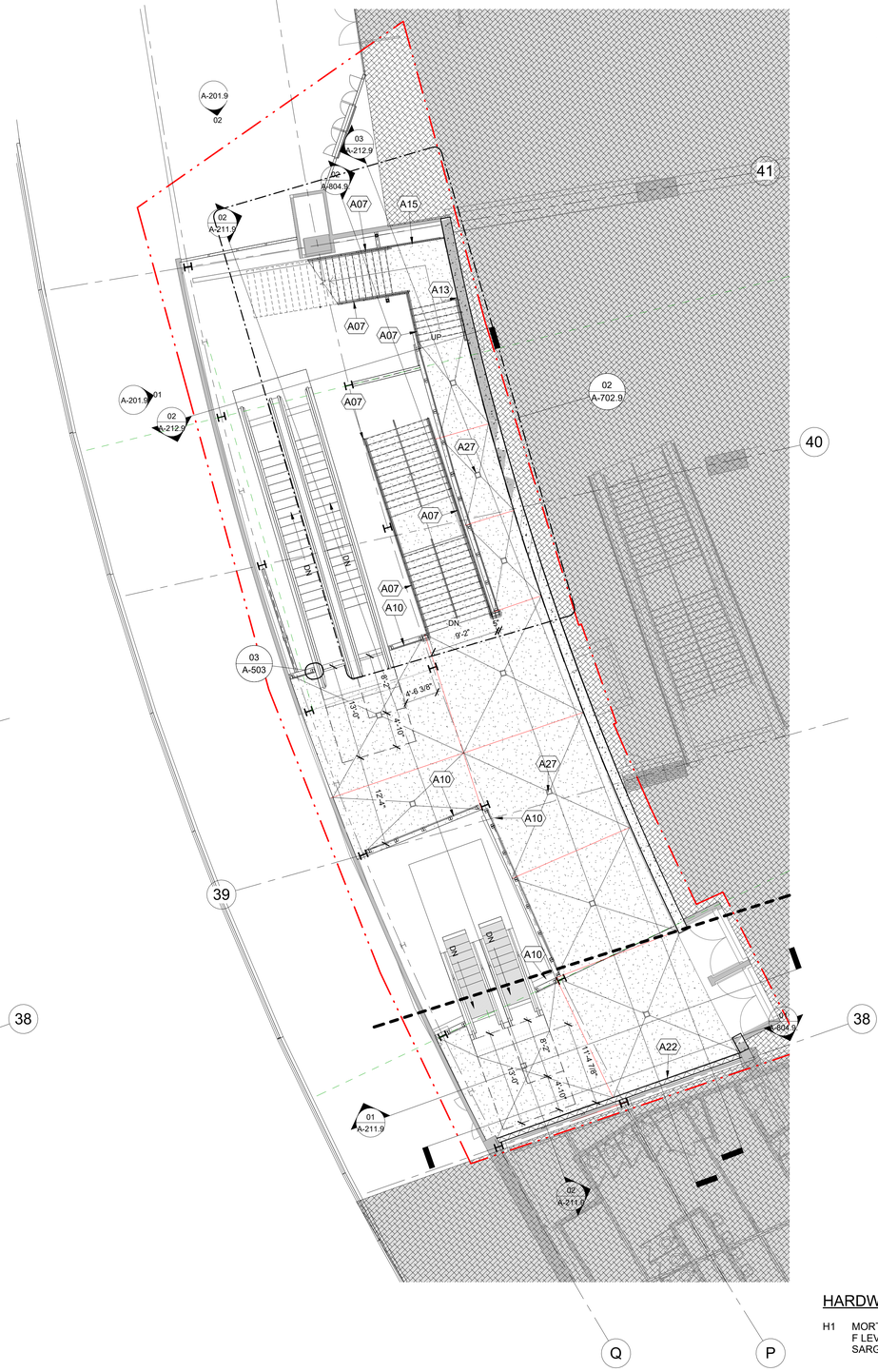
THAMANN	SHULTZ

SECTOR 4 - LEVEL 700 HEAD HOUSE PLANS

DRAWING NUMBER ISSUE
A-106.4 3.1



01 A-106.9 **SECTOR 9 - LEVEL 200 NEW WORK FLOOR PLAN**
1/8" = 1'-0"



02 A-106.9 **SECTOR 9 - LEVEL 300 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

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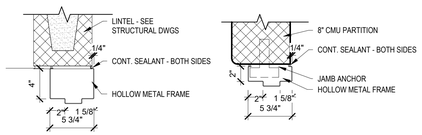
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A01	ESCALATOR PASSENGER CIRCULATION SPACE
A02	ALIGN 8" CMU WALL WITH FACE OF ESCALATOR ABOVE
A05	RELOCATED GATE
A06	RELOCATED MESH FENCE
A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A13	HANDRAIL ATTACHED TO WALL
A15	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT LANDINGS WITH HANDRAIL
A22	8" CMU WALL. STACKED BOND. SEE STRUCTURAL DRAWINGS FOR WALL ATTACHMENT AND REINFORCING
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.
C02	PRECAST CONCRETE STAIR. DO NOT PAINT.



HEAD H10 **JAMB J10**

3 A-106.9 **HEAD AND JAMB DETAILS**
1 1/2" = 1'-0"

DOOR AND FRAME SCHEDULE SECTOR 9

	DOOR								FRAME			DETAILS					
MARK	# OF LEAFS	WIDTH	HEIGHT	THK	TYPE	MATL	FINISH	GLASS	TYPE	MATL	FINISH	HEAD	JAMB	RATING	HDW SET	REMARKS	MARK
2.09.01	1	3' - 0"	7' - 0"	0' - 2"	F	HM				HM							2.09.01
2.09.08																	2.09.08

REMARKS

R1 HOLLOW METAL DOOR AND FRAME
R2

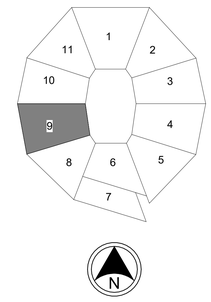
HARDWARE SETS

H1 MORTISE LOCK & 8204 (STOREROOM FUNCTION)
F LEVER – LN ROSE
SARGENT 351 WITH HOLD OPEN CLOSER

H2

DOOR SCHEDULE ABBREVIATIONS

AL	ALUMINUM
AN	CLEAR ANODIZED
FP	FACTORY PAINTED FINISH
HM	HOLLOW METAL
PT	PAINT
ST	STAIN
STL	STEEL
WD	WOOD



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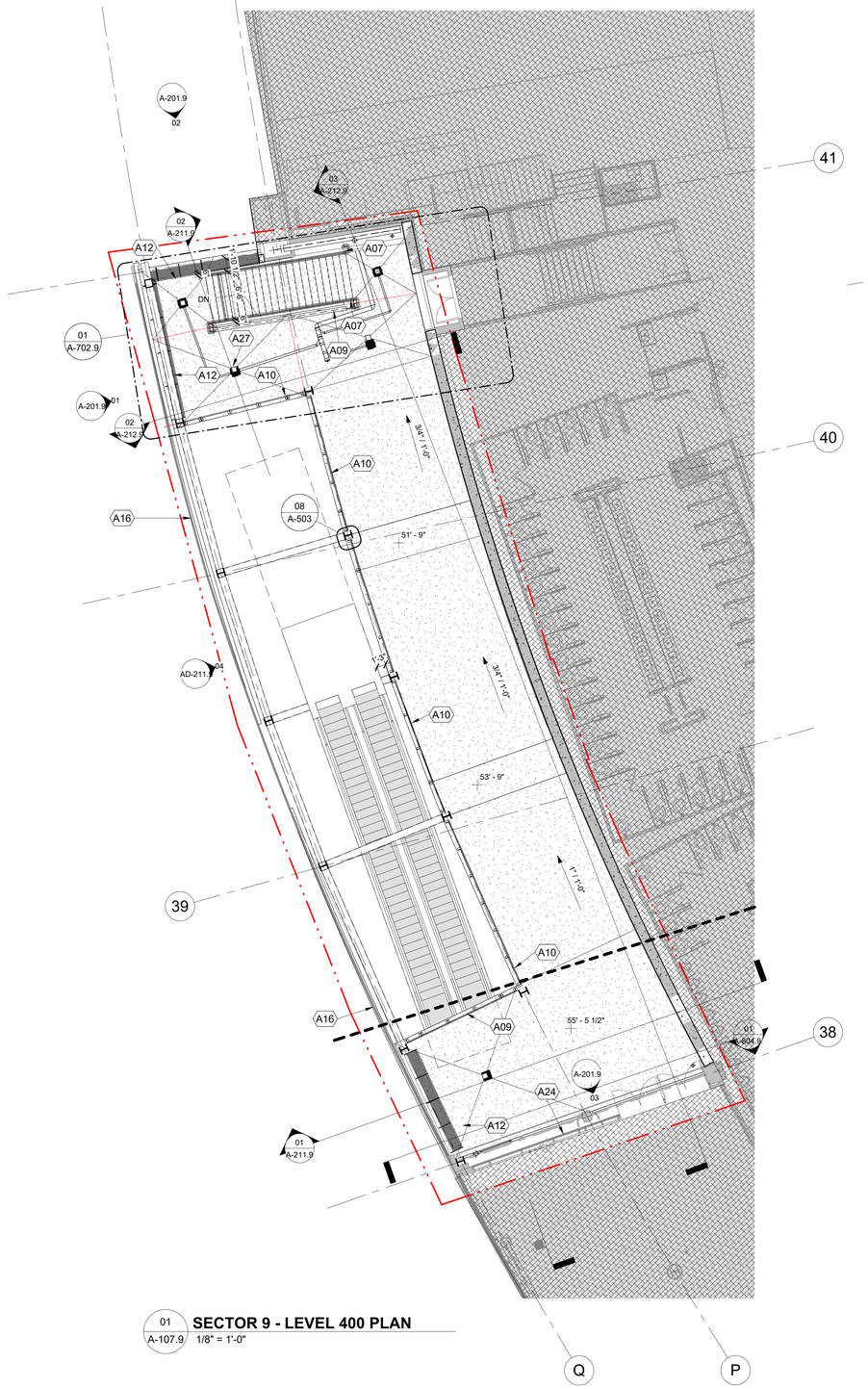
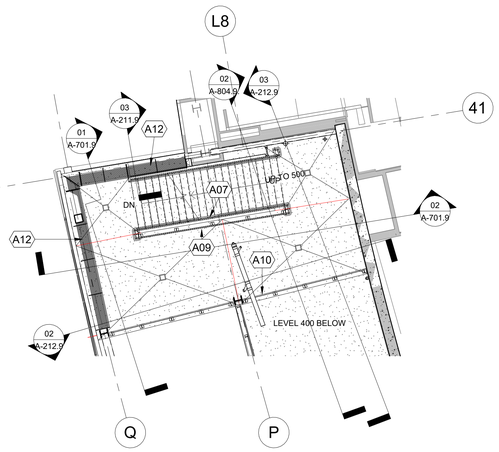
SECTOR 9 - LEVEL 200 AND 300 PLANS

DRAWING NUMBER ISSUE
A-106.9 3.1



01 A-107.9 **SECTION 9 - LEVEL 400 PLAN**
1/8" = 1'-0"



3 A-107.9 **SECTION 9 -LEVEL 450 PLAN**
1/8" = 1'-0"

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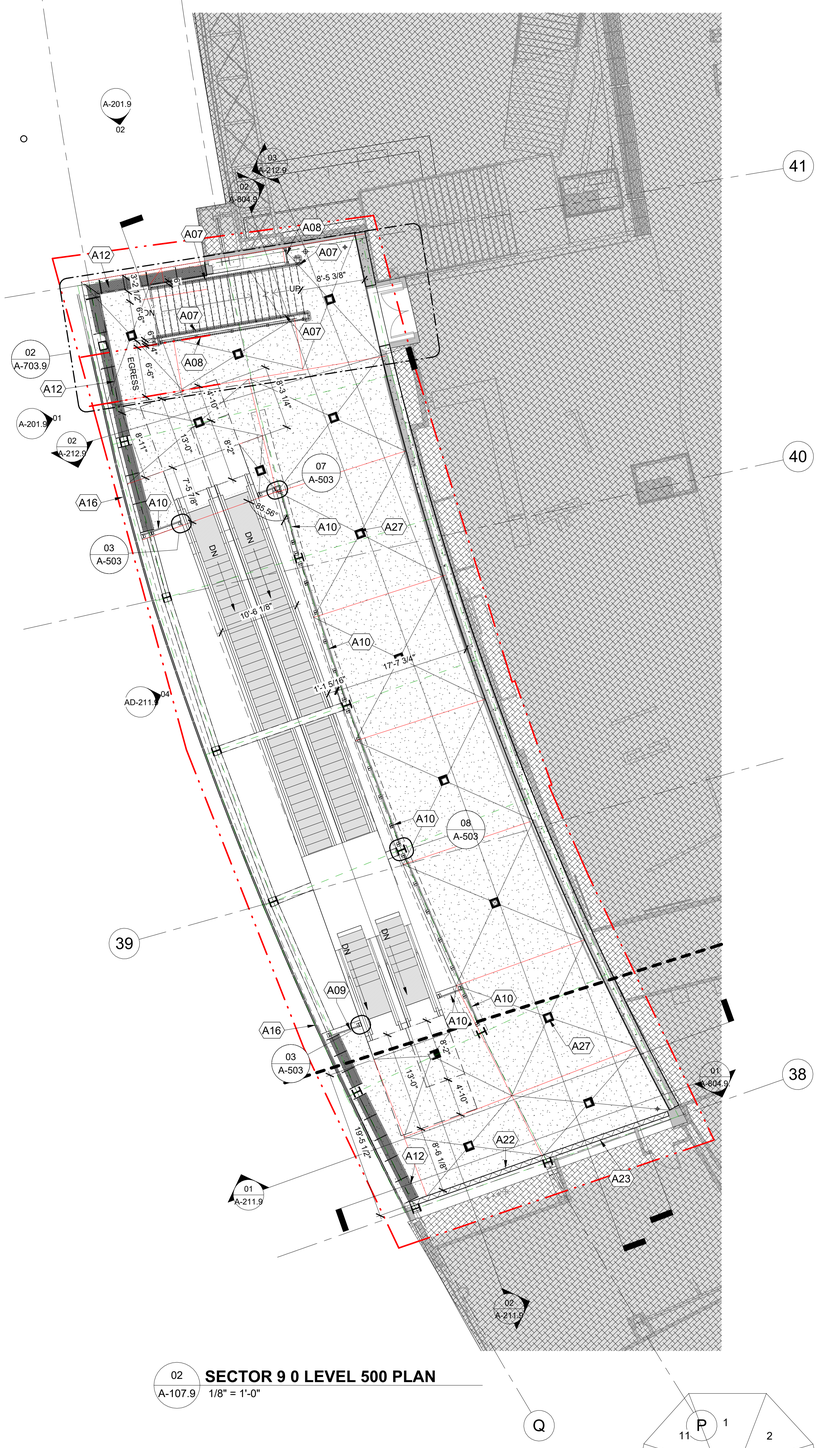
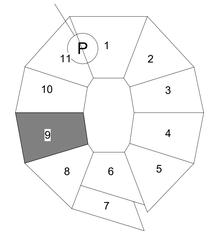
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A08	GUARDRAIL A.2, VERTICAL GUARD W/STRAIGHT BALUSTERS
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A12	GUARDRAIL C, HORIZONTAL GUARD W/ANGLED BALUSTERS
A16	PERFORATED METAL SCREEN TO REMAIN
A22	8" CMU WALL. STACKED BOND. SEE STRUCTURAL DRAWINGS FOR WALL ATTACHMENT AND REINFORCING
A23	GYP. BD. ON 7/8" FURRING.
A24	ACM PANELS ON 6" STUD ABOVE EXISTING STOREFRONT.
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.



02 A-107.9 **SECTION 9 0 LEVEL 500 PLAN**
1/8" = 1'-0"



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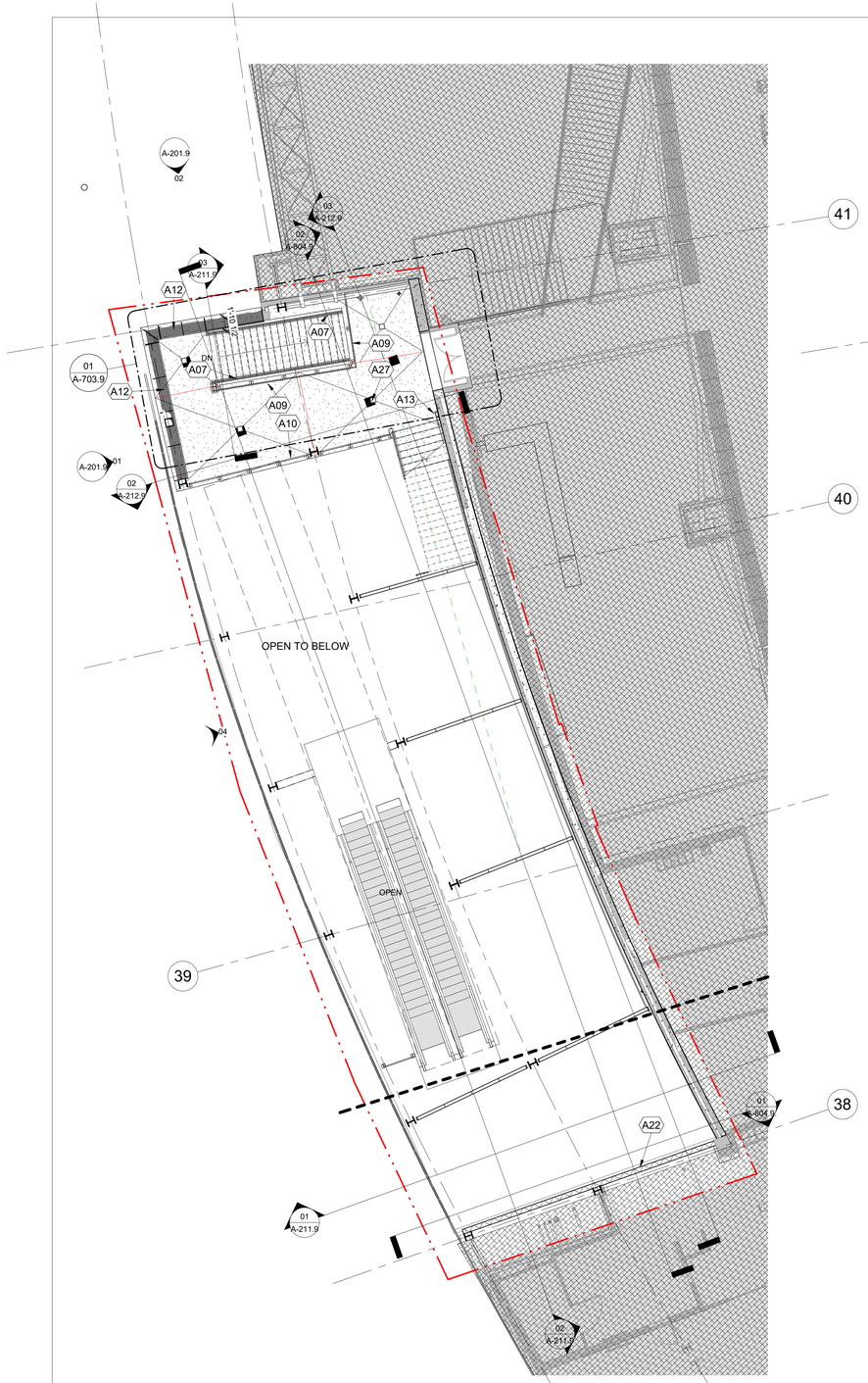
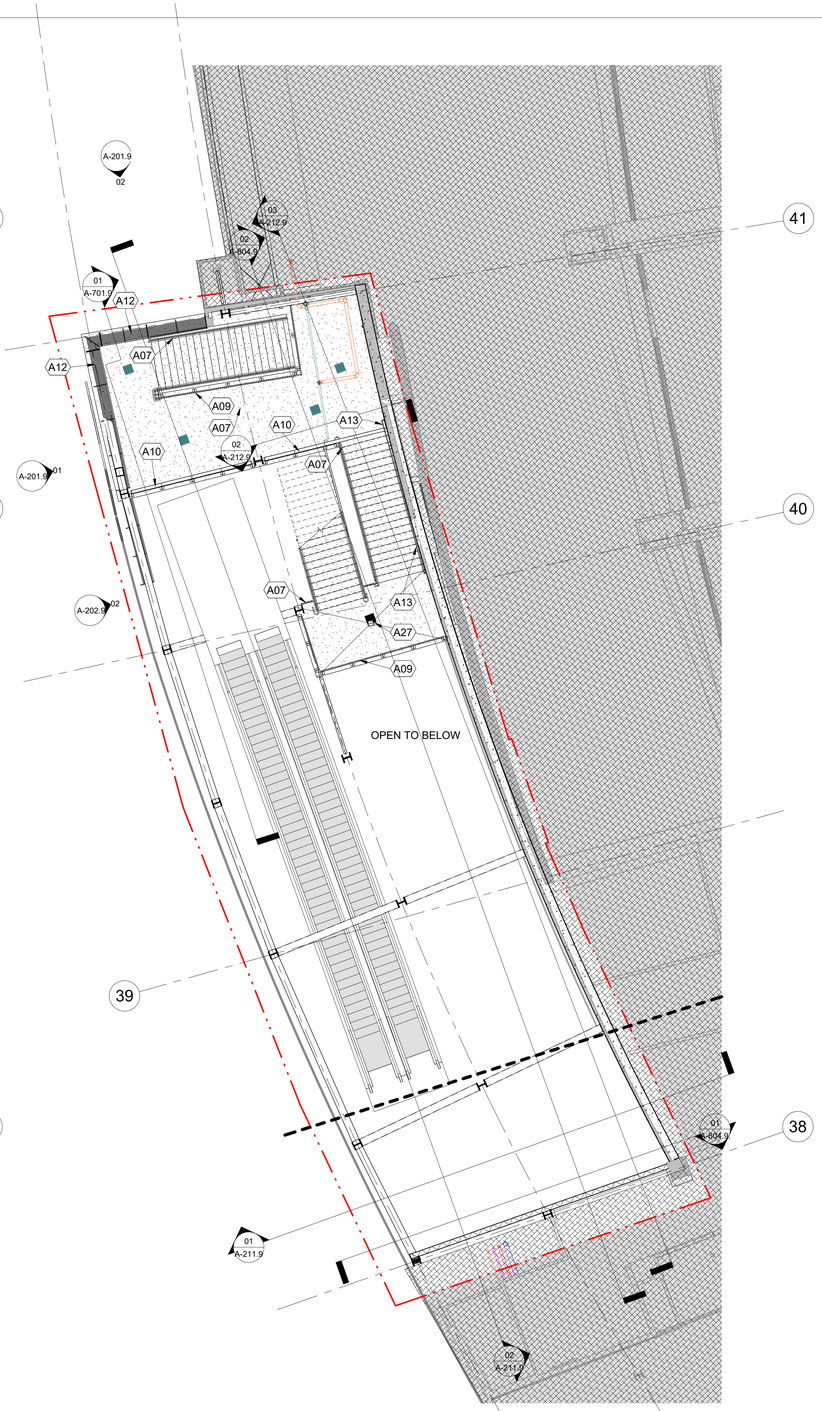
THAMANN	SHULTZ

SECTOR 9 - LEVEL 400, 450 AND 500 PLANS

DRAWING NUMBER ISSUE
A-107.9 3.1



02 A-108.9 **SECTOR 9 - LEVEL 600 NEW WORK FLOOR PLAN**
1/8" = 1'-0"



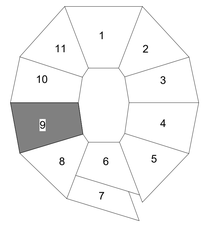
01 A-108.9 **SECTOR 9 - LEVEL 650 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
D. USE ONLY WRITTEN DIMENSIONS - DO NOT SCALE DRAWINGS.
E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
I. ALL NEW STANDARD DOORS IN CMU PARTITIONS TO BE LOCATED 8" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
J. PROVIDE BULLNOSE MASONRY UNITS AT ALL EXPOSED OUTSIDE CORNER LOCATIONS UNLESS SCHEDULED TO RECEIVE TILE, CORNER GUARD, OR INDICATED OTHERWISE
K. HANDRAILS ARE REQUIRED ON ALL GUARDRAILS AT STAIRS AND RAMPS. ALL HANDRAILS TO MEET ANSI 117.1. HANDRAIL TYPES ARE NOTED ON FLOOR PLAN SHEETS A-102.4 - A109.9.
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A10	GUARDRAIL A.3 BETWEEN COLUMNS
A12	GUARDRAIL C, HORIZONTAL GUARD W/ANGLED BALUSTERS
A13	HANDRAIL ATTACHED TO WALL
A22	8" CMU WALL. STACKED BOND. SEE STRUCTURAL DRAWINGS FOR WALL ATTACHMENT AND REINFORCING
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
2.2	04/28/2026	STRUCT. & DEMO. ADDENDUM 1
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

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KZF DESIGN
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Cincinnati, OH 45202

main 513.621.6211
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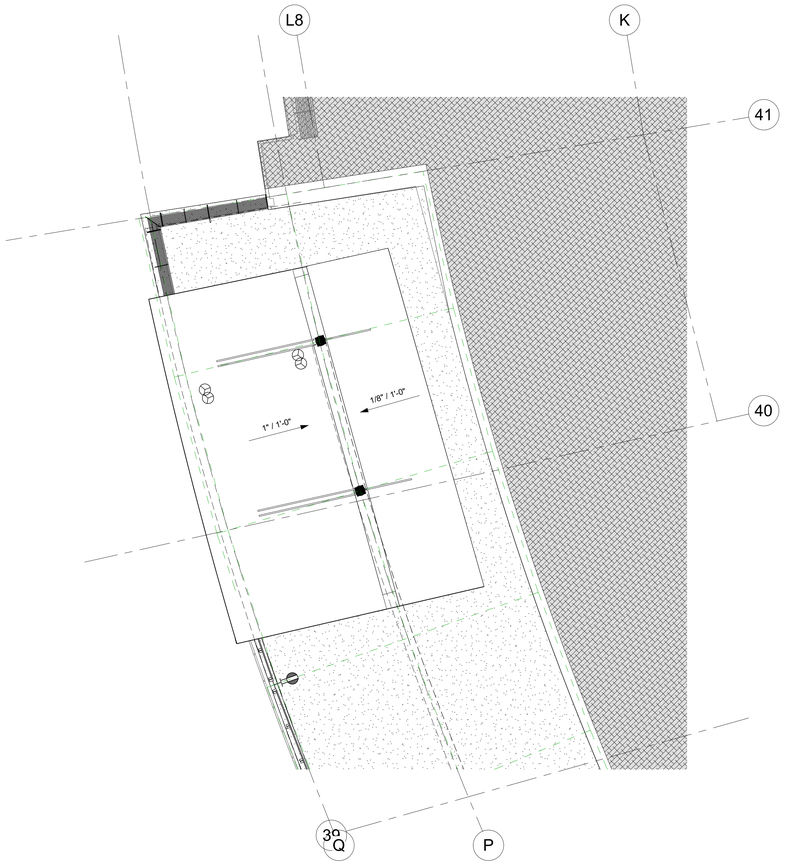
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 600 & 650 PLANS

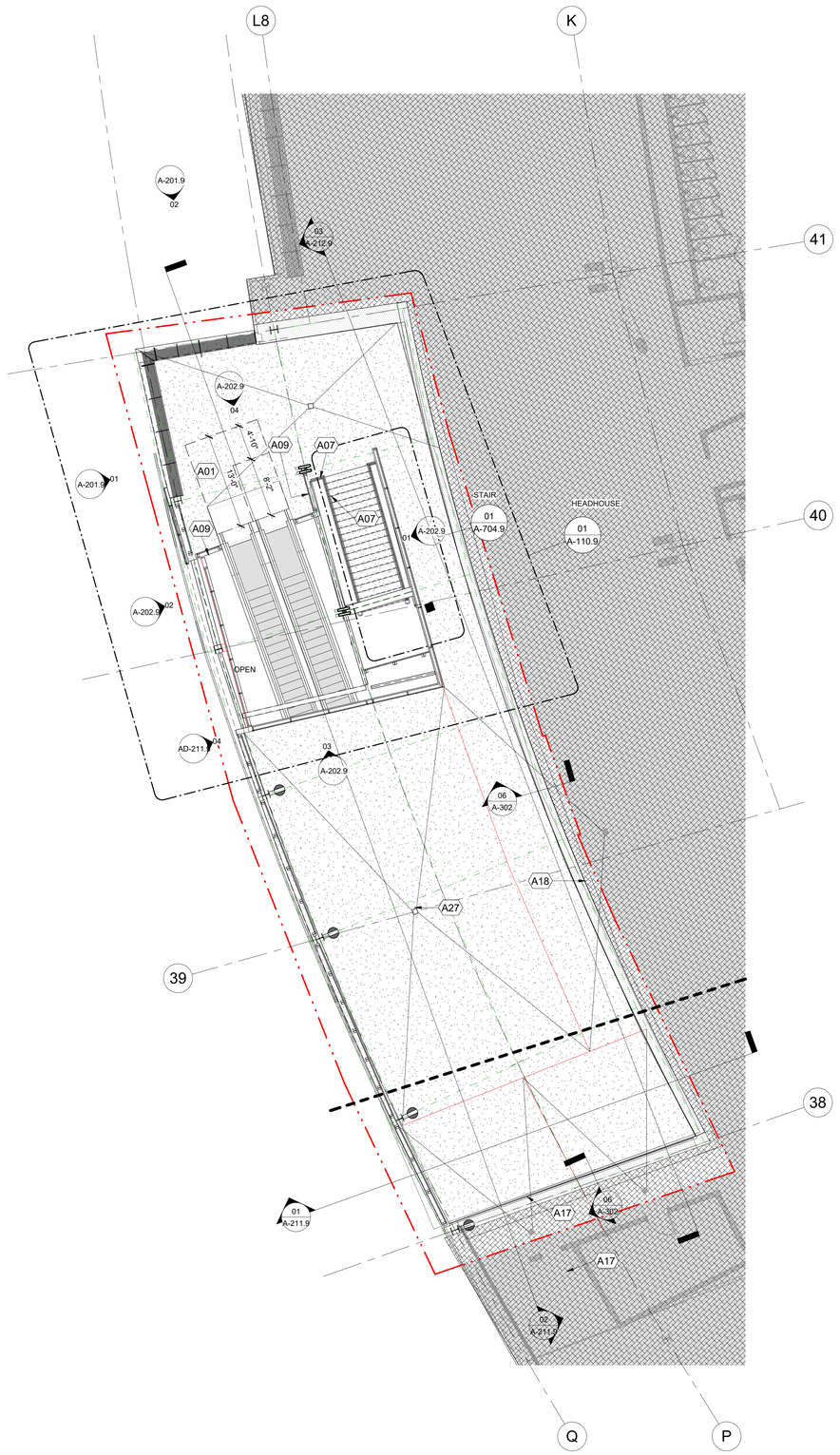
DRAWING NUMBER ISSUE
A-108.9 3.1



02 A-109.9 **SECTOR 9 - LEVEL 700 ROOF PLAN**
1/8" = 1'-0"

GENERAL NOTES - ROOF PLAN

A. ALL DISSIMILAR METALS TO BE SEPARATED BY PAINT COAT TO AVOID ELECTROLYTIC REACTION
B. EQUIPMENT & PENETRATIONS AS SHOWN ARE APPROXIMATE LOCATIONS AND SIZES - FINAL LOCATIONS ARE SUBJECT TO COORDINATION - CONDUIT AND SMALLER PENETRATIONS NOT SHOWN
C. ALL PENETRATIONS IN THE ROOF DECK ARE TO BE REINFORCED WITH STEEL ANGLES. SEE ALSO STRUCTURAL DRAWINGS FOR TYPICAL REINFORCEMENT REQUIREMENTS
D. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS, PER FLUID-APPLIED WATER PROOFING MEMBRANE SYSTEM MANUFACTURER'S INSTRUCTIONS & DETAILS
E. HEM ALL METAL EDGES
F. SEAL ALL OPENINGS ABOVE ROOF SUCH AS DOOR, LOUVERS, ETC. WITH SEALANT & BACKER ROD - PREPARE JOINT AS PER MANUFACTURER'S RECOMMENDATIONS
G. ALL FASTENERS TO BE 316 STAINLESS STEEL UNLESS OTHERWISE REQUIRED BY ROOF MANUFACTURER
H. TAPER TOPPING SLAB A MIN. OF 1/4-INCH PER FOOT - TAPER CRICKETS AND SADDLES A MIN OF 1/2-INCH PER FOOT
I. PROVIDE CRICKETS AT ALL PENETRATIONS / CURBS
J. ALL ROOF EDGE METAL SHALL BE ES-1 TESTED
K. COORDINATE FINAL LOCATIONS OF MECHANICAL EQUIPMENT TO MAINTAIN POSITIVE DRAINAGE TO ROOF DRAINS - KEEP EQUIPMENT OFF OF CRICKET VALLEYS, ETC.



01 A-109.9 **SECTOR 9 - LEVEL 700 NEW WORK FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
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E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
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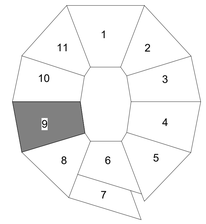
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A01	ESCALATOR PASSENGER CIRCULATION SPACE
A07	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT STAIRS AND RAMPS WITH HANDRAIL
A09	GUARDRAIL A.3, VERTICAL GUARD W/ANGLED BALUSTERS
A17	EXISTING CONCRETE DECK
A18	NEW CONCRETE DECK
A27	1/8" PER FOOT MIN. SLOPE TO FLOOR DRAIN. TYP.



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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DESIGNED	COMM. NO.
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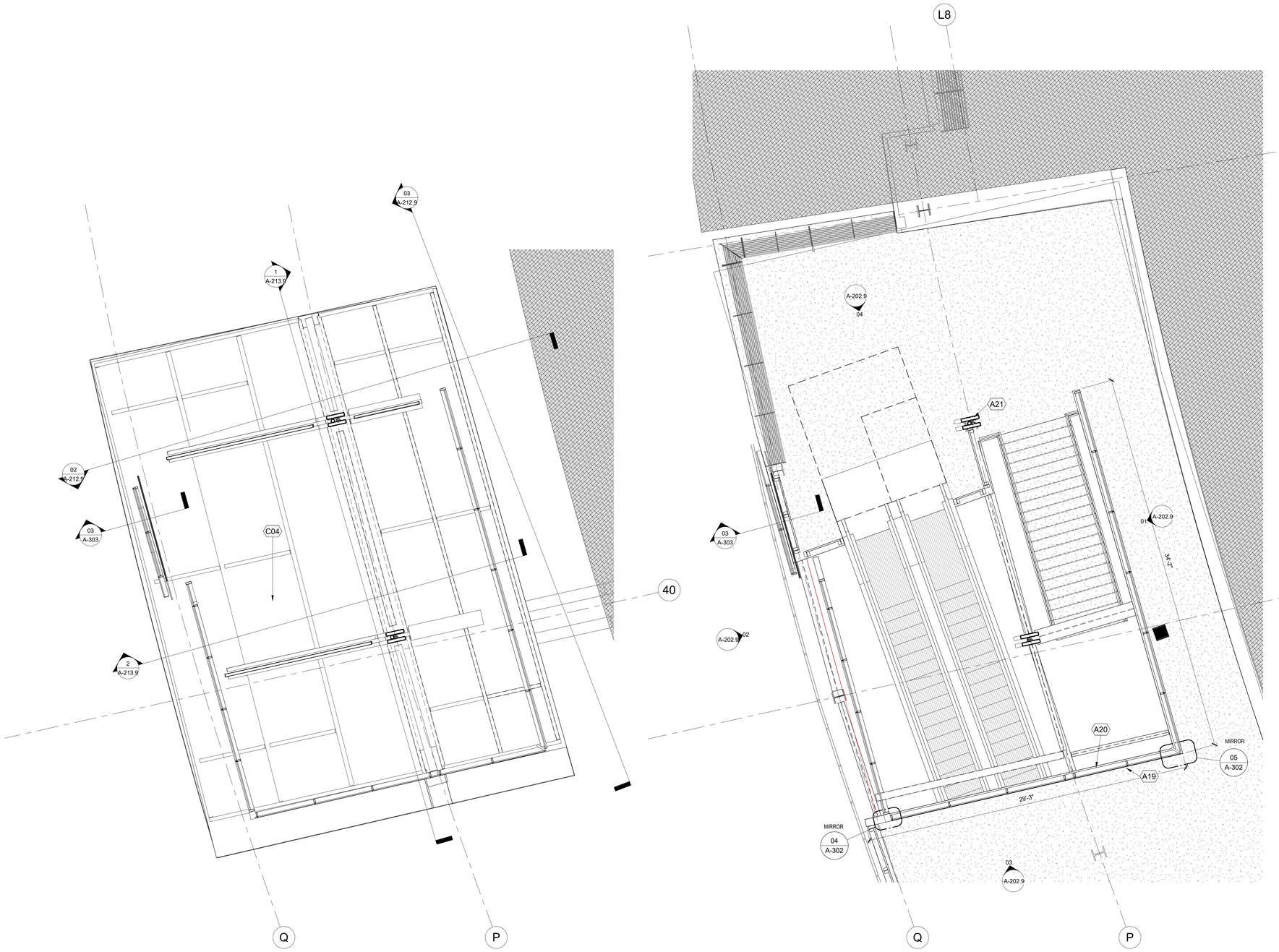
DRAWN	DATE
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 700 PLAN & ROOF PLAN

DRAWING NUMBER ISSUE
A-109.9 3.1



02 A-110.9 **SECTOR 9 - LEVEL 700 REFLECTED CEILING PLAN**
1/4" = 1'-0"

01 A-110.9 **SECTOR 9 - LEVEL 700 NEW WORK HEAD HOUSE PLAN**
1/4" = 1'-0"

GENERAL NOTES

A. SEE SHEET A-502 FOR RAILING TYPES.
B. ROOM NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY.
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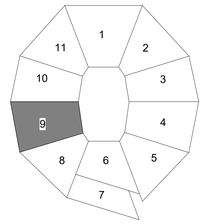
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

⬡ DRAWING NOTES

A19 CONCRETE CURB
A20 BUTT GLAZED STOREFRONT. NON-INSULATED.
A21 PAINTED STEEL COLUMN W/ROOF DRAIN
C04 PAINT STEEL PT-6



0 2' 4' 8'
SCALE: 1/4"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
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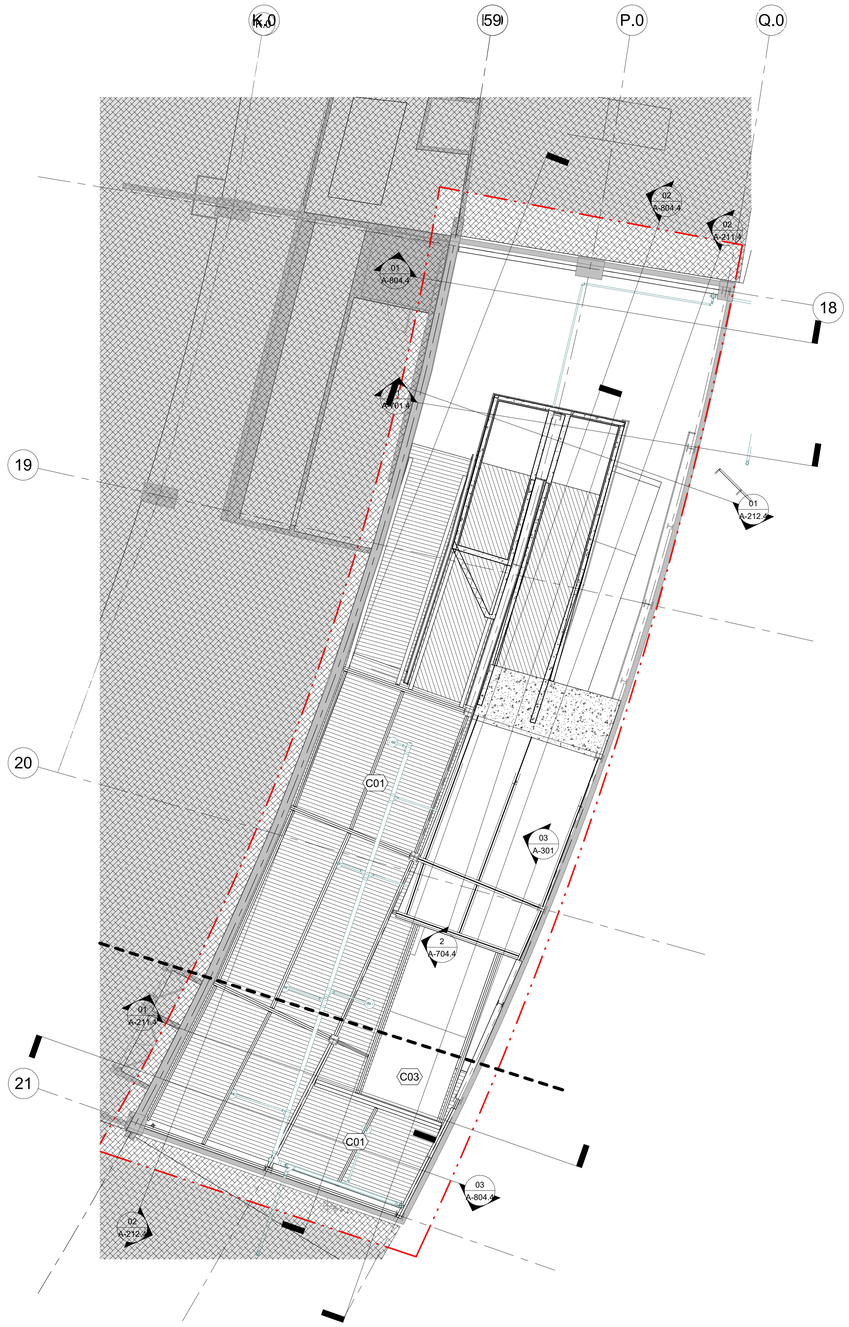
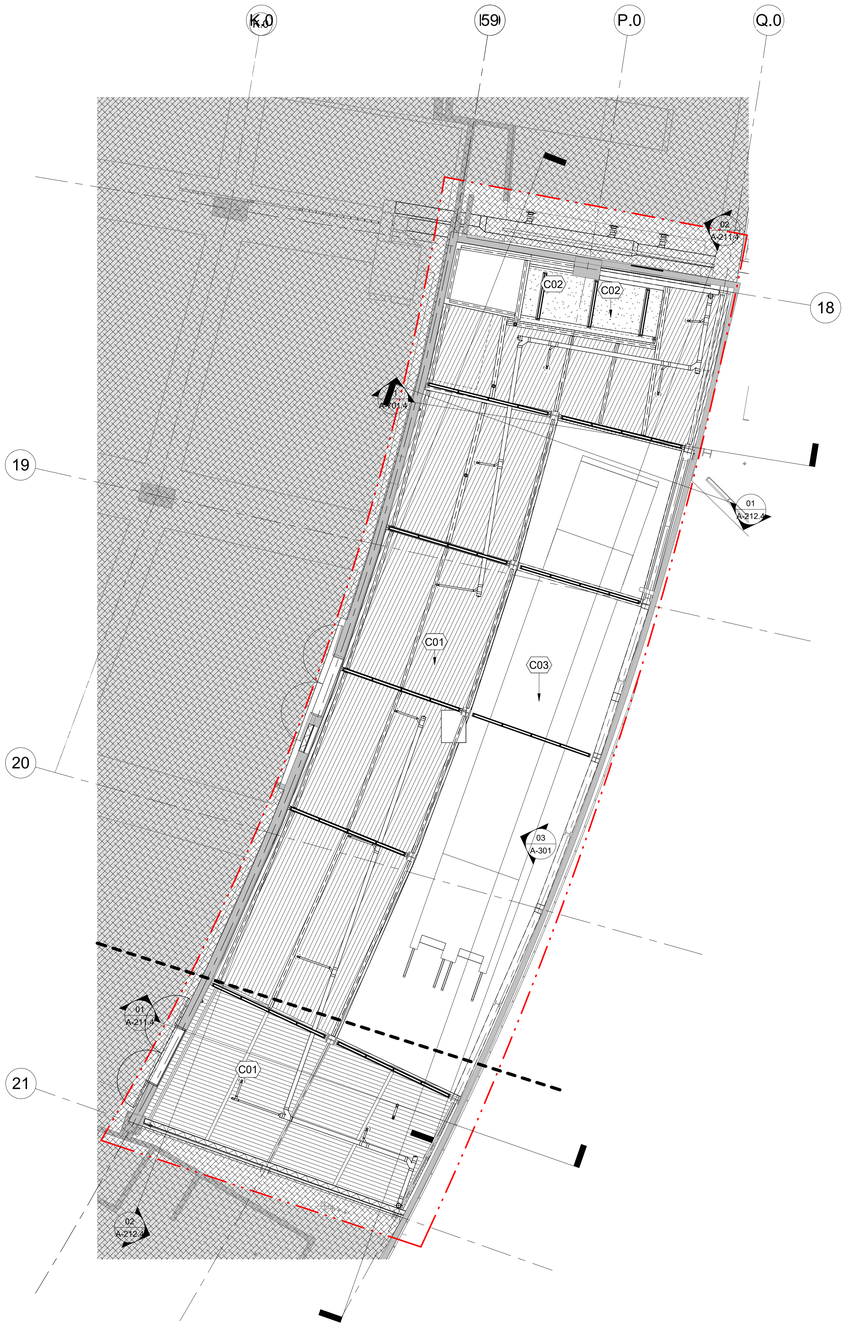
THAMANN	SHULTZ

SECTOR 9 - LEVEL 700 HEAD HOUSE PLANS

DRAWING NUMBER ISSUE
A-110.9 3.1



02 A-111.4 **SECTOR 4 - LEVEL 200 REFLECTED CEILING PLAN**
1/8" = 1'-0"



01 A-111.4 **SECTOR 4 - LEVEL 300 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR UN-IDENTIFIED CEILING HEIGHTS OR TYPES PRIOR TO PROCEEDING WITH THE WORK.
B. REFERENCE FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD LOCATIONS. CENTER SPRINKER HEADS IN ACOUSTIC PANELS - TYPICAL..
C. WHERE MINOR DISCREPANCIES OCCUR BETWEEN MECHANICAL. PLUMBING, OR ELECTRICAL DOCUMENTS AND THE ARCHITECTURAL CEILING PLAN, THE ARCHITECTURAL PLAN SHALL GOVERN.
D. IN THE CASE OF MAJOR DISCREPANCIES, THE ARCHITECT SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.
E. COORDINATE WITH MEP/FP CONTRACTORS FOR ACCESS PANELS IN GYPSUM BOARD CEILINGS NOT INDICATED ON THE CEILING PLANS.

⎔ DRAWING NOTES

C01	METAL DECK. DO NOT PAINT.
C02	PRECAST CONCRETE STAIR. DO NOT PAINT.
C03	STAINLESS STEEL ESCALATOR CLADDING

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
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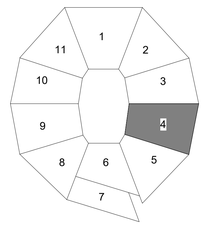


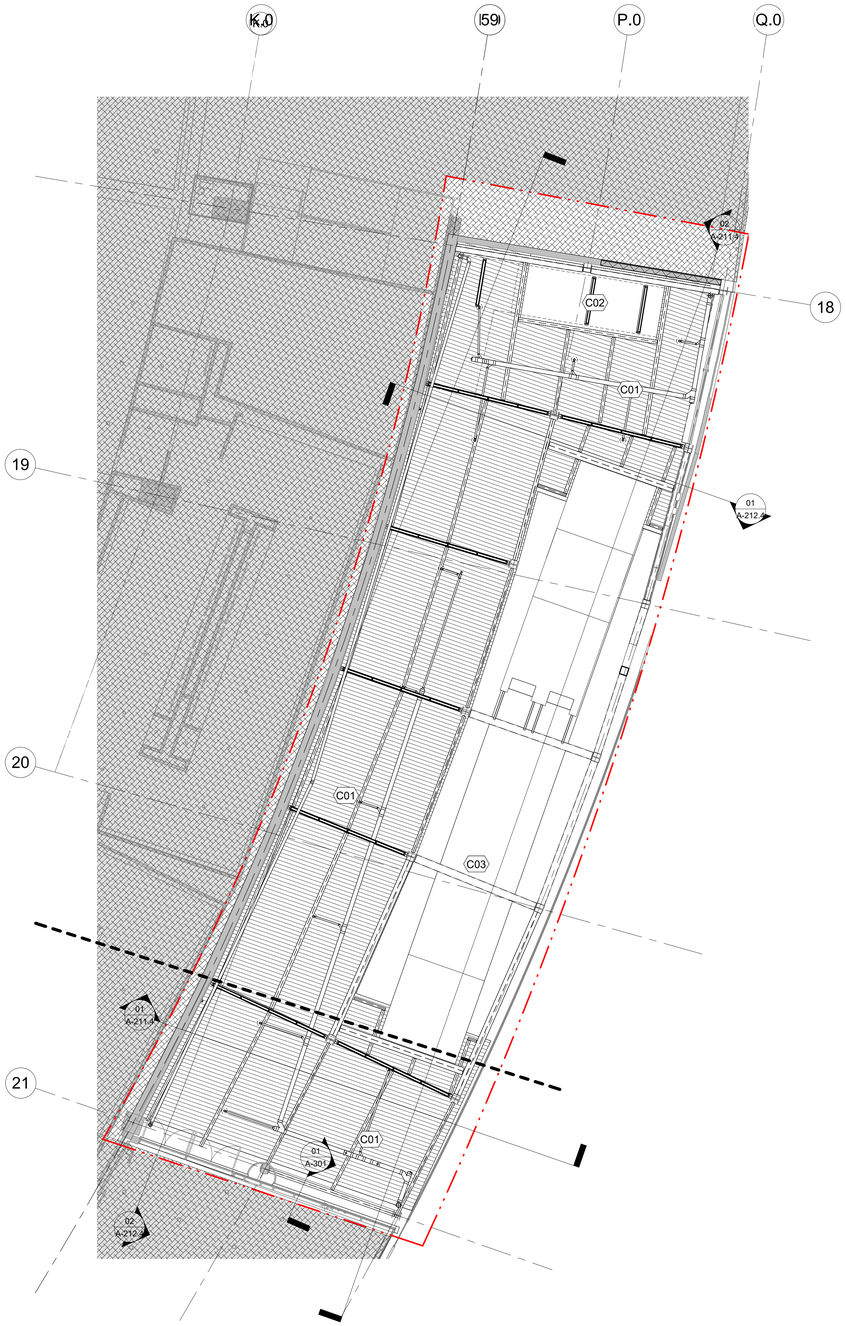
N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

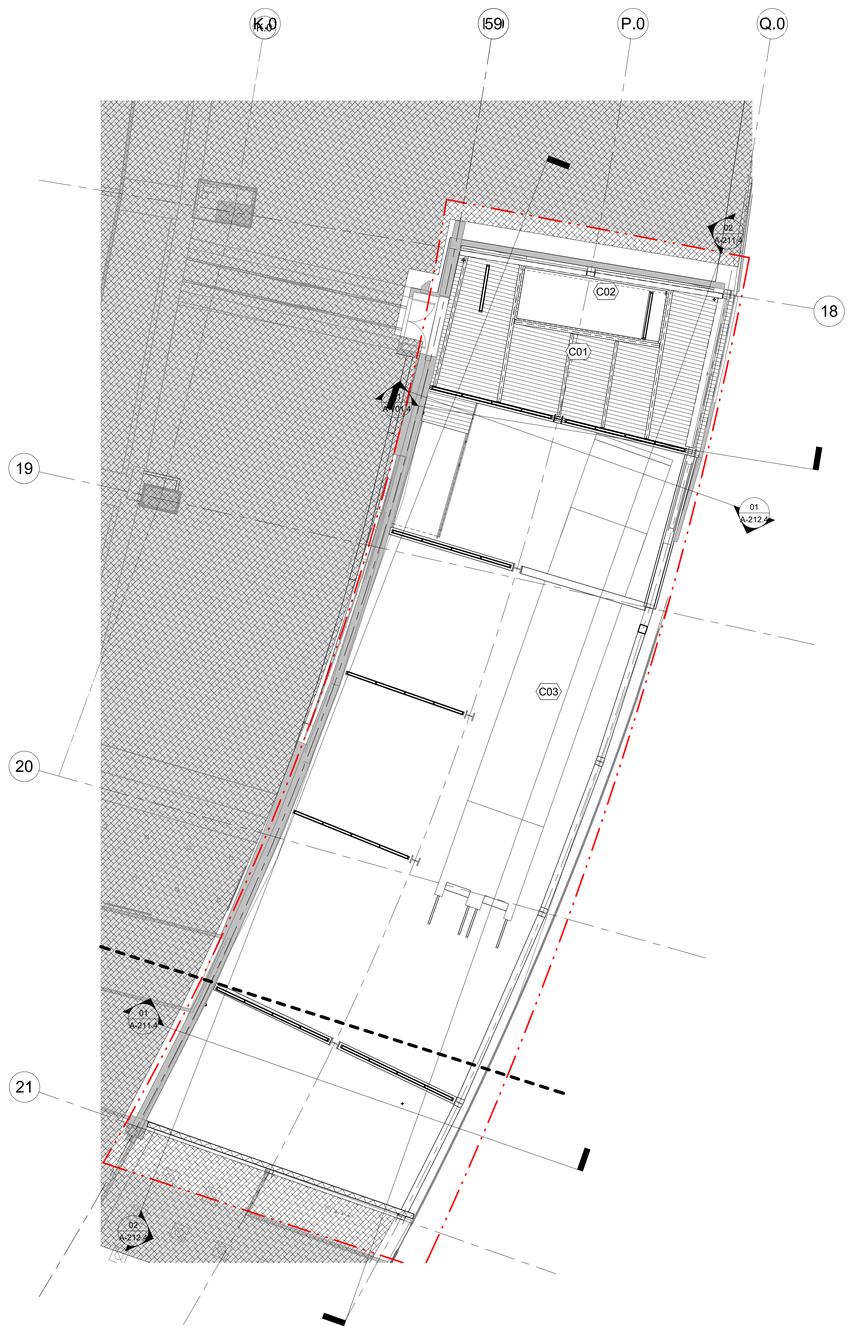
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 200 & 300 CEILING PLANS

DRAWING NUMBER ISSUE
A-111.4 3.1



02 A-112.4 **SECTION 4 - LEVEL 400 REFLECTED CEILING PLAN**
1/8" = 1'-0"



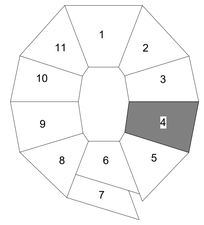
01 A-112.4 **SECTION 4 - LEVEL 500 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR UN-IDENTIFIED CEILING HEIGHTS OR TYPES PRIOR TO PROCEEDING WITH THE WORK.
B. REFFERENCE FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD LOCATIONS. CENTER SPRINKER HEADS IN ACOUSTIC PANELS - TYPICAL..
C. WHERE MINOR DISCREPANCIES OCCUR BETWEEN MECHANICAL. PLUMBING, OR ELECTRICAL DOCUMENTS AND THE ARCHITECTURAL CEILING PLAN, THE ARCHITECTURAL PLAN SHALL GOVERN.
D. IN THE CASE OF MAJOR DISCREPANCIES, THE ARCHITECT SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.
E. COORDINATE WITH MEP/FP CONTRACTORS FOR ACCESS PANELS IN GYPSUM BOARD CEILINGS NOT INDICATED ON THE CEILING PLANS.

⎔ DRAWING NOTES

C01 METAL DECK. DO NOT PAINT.
C02 PRECAST CONCRETE STAIR. DO NOT PAINT.
C03 STAINLESS STEEL ESCALATOR CLADDING



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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3.1	05/01/2026	ARCHITECTURAL & MEP BID

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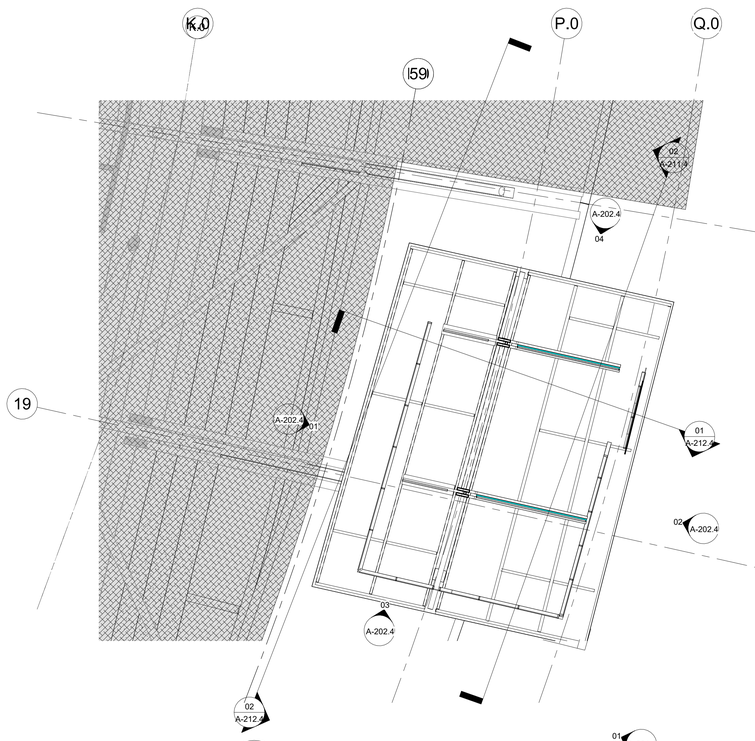
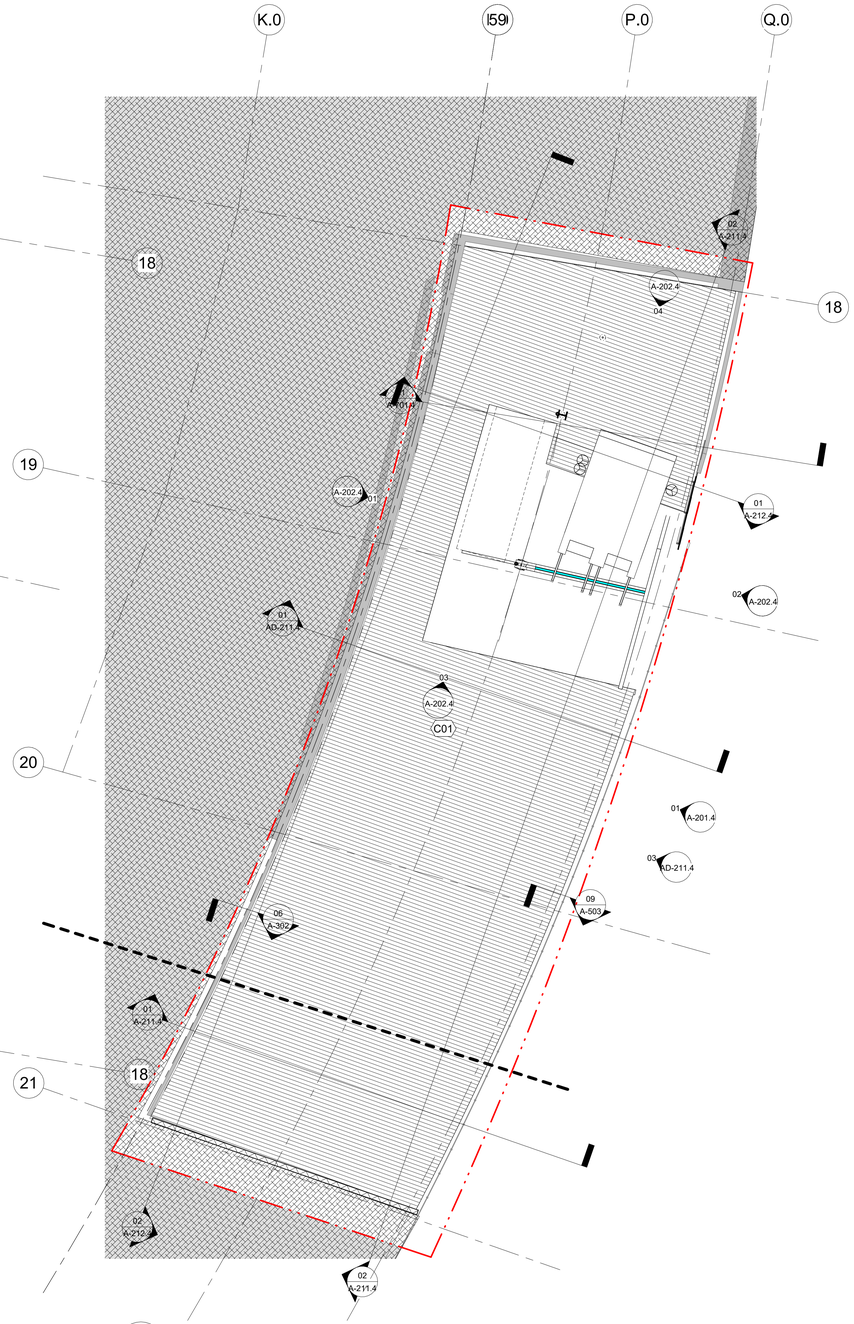
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 400 & 500 CEILING PLANS

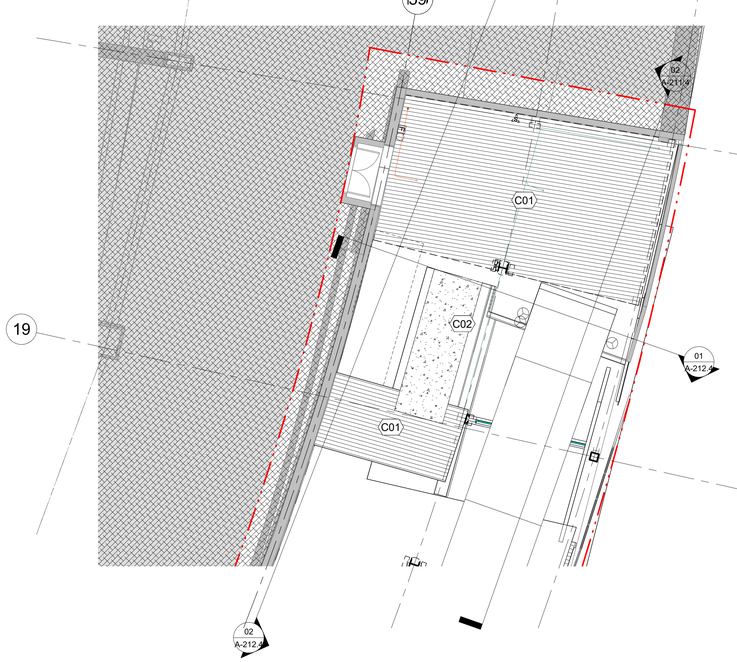
DRAWING NUMBER ISSUE
A-112.4 3.1



03 A-113.4 **SECTOR 4 - LEVEL 700 REFLECTED CEILING PLAN**
1/8" = 1'-0"



01 A-113.4 **SECTOR 4 - LEVEL 650 REFLECTED CEILING PLAN**
1/8" = 1'-0"



02 A-113.4 **SECTOR 4 - LEVEL 600 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR UN-IDENTIFIED CEILING HEIGHTS OR TYPES PRIOR TO PROCEEDING WITH THE WORK.
B. REFERENCE FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD LOCATIONS. CENTER SPRINKER HEADS IN ACOUSTIC PANELS - TYPICAL..
C. WHERE MINOR DISCREPANCIES OCCUR BETWEEN MECHANICAL. PLUMBING, OR ELECTRICAL DOCUMENTS AND THE ARCHITECTURAL CEILING PLAN, THE ARCHITECTURAL PLAN SHALL GOVERN.
D. IN THE CASE OF MAJOR DISCREPANCIES, THE ARCHITECT SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.
E. COORDINATE WITH MEP/FP CONTRACTORS FOR ACCESS PANELS IN GYPSUM BOARD CEILINGS NOT INDICATED ON THE CEILING PLANS.

DRAWING NOTES

C01 METAL DECK. DO NOT PAINT.
C02 PRECAST CONCRETE STAIR. DO NOT PAINT.

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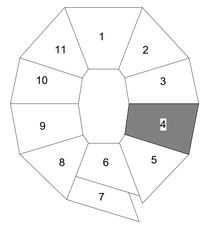

N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

DESIGNED	COMM. NO.
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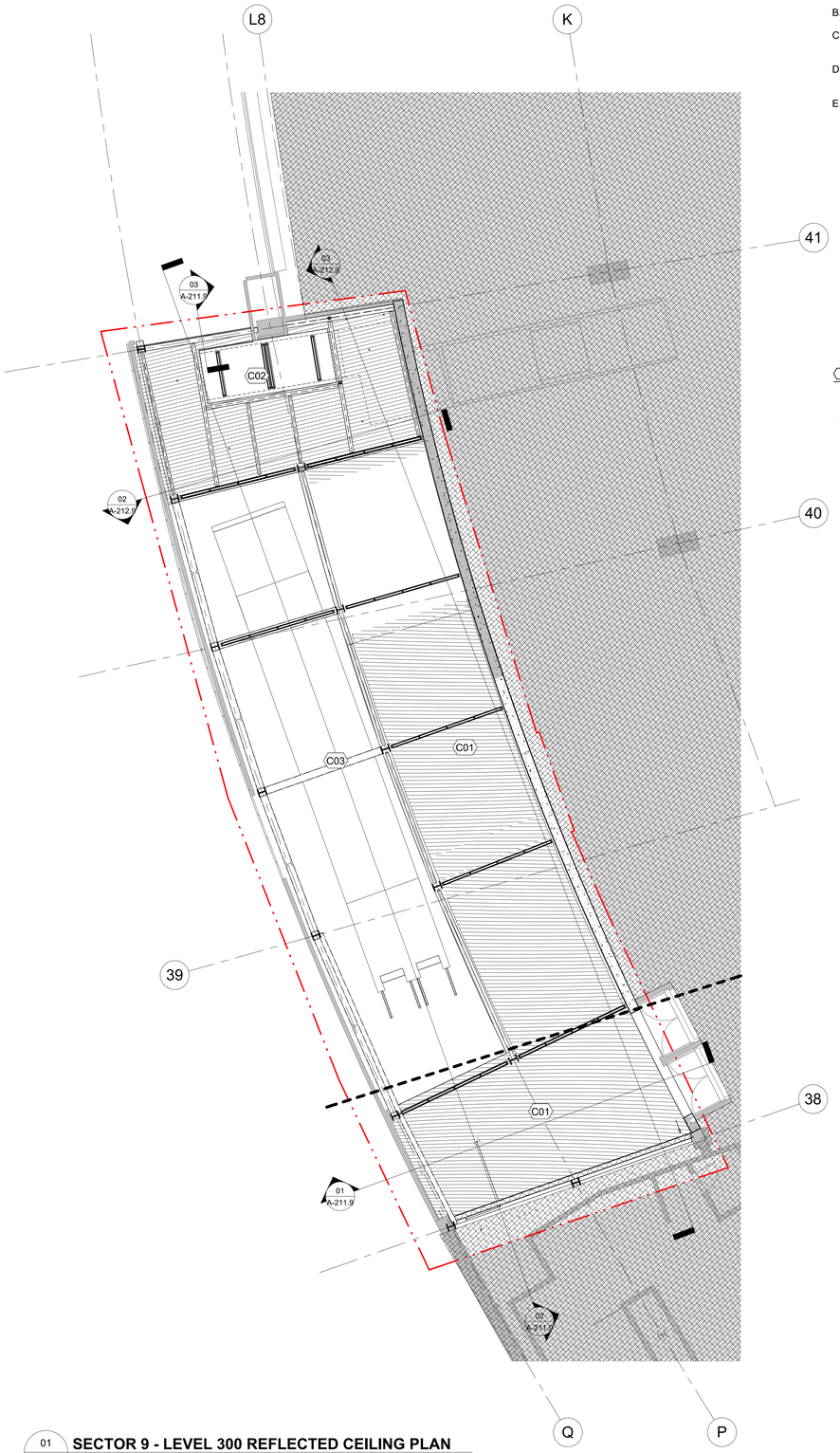
CARLETON	05/01/2026
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 600, 650 & 700 CEILING PLANS

DRAWING NUMBER ISSUE
A-113.4 3.1

02 A-116.9 **SECTOR 9 - LEVEL 200 REFLECTED CEILING PLAN**
1/8" = 1'-0"



01 A-116.9 **SECTOR 9 - LEVEL 300 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR UN-IDENTIFIED CEILING HEIGHTS OR TYPES PRIOR TO PROCEEDING WITH THE WORK.
B. REFERENCE FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD LOCATIONS. CENTER SPRINKER HEADS IN ACOUSTIC PANELS - TYPICAL.
C. WHERE MINOR DISCREPANCIES OCCUR BETWEEN MECHANICAL, PLUMBING, OR ELECTRICAL DOCUMENTS AND THE ARCHITECTURAL CEILING PLAN, THE ARCHITECTURAL PLAN SHALL GOVERN.
D. IN THE CASE OF MAJOR DISCREPANCIES, THE ARCHITECT SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.
E. COORDINATE WITH MEP/FP CONTRACTORS FOR ACCESS PANELS IN GYPSUM BOARD CEILINGS NOT INDICATED ON THE CEILING PLANS.

⎔ DRAWING NOTES

C01 METAL DECK. DO NOT PAINT.
C02 PRECAST CONCRETE STAIR. DO NOT PAINT.
C03 STAINLESS STEEL ESCALATOR CLADDING

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

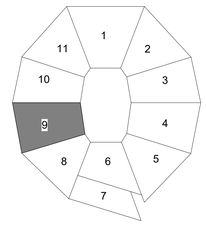
Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

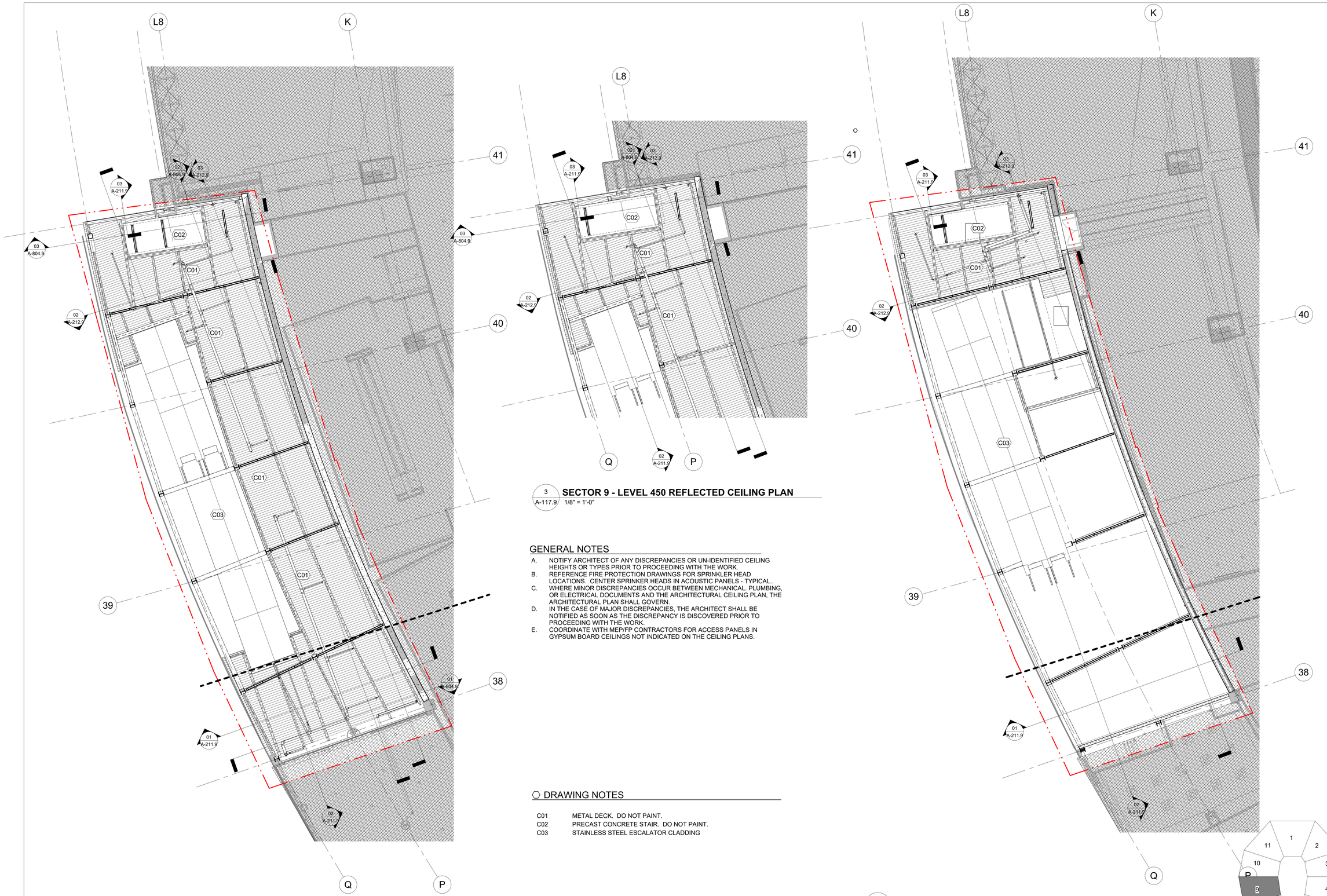


0 4' 8' 16'
SCALE: 1/8"=1'-0"

DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 200 & 300 CEILING PLANS

DRAWING NUMBER ISSUE
A-116.9 3.1



3 A-117.9 **SECTOR 9 - LEVEL 450 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

A. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR UN-IDENTIFIED CEILING HEIGHTS OR TYPES PRIOR TO PROCEEDING WITH THE WORK.
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C. WHERE MINOR DISCREPANCIES OCCUR BETWEEN MECHANICAL, PLUMBING, OR ELECTRICAL DOCUMENTS AND THE ARCHITECTURAL CEILING PLAN, THE ARCHITECTURAL PLAN SHALL GOVERN.
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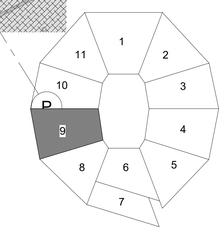
E. COORDINATE WITH MEP/FP CONTRACTORS FOR ACCESS PANELS IN GYPSUM BOARD CEILINGS NOT INDICATED ON THE CEILING PLANS.

DRAWING NOTES

C01 METAL DECK. DO NOT PAINT.
C02 PRECAST CONCRETE STAIR. DO NOT PAINT.
C03 STAINLESS STEEL ESCALATOR CLADDING

02 A-117.9 **SECTOR 9 - LEVEL 400 REFLECTED CEILING PLAN**
1/8" = 1'-0"

01 A-117.9 **SECTOR 9 - LEVEL 500 REFLECTED CEILING PLAN**
1/8" = 1'-0"



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0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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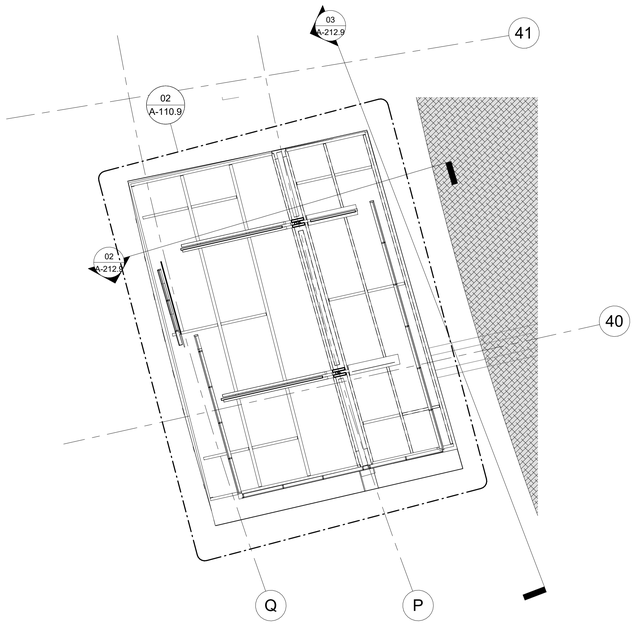
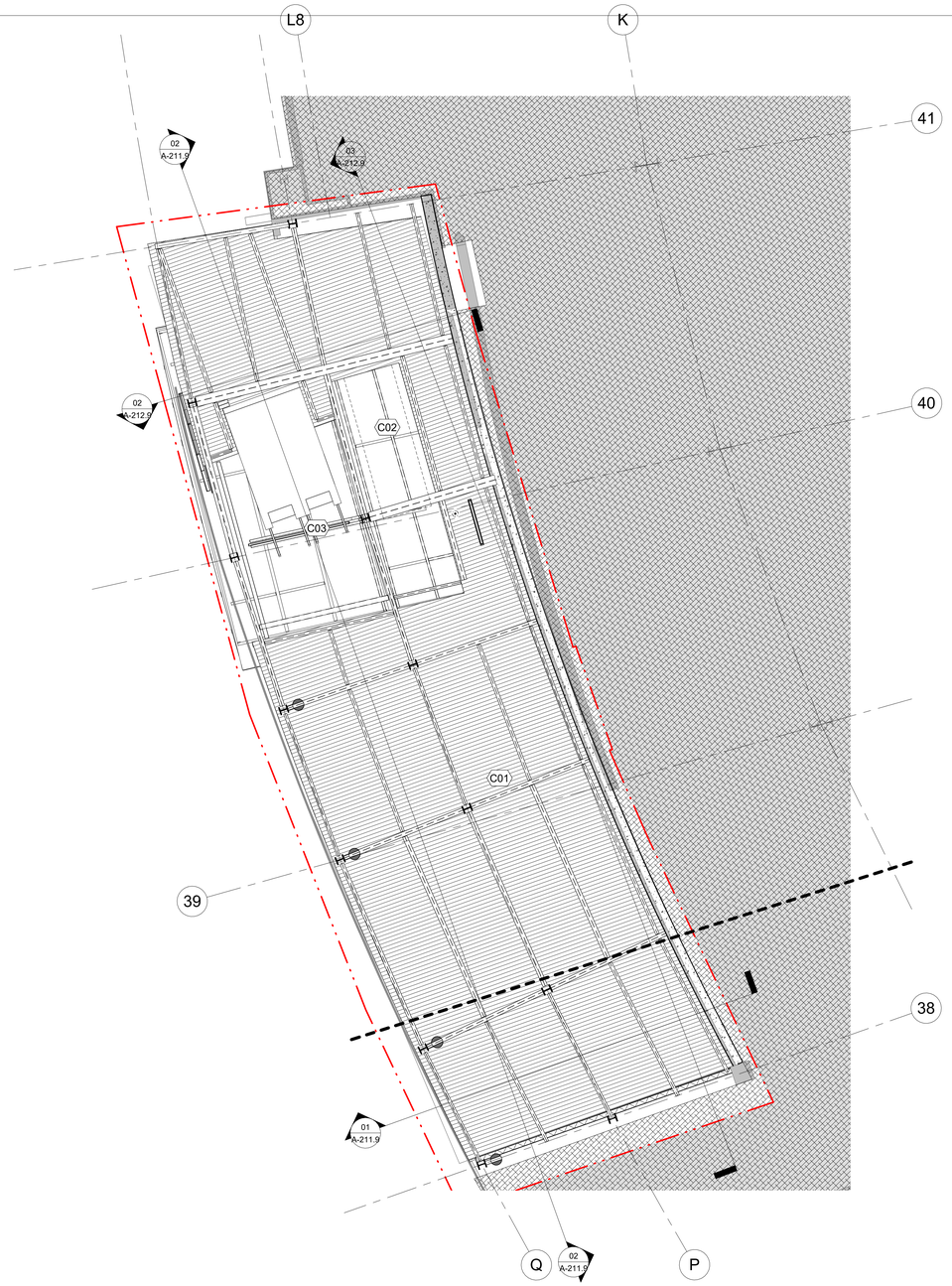
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 400, 450, & 500 CEILING PLANS

DRAWING NUMBER ISSUE
A-117.9 3.1



03 A-118.9 **SECTOR 9 - LEVEL 700 REFLECTED CEILING PLAN**
1/8" = 1'-0"



01 A-118.9 **SECTOR 9 - LEVEL 650 REFLECTED CEILING PLAN**
1/8" = 1'-0"

GENERAL NOTES

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⎔ DRAWING NOTES

C01 METAL DECK. DO NOT PAINT.
C02 PRECAST CONCRETE STAIR. DO NOT PAINT.
C03 STAINLESS STEEL ESCALATOR CLADDING

NO.	DATE	DESCRIPTION
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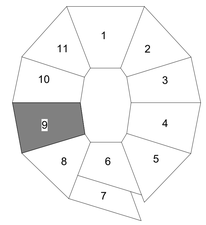

N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

DESIGNED	COMM. NO.
CARLETON	8445.01
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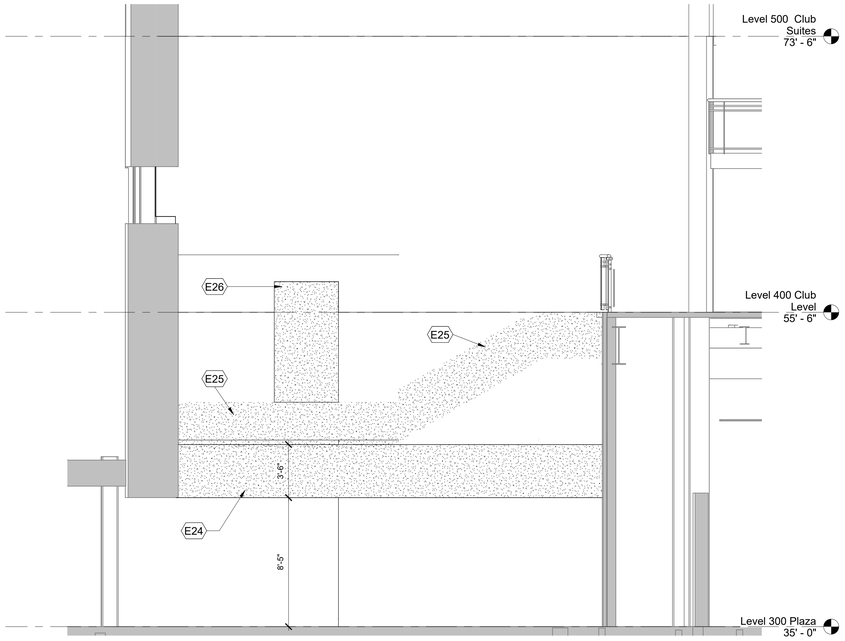
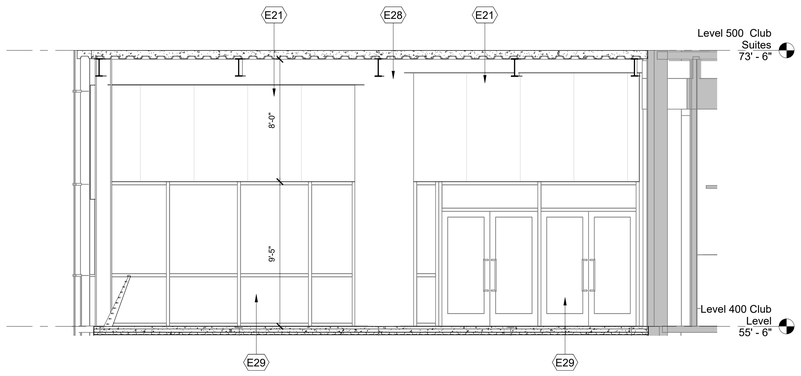
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 600, 650 & 700 CEILING PLANS

DRAWING NUMBER ISSUE
A-118.9 3.1



03 A-201.4 **SECTOR 4 - LEVEL 300 INTERIOR ELEVATION**
1/4" = 1'-0"



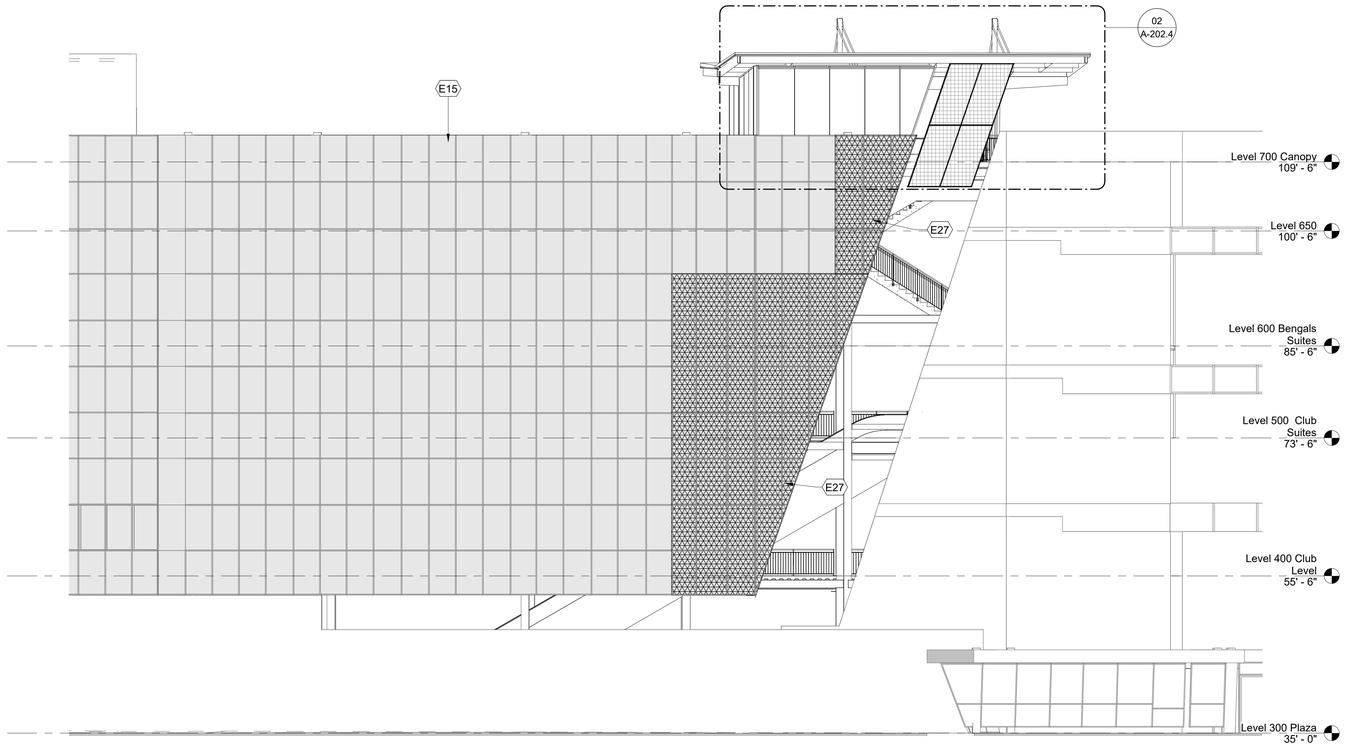
02 A-201.4 **SECTOR 4 - LEVEL 400 JUNGLE BAR**
1/4" = 1'-0"

GENERAL NOTES

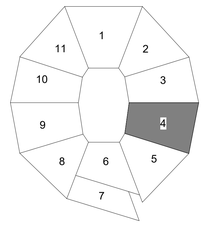
A. SEE FLOOR PLANS FOR RAILING TYPE NOTATIONS.
B. DO NOT PAINT EXISTING PERFORATED STAINLESS STEEL PANELS.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
D. USE ONLY WRITTEN DIMENSIONS - DO NOT SCALE DRAWINGS.
E. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO COMMENCING WORK. ALL INQUIRIES AND DISCREPANCIES SHALL BE DIRECTED TO THE ARCHITECT.
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E21	MCM METAL PANELS
E24	NEW BULKHEAD FOR EXISTING HVAC DUCTWORK
E25	PATCH GYP. BD. PAINT WALL TO MATCH EXISTING
E26	INFILL EXISTING DOOR OPENING. ALIGN NEW GYP. BD. W/EXISTING
E27	REINSTALL FRAME SECTION WITH PERFORATED PANEL REMOVED FOR STEEL DEMOLITION.
E28	NEW COLUMN COVER. MATCH EXISTING.
E29	EXISTING STOREFRONT



01 A-201.4 **EXTERIOR ELEVATION**
1/8" = 1'-0"



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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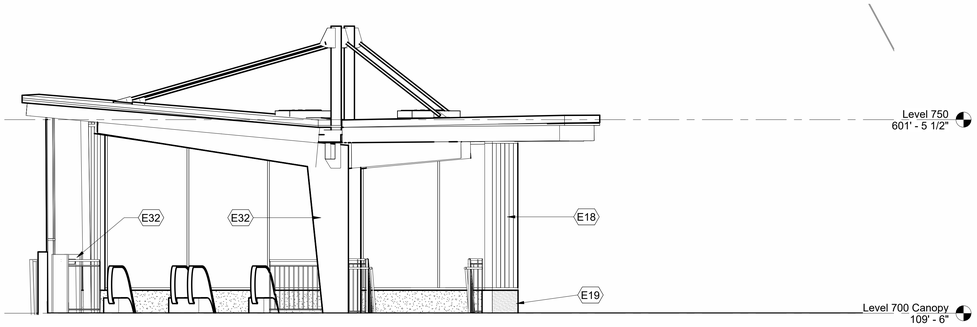
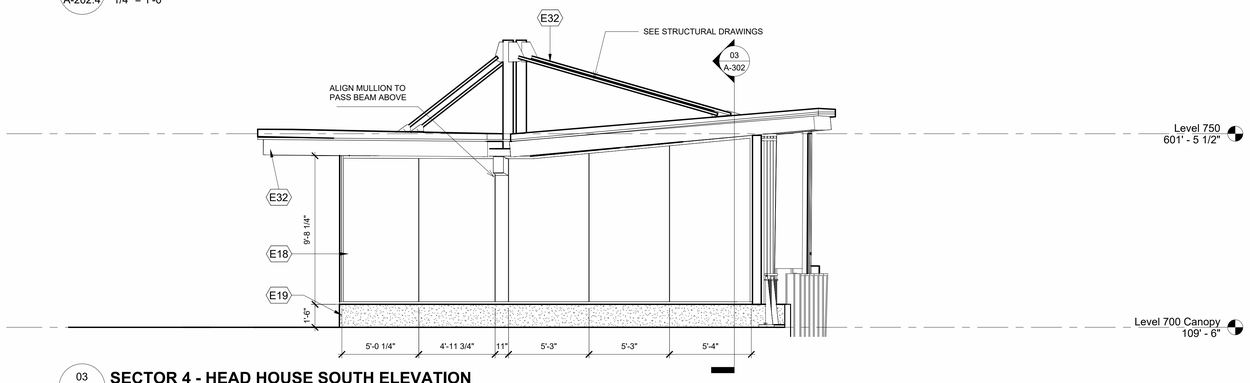
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 EXTERIOR ELEVATION

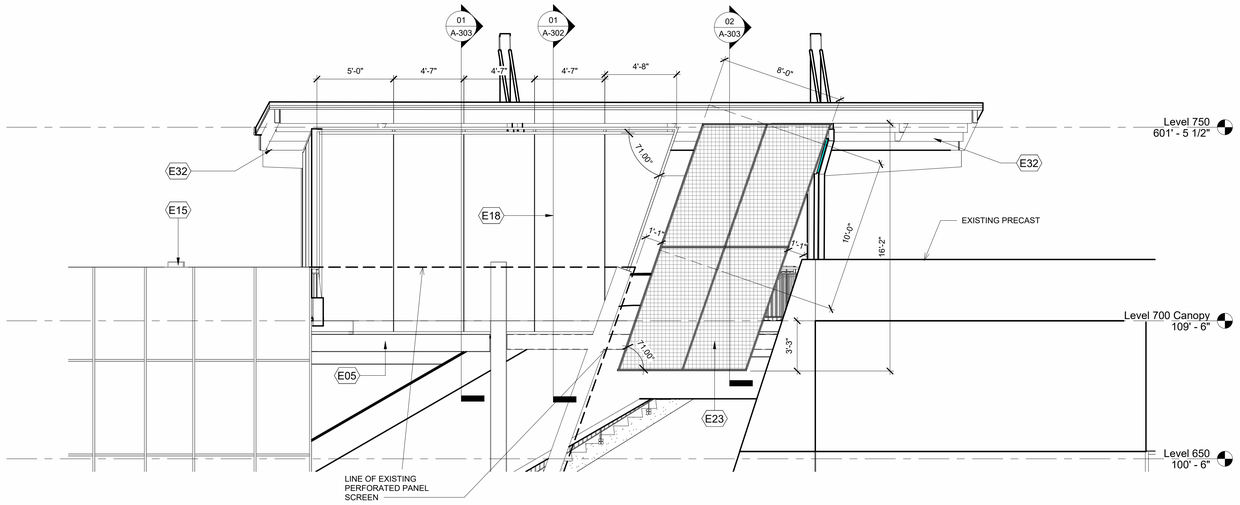
DRAWING NUMBER ISSUE
A-201.4 3.1



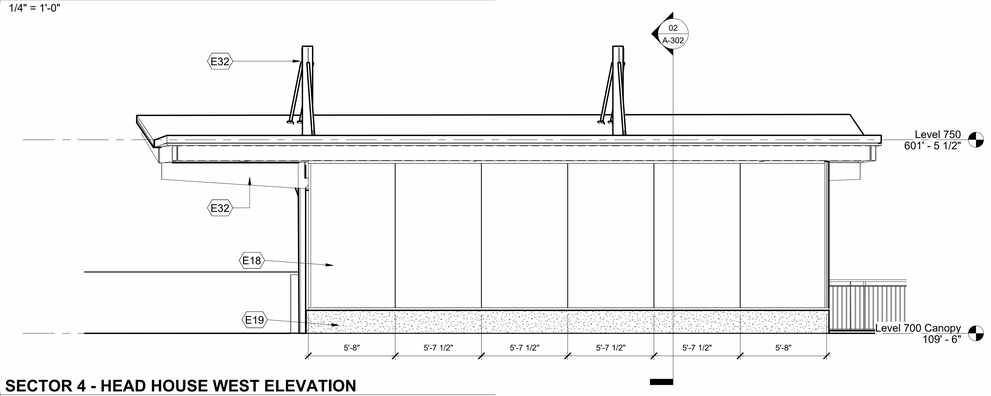
04 A-202.4 **SECTOR 4 - HEAD HOUSE NORTH ELEVATION**
1/4" = 1'-0"



03 A-202.4 **SECTOR 4 - HEAD HOUSE SOUTH ELEVATION**
1/4" = 1'-0"



02 A-202.4 **SECTOR 4 - HEAD HOUSE EAST ELEVATION**
1/4" = 1'-0"



01 A-202.4 **SECTOR 4 - HEAD HOUSE WEST ELEVATION**
1/4" = 1'-0"

GENERAL NOTES

A. SEE FLOOR PLANS FOR RAILING TYPE NOTATIONS.
B. DO NOT PAINT EXISTING PERFORATED STAINLESS STEEL PANELS.
C. ALL DIMENSIONS ARE FROM FACE TO FACE OF FINISH CONSTRUCTION UNLESS INDICATED OTHERWISE.
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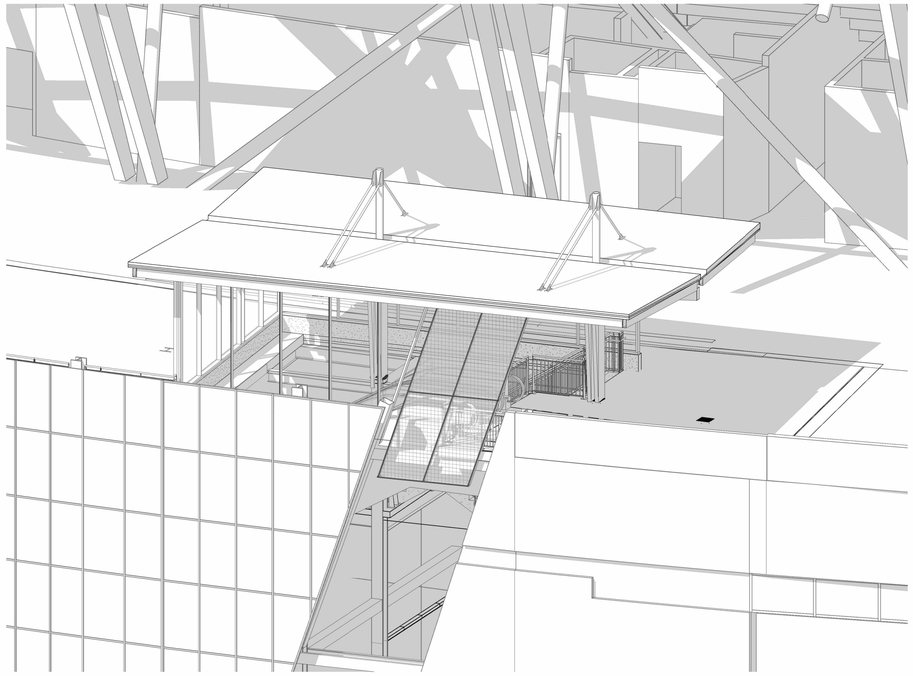
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

E05	PAINT STRUCTURE PT-3
E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E18	BUTT GLAZED CURTAIN WALL. TEMPER GLASS
E19	CONCRETE KNEEWALL. DO NOT PAINT
E23	STAINLESS STEEL PERFORATED PANEL M-4
E32	PAINT HEAD HOUSE COLUMNS AND ROOF STRUCTURE PT-6.



05 A-202.4 **SECTOR 4 - HEAD HOUSE**

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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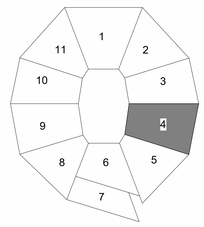

DESIGNED	COMM. NO.
ALMOND	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
Checker	SHULTZ

SECTOR 4 - HEAD HOUSE ELEVATIONS

DRAWING NUMBER ISSUE
A-202.4 3.1

GENERAL NOTES

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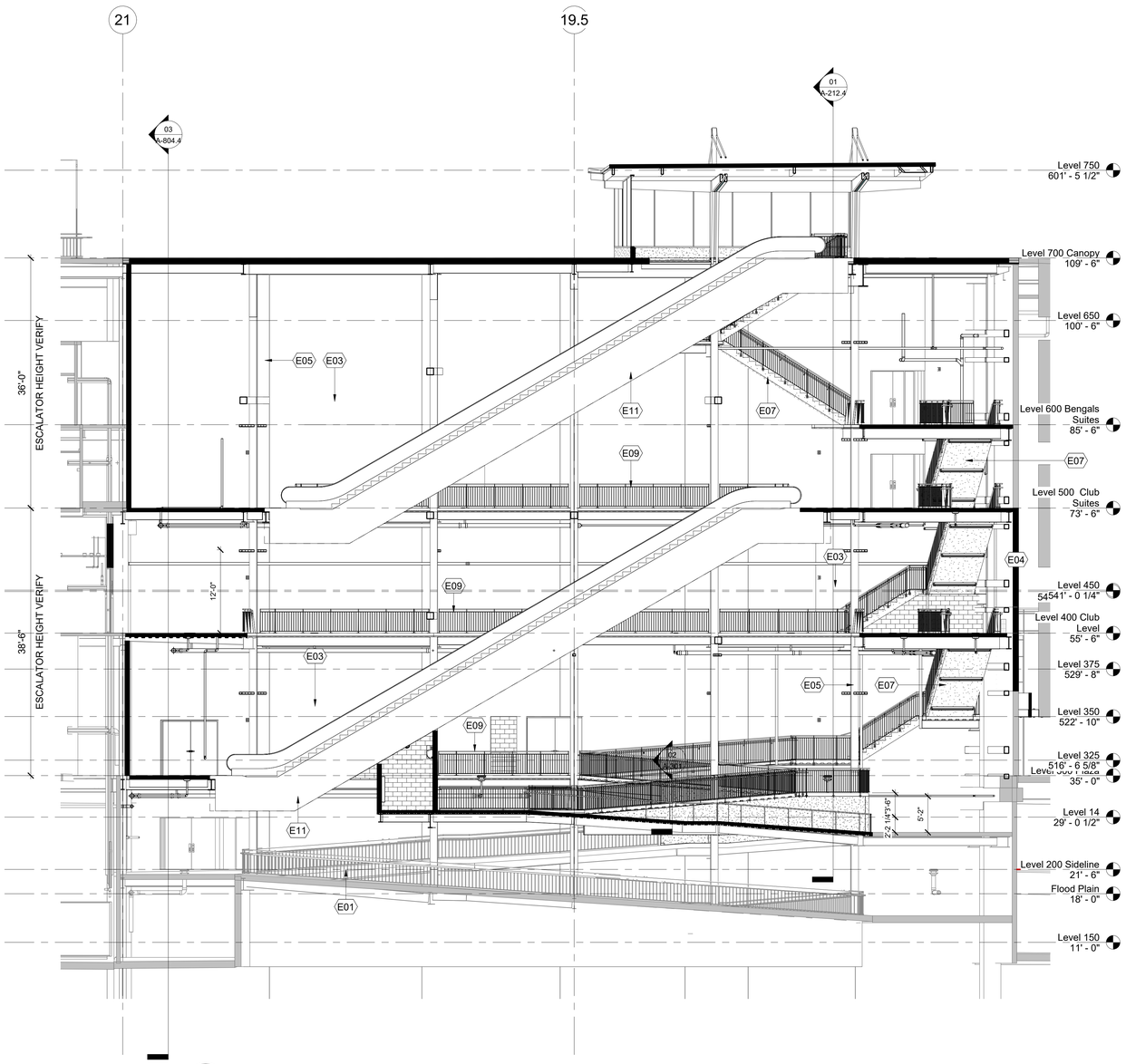
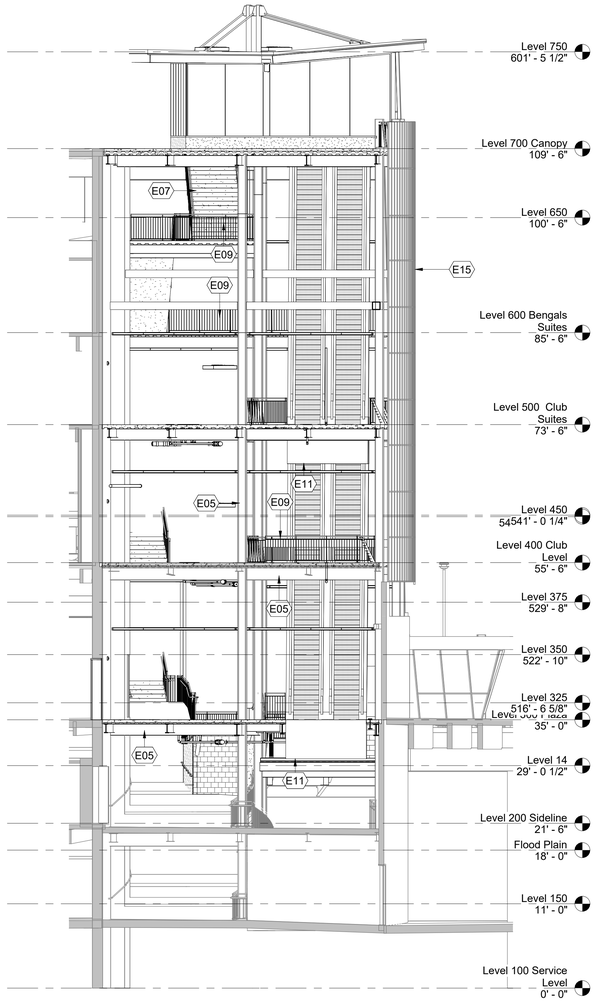
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

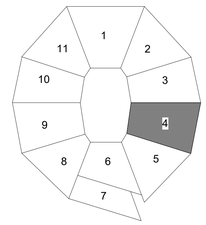
E01	EXISTING RAILING
E03	PATCH EXISTING WALL. PAINT WALL GRAPHIC.
E04	PATCH EXISTING WALL. PAINT WALL GRAPHIC. PAINT STRUCTURE AT WALL TO INCORPORATE WALL GRAPHIC.
E05	PAINT STRUCTURE PT-3
E07	PRECAST CONCRETE STAIR. DO NOT PAINT
E09	NEW GUARDRAIL
E11	ESCALATOR W/STAINLESS STEEL CLADDING
E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.



02 A-211.4 **SECTOR 4 SECTION**
1/8" = 1'-0"



01 A-211.4 **SECTOR 4 ESCALATOR - LATERAL SECTION**
1/8" = 1'-0"



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

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THAMANN	SHULTZ

SECTOR 4 - SECTIONS

DRAWING NUMBER ISSUE
A-211.4 3.1

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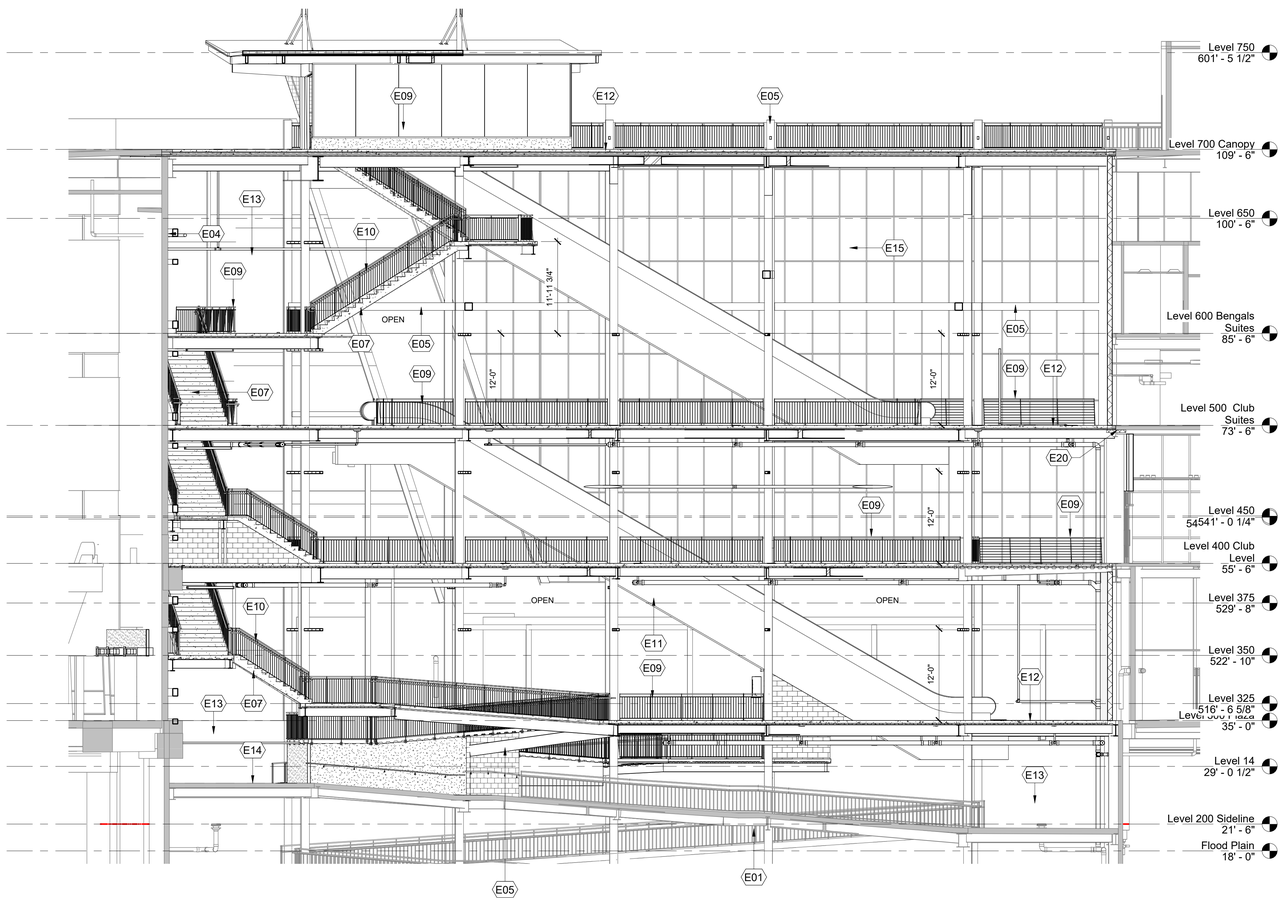
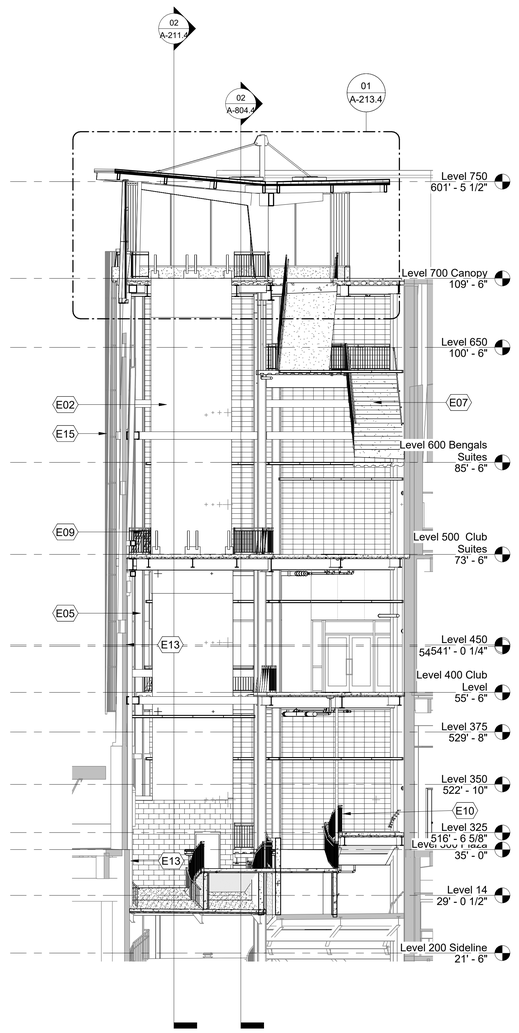
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

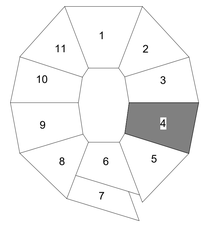
E01	EXISTING RAILING
E02	ESCALATOR WITH STAINLESS STEEL CLADDING AT SIDES AND UNDERSIDE
E04	PATCH EXISTING WALL. PAINT WALL GRAPHIC. PAINT STRUCTURE AT WALL TO INCORPORATE WALL GRAPHIC.
E05	PAINT STRUCTURE PT-3
E07	PRECAST CONCRETE STAIR. DO NOT PAINT
E09	NEW GUARDRAIL
E10	NEW GUARDRAIL WITH HANDRAIL
E11	ESCALATOR W/STAINLESS STEEL CLADDING
E12	NEW CONCRETE SLAB ON METAL DECK. SEE STRUCTURAL
E13	EXISTING CONCRETE. DO NOT PAINT.
E14	EXISTING RAMP
E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E20	INSULATE EXISTING SLAB ABOVE



02 A-212.4 **SECTOR 4 -SECTION**
1/8" = 1'-0"



01 A-212.4 **SECTOR 4 - SECTION**
1/8" = 1'-0"



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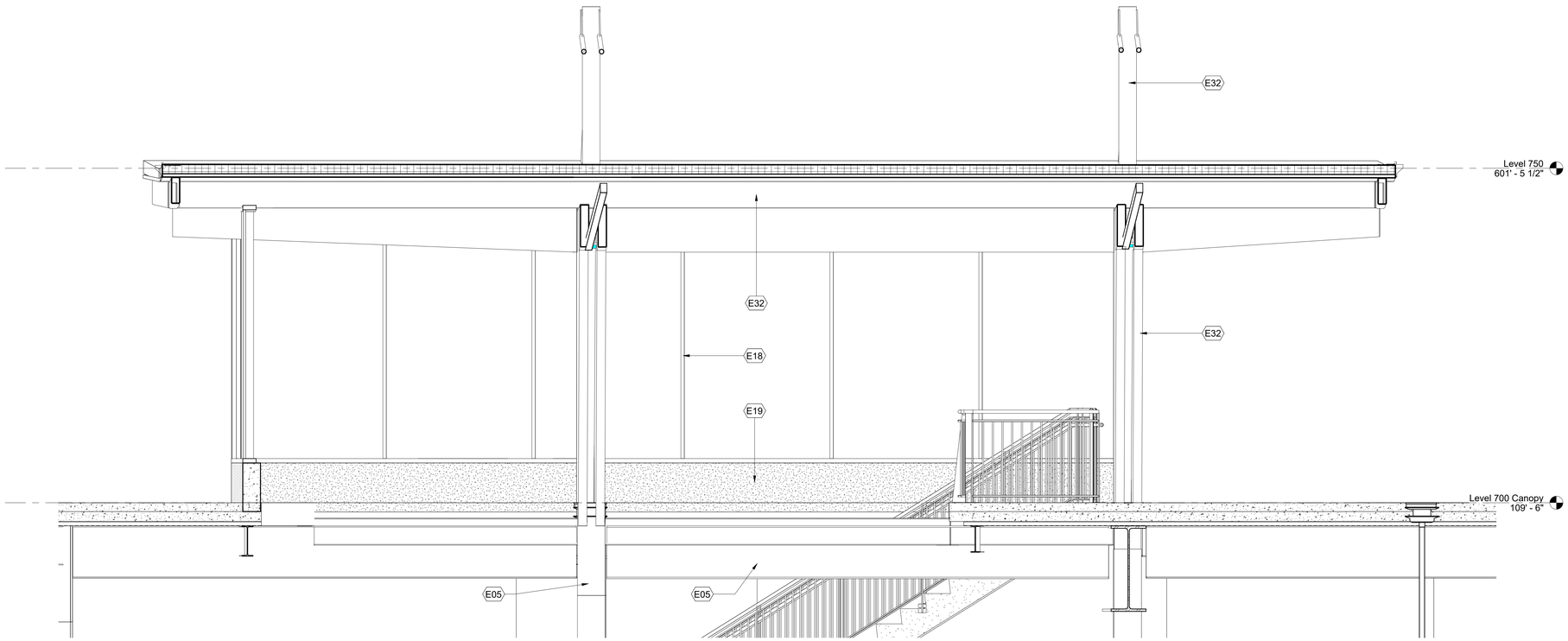
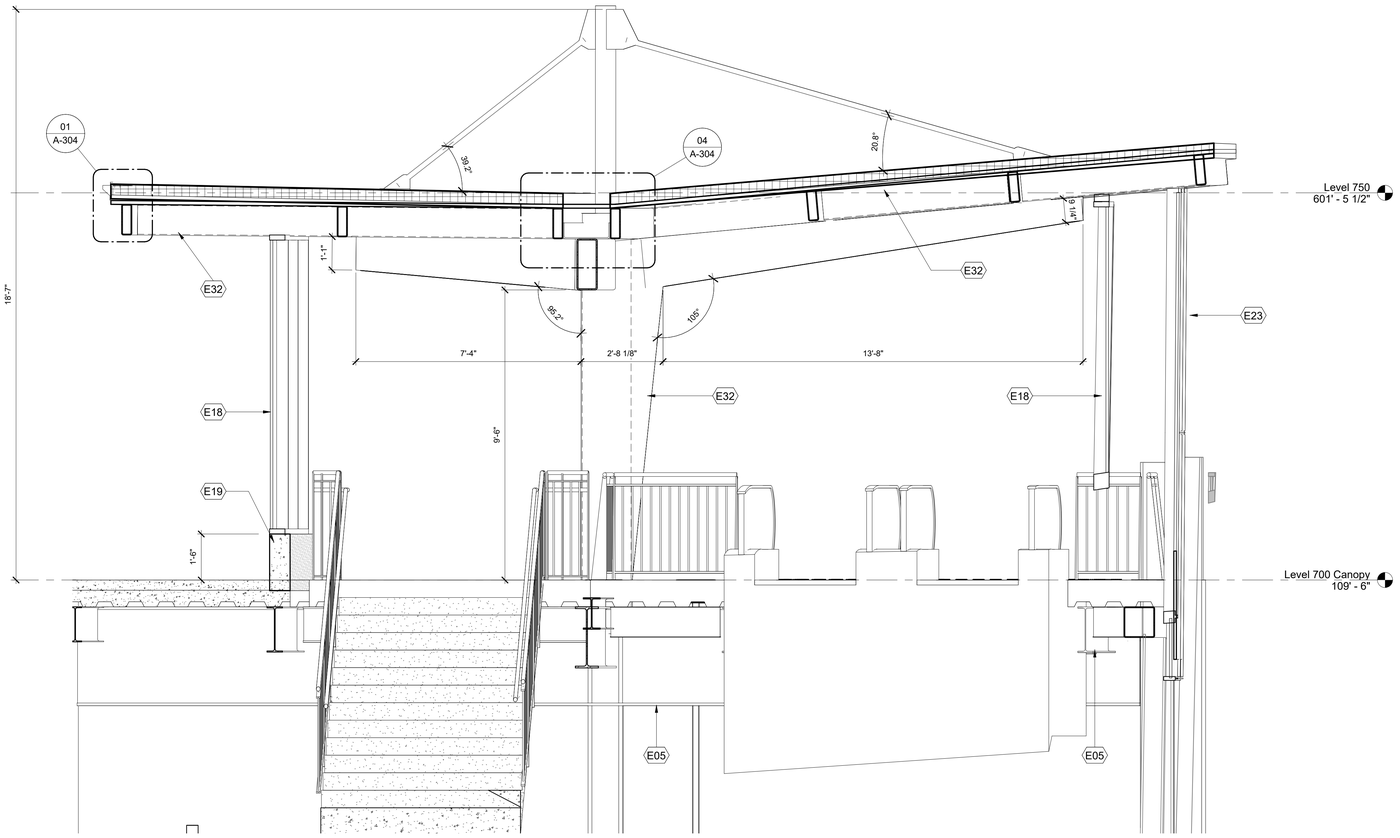
THAMANN	SHULTZ

SECTOR 4 - SECTIONS

DRAWING NUMBER ISSUE
A-212.4 3.1



02 A-213.4 **SECTION 4 - HEAD HOUSE LONGITUDINAL SECTION**
1/2" = 1'-0"



01 A-213.4 **SECTION 4 - HEAD HOUSE LATERAL SECTION**
1/2" = 1'-0"

GENERAL NOTES

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G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

E05	PAINT STRUCTURE PT-3
E18	BUTT GLAZED CURTAIN WALL. TEMPER GLASS
E19	CONCRETE KNEEWALL. DO NOT PAINT
E23	STAINLESS STEEL PERFORATED PANEL M-4
E32	PAINT HEAD HOUSE COLUMNS AND ROOF STRUCTURE PT-6.

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

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Designing Better Futures

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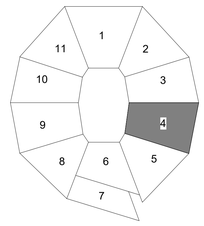
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

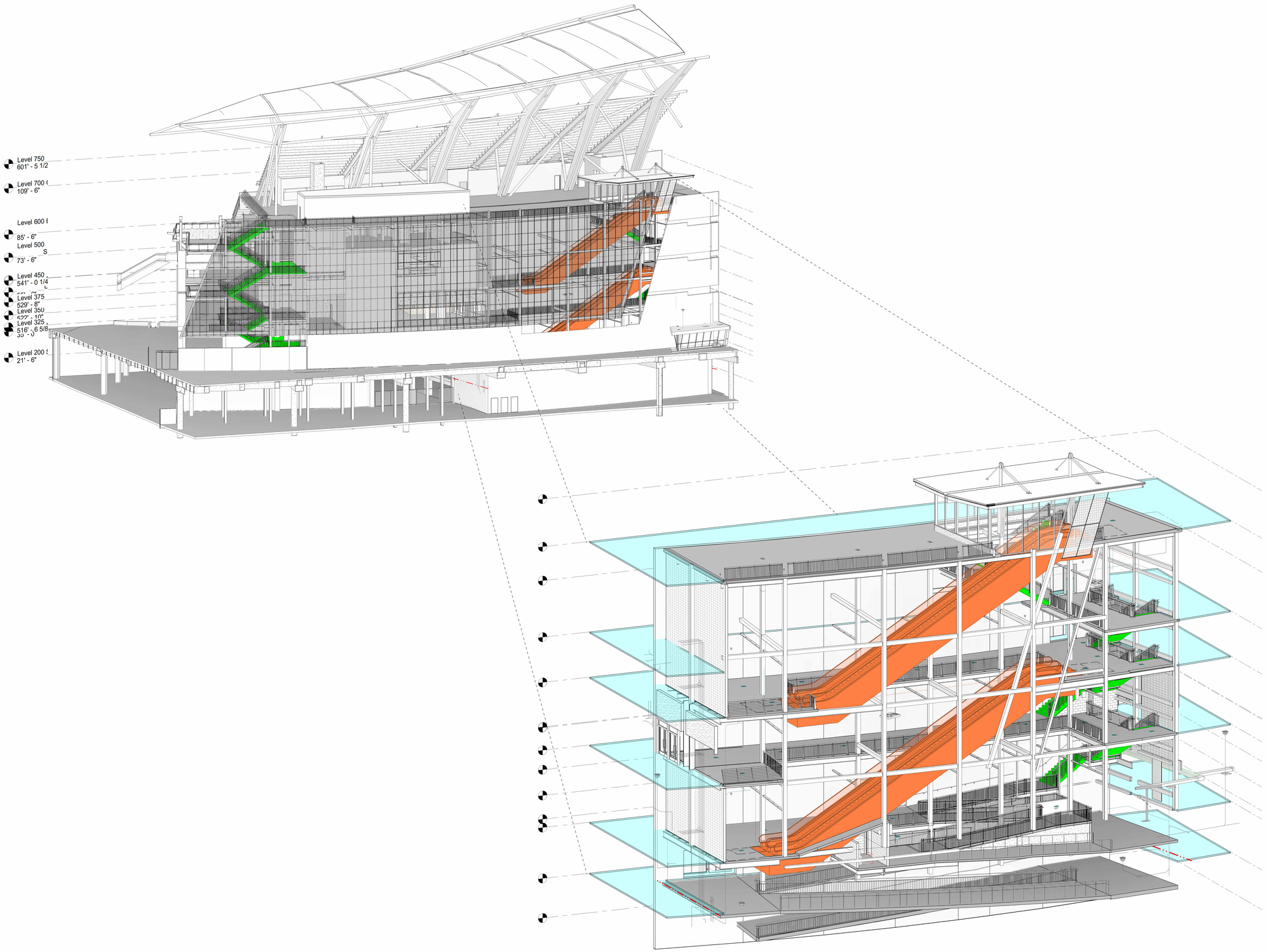


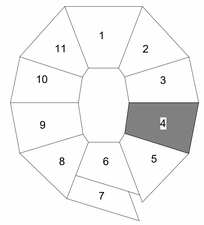
DESIGNED	COMM. NO.
ALMOND	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
Checker	SHULTZ

SECTION 4 - HEAD HOUSE SECTIONS

DRAWING NUMBER ISSUE
A-213.4 3.1

0 1' 2' 4'
SCALE: 1/2"=1'-0"





0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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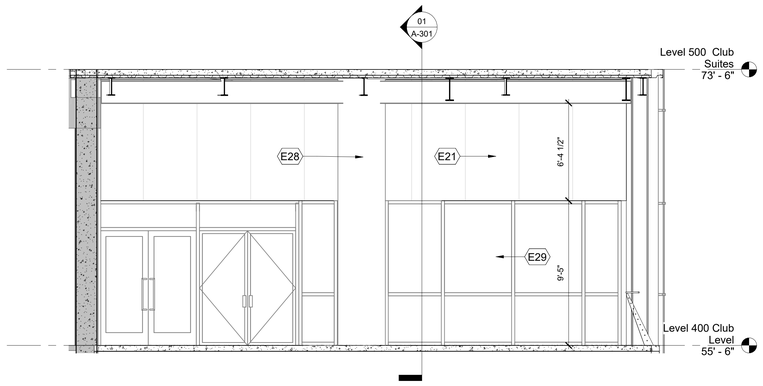
THAMANN	SHULTZ

3D AXON - SECTOR 4

DRAWING NUMBER ISSUE
A-220.4 3.1



03 A-201.9 **SECTOR 9 - LEVEL 400 JUNGLE BAR**
1/4" = 1'-0"

GENERAL NOTES

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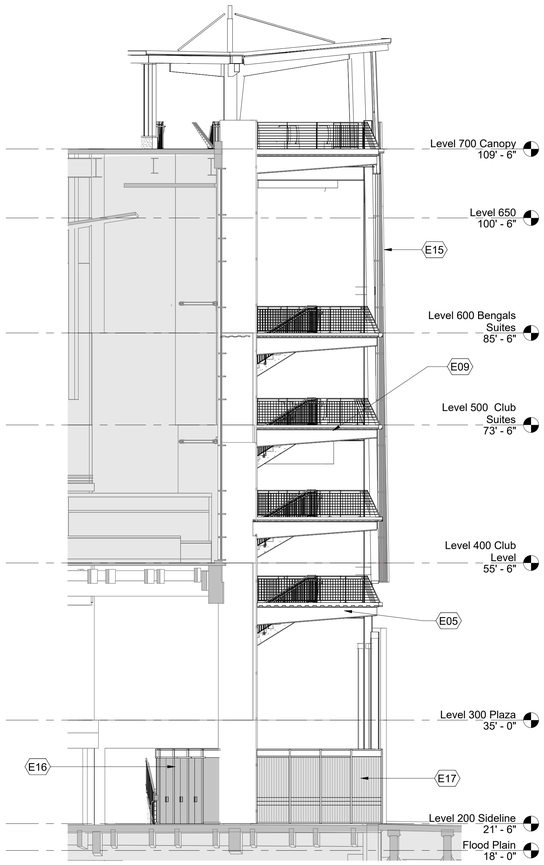
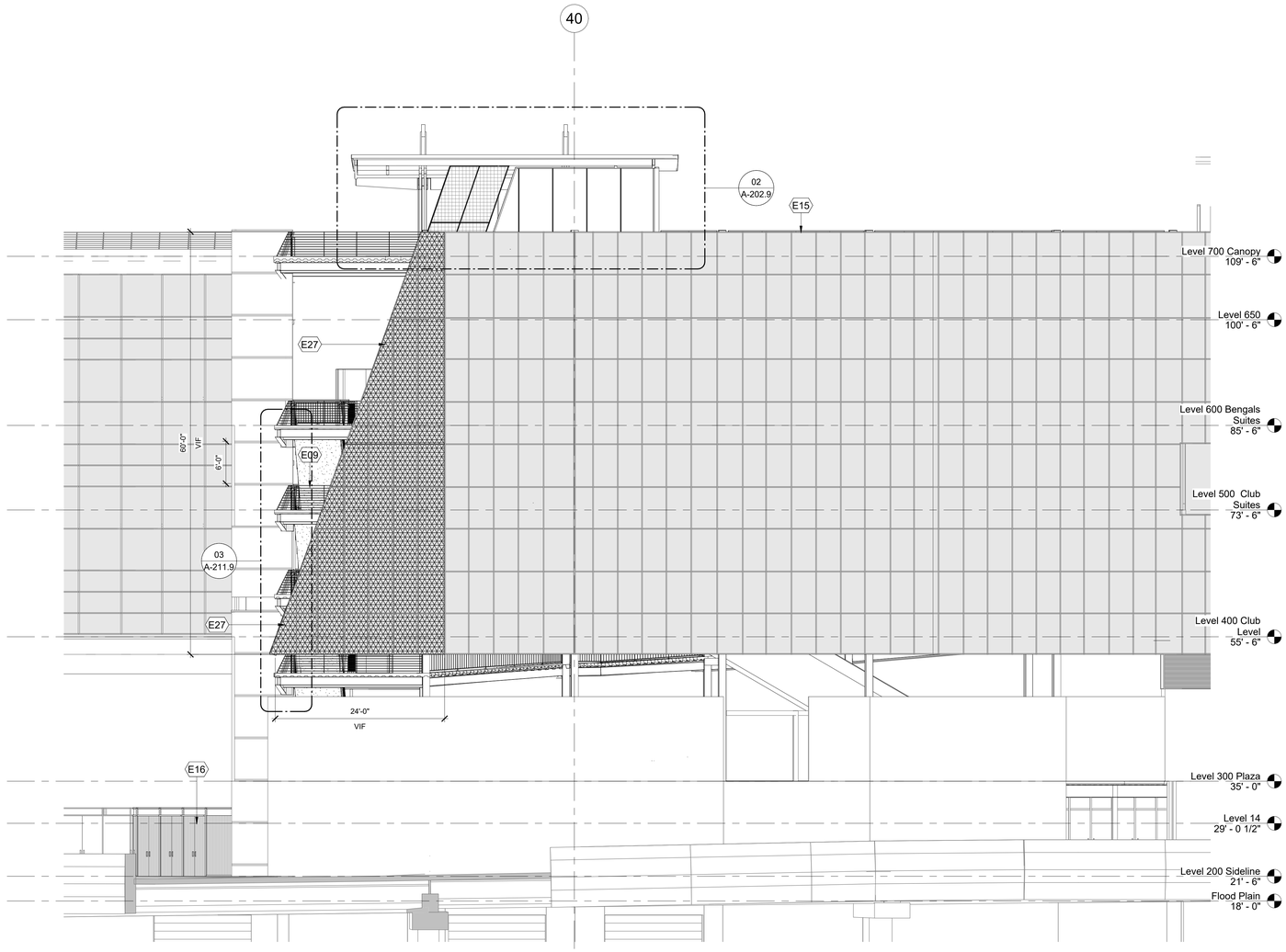
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

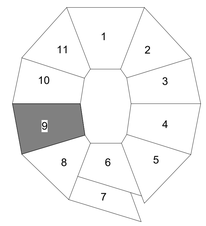
E05	PAINT STRUCTURE PT-3
E09	NEW GUARDRAIL
E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E16	RELOCATED GATES
E17	RELOCATED METAL SCREEN FENCE
E21	MCM METAL PANELS
E27	REINSTALL FRAME SECTION WITH PERFORATED PANEL REMOVED FOR STEEL DEMOLITION.
E28	NEW COLUMN COVER. MATCH EXISTING.
E29	EXISTING STOREFRONT



02 A-201.9 **SECTOR 9 - ELEVATION**
1/8" = 1'-0"



01 A-201.9 **SECTOR 9 - ELEVATION**
1/8" = 1'-0"



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

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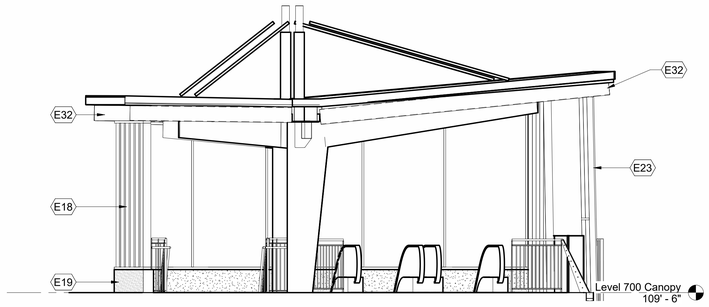
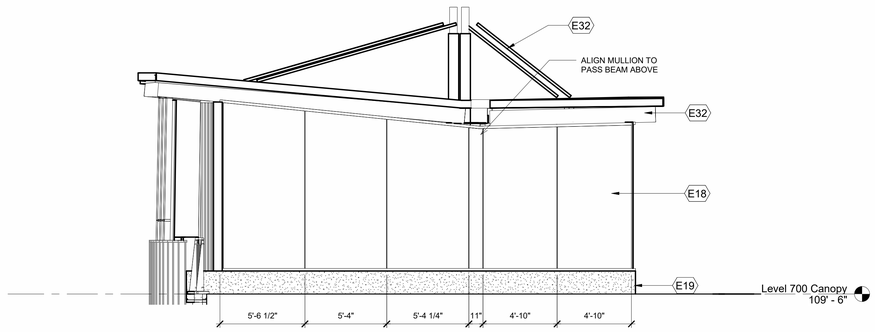
THAMANN	SHULTZ

SECTOR 9 - EXTERIOR ELEVATIONS

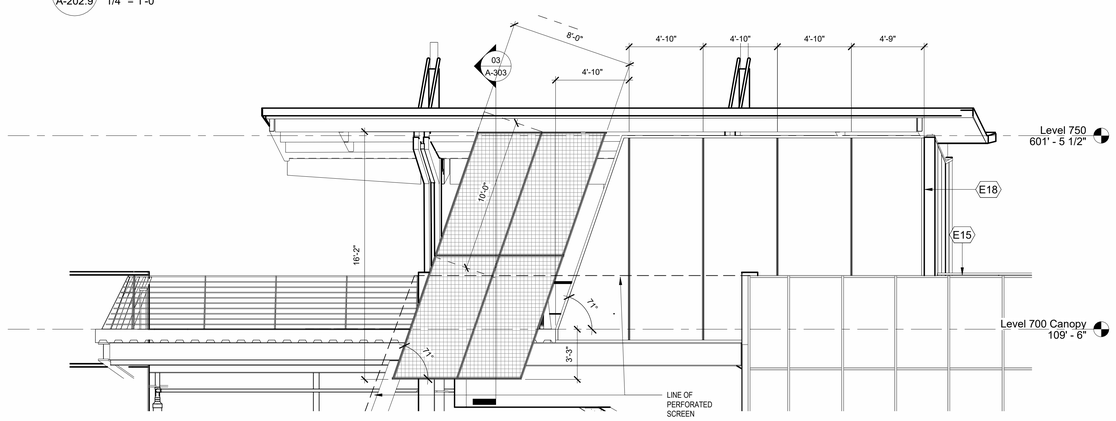
DRAWING NUMBER ISSUE
A-201.9 3.1



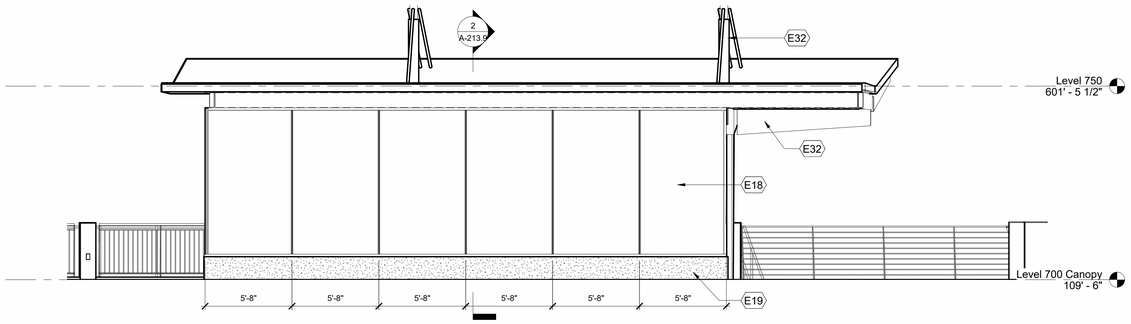
04 A-202.9 **SECTOR 9 - HEAD HOUSE NORTH ELEVATION**
1/4" = 1'-0"



03 A-202.9 **SECTOR 9 - HEAD HOUSE SOUTH ELEVATION**
1/4" = 1'-0"



02 A-202.9 **SECTOR 9 - HEAD HOUSE WEST ELEVATION**
1/4" = 1'-0"



01 A-202.9 **SECTOR 9 - HEAD HOUSE EAST ELEVATION**
1/4" = 1'-0"

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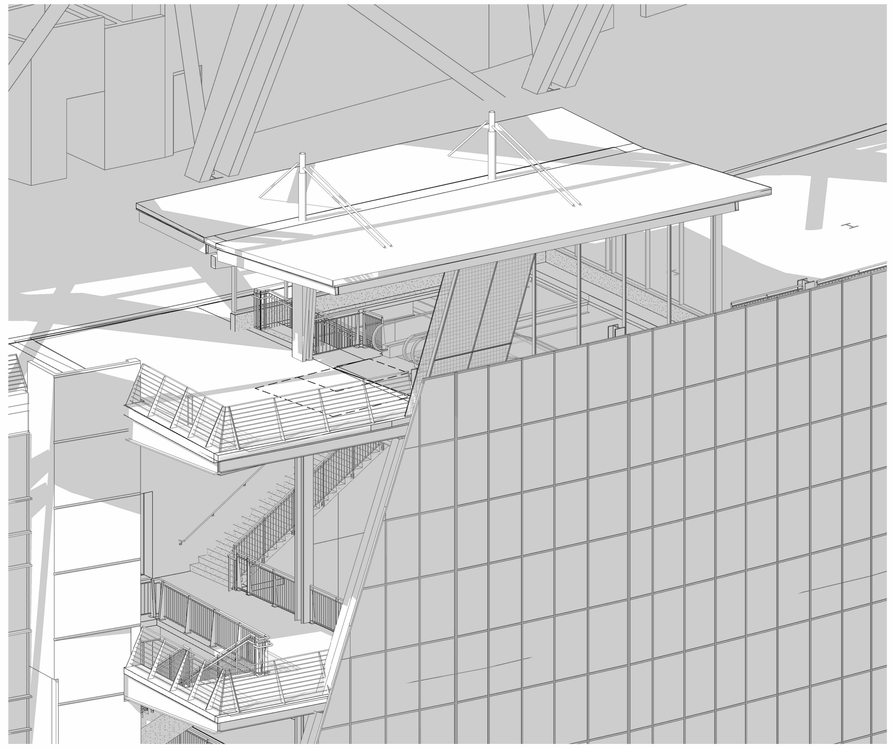
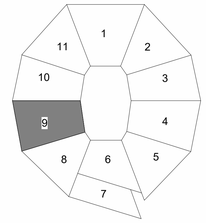
G. SEE SHEET A-804.4 - A-804.9 FOR LAYOUT OF GRAPHIC WALL PAINT

DRAWING NOTES

E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E18	BUTT GLAZED CURTAIN WALL. TEMPER GLASS
E19	CONCRETE KNEEWALL. DO NOT PAINT
E23	STAINLESS STEEL PERFORATED PANEL M-4
E32	PAINT HEAD HOUSE COLUMNS AND ROOF STRUCTURE PT-6.



05 A-202.9 **SECTOR 9 - HEAD HOUSE**



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
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CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - HEAD HOUSE ELEVATIONS

DRAWING NUMBER ISSUE
A-202.9 3.1

DRAWING NOTES

E05	PAINT STRUCTURE PT-3
E07	PRECAST CONCRETE STAIR. DO NOT PAINT
E08	CMU INFILL
E09	NEW GUARDRAIL
E10	NEW GUARDRAIL WITH HANDRAIL
E11	ESCALATOR W/STAINLESS STEEL CLADDING
E12	NEW CONCRETE SLAB ON METAL DECK. SEE STRUCTURAL
E15	EXISTING PERFORATED PANEL SCREEN TO REMAIN.
E30	8" CMU WALL W/STUCCO FINISH TO MATCH EXISTING PRECAST
E31	METAL CLOSURE PLATE. PAINT TO MATCH STRUCTURE.

GENERAL NOTES

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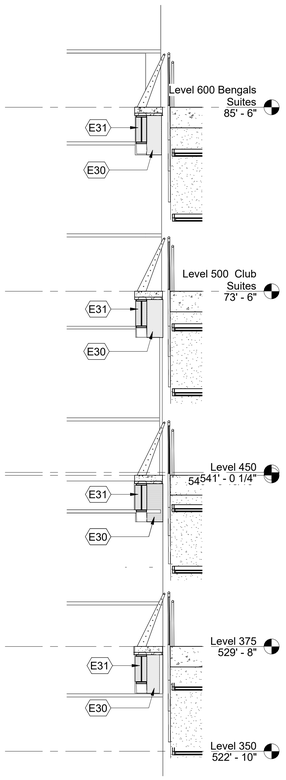
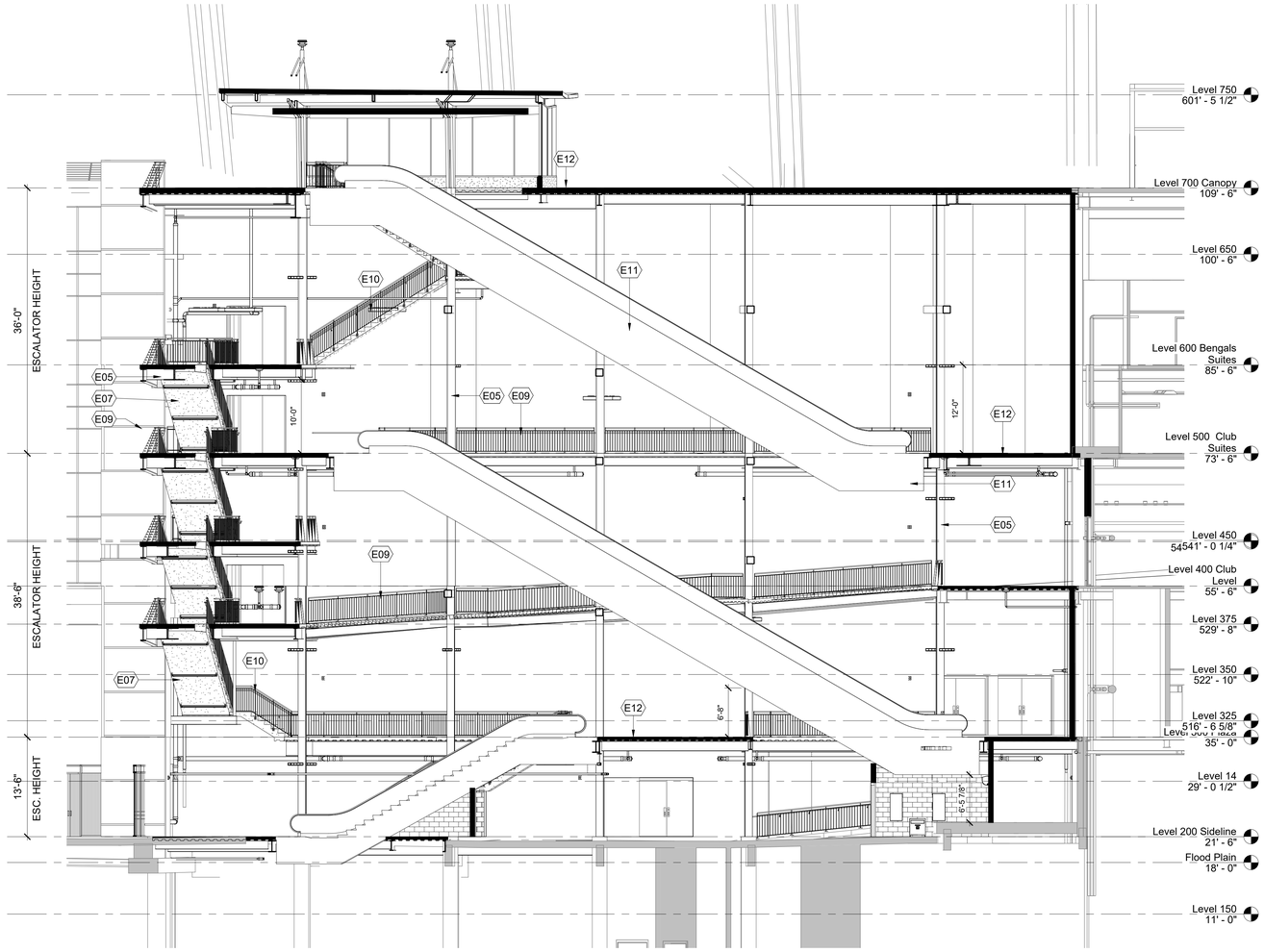
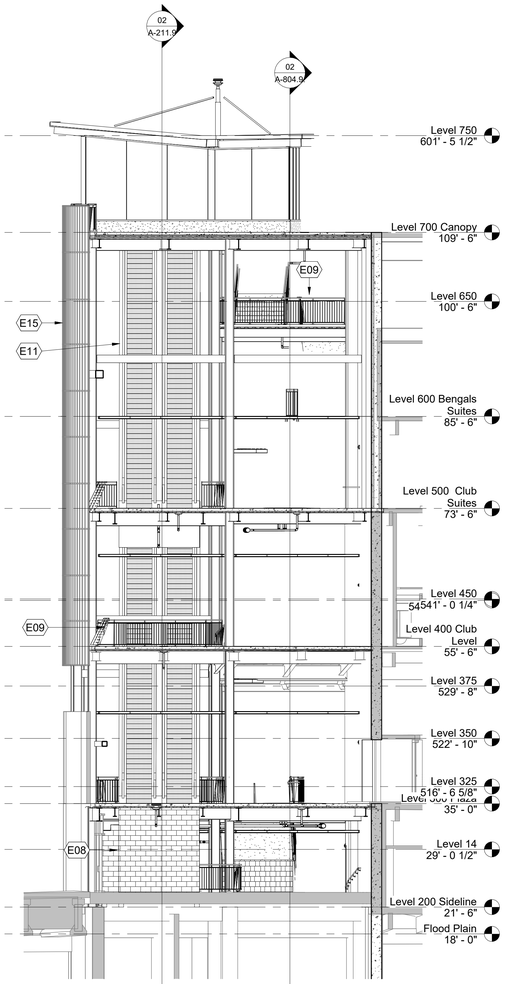


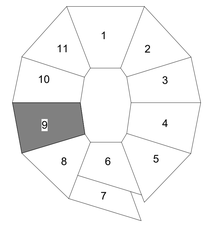
03 PRECAST NOTCH INFILL
A-211.9 1/4" = 1'-0"



02 SECTOR 9 SECTION
A-211.9 1/8" = 1'-0"



01 SECTOR 9 SECTION
A-211.9 1/8" = 1'-0"



0 4' 8' 16'
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THAMANN	SHULTZ

SECTOR 9 SECTIONS

DRAWING NUMBER ISSUE
A-211.9 3.1

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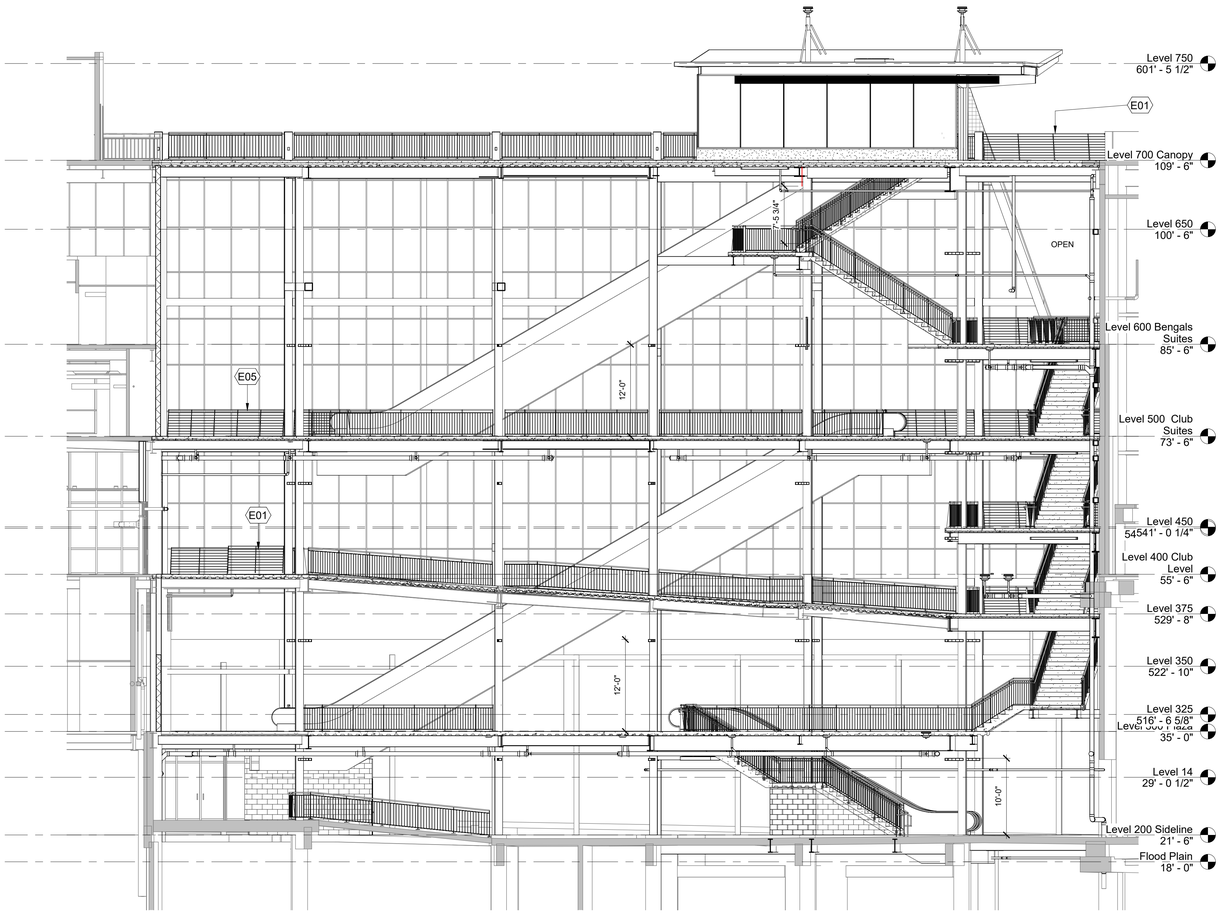
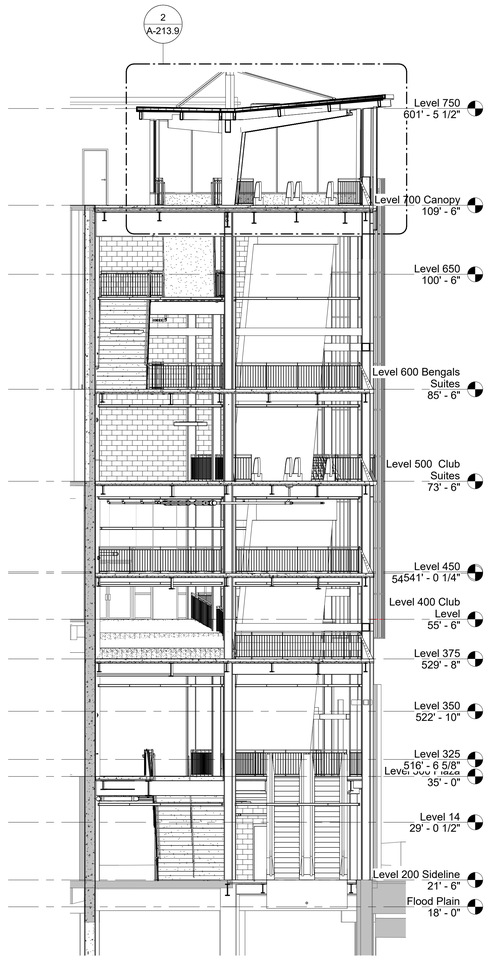
⎔ DRAWING NOTES

E01 EXISTING RAILING
E05 PAINT STRUCTURE PT-3



03 A-212.9 **SECTOR 9 SECTION**
1/8" = 1'-0"



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1/8" = 1'-0"

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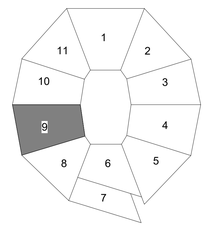

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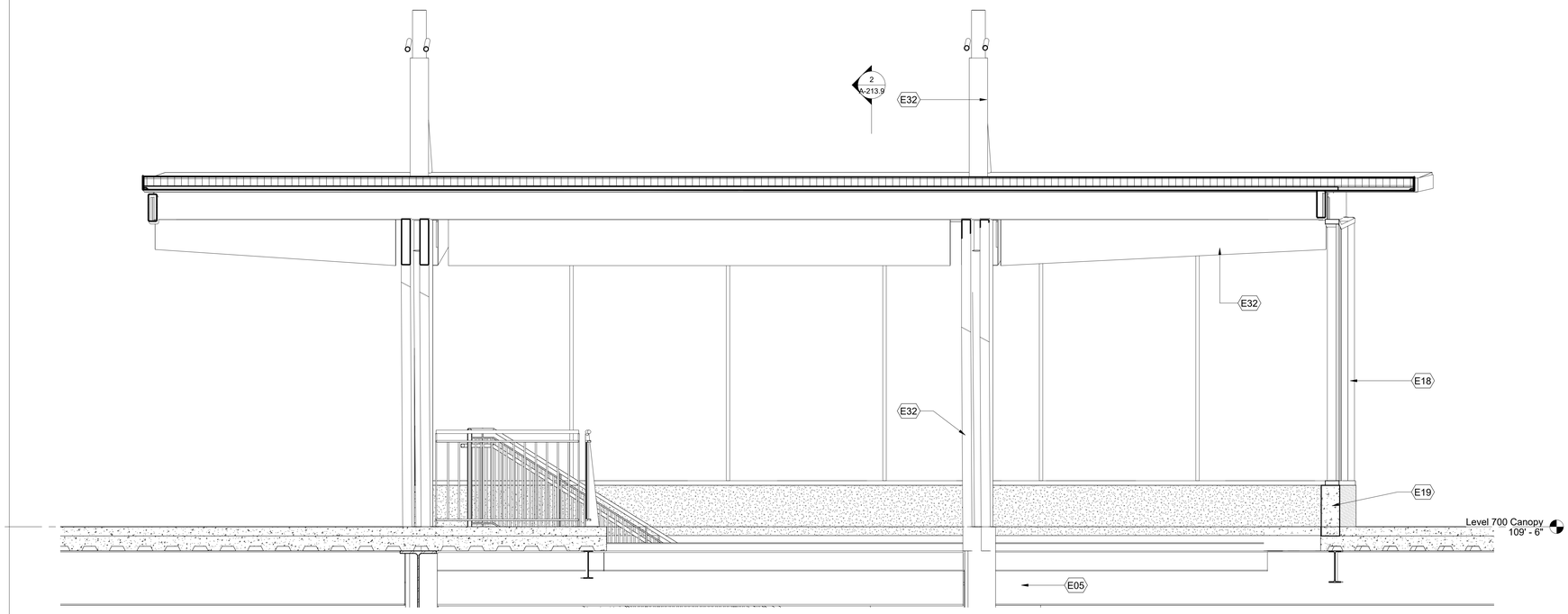
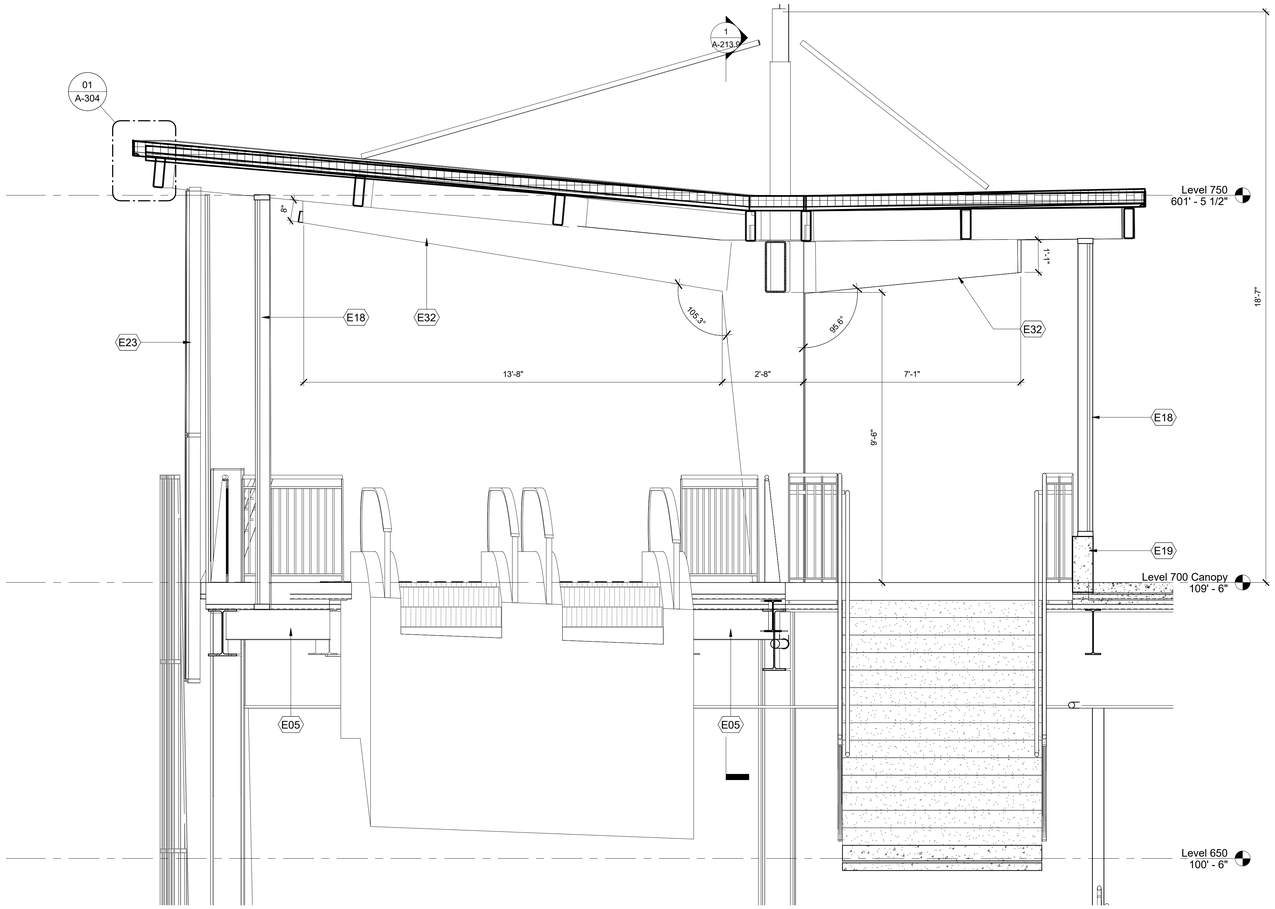
THAMANN	SHULTZ

SECTOR 9 - SECTIONS

DRAWING NUMBER ISSUE
A-212.9 3.1



1 A-213.9 **SECTION 9 - HEAD HOUSE LONGITUDINAL SECTION**
1/2" = 1'-0"



2 A-213.9 **SECTION 9 - HEAD HOUSE LATERAL SECTION**
1/2" = 1'-0"

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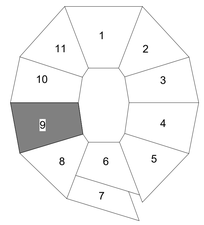

N

0 1' 2' 4'
SCALE: 1/2"=1'-0"

DESIGNED	COMM. NO.
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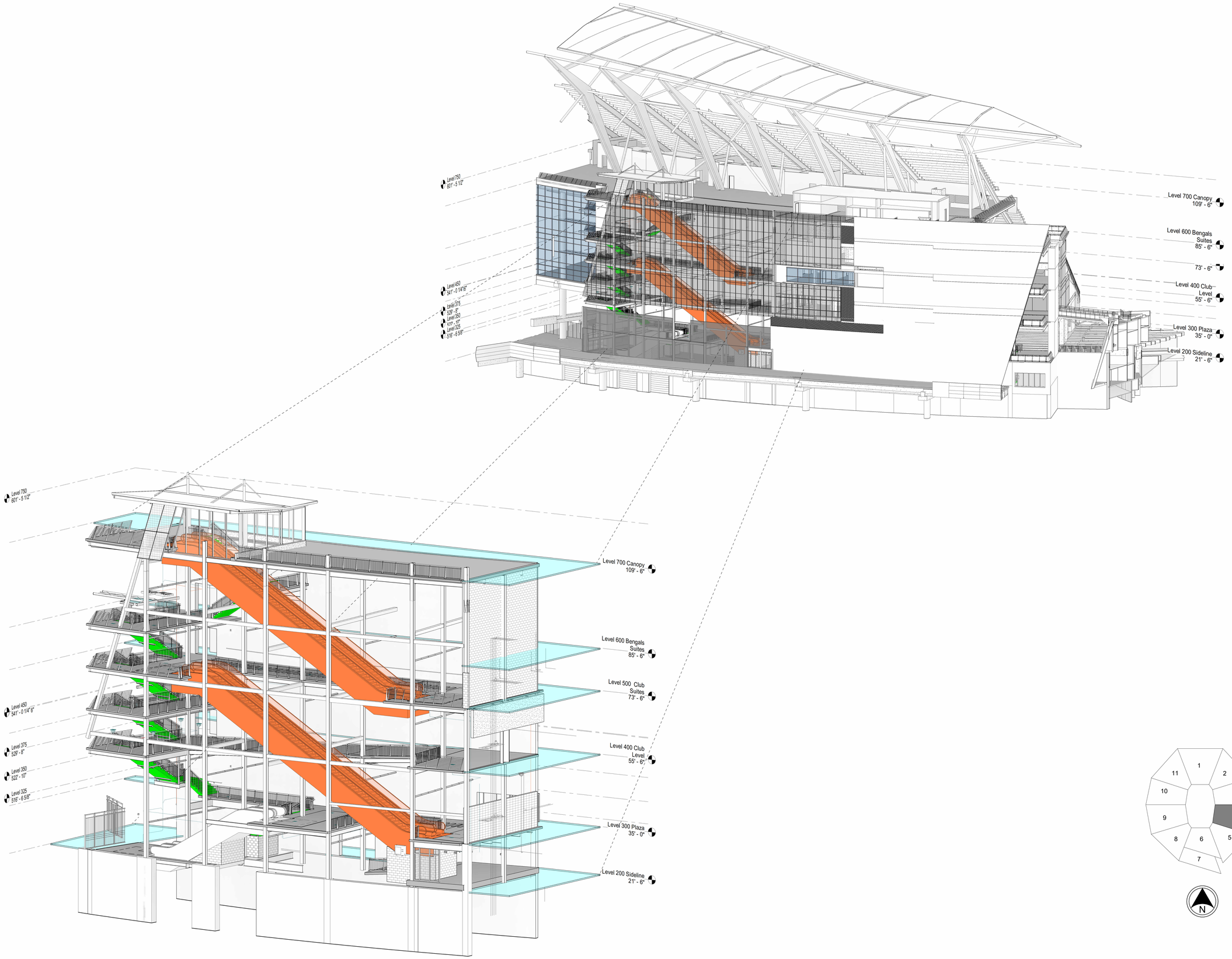
Checker	SHULTZ

SECTION 9 - HEAD HOUSE SECTIONS

DRAWING NUMBER ISSUE
A-213.9 3.1



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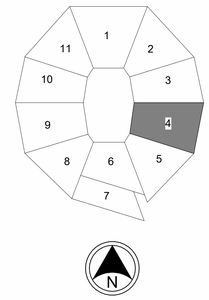

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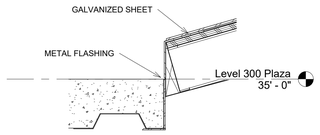
THAMANN	SHULTZ

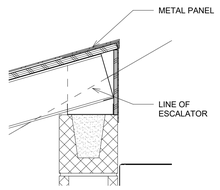
3D AXON - SECTOR 9

DRAWING NUMBER ISSUE

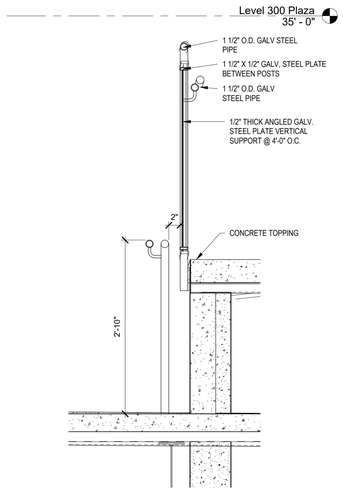
A-220.9 2.1



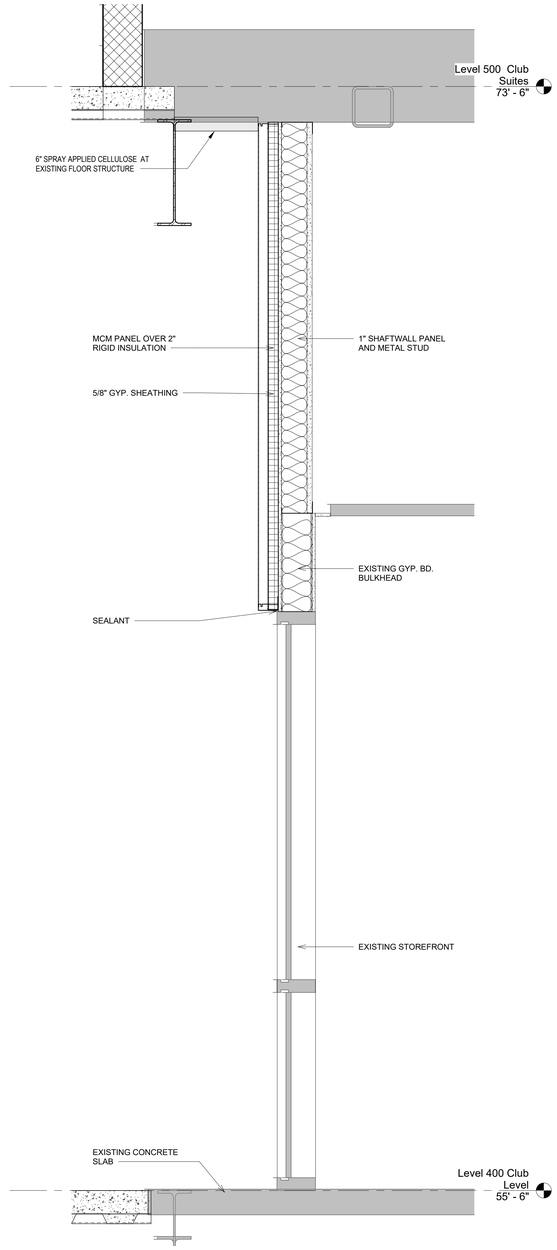
05 A-301 **DETAIL**
1 1/2" = 1'-0"



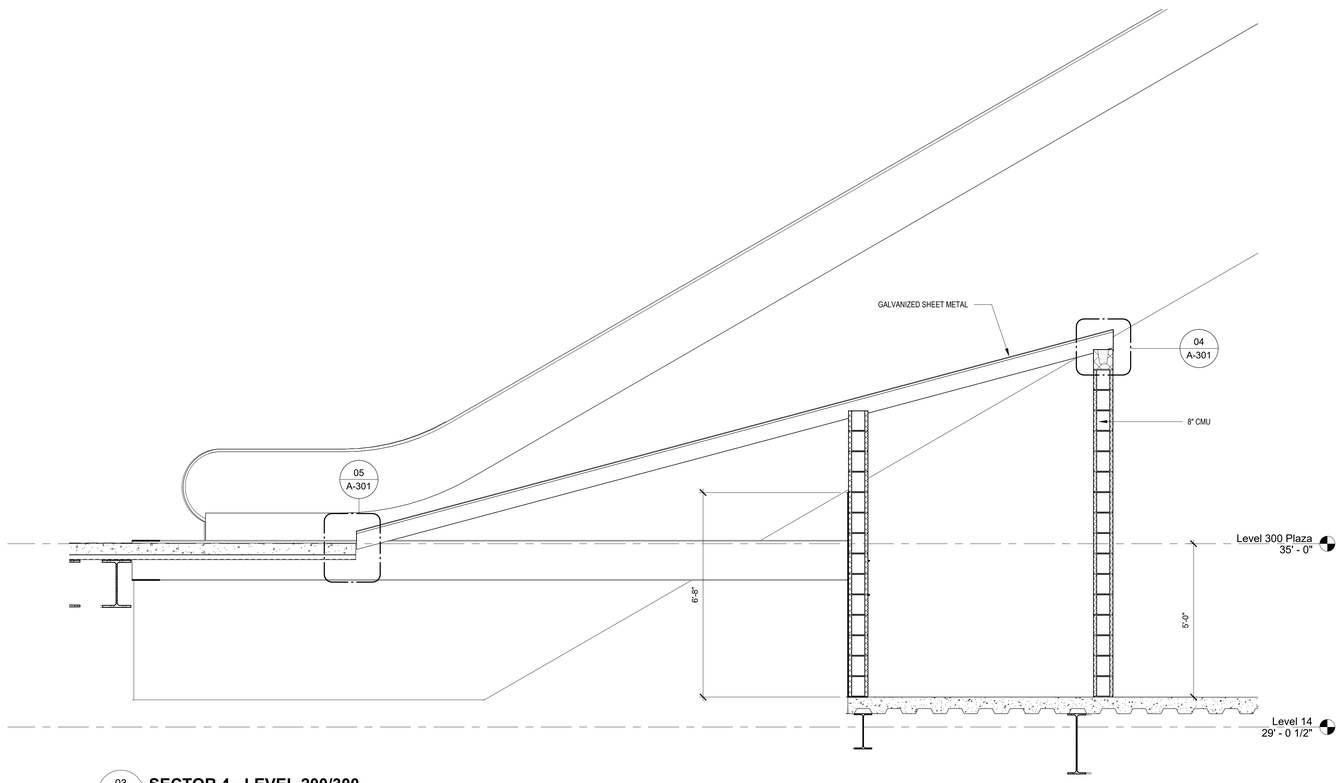
04 A-301 **DETAIL**
1 1/2" = 1'-0"



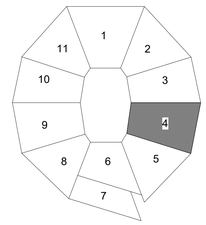
02 A-301 **SECTOR 4 - RAMP SECTION**
1" = 1'-0"



01 A-301 **SECTOR 4, 9 - LEVEL 400 EXISTING STOREFRONT**
1" = 1'-0"



03 A-301 **SECTOR 4 - LEVEL 200/300**
1/2" = 1'-0"



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

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1 Paycor Stadium, Cincinnati, OH 45202, United States

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700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

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CARLETON	8445.01
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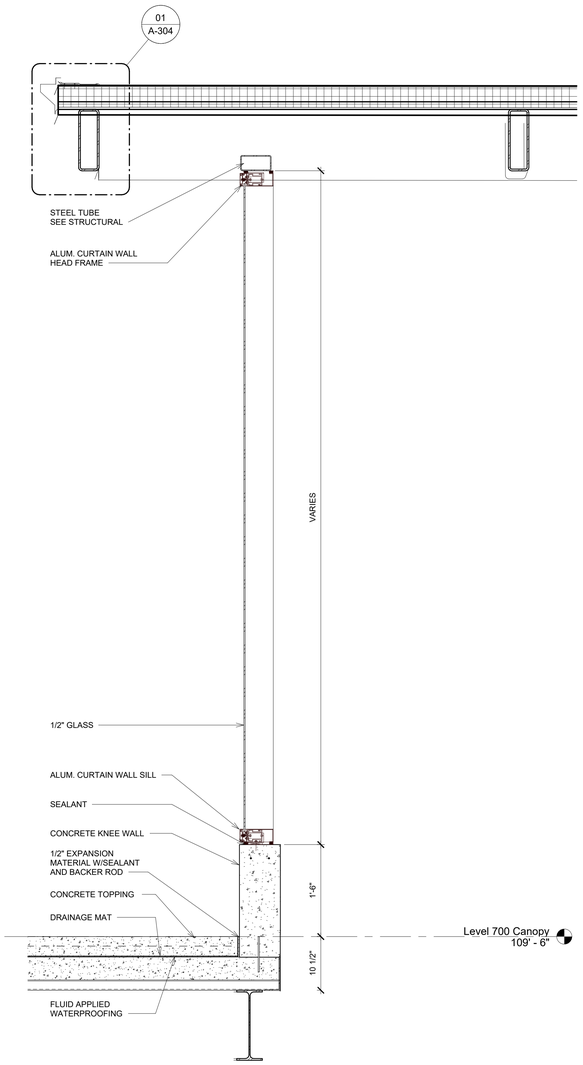
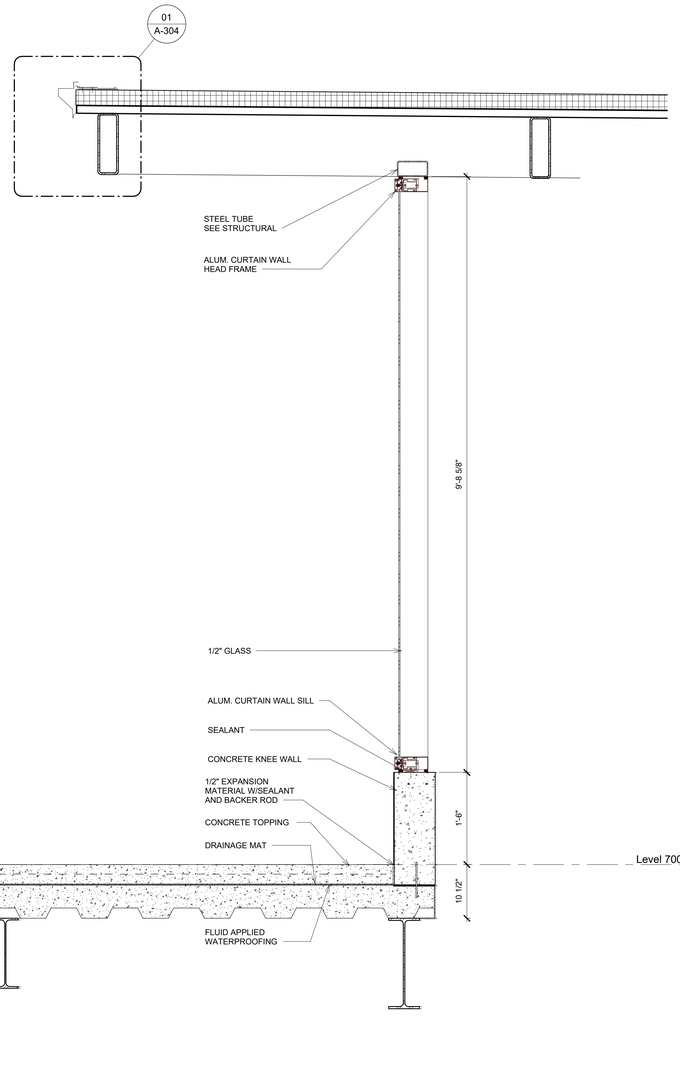
CARLETON	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - SECTIONS

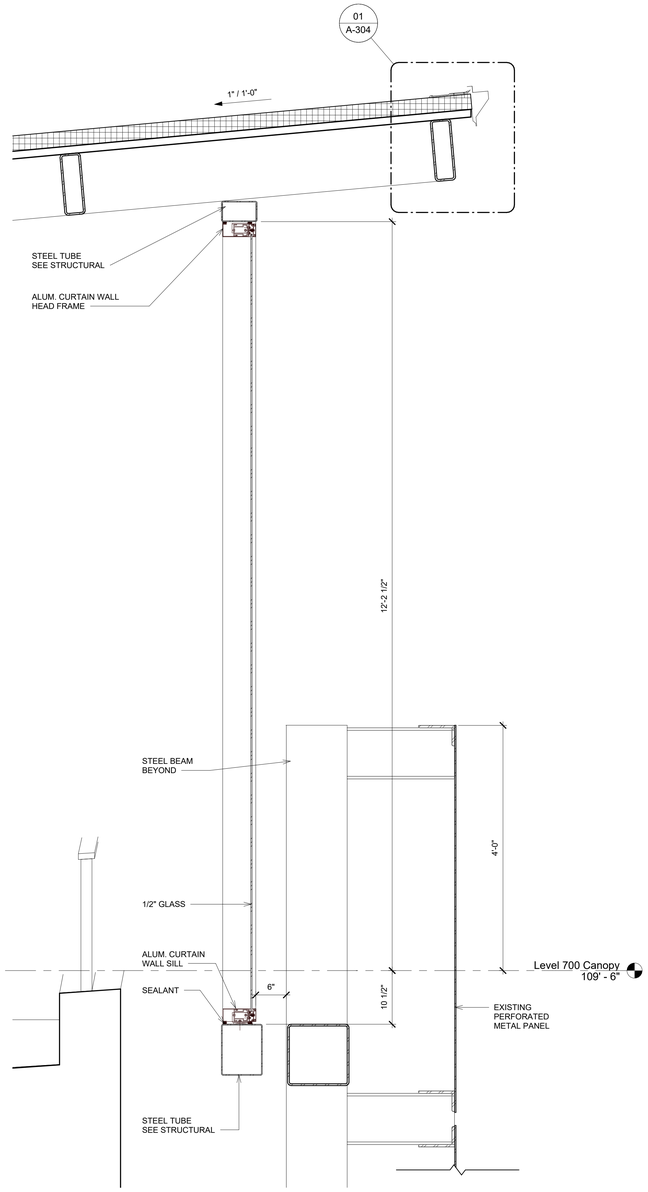
DRAWING NUMBER ISSUE
A-301 3.1



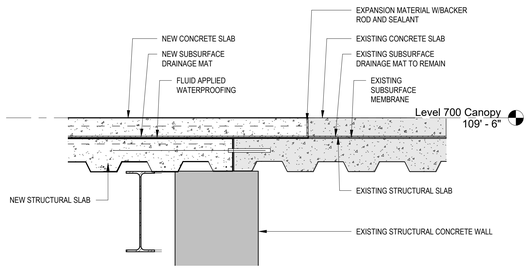
03 A-302 **SECTION**
1" = 1'-0"



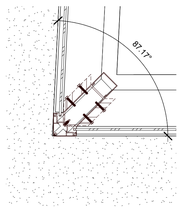
02 A-302 **SECTION**
1" = 1'-0"



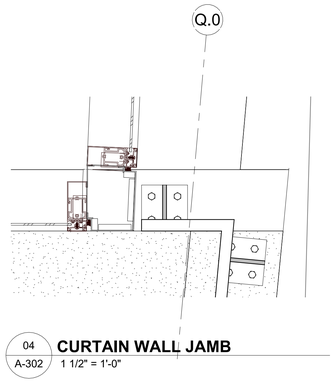
01 A-302 **SECTION**
1" = 1'-0"



06 A-302 **NEW LEVEL 700 DECK TO EXISTING**
1" = 1'-0"



05 A-302 **SECTOR 4 - CURTAIN WALL JAMB**
1 1/2" = 1'-0"



04 A-302 **CURTAIN WALL JAMB**
1 1/2" = 1'-0"

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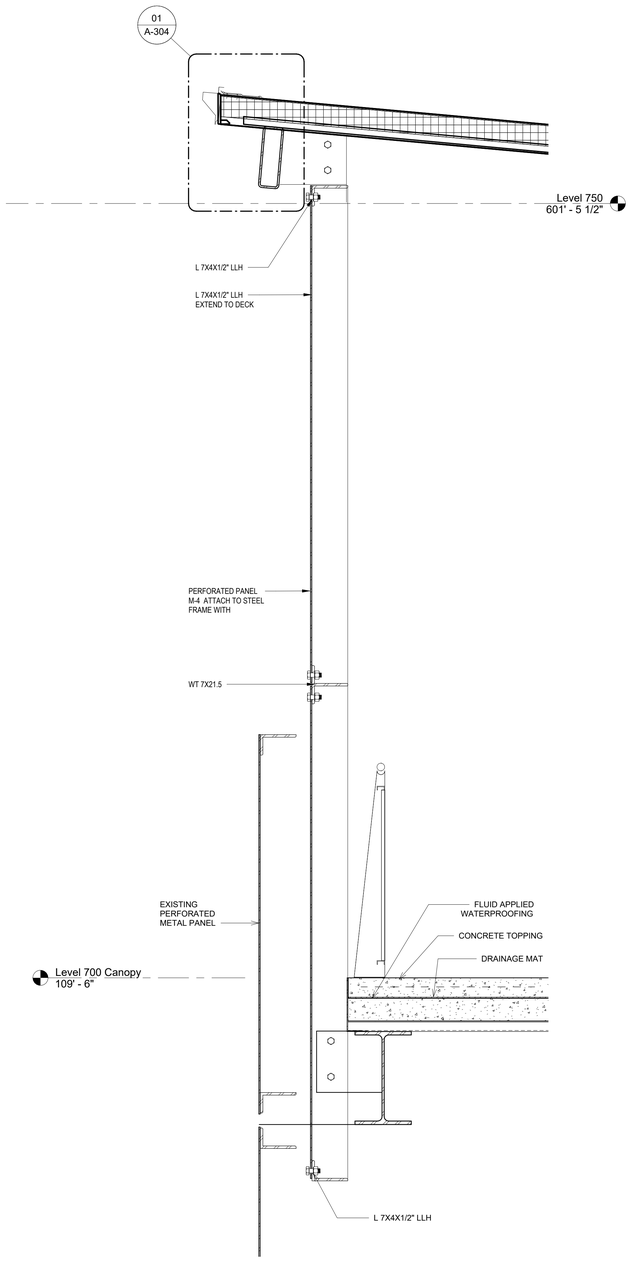
SECTOR 4 & 9 - HEADHOUSE SECTIONS AND DETAILS

DRAWING NUMBER	ISSUE
A-302	3.1



03 A-303 **SECTOR 9 - SECTION**
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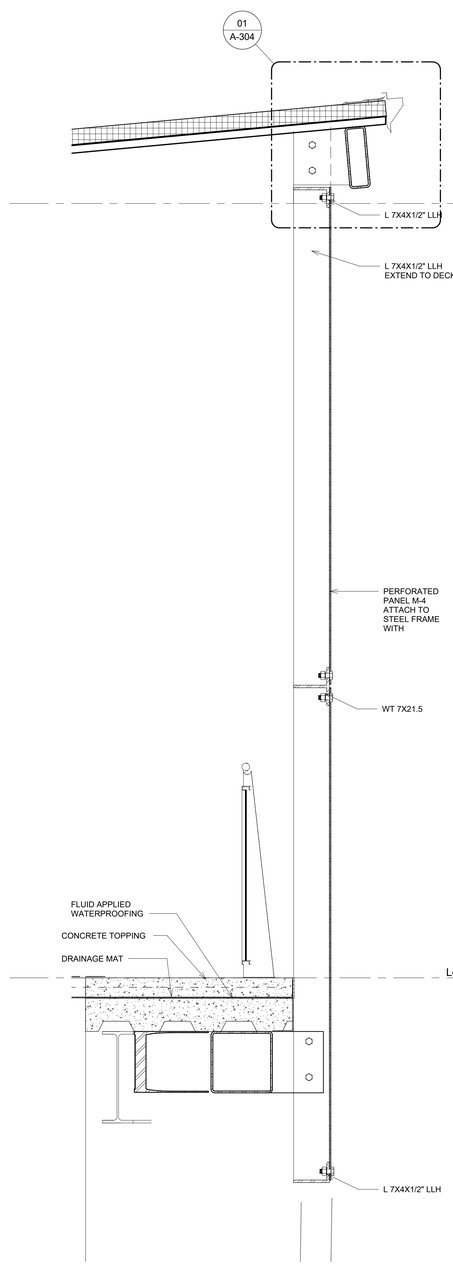
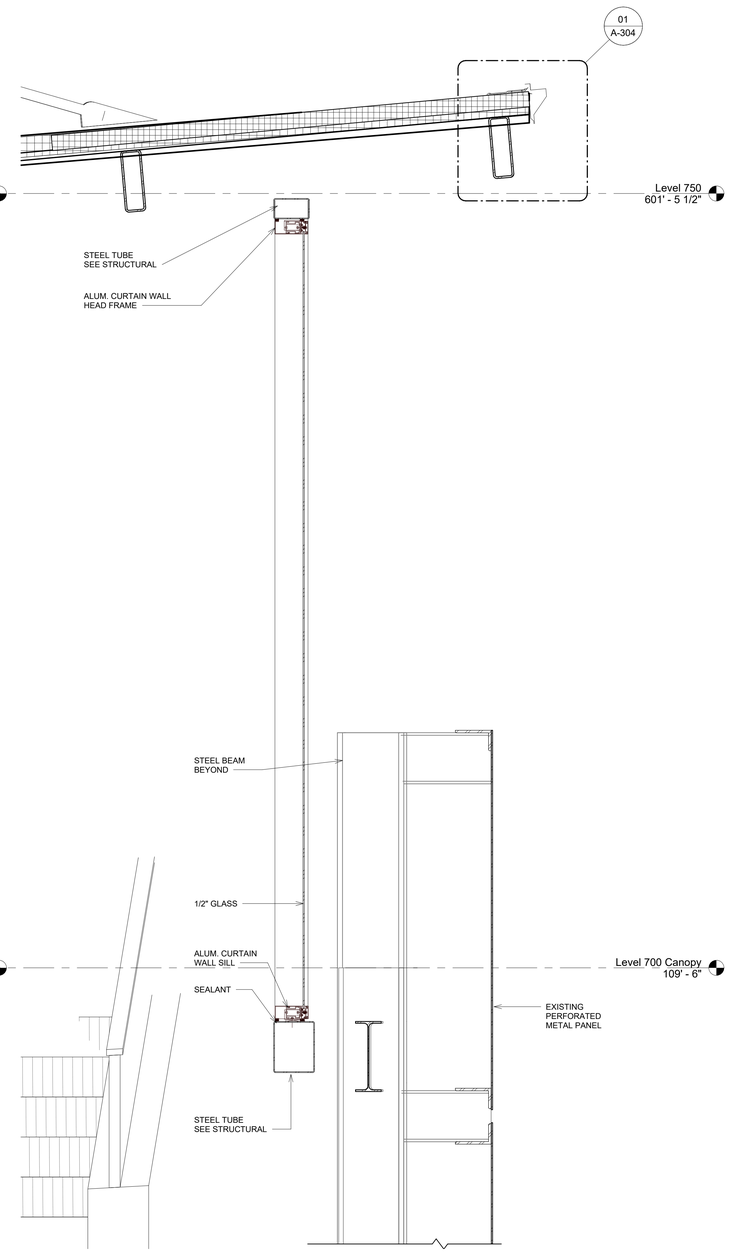


02 A-303 **SECTOR 4 - SECTION**
1" = 1'-0"



01 A-303 **SECTION**
1" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
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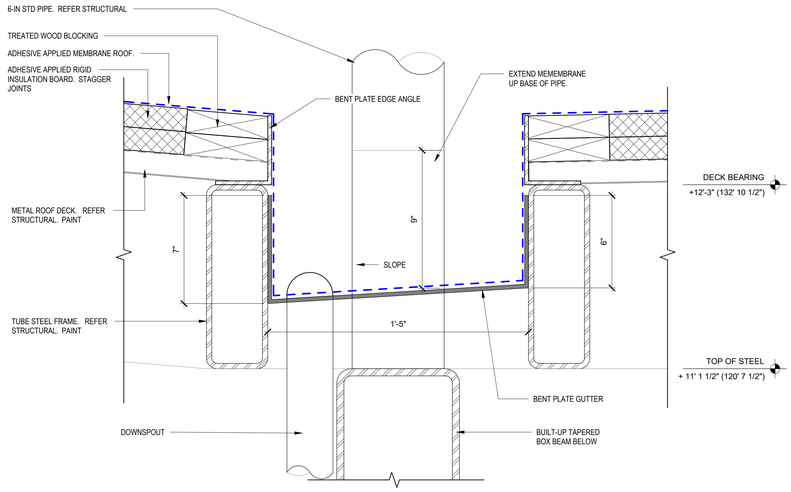
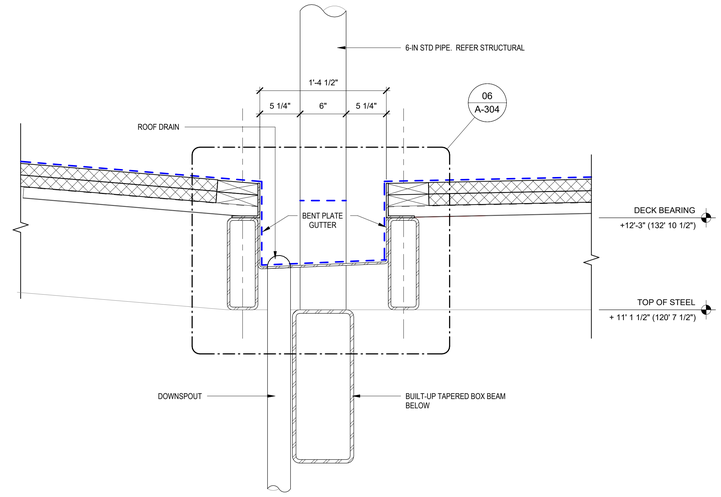
SECTOR 4 & 9 - HEADHOUSE SECTIONS AND DETAILS

DRAWING NUMBER ISSUE

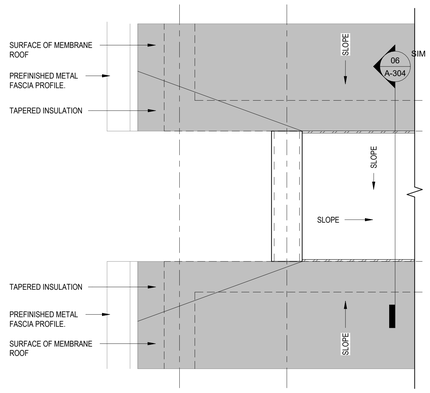
A-303 3.1



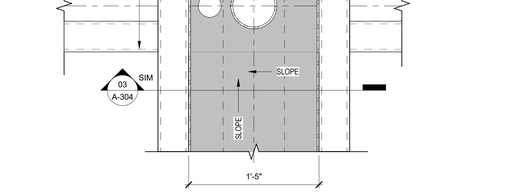
06 A-304 **HEADHOUSE GUTTER DETAIL**
3" = 1'-0"



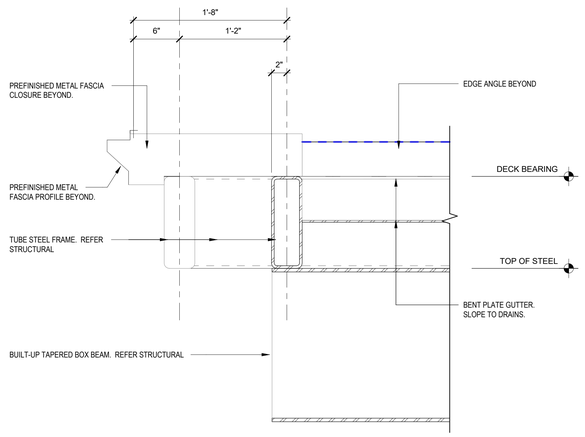
03 A-304 **HEADHOUSE GUTTER DETAIL**
1 1/2" = 1'-0"



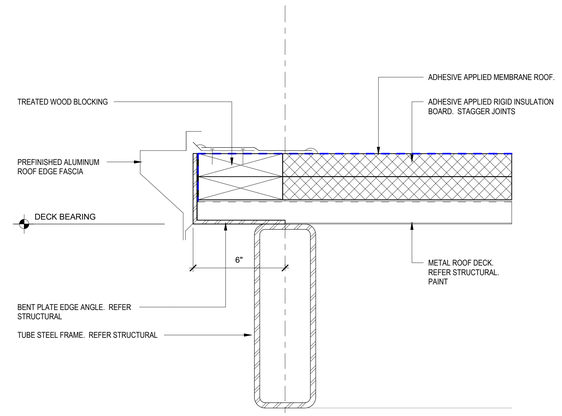
05 A-304 **HEADHOUSE ROOF EDGE PLAN DETAIL**
1 1/2" = 1'-0"



02 A-304 **HEADHOUSE ROOF DRAIN DETAIL**
1 1/2" = 1'-0"



04 A-304 **HEADHOUSE ROOF EDGE DETAIL**
1 1/2" = 1'-0"



01 A-304 **TYP HEADHOUSE ROOF EDGE**
3" = 1'-0"

0 6" 1'
SCALE: 1 1/2"=1'-0"

0 3" 6" 9"
SCALE: 3"=1'-0"

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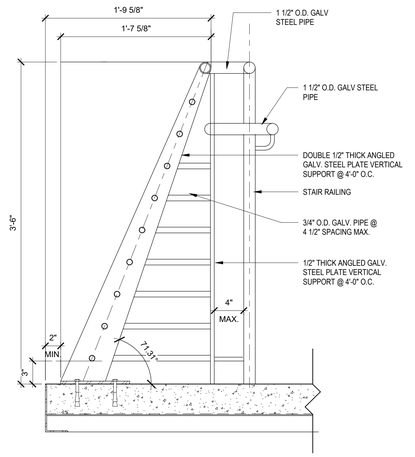
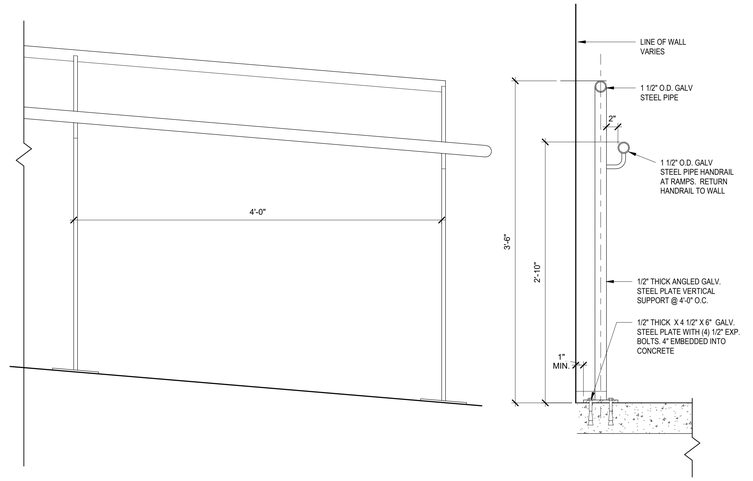
THAMANN	SHULTZ

SECTOR 4 & 9 - HEADHOUSE DETAILS

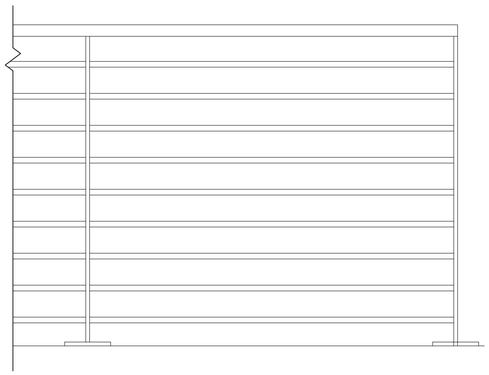
DRAWING NUMBER **A-304** ISSUE 3.1

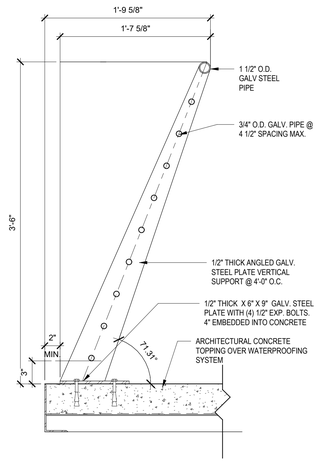


09 A-502 **GUARDRAIL C INFILL**
1 1/2" = 1'-0"



06 A-502 **GUARDRAIL B RAMP W/ADJ. WALL**
1 1/2" = 1'-0"

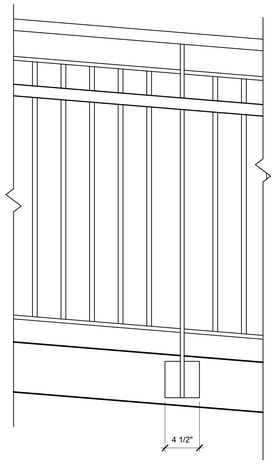


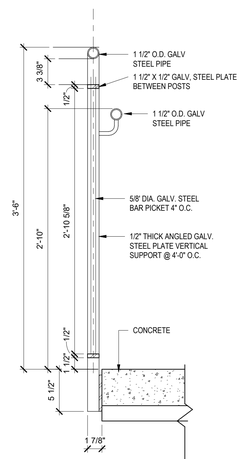


03 A-502 **GUARDRAIL C**
1 1/2" = 1'-0"

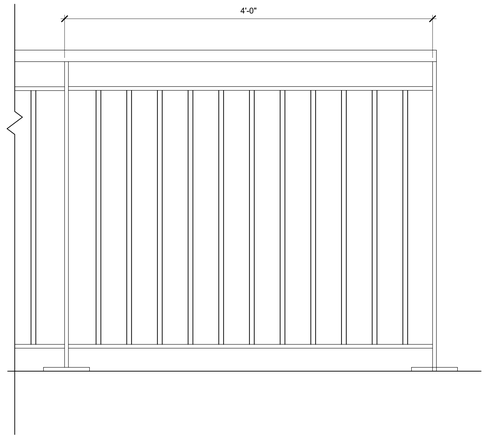
05 A-502 **GUARDRAIL A.1 STAIR RAILING**
1 1/2" = 1'-0"

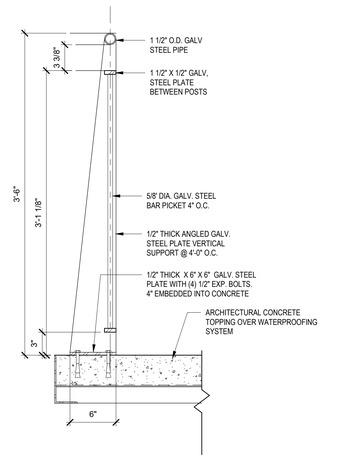
02 A-502 **RAILING A.2 STRAIGHT BALUSTER**
1 1/2" = 1'-0"





04 A-502 **GUARDRAIL A.1 RAMP**
1 1/2" = 1'-0"





01 A-502 **GUARDRAIL A.3 ANGLE BALUSTER**
1 1/2" = 1'-0"

0 6" 1'
SCALE: 1 1/2"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
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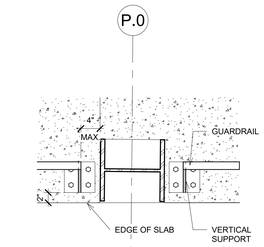
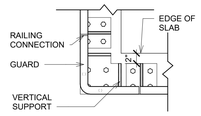
THAMANN	SHULTZ

GUARDRAIL DETAILS

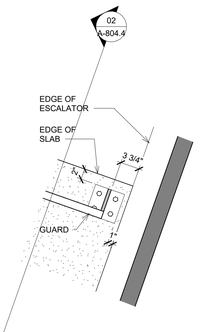
DRAWING NUMBER ISSUE
A-502 3.1



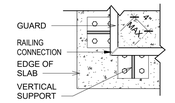
08 A-503 **GUARD AT COLUMN**
1" = 1'-0"



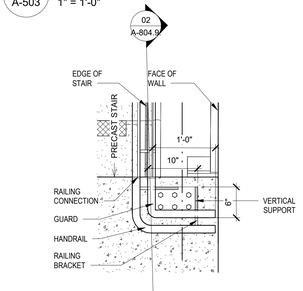
07 A-503 **RAILING A.3 INSIDE CORNER**
1" = 1'-0"



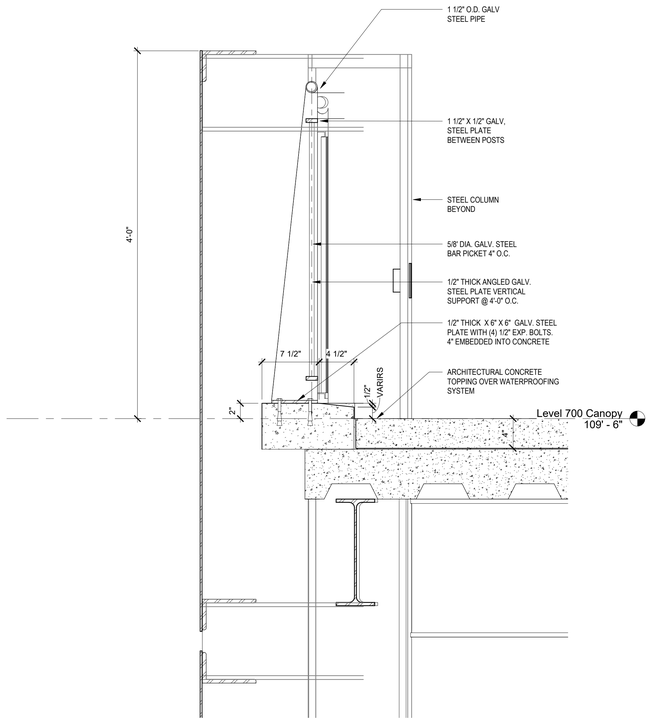
03 A-503 **GUARD AT ESCALATOR TYP.**
1" = 1'-0"



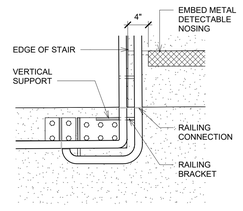
06 A-503 **RAILING A.3 OUTSIDE CORNER**
1" = 1'-0"



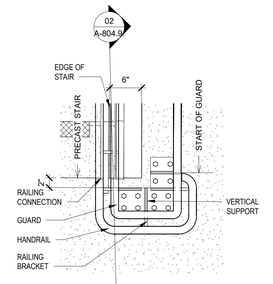
02 A-503 **SEC. 9 -LEVEL 300 HANDRAIL**
1" = 1'-0"



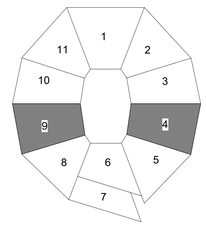
09 A-503 **LEVEL 700 EDGE DETAIL W/RAILING**
1 1/2" = 1'-0"



05 A-503 **SEC. 9 - LEVEL 300 HANDRAIL**
1" = 1'-0"



01 A-503 **SEC. 9 -LEVEL 300 HANDRAIL**
1" = 1'-0"



0 6" 1'
SCALE: 1 1/2"=1'-0"

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THAMANN	SHULTZ

DETAILS

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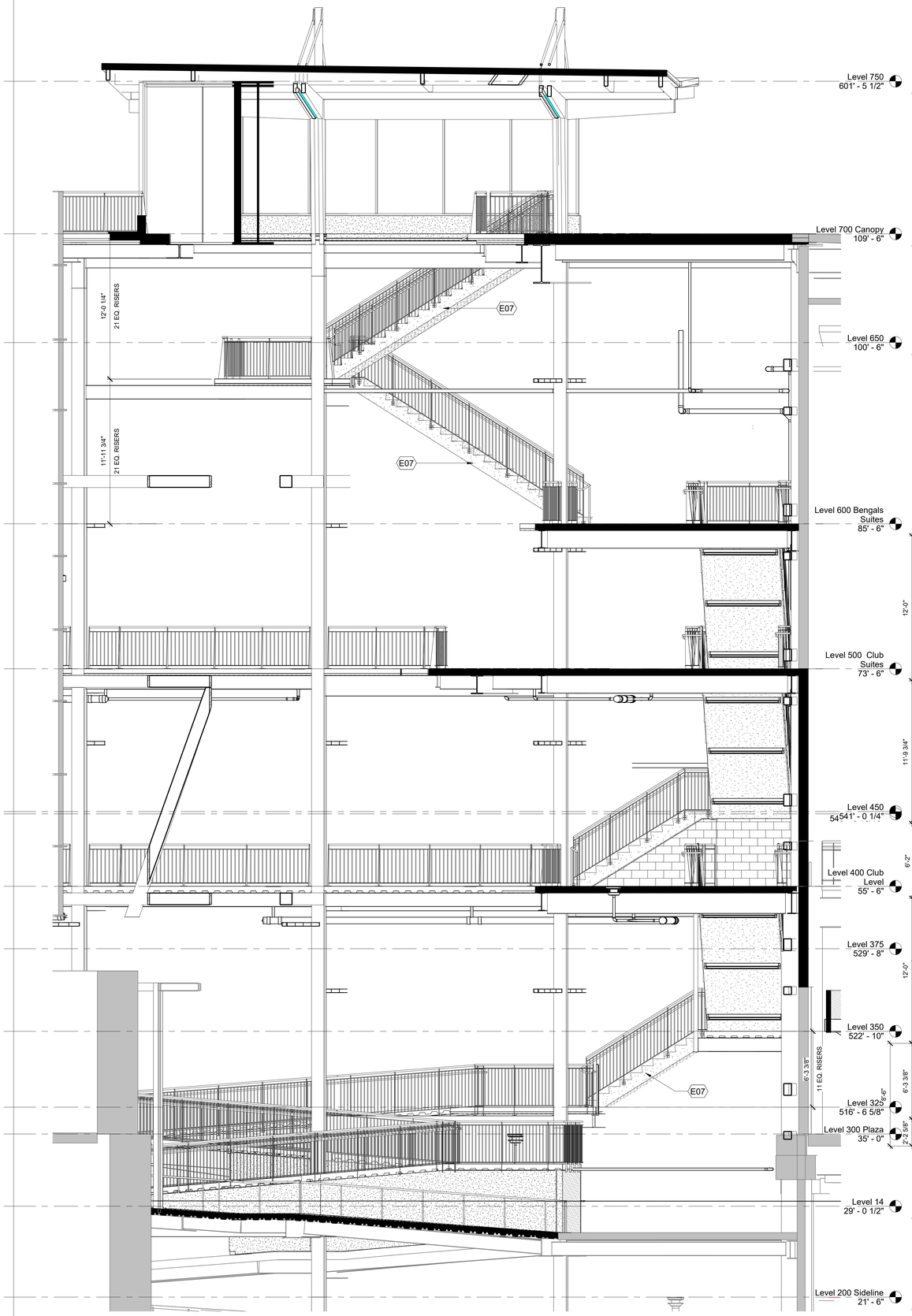
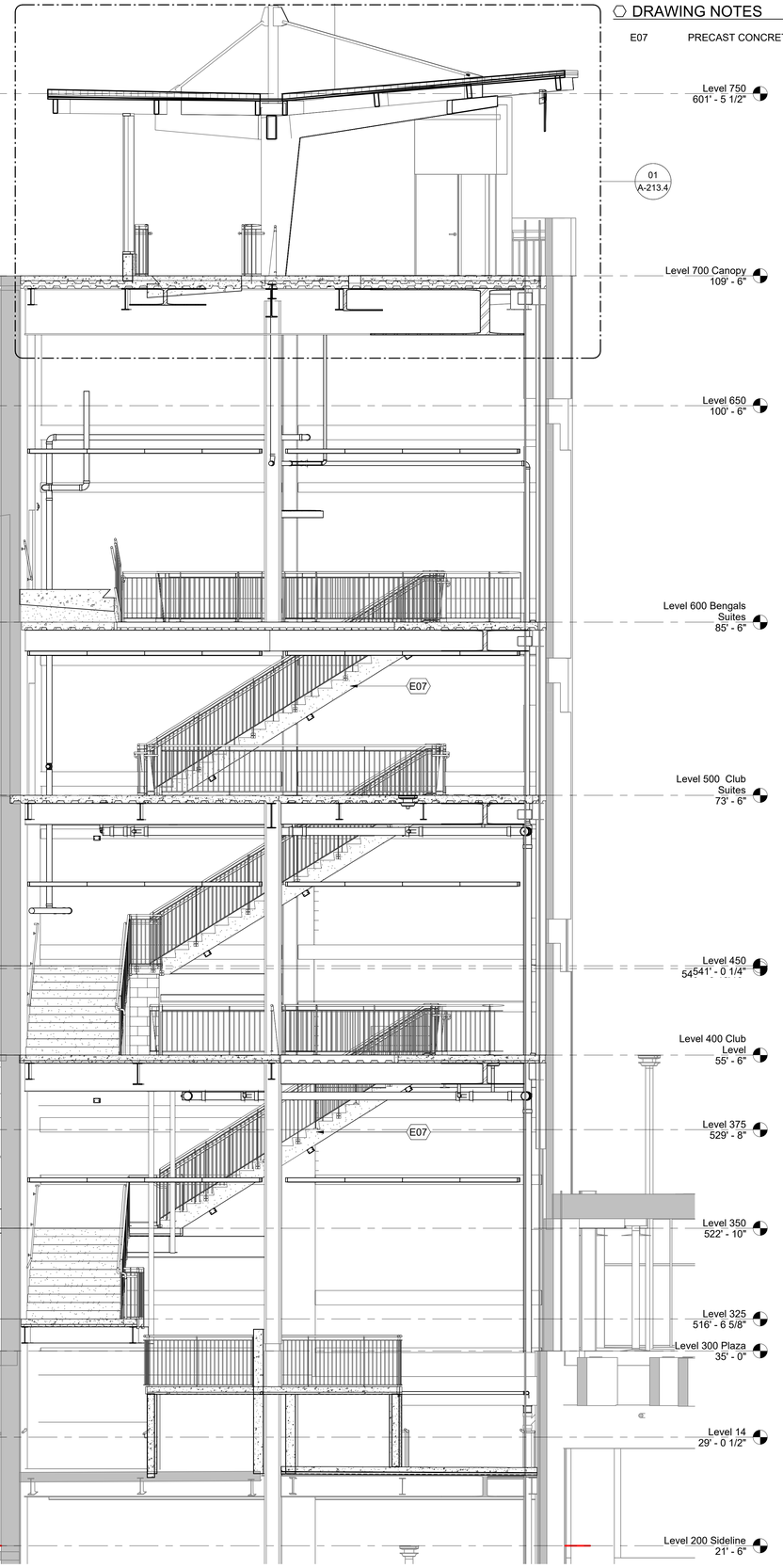
A-503 3.1



02 A-701.4 **SECTOR 4 - STAIR SECTION**
1/4" = 1'-0"



01 A-213.4

01 A-701.4 **SECTOR 4- STAIR SECTION**
1/4" = 1'-0"

DRAWING NOTES

E07 PRECAST CONCRETE STAIR. DO NOT PAINT

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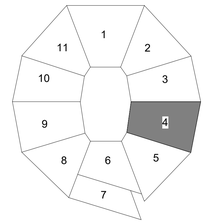
Cincinnati, OH 45202

main 513.621.6211
kzf.com



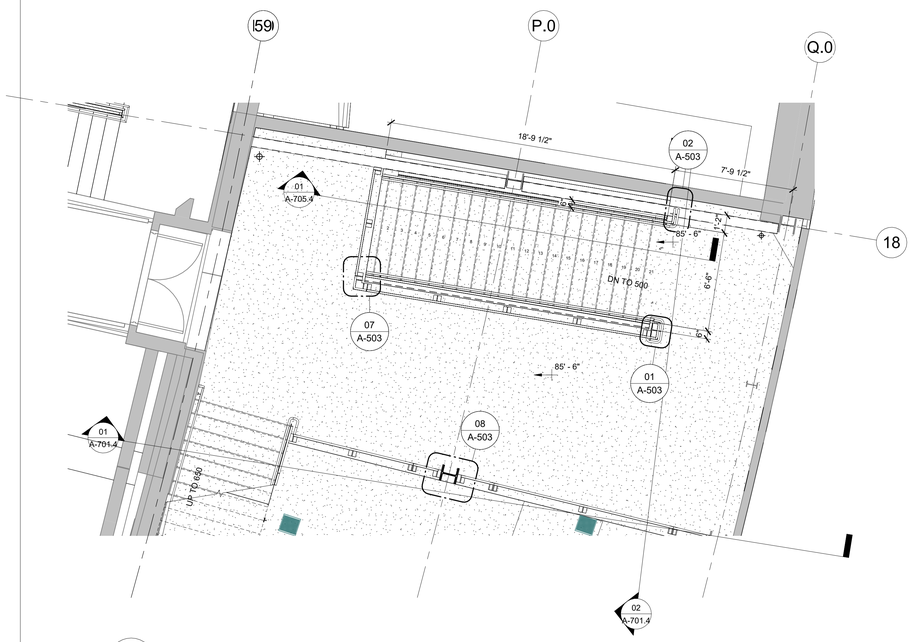
N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

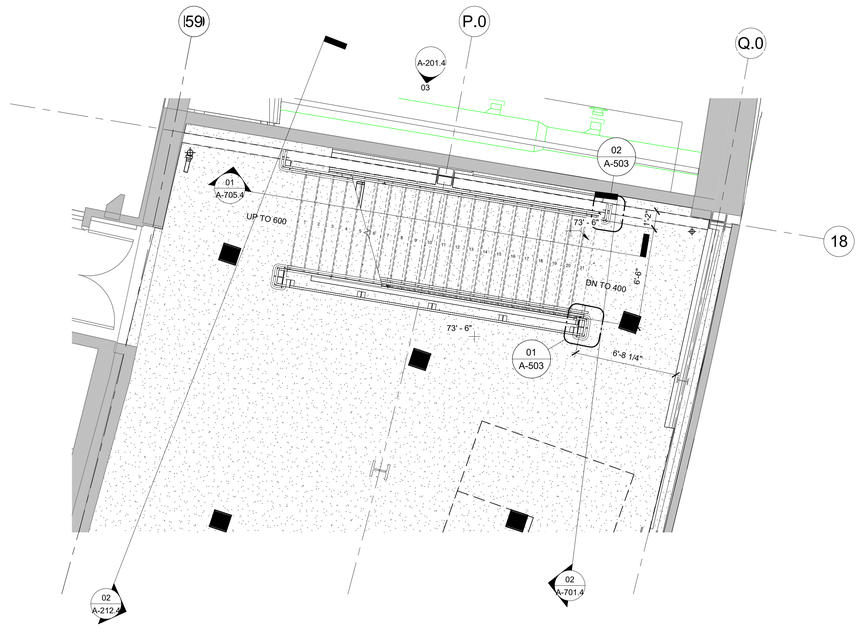
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - STAIR SECTIONS

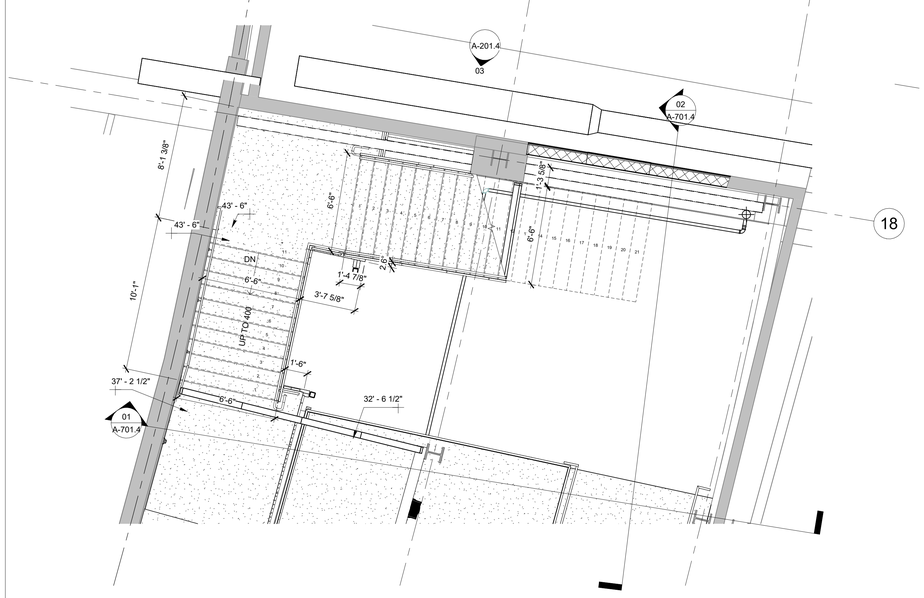
DRAWING NUMBER ISSUE
A-701.4 3.1



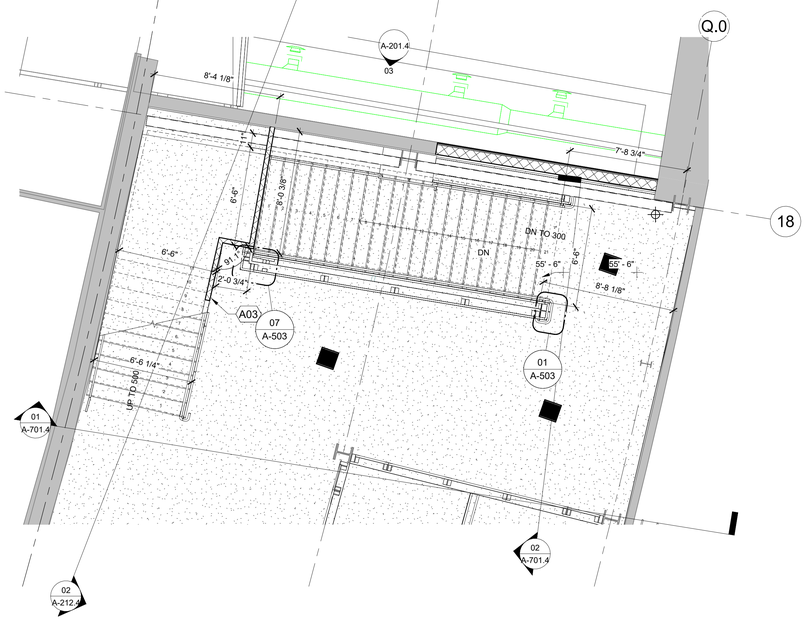
04 A-702.4 **SECTOR 4 - LEVEL 600 STAIR PLAN**
1/4" = 1'-0"



02 A-702.4 **SECTOR 4 - LEVEL 500 STAIR PLAN**
1/4" = 1'-0"



03 A-702.4 **SECTOR 4 - LEVEL 300 STAIR PLAN**
1/4" = 1'-0"



01 A-702.4 **SECTOR 4 - LEVEL 400 STAIR PLAN**
1/4" = 1'-0"

GENERAL NOTES

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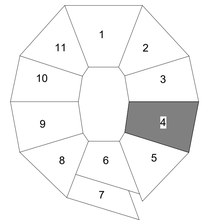
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A03 ALIGN 4" CMU WALL WITH FACE OF CONCRETE STAIR ABOVE



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

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THAMANN	SHULTZ

SECTOR 4 - LEVELS 300, 400, 500, 600 STAIR PLANS

DRAWING NUMBER ISSUE
A-702.4 3.1

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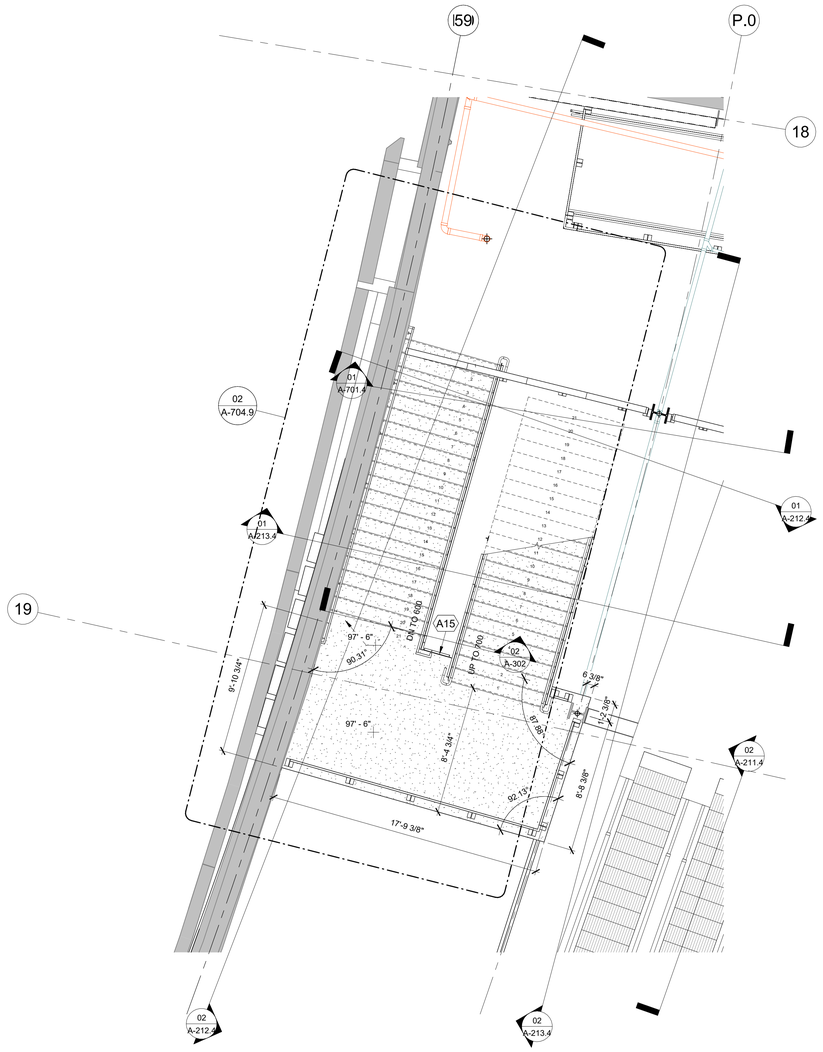
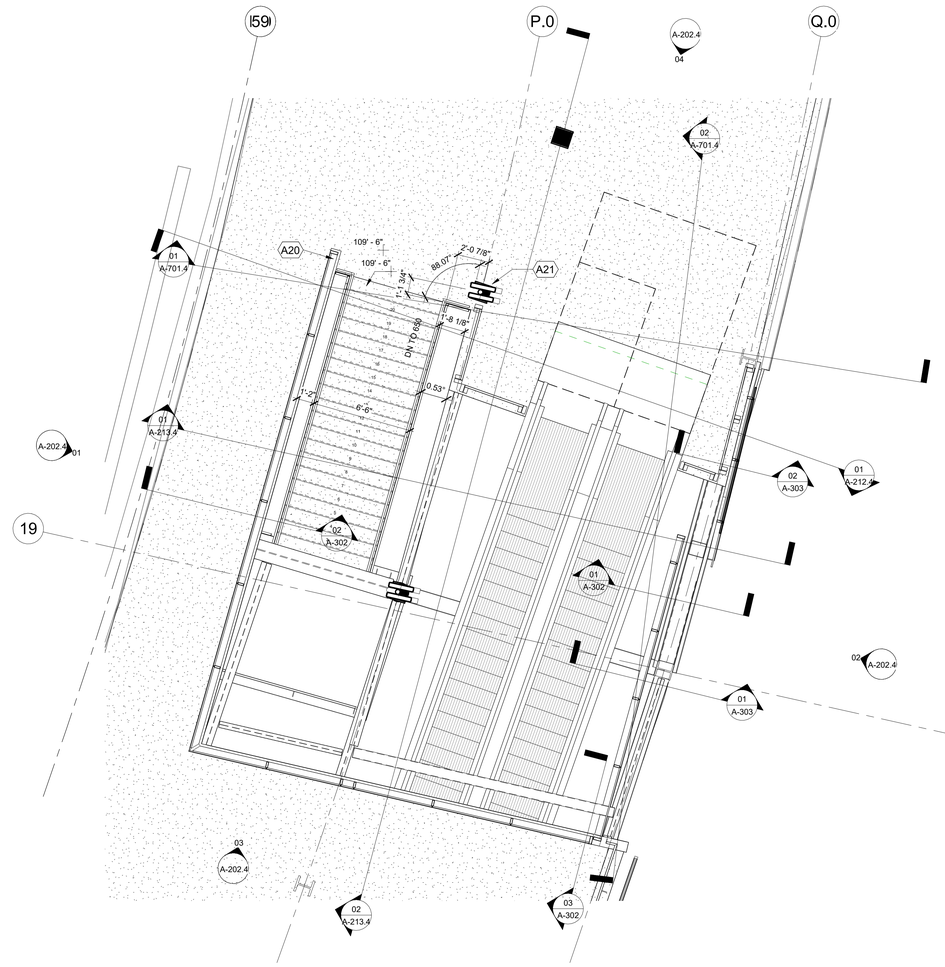
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

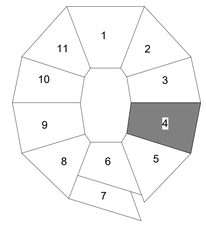
A15	GUARDRAIL A.1, VERTICAL GUARD FACE MOUNTED AT LANDINGS WITH HANDRAIL
A20	BUTT GLAZED STOREFRONT. NON-INSULATED.
A21	PAINTED STEEL COLUMN W/ROOF DRAIN



02 A-703.4 **SECTION 4 - LEVEL 650 STAIR PLAN**
1/4" = 1'-0"



01 A-703.4 **SECTION 4 - LEVEL 700 STAIR PLAN**
1/4" = 1'-0"



0 4' 8' 16'
SCALE: 1/8"=1'-0"

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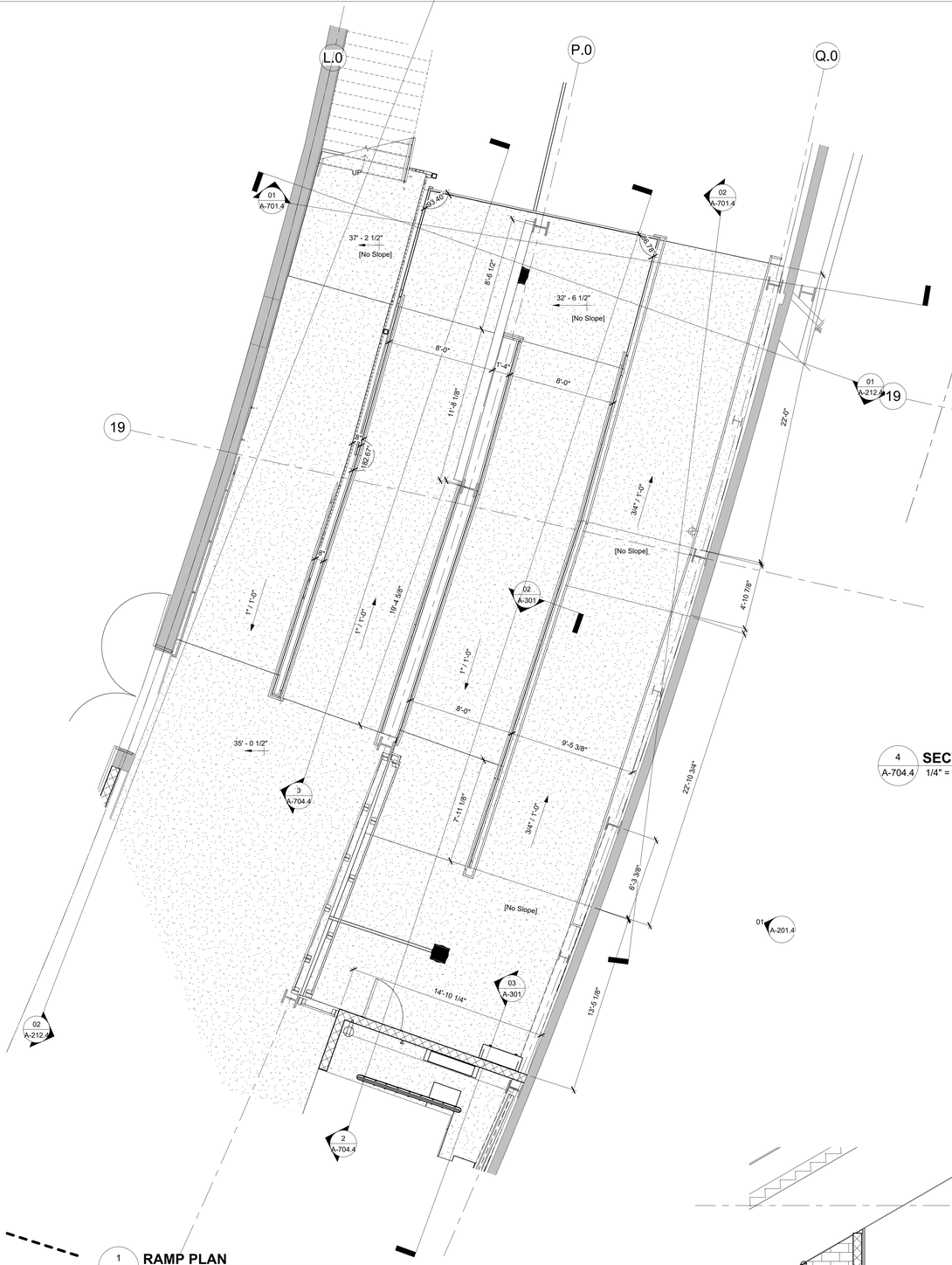
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 4 - LEVEL 650 & 700 STAIR PLANS

DRAWING NUMBER ISSUE
A-703.4 3.1


L.0
P.0
Q.0
19
01 A-701.4
02 A-701.4
01 A-212.4
02 A-212.4
02 A-301
03 A-301
3 A-704.4
2 A-704.4
UP
37' - 2 1/2"
[No Slope]
32' - 6 1/2"
[No Slope]
35' - 0 1/2"
[No Slope]
[No Slope]
[No Slope]
8'-0"
8'-6 1/2"
1'-4"
11'-8 1/8"
22'-0"
4'-10 7/8"
22'-10 3/4"
6'-3 3/8"
13'-5 1/8"
14'-10 1/4"
7'-11 1/8"
9'-5 3/8"
10'-4 5/8"
1'-11 5/8"
1'-11 1/8"
1'-11 7/8"
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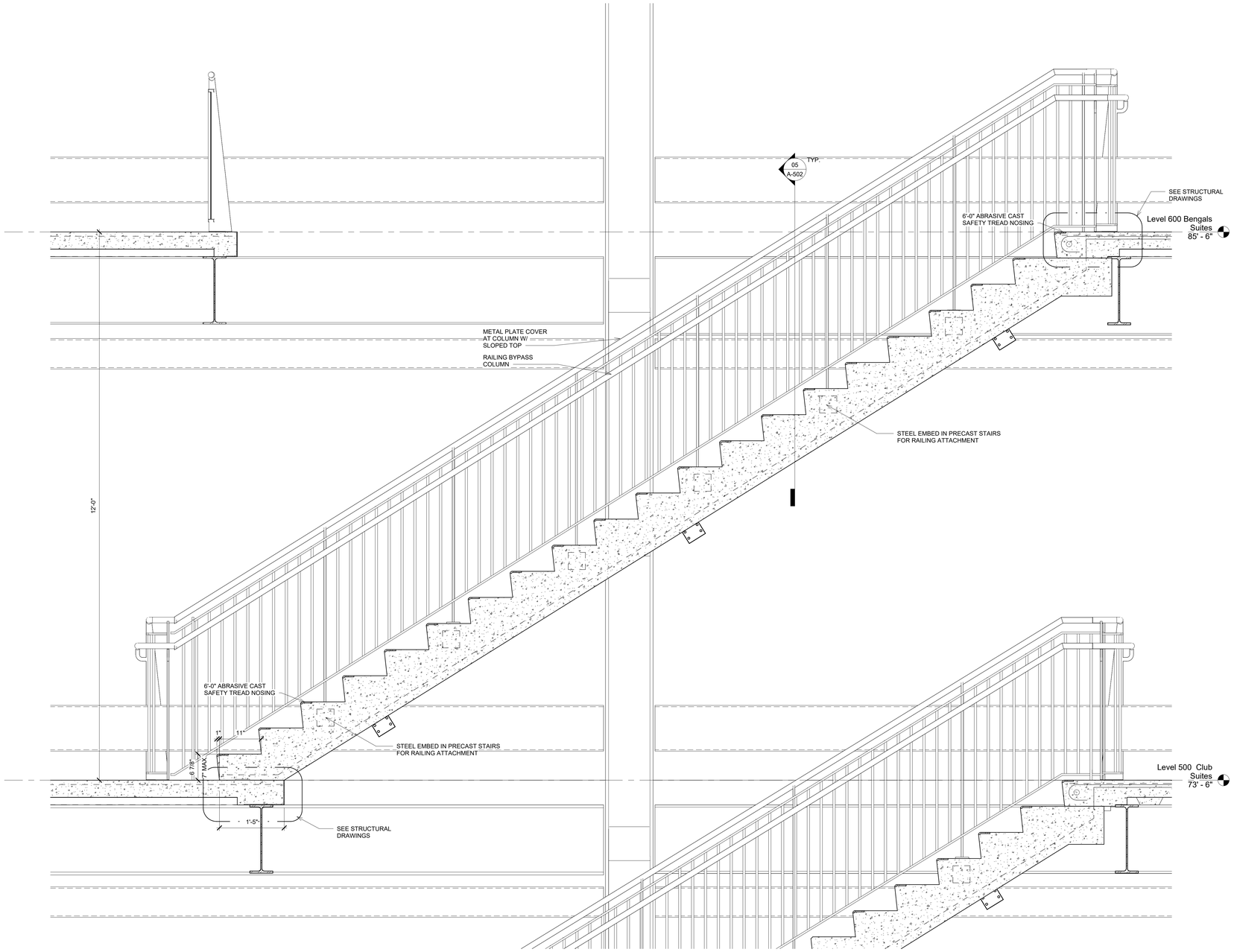
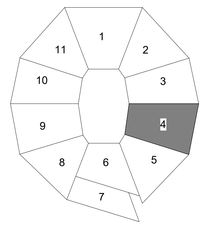
1'-11 3/4"
1'-11 7/8"
1'-11 1/4"
1'-11 1



01 A-705.4 **SEC. 4 - PRECAST STAIR SECTION TYPICAL**
1" = 1'-0"



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.2	04/28/2026	STRUCT. & DEMO. ADDENDUM 1
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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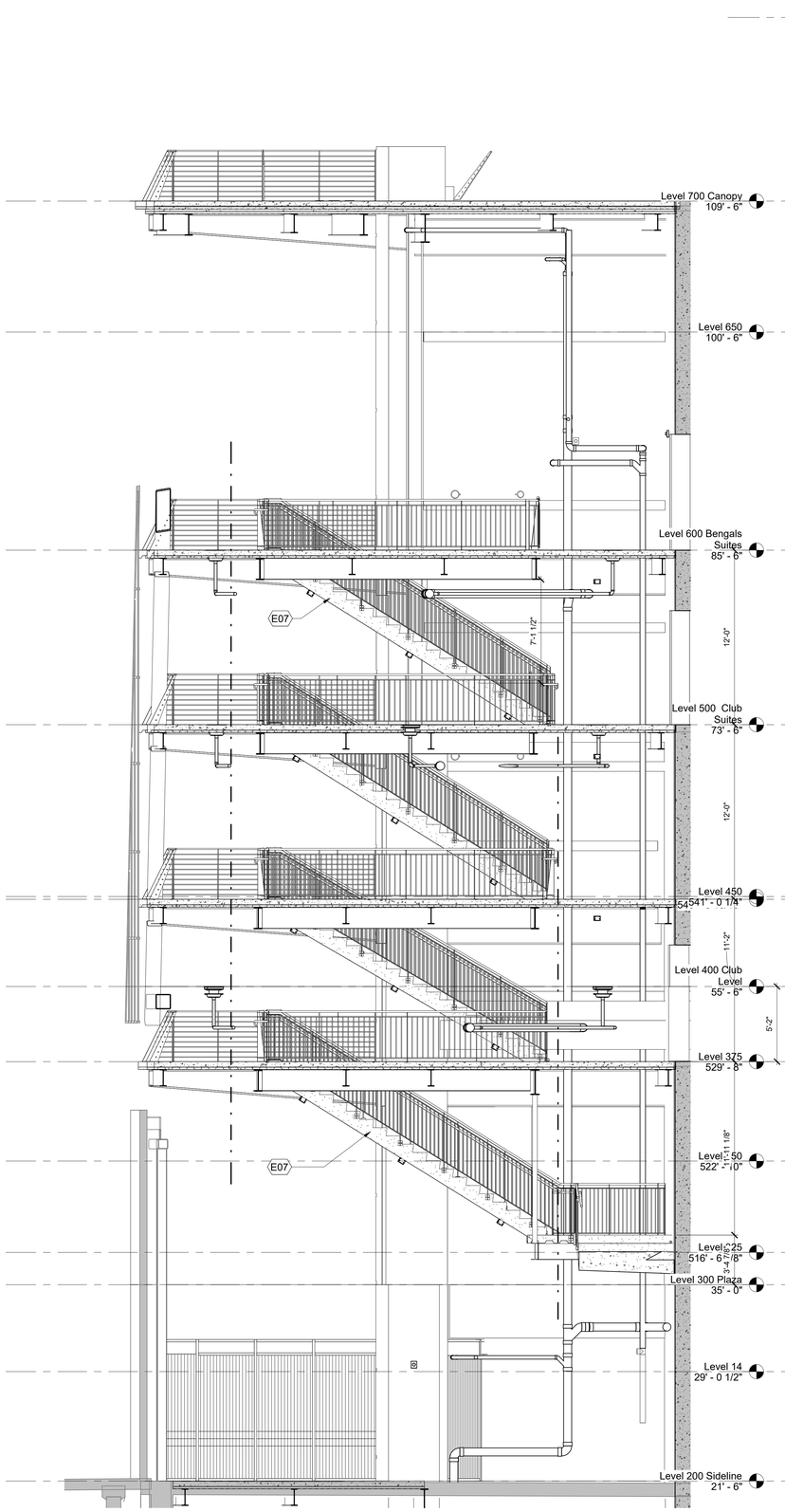
Checker	SHULTZ

TYPICAL STAIR SECTIONS & DETAILS

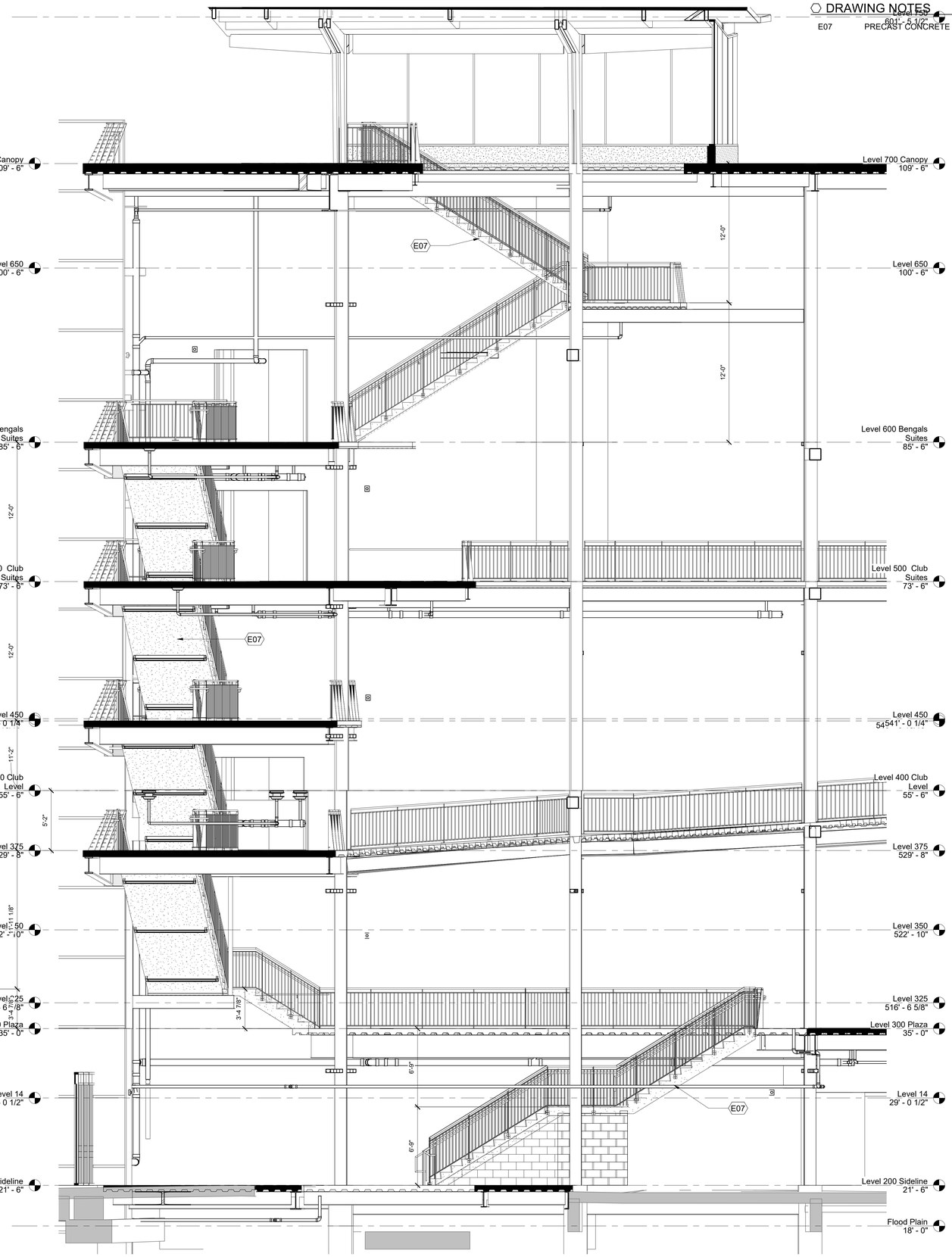
DRAWING NUMBER ISSUE
A-705.4 3.1

DRAWING NOTES

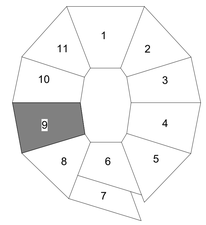
E07 PRECAST CONCRETE STAIR. DO NOT PAINT



02 A-701.9 **SECTOR 9 - STAIR SECTION**
1/4" = 1'-0"



01 A-701.9 **SECTOR 9 - LEVEL 700 TO 300 STAIR SECTION**
1/4" = 1'-0"



0 4" 8" 16'
SCALE: 1/8"=1'-0"

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THAMANN	SHULTZ

SECTOR 9 - STAIR SECTIONS

DRAWING NUMBER ISSUE
A-701.9 3.1

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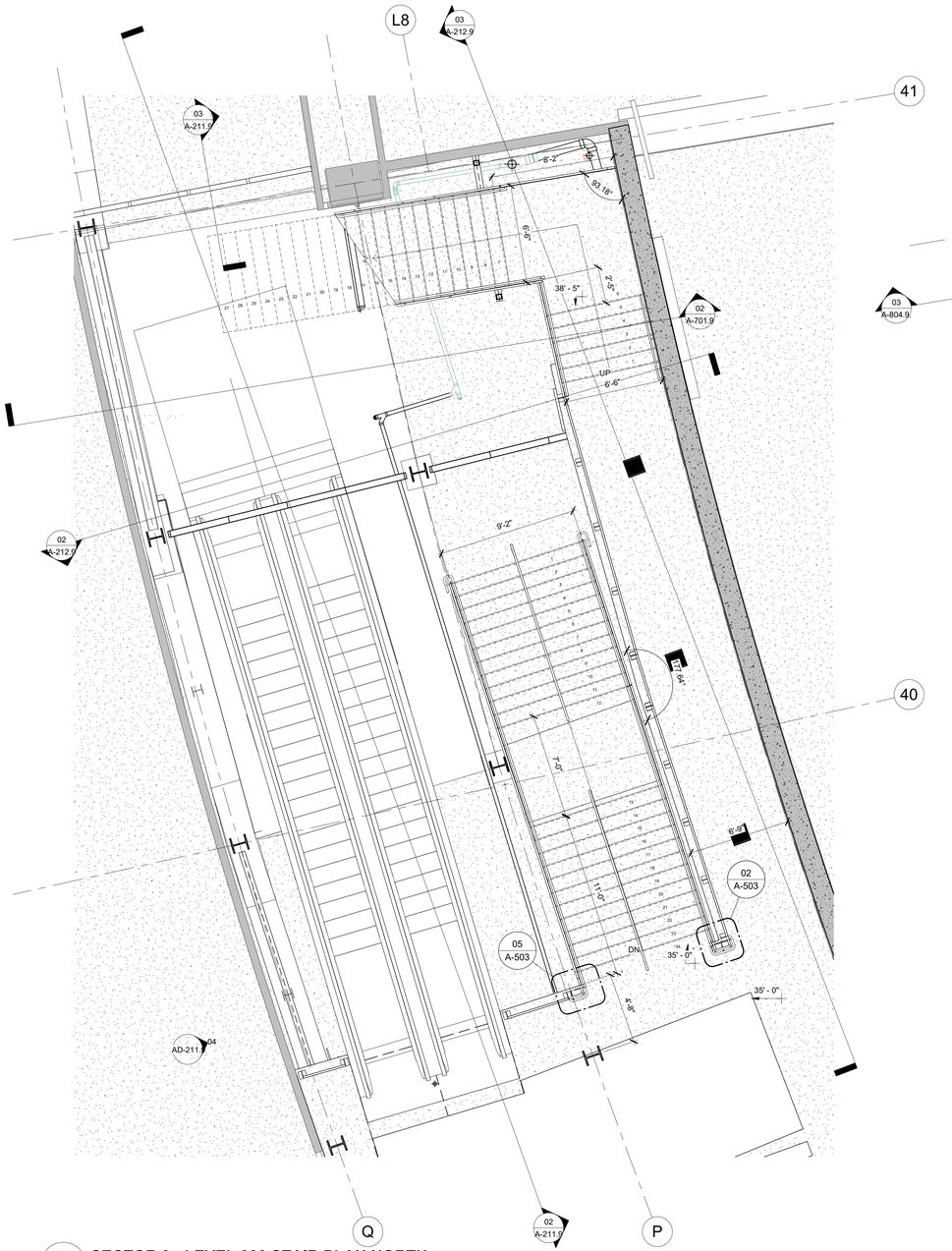
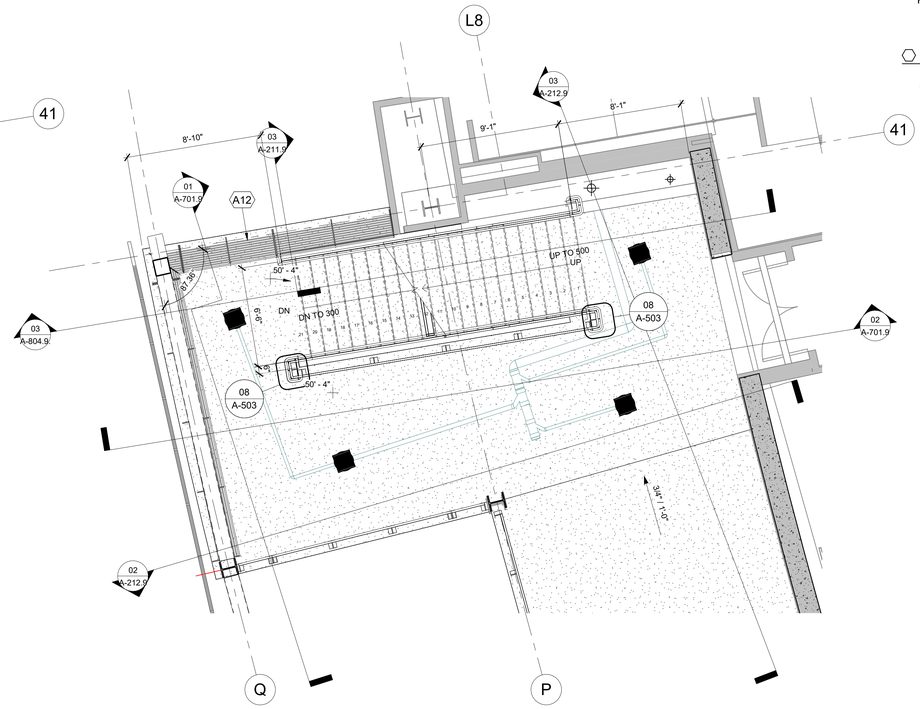
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

DRAWING NOTES

A12 GUARDRAIL C, HORIZONTAL GUARD W/ANGLED BALUSTERS



02 A-702.9 **SECTOR 9 - LEVEL 300 STAIR PLAN NORTH**
1/4" = 1'-0"



01 A-702.9 **SECTOR 9 - LEVEL 400 STAIR PLAN**
1/4" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
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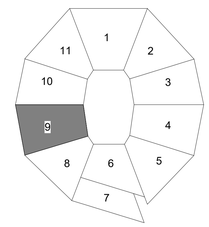

0 4' 8' 16'
SCALE: 1/8"=1'-0"

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ALMOND	05/01/26
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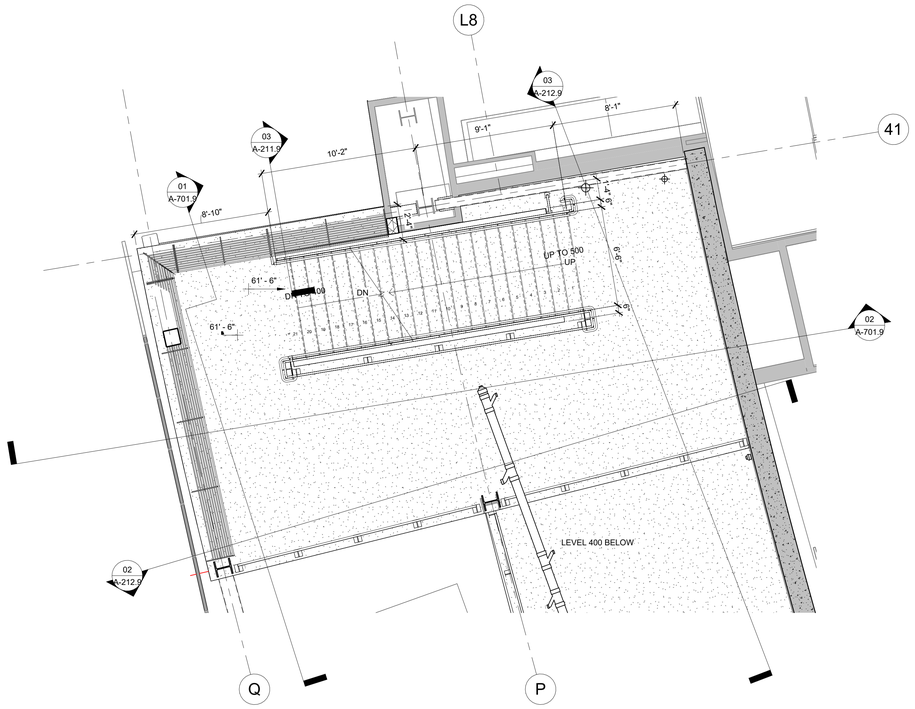
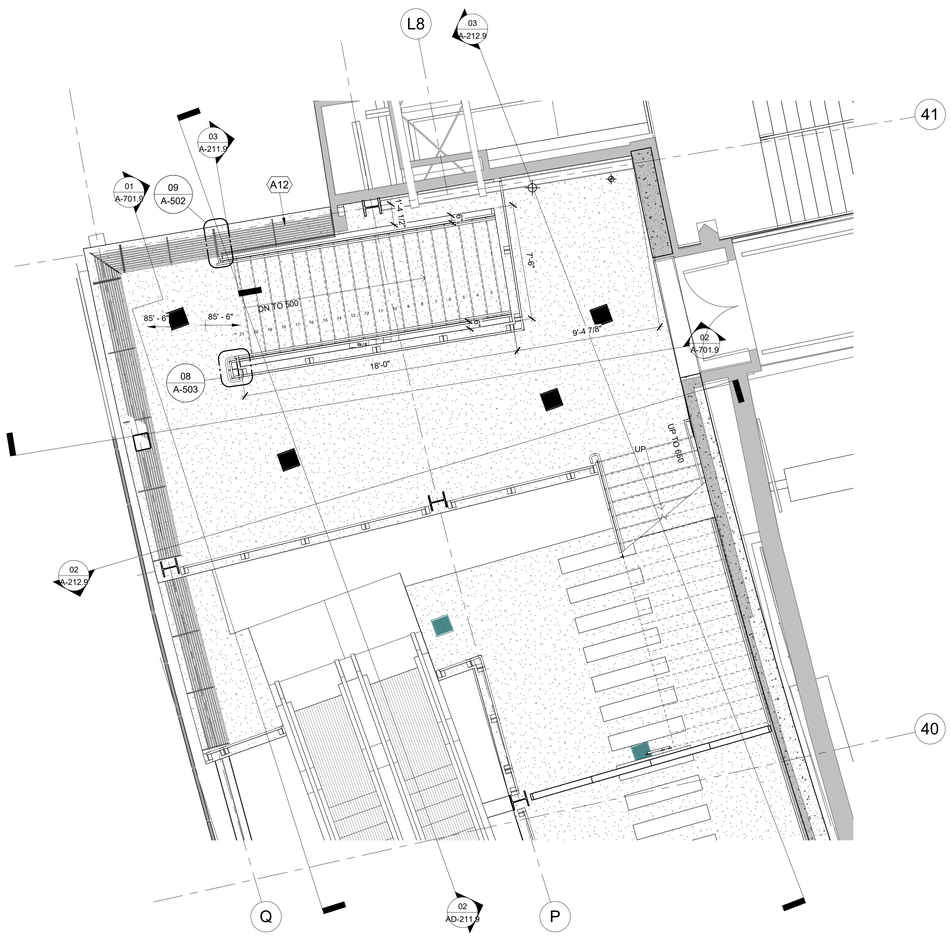
THAMANN	SHULTZ

SECTOR 9 - LEVEL 300 STAIR & RAMP PLANS

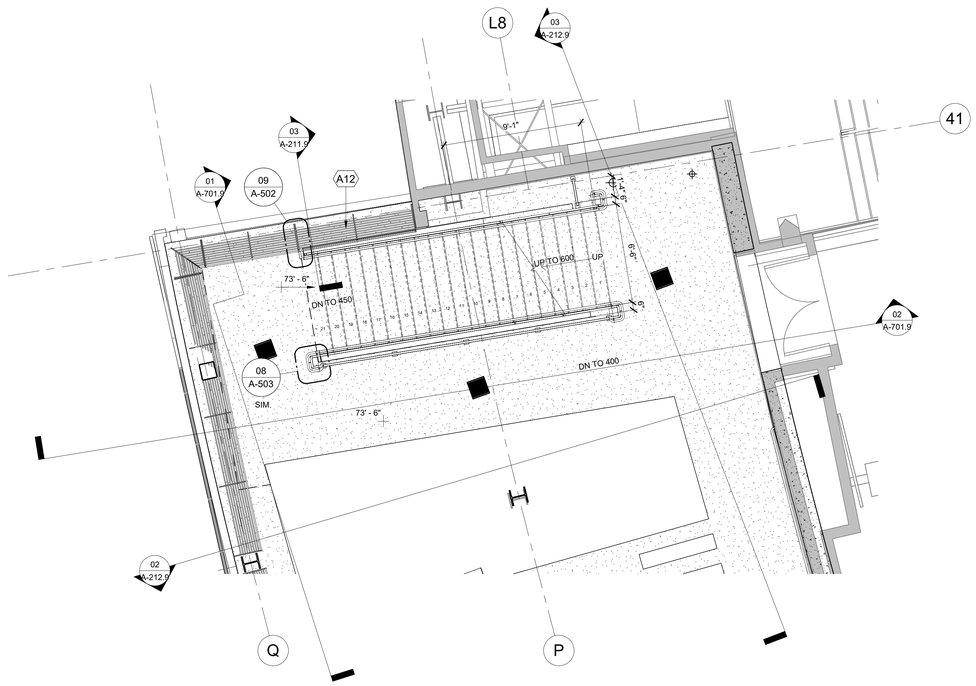
DRAWING NUMBER ISSUE
A-702.9 3.1



03 A-703.9 **SECTION 9 - LEVEL 450 STAIR PLAN**
1/4" = 1'-0"



01 A-703.9 **SECTION 9 - LEVEL 600 STAIR PLAN**
1/4" = 1'-0"



02 A-703.9 **SECTION 9 - LEVEL 500 STAIR PLAN**
1/4" = 1'-0"

AD-211.9 04

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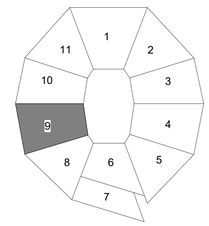
DRAWING NOTES

A12 GUARDRAIL C, HORIZONTAL GUARD W/ANGLED BALUSTERS



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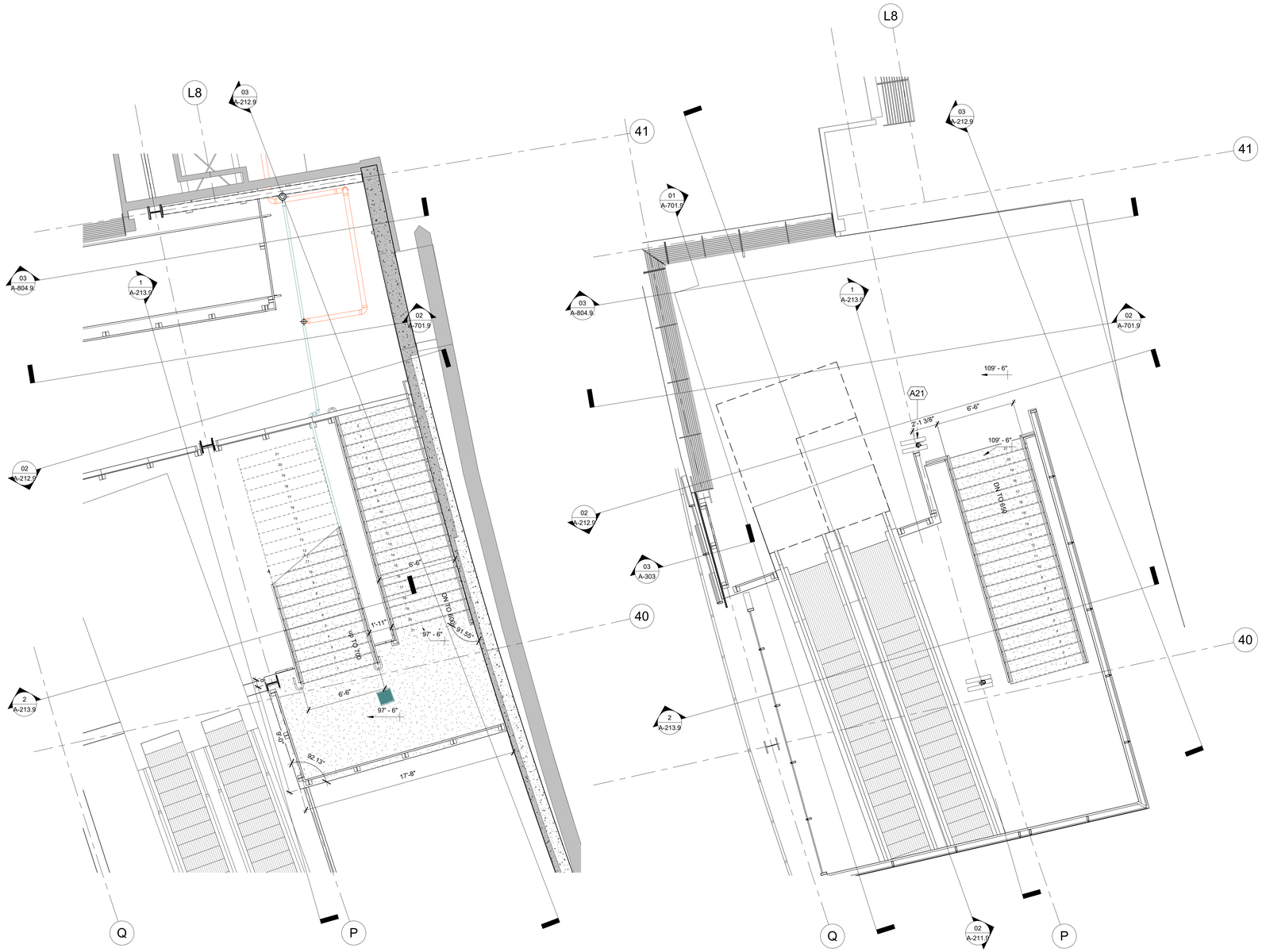
THAMANN	SHULTZ

SECTOR 9 - LEVELS 450, 500, & 600 STAIR PLANS

DRAWING NUMBER ISSUE
A-703.9 3.1



02 A-704.9 **SECTOR 9 - LEVEL 650 STAIR PLAN**
1/4" = 1'-0"

01 A-704.9 **SECTOR 9 - LEVEL 700 STAIR PLAN**
1/4" = 1'-0"

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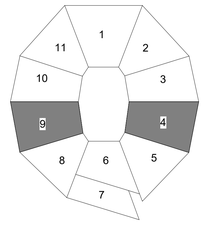
F. ALL WORK SHOWN ON THESE DRAWINGS IS TO BE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
G. ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
H. ALL NEW STANDARD DOORS IN METAL STUD PARTITIONS TO BE LOCATED 4" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
I. ALL NEW STANDARD DOORS IN CMU PARTITIONS TO BE LOCATED 8" FROM FACE OF PERPENDICULAR WALL ON THE HINGE SIDE UNLESS INDICATED OTHERWISE.
J. PROVIDE BULLNOSE MASONRY UNITS AT ALL EXPOSED OUTSIDE CORNER LOCATIONS UNLESS SCHEDULED TO RECEIVE TILE, CORNER GUARD, OR INDICATED OTHERWISE
K. HANDRAILS ARE REQUIRED ON ALL GUARDRAILS AT STAIRS AND RAMPS. ALL HANDRAILS TO MEET ANSI 117.1. HANDRAIL TYPES ARE NOTED ON FLOOR PLAN SHEETS A-102.4 - A109.9.
L. EACH TREAD TO RECEIVE CAST METAL STAIR TREAD NOSING 6' X 3" WITH ANTI- SLIP CROSS HATCH FINISH
M. SEE SHEET A-801.4 - A-803.9 FOR LAYOUT OF PEDESTRIAN PATH FLOOR PAINT.

⎔ DRAWING NOTES

A21 PAINTED STEEL COLUMN W/ROOF DRAIN



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	04/17/2026	STRUCTURAL AND DEMOLITION BID PACKAGE
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower
1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

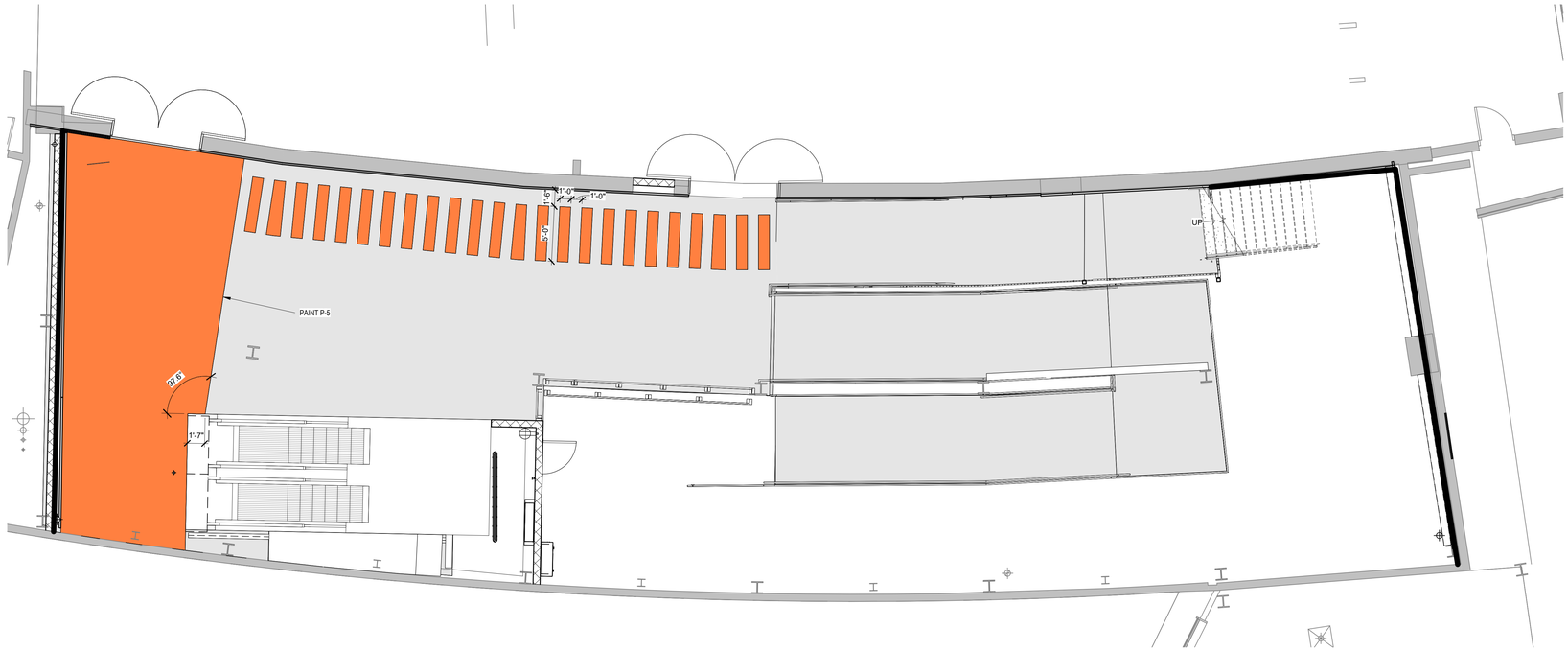
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

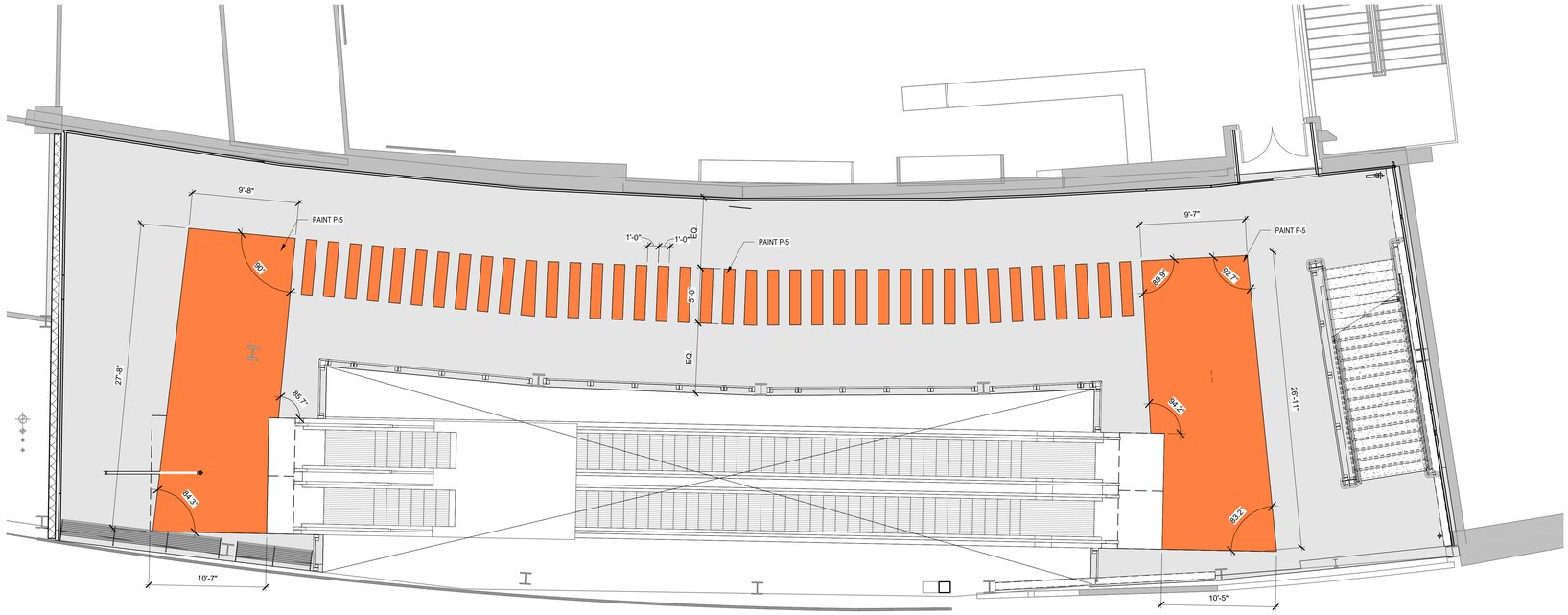
DESIGNED	COMM. NO.
CARLETON	8445.01
DRAWN	DATE
ALMOND	05/01/26
CHECKED	PROJ. MGR.
THAMANN	SHULTZ

SECTOR 9 - LEVEL 650 & 700 STAIR PLANS

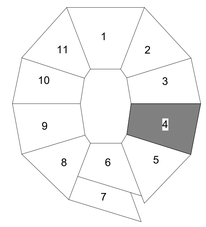
DRAWING NUMBER ISSUE
A-704.9 3.1



02 **Sector 4 - Level 300 Graphic**
A-801.4 3/16" = 1'-0"



01 **Sector 4 - Level 500 Graphic**
A-801.4 3/16" = 1'-0"



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SCALE: 1/8"=1'-0"

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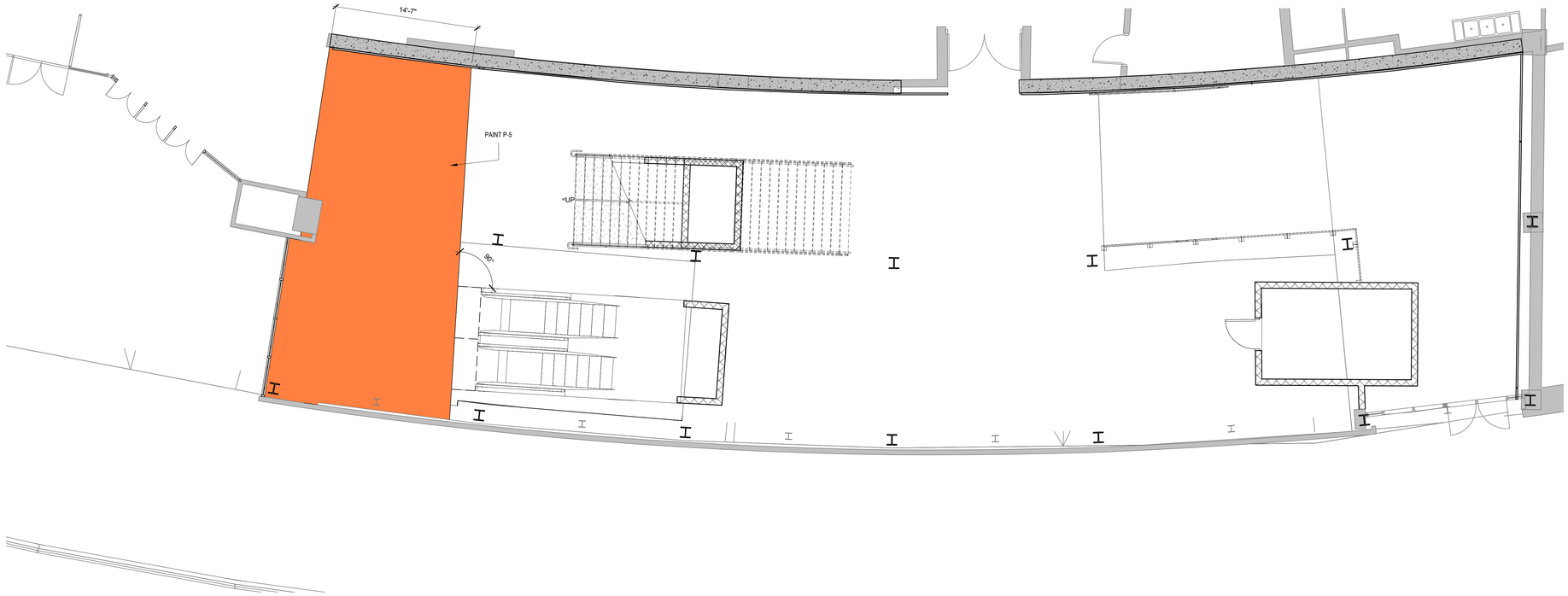
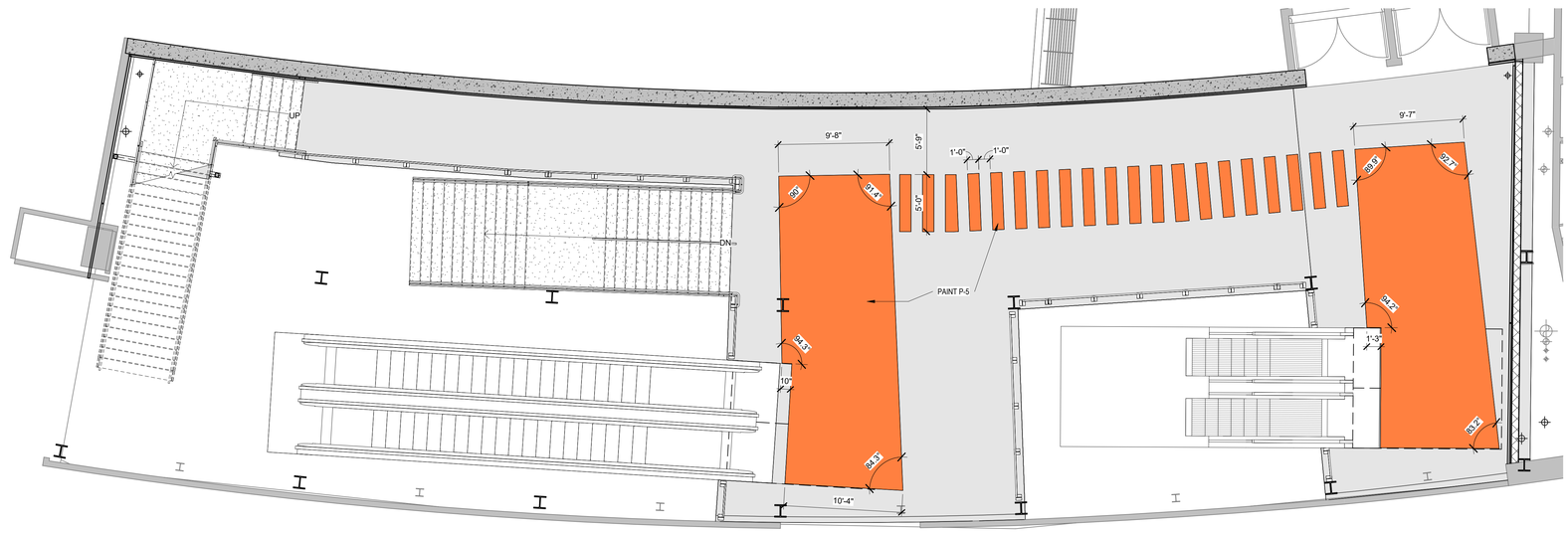
SECTOR 4 - LEVEL 300, 500 FLOOR GRAPHIC

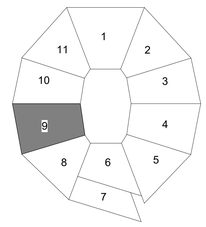
DRAWING NUMBER ISSUE
A-801.4 3.1



2 A-802.9 **Level 200 Sideline(2) Graphic**
3/16" = 1'-0"



1 A-802.9 **Sector 9 - Level 300 Graphic**
3/16" = 1'-0"



N

0 4' 8' 16'
SCALE: 1/8"=1'-0"

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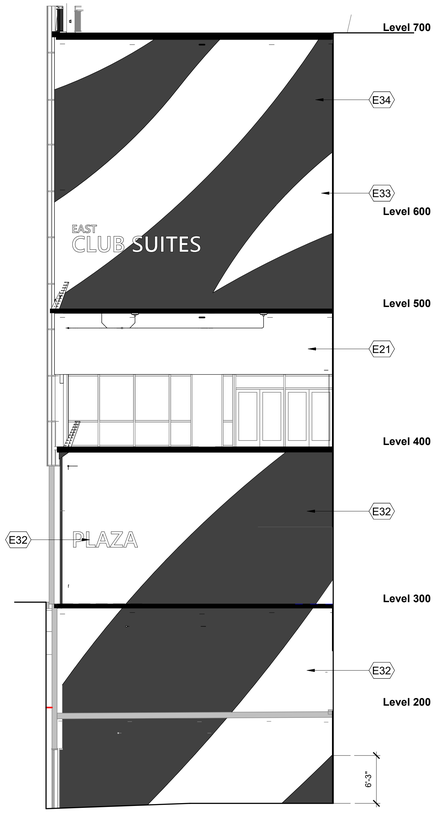
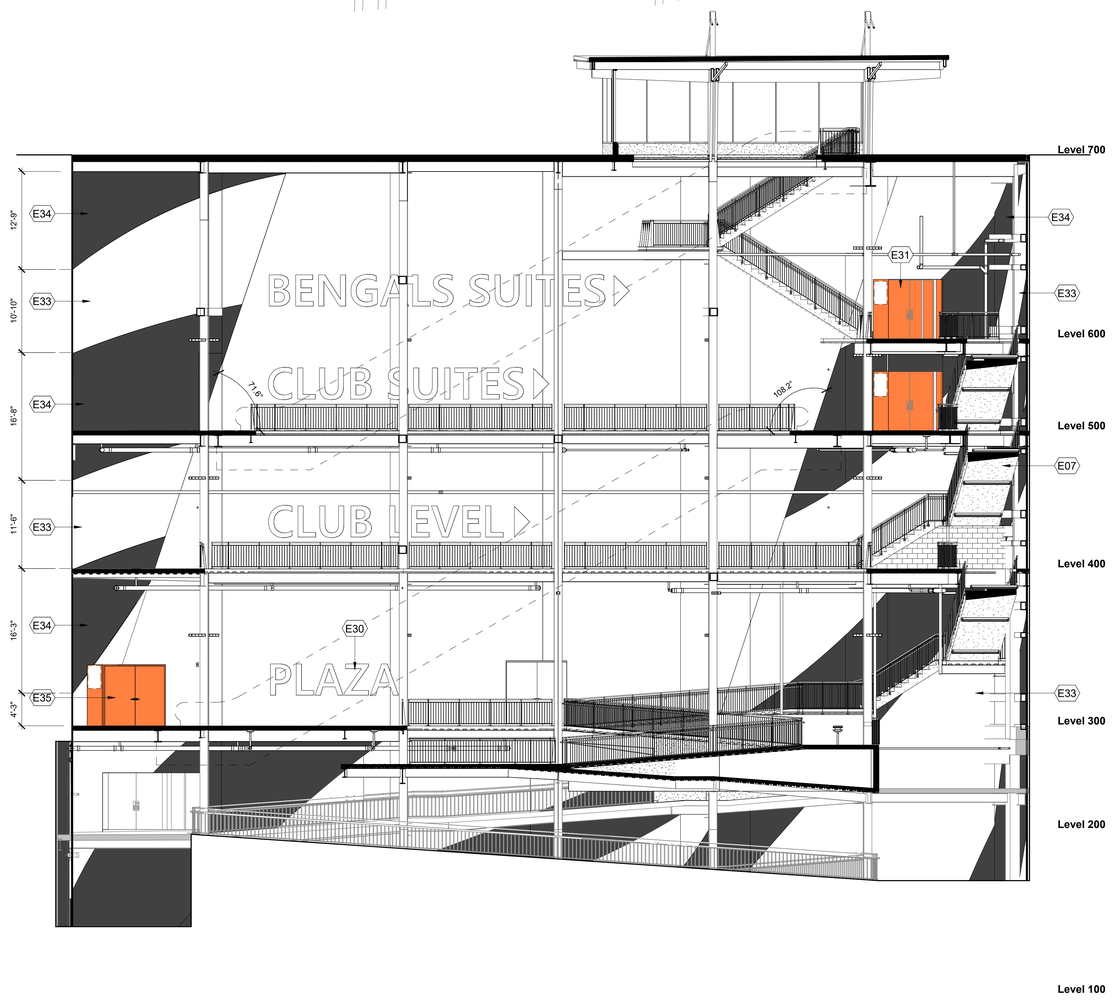
THAMANN	SHULTZ

SECTOR 9 - LEVEL 200, 300 FLOOR GRAPHIC

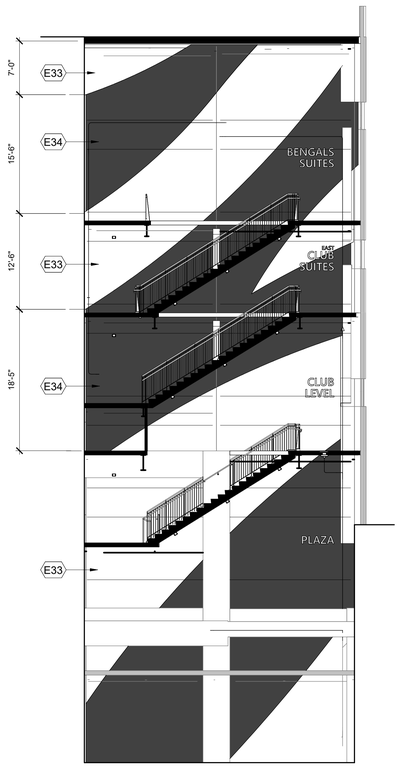
DRAWING NUMBER ISSUE
A-802.9 3.1



03 A-804.4 **SECTOR 4 - SOUTH ELEVATION**
1/8" = 1'-0"



02 A-804.4 **SECTOR 4 - WEST ELEVATION**
1/8" = 1'-0"

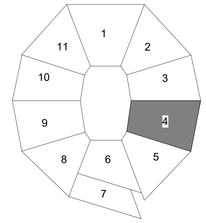


01 A-804.4 **SECTOR 4 - NORTH ELEVATION**
1/8" = 1'-0"

NOTE: GRAPHIC PATTERN DIMENSIONS TO BE COORDINATED WITH CINCINNATI BENGALS PRIOR TO PAINT APPLICATION

DRAWING NOTES

E07	PRECAST CONCRETE STAIR. DO NOT PAINT
E21	MCM METAL PANELS
E30	8" CMU WALL W/STUCCO FINISH TO MATCH EXISTING PRECAST
E31	METAL CLOSURE PLATE. PAINT TO MATCH STRUCTURE.
E32	PAINT HEAD HOUSE COLUMNS AND ROOF STRUCTURE PT-6.
E33	PAINT PT-1
E34	PAINT PT-2
E35	PAINT PT-4



NO.	DATE	DESCRIPTION
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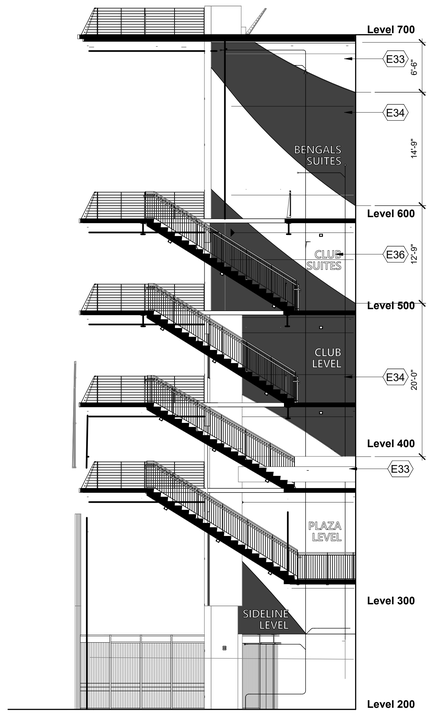
Cincinnati, OH 45202

main 513.621.6211
kzf.com

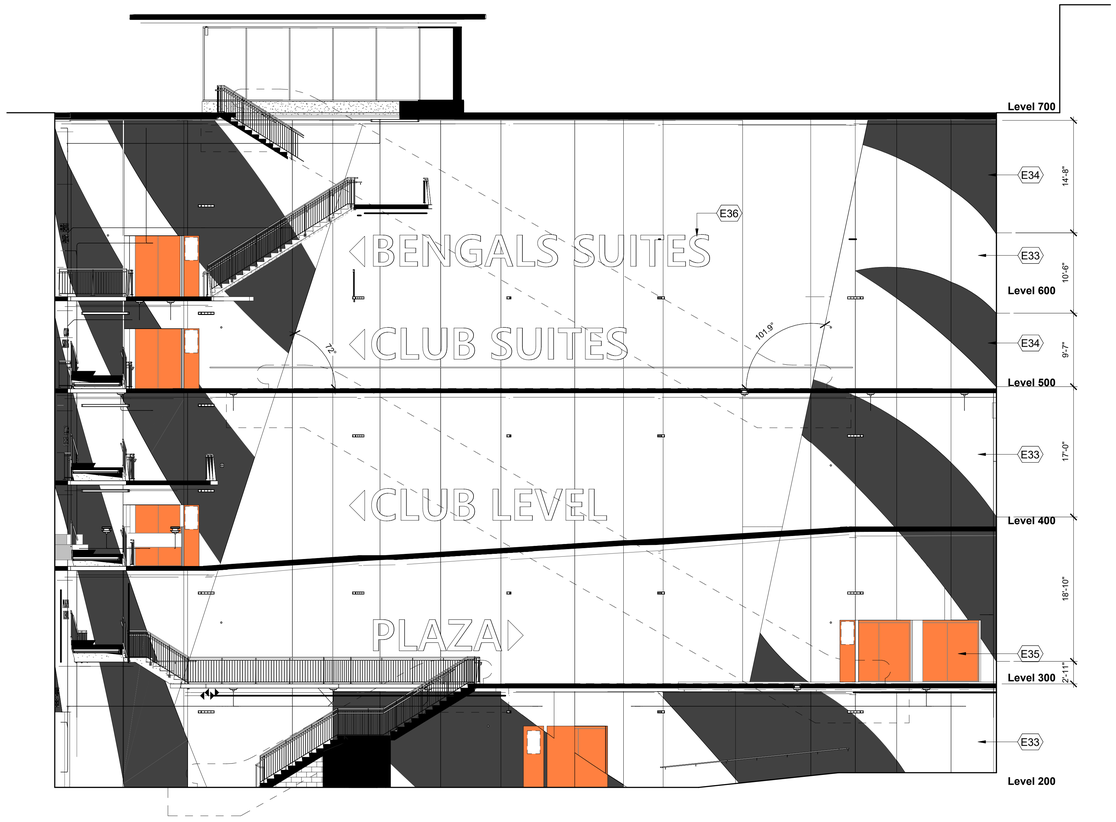
DESIGNED ALMOND	COMM. NO. 8445.01
DRAWN ALMOND	DATE 05/01/26
CHECKED THAMANN	PROJ. MGR. SHULTZ

SECTOR 4 - WALL TIGER STRIPES GRAPHIC

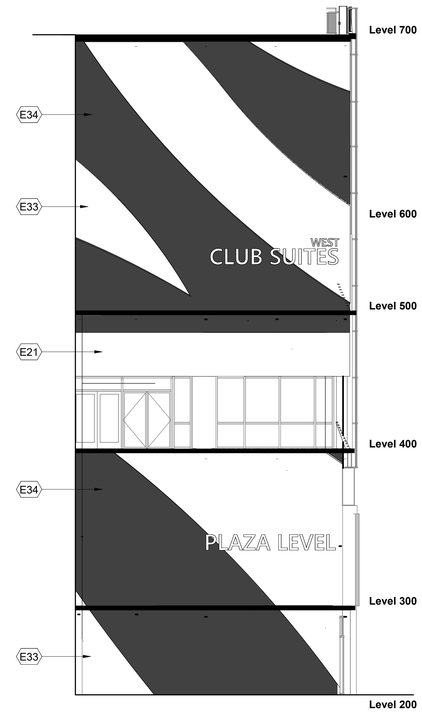
DRAWING NUMBER ISSUE
A-804.4 3.1



03 **SECTOR 9 - NORTH ELEVATION**
A-804.9 1/8" = 1'-0"



02 **SECTOR 9 - EAST ELEVATION**
A-804.9 1/8" = 1'-0"

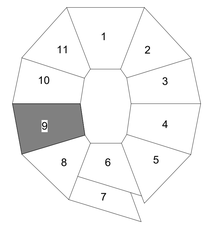


01 **SECTOR 9 - SOUTH ELEVATION**
A-804.9 1/8" = 1'-0"

NOTE: GRAPHIC PATTERN DIMENSIONS TO BE COORDINATED WITH CINCINNATI BENGALS PRIOR TO PAINT APPLICATION

DRAWING NOTES

E21	MCM METAL PANELS
E33	PAINT PT-1
E34	PAINT PT-2
E35	PAINT PT-4
E36	SIGNAGE BY OTHERS



NO.	DATE	DESCRIPTION
3.1	05/01/2026	ARCHITECTURAL & MEP BID

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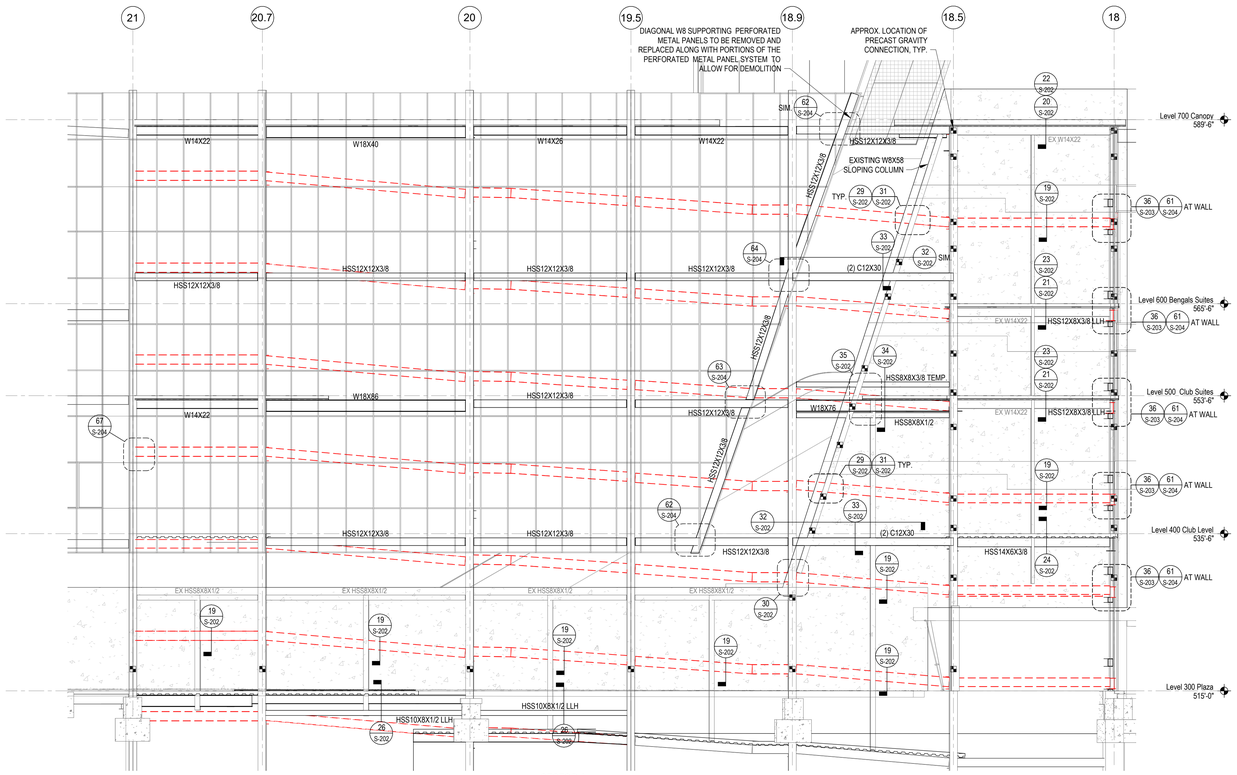
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
Designer	8445.01
DRAWN	DATE
Author	05/01/26
CHECKED	PROJ. MGR.
Checker	SHULTZ

SECTOR 9 - WALL TIGER STRIPES GRAPHIC

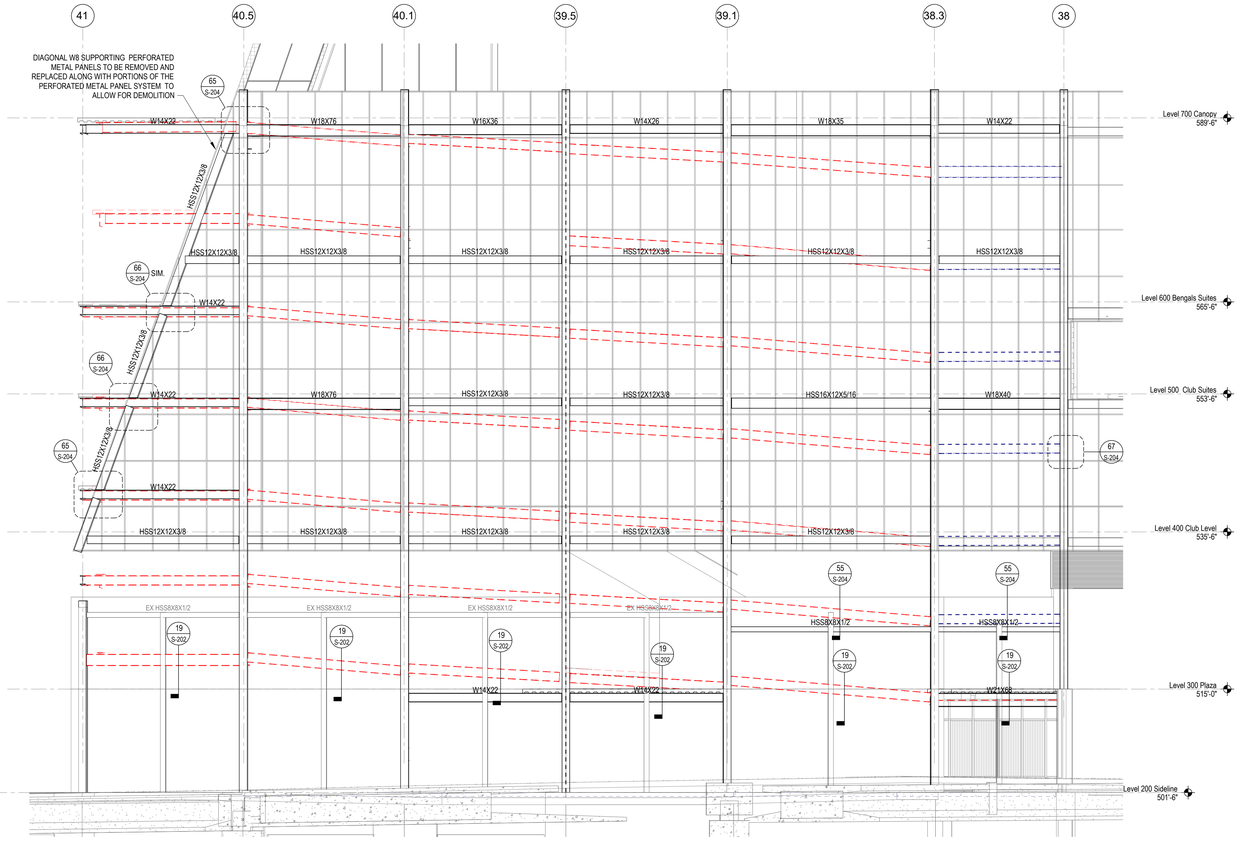
DRAWING NUMBER ISSUE
A-804.9. 3.1



SECTOR 4

1 / S-301 FRAMING ELEVATION

1/8" = 1'-0"



SECTOR 9

2 / S-301 FRAMING ELEVATION

1/8" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
2.2	4/28/26	ADDENDUM 01
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

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700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/17/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

FRAMING ELEVATIONS

DRAWING NUMBER **S-301** ISSUE 3.1

GENERAL STRUCTURAL NOTES:

A. CODES AND SPECIFICATIONS

1. 2024 OHIO BUILDING CODE.
2. ASCE/SEI 7-16 WITH SUPPLEMENT 1, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
3. ACI 301-20, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
4. ANSI/AISC 303-22, CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
5. ANSI/AWS D1.1, STRUCTURAL WELDING CODE — STEEL.
6. ADDITIONAL TECHNICAL SPECIFICATIONS IN THE PROJECT MANUAL.

B. DESIGN LOADS

1. FLOOR LOAD:
   TYPICAL FLOOR LIVE LOAD: 100 PSF - (NR)
   CEILING AND MECHANICAL HANGING ALLOWANCE
   ABOVE TYPICAL FLOOR AREAS: 10 PSF
   PARTITION ALLOWANCE (LL < 80 PSF): 15 PSF
   STAIR LIVE LOAD: 100 PSF

   (NR) INDICATES LIVE LOADS ARE NOT REDUCED. OTHERWISE DESIGN LIVE LOADS FOR SLABS, BEAMS, COLUMNS, AND FOUNDATIONS ARE REDUCED PER BUILDING CODE SECTION 1607.

   CONCENTRATED LIVE LOADS DISTRIBUTED OVER 2.5 FT X 2.5 FT IN LIEU OF UNIFORM LIVE LOAD, UNLESS NOTED OTHERWISE, SEE CODE SECTION 1607.

2. WIND LOAD:
   DESIGN WIND SPEED (3-SECOND GUST): Vult = 113 MPH; [Vasd = 50 MPH]
   RISK CATEGORY: III
   WIND EXPOSURE: C, Kz = 1.17, Kzt = 1.0, Kd = .85
   INTERNAL PRESSURE COEFFICIENT: ENCLOSED BUILDING, GCpi = +/- 0.18
3. EARTHQUAKE DESIGN DATA:
   RISK CATEGORY: III
   SEISMIC IMPORTANCE FACTOR: Ie = 1.25
   MAPPED SPECTRAL RESPONSE ACCELERATION: Ss = 0.146, S1 = 0.077
   SITE CLASS: D
   DESIGN SPECTRAL RESPONSE COEFFICIENT: Sds = 0.156, Sd1 = 0.124
   ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PER ASCE 7
   SEISMIC DESIGN CATEGORY: B
4. THE PROJECT IS AN INTERIOR RENOVATION WITHIN THE EXISTING BUILDING. NEW STRUCTURAL WORK IS LIMITED TO NEW FRAMING FOR FLOOR INFILLS AND NEW STAIRS AND ESCALATORS AND DOES NOT CHANGE THE EXISTING STRUCTURAL SYSTEMS FOR GRAVITY OR LATERAL LOADS. NEW WORK AND ALTERED ELEMENTS MEET NEW CODE REQUIREMENTS. THE EXISTING STRUCTURE THAT IS UNALTERED IS TO REMAIN AND IS IN ACCORDANCE WITH THE INTERNATIONAL EXISTING BUILDING CODE PER OBC 102.7.

C. CONCRETE

1. CONCRETE STRENGTHS:
   a. TYPICAL CONCRETE UNLESS NOTED OTHERWISE: 5000 PSI AE.
2. PROVIDE 3/4" BEVELS AT CORNERS OF ALL EXPOSED COLUMNS, EDGES OF EXPOSED BEAMS AND SLABS, AND TOP EDGES AND CORNERS OF EXPOSED WALLS.
3. WHERE BEAMS OF VARIOUS DEPTHS FRAME INTO A COLUMN, PROVIDE A CONSTRUCTION JOINT AT THE BOTTOM OF THE LOWEST BEAM.
4. MAXIMUM LENGTH OF SLAB POUR BETWEEN CONSTRUCTION JOINTS SHALL NOT EXCEED 120 FEET. MAXIMUM AREA OF SLAB POUR SHALL NOT EXCEED 10,000 SF.
5. JOINTS NOT INDICATED ON STRUCTURAL DRAWINGS ARE NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
6. PLACE NO PERMANENT LOAD, SUCH AS MASONRY WALLS, ON SUPPORTED SLABS UNTIL CONCRETE HAS REACHED SPECIFIED STRENGTH AND ALL SHORING HAS BEEN REMOVED.
7. PLACE NO OPENINGS, SLEEVES, INSERTS, ETC. IN CONCRETE WORK UNLESS CRITERIA INDICATED ON THE STRUCTURAL DRAWINGS IS MET, OR SPECIFIC SIZE AND LOCATION IS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
8. CONCRETE CONSTRUCTION TOLERANCES ARE AS SHOWN IN THE PROJECT SPECIFICATIONS.
9. SLABS ON METAL DECKS ARE TO BE CAST TO A CONSTANT THICKNESS OVER BEAMS, WITH MINIMUM THICKNESS AS SHOWN ON THE DRAWINGS. ALLOW FOR MINIMUM EXTRA 1/2 " OF CONCRETE TO ACCOUNT FOR METAL DECK DEFLECTION. PURLINS AND GIRDERS ARE UNSHORED DURING SLAB PLACEMENT. AFTER PLACEMENT, FINISH SLABS TO REQUIRED TOLERANCES PER THE PROJECT SPECIFICATIONS.

D. REINFORCING STEEL

1. ALL REINFORCING BARS: 60 KSI YIELD.
2. REINFORCE ALL SLABS AS FOLLOWS, U.N.O:
   a. SLABS ON METAL DECK: 6x6-W2.9xW2.9 (4ž#) WWF, EPOXY COATED.
   b. TOPPING SLAB: 6x6-W2.9xW2.9 (4ž#) WWF, EPOXY COATED.
3. FURNISH WWF IN FLAT SHEETS. LAP SHEETS 2 WIRES (1 FULL WIRE SPACE) PLUS 2 " AT ALL EDGES. STAGGER ADJACENT SHEETS TO AVOID 4 CORNER LAPS.
4. PROVIDE TENSION SPLICES UNLESS NOTED OTHERWISE.
5. PLACE WITH MINIMUM CLEAR COVER BETWEEN REINFORCING STEEL AND CONCRETE SURFACES AS SHOWN. IF NOT SHOWN, PROVIDE CLEAR COVER PER ACI. ALL REINFORCING SHALL BE PLACED AS SHOWN AND DETAILED, AND WITHIN ACI TOLERANCE.
6. EPOXY COAT ALL REINFORCING U.N.O.
7. PROVIDE MATERIAL AND PLACEMENT OF 1 TONS OF CONTINGENCY REINFORCING STEEL. SIZES OF BARS TO BE MIXED. BARS ARE TO BE CUT, BENT, AND PLACED AS DIRECTED BY THE ENGINEER.

E. MASONRY WALLS (CMU)

1. ALL MASONRY WORK SHALL CONFORM TO ACI 530.1 SPECIFICATIONS FOR MASONRY STRUCTURES.
2. MATERIAL:
   a. 2000 PSI (NET AREA), F'm = 2000 PSI, 2 CELL HOLLOW UNITS.
   b. GROUT: COMPLY WITH ASTM C476, 3000 PSI, 8" TO 11" SLUMP.
   c. MORTAR: TYPE S.
   d. WALL REINFORCING: Fy = 60 KSI.
3. ALL CMU WALLS SHALL BE REINFORCED AS SHOWN ON THE DRAWINGS BUT NOT LESS THAN THE FOLLOWING MINIMUM REINFORCING:
   e. VERTICAL: 1#4 BAR FULL HEIGHT CENTERED IN GROUTED CMU CORE AT ALL CORNERS, ENDS, BOTH SIDES OF ALL OPENINGS AND CONTROL JOINTS, AND AT A MAXIMUM SPACING OF 10 '-0" O.C.
   f. HORIZONTAL, 9 GAGE, GALVANIZED LADDER TYPE JOINT REINFORCEMENT AT 16" O.C. MAXIMUM AND 2#4 BARS IN BOND BEAMS.
4. VERTICAL BARS TO BE CONTINUOUS THROUGH BOND BEAMS.
5. MINIMUM LAP SPLICES FOR ALL VERTICAL AND HORIZONTAL BARS ARE NOTED IN THE FOLLOWING TABLE. PROVIDE LONGER LAP SPLICES WHERE DETAILED ON THE DRAWINGS:

BAR	LAP	BAR	LAP
#3	27"	#6	54"
#4	36"	#7	63"
#5	45"	#8	72"

F. STRUCTURAL STEEL

1. MATERIAL;
   a. WIDE FLANGE AND CHANNEL SHAPES: ASTM A992 (Fy 50 KSI).
   b. STEEL PIPES: ASTM A53, TYPE E OR S, GRADE B (Fy 35 KSI).
   c. HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A500, GRADE C (Fy 50 KSI).
   d. OTHER ROLLED SHAPES, ANGLES, PLATES AND BARS: ASTM A572 GRADE 50 (Fy 50 KSI).
   e. HEADED SHEAR STUDS: ASTM A108, COMPLY WITH AWS D1.1, TYPE B.
   f. BOLTS: ASTM F3125, GRADE F1852, TYPE 1, 120 KSI, 3/4" MIN. DIA., U.N.O.
   g. ANCHOR RODS: ASTM F1554 (Fy 55 KSI), U.N.O.
2. PRETENSION ALL BOLTS. WHERE F1852 ASSEMBLIES CANNOT BE INSTALLED, USE F959 SELF INDICATING, LOAD INDICATOR WASHERS WITH A325 BOLTS AND A563 NUTS, U.N.O.
3. ALL WELDING MATERIALS, WELDING PROCEDURES AND OPERATORS PERFORMING WELDING TO BE QUALIFIED PER AWS D1.1.
4. FABRICATOR TO DESIGN CONNECTIONS NOT DETAILED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, THE AISC MANUAL, AND THE STRUCTURAL STEEL FRAMING PLANS, NOTES AND DETAILS OF THESE DRAWINGS. FORCES INDICATED ON THE DRAWINGS ARE FACTORED FOR LRFD DESIGN, U.N.O.
5. CONNECTION CONFIGURATIONS INDICATED ON THE PLANS, NOTES AND DETAILS REPRESENT THE DESIGN INTENT. ITEMS SPECIFICALLY INDICATED, SUCH AS WELDS, STIFFENERS, BRACES, ETC., MUST BE PROVIDED AT MINIMUM AS SHOWN. ADDITIONAL DESIGN AND DETAILING OF CONNECTIONS, INCLUDING CONSIDERATION OF MEMBER THICKNESS, HOLES, CUTS, COPES AND THE EFFECTS OF CONCENTRATED FORCES, SHALL BE PROVIDED BY THE CONTRACTOR.
6. ALL STEEL TO BE FIELD PAINTED U.N.O. REFER TO ARCH.

G. METAL DECK

1. ALL WORK SHALL CONFORM TO STEEL DECK INSTITUTE (SDI) STANDARDS AND THE PROJECT SPECIFICATIONS.
2. DECK MANUFACTURER SHALL BE A CURRENT MEMBER OF SDI.
3. MATERIAL, G-60 MINIMUM GALVANIZED STEEL:
   a. 2" DEEP, 18 GAGE MIN. THICKNESS, COMPOSITE METAL FLOOR DECK.
   b. 1/2" OR 9/16" DEEP, 28 GAGE MIN. THICKNESS, METAL FORM DECK.
   c. 1-1/2" DEEP, 20 GAGE MIN. THICKNESS, WIDE RIB METAL ROOF DECK.
   d. POUR STOPS, CLOSURES AND FILLERS, 18 GAGE MIN. THICKNESS.
   e. FASTENERS: SUBMIT ICC ESR WITH DIAPHRAGM CAPACITY FOR APPROVAL.
4. MINIMUM ATTACHMENT OF FLOOR DECK: FASTEN TO ALL SUPPORTS WITH NOT LESS THAN 5/8" DIA. FUSION WELDS OR APPROVED FASTENERS SPACED 12" O.C. FASTEN SIDE LAPS OF DECK UNITS WITH #10 SCREWS OR BUTTON PUNCH AT 36" O.C. MAX.
5. PROVIDE SIDE CLOSURES AND FILLERS FOR DECK AND DIAPHRAGM CONTINUITY WITH THE STRUCTURE. ATTACH TO DECK AND STRUCTURE AS REQUIRED FOR DIAPHRAGM SHEAR BUT NOT FARTHER THAN 12 " O.C. MAX.
6. INSTALL DECK AND PROVIDE CLOSURES AND FILLERS TO ALLOW SHEAR STUD INSTALLATION WITH 1 " MINIMUM LATERAL CONCRETE COVER TYPICALLY, AND 2" MINIMUM LATERAL COVER AT DECK MID-HEIGHT IN THE LOAD DIRECTION.
7. PROVIDE POUR STOPS AS REQUIRED TO FORM CONCRETE AT EDGES AND OPENINGS.

H. POST-INSTALLED ANCHORS AND ADHESIVE ANCHORING TO CONCRETE

1. POST-INSTALLED ANCHORS AND ADHESIVE ANCHORING SYSTEMS MUST BE TESTED AND APPROVED USING ICC EVALUATION SERVICE ACCEPTANCE CRITERIA, INCLUDING ICC-ES AC193: "MECHANICAL ANCHORS IN CONCRETE ELEMENTS " OR ICC-ES AC308: "POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE ELEMENTS ". CONCRETE SHALL BE CONSIDERED CRACKED. SUBMIT MANUFACTURER 'S DATA AND EVALUATION REPORT (ESR) FOR PROPOSED ANCHORS, ADHESIVES, AND ANCHORING SYSTEMS. INDICATE SPECIFIC PROJECT LOCATIONS AND CONDITIONS WHERE PROPOSED FOR USE.
2. MECHANICAL ANCHORS TO CONCRETE SHALL BE AS SHOWN IN THE STRUCTURAL DETAILS. UNLESS NOTED OTHERWISE, USE ONE OF THE FOLLOWING:
   a. HILTI KWIK BOLT TZ2 EXPANSION ANCHORS.
   b. DEWALT POWER-STUD+ SD2 WEDGE EXPANSION ANCHORS.
   c. SIMPSON STRONG-BOLT 2 WEDGE ANCHORS.
   d. HILTI KWIK-HUS-EZ SCREW ANCHORS.
   e. DEWALT SCREW-BOLT+ SCREW ANCHORS.
   f. SIMPSON TITEN HD SCREW ANCHORS.
3. ADHESIVE ANCHORING OF RODS AND REBAR TO CONCRETE SHALL BE AS SHOWN IN THE STRUCTURAL DETAILS. UNLESS NOTED OTHERWISE, PROVIDE STANDARD HAS-E RODS AND USE ONE OF THE FOLLOWING:
   a. HILTI HIT-HY 200 V3 HYBRID ADHESIVE ANCHORING SYSTEM.
   b. HILTI HIT-RE 500-V3 EPOXY ADHESIVE ANCHORING SYSTEM.
   c. DEWALT PURE110+ EPOXY ADHESIVE ANCHORING SYSTEM.
   d. SIMPSON SET-XP EPOXY ANCHORING ADHESIVE.
   e. OTHER PRODUCTS MAY BE REQUIRED FOR TEMPERATURE AND SPECIAL CONDITIONS.
4. ADHESIVE ANCHORING SHALL NOT BE USED IN OVERHEAD OR UPWARD CONDITIONS. FOR HORIZONTAL ADHESIVE ANCHOR APPLICATIONS, USE HYBRID ADHESIVE WITH ESR.
5. POST-INSTALLED ANCHORS SHALL ONLY BE USED AS SHOWN AND APPROVED; THEY SHALL NOT BE USED WHERE CAST-IN-PLACE ANCHORS ARE REQUIRED.
6. ZINC COAT ANCHORS, RODS AND HARDWARE TYPICALLY. AT EXTERIOR USE HOT DIP GALVANIZED OR STAINLESS STEEL, UNLESS NOTED OTHERWISE.
7. EMBEDMENT DEPTH, EDGE DISTANCES, AND SPACING ARE CRUCIAL. LOCATE AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, EMBED REBAR 24 DIAMETERS AND EMBED ANCHORS AT LEAST 8 DIAMETERS, WITH EDGE DISTANCES AT LEAST 8 DIAMETERS, AND SPACING AT LEAST 12 DIAMETERS. USE MANUFACTURER 'S DATA TO CALCULATE REDUCED CAPACITY FOR ACTUAL CONDITIONS AND CONFIRM AN ULTIMATE SAFETY FACTOR OF AT LEAST 4.0.
8. HOLES INTO CONCRETE MUST NOT INTERFERE WITH REINFORCING BARS. THE CONTRACTOR SHALL REVIEW THE STRUCTURAL DRAWINGS AND USE FERRO-SCAN OR OTHER MEANS TO LOCATE REINFORCING BARS IN THE AREA. SPACE HOLES TO FIT AROUND REBAR, SET ANCHORS WITH A TEMPLATE AND FABRICATE FIXTURE TO MATCH.
9. HOLES IN CONCRETE SHALL BE THE PROPER SIZE AND THOROUGHLY CLEANED WITH ALL DUST REMOVED. DRILL HOLES USING A HOLLOW BIT AND FUNCTIONING VACUUM SYSTEM. THEN BRUSH AND BLOW OUT REPEATEDLY WITH CLEAN, OIL FREE AND DRY, HIGH PRESSURE COMPRESSED AIR PER THE MANUFACTURER 'S INSTRUCTIONS.
10. INSTALL INTO DRY CONCRETE IN CLEAN, DUST FREE HOLES USING METHOD AND PROCEDURE THAT MEETS MANUFACTURER 'S RECOMMENDATIONS INCLUDING TEMPERATURE RANGE, HUMIDITY, INSTALLATION TIME AND CURE TIME. FOLLOW THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
11. PROVIDE STANDARD SIZE HOLES IN THE FASTENED STEEL ELEMENT (1/16 " LARGER THAN THE ROD DIAMETER) TO MATCH TEMPLATE OF INSTALLED ANCHORS. DO NOT OVERSIZE HOLES.
12. THE CONTRACTOR SHALL ARRANGE FOR A REPRESENTATIVE OF THE MANUFACTURER TO PROVIDE ONSITE INSTALLATION TRAINING FOR THEIR PRODUCTS. ADHESIVE ANCHOR INSTALLERS SHALL ALSO BE CERTIFIED BY A RECOGNIZED PROGRAM, SUCH AS BY ACI AND CRSI. SUBMIT DOCUMENTATION OF TRAINING AND CERTIFICATION OF PERSONNEL PRIOR TO PERFORMING SUCH WORK. PROVIDE COPY TO THE OWNER 'S INSPECTION AGENCY.
13. THE CONTRACTOR SHALL INSPECT AND PROOF TEST ANCHORS AS PART OF THE CONTRACTOR 'S QUALITY CONTROL PROGRAM. INSPECT CONTINUOUSLY OR PERIODICALLY ACCORDING TO THE ESR. PROOF TEST 5% OF ALL ANCHORS AND REBAR IN EACH CONDITION, DISTRIBUTED THROUGHOUT THE PROJECT, AND TEST ALL ANCHORS IN EACH STEEL FRAMING CONNECTION. AMOUNT OF TESTING SHALL BE INCREASED IF FAILURES OCCUR. OWNER 'S INSPECTION AGENCY WILL OBSERVE INSTALLATION FOR CONFORMANCE WITH MANUFACTURER 'S RECOMMENDATIONS AND WILL WITNESS CONTRACTOR 'S PROOF TESTING.

I. FIREPROOFING

1. REFER TO THE PROJECT SPECIFICATION AND ARCHITECTURAL DRAWINGS FOR SPECIFIC REQUIREMENTS.

J. COORDINATION AND CONSTRUCTION

1. THE CONTRACTOR SHALL COMPLETE ALL WORK REQUIRED AND NECESSARY FOR THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, DRAWINGS, AND REFERENCED STANDARDS. THE SPECIFICATIONS AND DRAWINGS COMPLEMENT EACH OTHER, THE CONTRACTOR SHALL THOROUGHLY REVIEW BOTH BEFORE PROCEEDING WITH ANY WORK.
2. UNLESS OTHERWISE NOTED, DETAILS, SECTIONS AND NOTES ON THE STRUCTURAL DRAWINGS ARE INTENDED TO APPLY TO SIMILAR SITUATIONS ELSEWHERE.
3. STRUCTURAL FRAMING PLANS ARE TYPICALLY DRAWN AS REFLECTED PLANS SHOWING BEAMS, WALLS, AND COLUMNS ON THE UNDERSIDE OF THE LEVEL SHOWN.
4. ALL FRAMING MEMBERS PROVIDED FOR MECHANICAL TRADES, EQUIPMENT SUPPORT, ELEVATOR SUPPORT BEAMS, LINTELS, ETC., ARE FOR BIDDING PURPOSES ONLY. SUBMIT MANUFACTURER'S DATA FOR THE ACTUAL PROPOSED EQUIPMENT TO STRUCTURAL ENGINEER FOR VERIFICATION OR REDESIGN OF SUPPORTS PRIOR TO PREPARING SHOP DRAWINGS.
5. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS, DIMENSIONS, EMBEDDED ITEMS, SLEEVES, FLOOR PITCHES, DEPRESSIONS AND FILLS. OPENING SIZES AND LOCATIONS FOR PIPES, DUCTS, ETC., WHEN SHOWN, ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED WITH MECHANICAL, ELECTRICAL, PLUMBING AND OTHER COORDINATION DRAWINGS AS APPLICABLE.
6. SHOP DRAWINGS AND INSTALLATION DRAWINGS SHALL BE PREPARED AND SUBMITTED FOR REVIEW. SUBMITTALS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE TRADE CONTRACTOR AND GENERAL CONTRACTOR OR CONSTRUCTION MANAGER PRIOR TO SUBMITTING TO ARCHITECT/ENGINEER.
   a. FIELD VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS WHICH AFFECT FABRICATION AND SHOW ON SHOP DRAWINGS.
   b. VERIFY AND SHOW EXACT SIZE AND LOCATION OF ALL FLOOR, WALL OPENINGS, SLAB EDGES, EMBEDDED ANCHORS AND OTHER ITEMS.
   c. SHOW AND LOCATE ALL MECHANICAL SLEEVES, EMBEDS, DRAINS, ETC. ON COORDINATION DRAWINGS. ITEMS NOT SUBMITTED FOR REVIEW TO THE STRUCTURAL ENGINEER ARE NOT PERMITTED IN OR THROUGH THE STRUCTURE.
   d. SUBMIT COMPLETE SHOP DRAWINGS WITH MANUFACTURERS ' DATA, ETC. SHOW ALL CONNECTIONS AND DETAILS NECESSARY TO FULLY DESCRIBE AND PROPERLY INSTALL THE WORK.
   e. STRUCTURAL ENGINEER 'S REVIEW SHALL BE FOR GENERAL ARRANGEMENT AND CONFORMANCE WITH THE STRUCTURAL INTENT ONLY.
7. THE SPECIFICATIONS AND STRUCTURAL DRAWINGS TYPICALLY REFER TO THE FINISHED STRUCTURE. UNLESS NOTED OTHERWISE, THEY DO NOT PRESCRIBE THE METHOD OF CONSTRUCTION.
8. BRACE ENTIRE STRUCTURE AND PORTIONS THEREOF AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
9. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
10. THE ARCHITECT 'S AND ENGINEER 'S OBSERVATION AND REVIEW OF CONTRACTORS ' PERFORMANCE DOES NOT INCLUDE REVIEW OF ADEQUACY OF CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

K. MECHANICAL AND OTHER ITEMS EMBEDDED IN OR SUPPORTED FROM STRUCTURE

1. PLACEMENT OF CONDUITS IN CONCRETE SHALL ADHERE TO THE FOLLOWING.
   a. OUTSIDE DIAMETER OF CONDUITS SHALL BE 1" OR LESS WHERE EMBEDDED IN SLABS AND JOISTS, AND 1-1/2" OR LESS WHERE EMBEDDED IN BEAMS, WALLS, OR COLUMNS.
   b. BUNCHING OF CONDUITS IS NOT PERMITTED. CONDUITS SHALL BE SPACED 3 DIAMETERS OR GREATER ON CENTER, AND 6" MIN. AWAY FROM COMPOSITE SHEAR STUD CONNECTORS.
   c. LONGITUDINAL PLACEMENT OF CONDUITS IN CONCRETE JOISTS AND BEAMS SHALL BE LIMITED TO ONE CONDUIT PER JOIST AND THREE CONDUITS PER BEAM. SPACE 6" MIN. AWAY FROM LONGITUDINAL REINFORCING.
   d. MINIMUM CONCRETE COVER ON CONDUITS SHALL BE 1-1/2"
   e. ALUMINUM CONDUITS, PIPES, OR SLEEVES ARE NOT PERMITTED.
2. ALL TRADE CONTRACTORS (MECHANICAL, STAIR, WALL, ENVELOPE, SPECIALTY, ETC.) ARE TO DESIGN THEIR SYSTEMS, INCLUDING ATTACHMENTS TO THE BUILDING 'S STRUCTURE WITHIN THE FOLLOWING LIMITATIONS.
   a. LOADS ARE TO BE DISTRIBUTED TO THE STRUCTURE IN A MANNER THAT DOES NOT EXCEED THE LOAD ALLOWANCES NOTED UNDER DESIGN LOADS AND SHALL NOT OVERLOAD OR DAMAGE THE STRUCTURE.
   b. ANCHORS ARE TO HAVE AN ULTIMATE SAFETY FACTOR OF AT LEAST 4.0.
   c. LOADS SUPPORTED BY WIDE FLANGE BEAMS ARE TO BE APPLIED IN A MANNER WHICH DOES NOT CAUSE TORSION ABOUT THE LONGITUDINAL AXIS OF THE BEAM.
3. THE SIZE AND LOCATION OF EQUIPMENT, ELEVATORS, AND OTHER ITEMS MUST BE COORDINATED WITH SUPPORTING STRUCTURE. PROVIDE ADDITIONAL SUPPORTS AND ANGLE FRAMES WHERE NECESSARY. TRADE CONTRACTOR(S), GENERAL CONTRACTOR AND CONSTRUCTION MANAGER MUST ENSURE ACCURATE DIMENSIONAL INFORMATION IS PROVIDED TO STEEL FABRICATOR PRIOR TO FABRICATION.
4. UNLESS OTHERWISE NOTED, DO NOT HANG OR OTHERWISE SUPPORT ANY ITEMS FROM METAL DECKS. USE CONCRETE ANCHORS TO SUPPORT FROM CONCRETE SLABS CAST ON METAL DECK.

L. QUALITY CONTROL AND ASSURANCE

1. THE CONTRACTOR SHALL PERFORM QUALITY CONTROL, TESTING AND INSPECTION OF ALL WORK AS REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING REFERENCED CODES, SPECIFICATIONS AND STANDARDS.
2. THE OWNER WILL EMPLOY A TESTING AND INSPECTION AGENCY TO PERFORM SERVICES INDICATED TO BE BY THE OWNER IN THE PROJECT SPECIFICATIONS.
3. THE OWNER WILL ALSO EMPLOY QUALIFIED SPECIAL INSPECTORS TO PERFORM INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS AND TESTS. ITEMS REQUIRING SPECIAL INSPECTION ON THIS PROJECT INCLUDE:
   a. CONCRETE: ALL CONCRETE WORK.
   b. MASONRY: ALL MASONRY WORK
   c. REINFORCING STEEL: ALL REINFORCING STEEL.
   d. STRUCTURAL STEEL: ALL WELDING AND HIGH STRENGTH BOLTING.
4. THE STRUCTURAL ENGINEER MAY GENERALLY OBSERVE THE PROGRESS OF THE WORK, BUT THEIR OBSERVATION SHALL NOT BE CONSTRUED AS INSPECTION.

STRUCTURAL STEEL FRAMING NOTES:

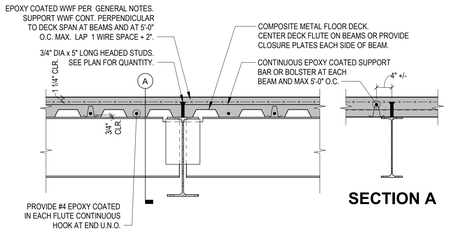
1. SEE THIS SHEET FOR GENERAL NOTES AND SHEET S002 FOR TYPICAL DETAILS.
2. UNDIMENSIONED MEMBERS TYPICALLY ARE EQUALLY SPACED BETWEEN DIMENSIONED MEMBERS.
3. COORDINATE SIZES AND LOCATIONS OF ALL FLOOR OPENINGS, ROOF OPENINGS, AND SLEEVES WITH ARCHITECTURAL AND MECHANICAL REQUIREMENTS. SEE S002 FOR TYPICAL FLOOR AND ROOF OPENING DETAILS.
4. FABRICATOR TO COMPLETE THE DESIGN OF ALL CONNECTIONS. SEE GENERAL NOTES AND PROJECT SPECIFICATIONS. SEE BEAM SHEAR CONNECTIONS DETAIL FOR MINIMUM CONNECTION REQUIREMENTS
5. FORCES INDICATED ON THE DRAWINGS ARE FACTORED FOR LRFD DESIGN, U.N.O. DESIGN BEAM CONNECTION FOR FORCES INDICATED ON THE PLANS. BRACING ELEVATIONS AND DETAILS MAY ALSO SHOW REQUIRED FORCES WHICH ARE ADDITIVE. FORCES ARE INDICATED AS:

   A = AXIAL END REACTION, KIPS
   V = VERTICAL END REACTION KIPS
   M = END MOMENT, FOOT KIPS
   FMC = FLEXIBLE MOMENT CONNECTION TYPE, SEE DETAILS

6. COMPOSITE SHEAR CONNECTORS ARE TO BE ¾ " DIA. HEADED STUDS x 5 " LONG U.N.O. PROVIDE ADDITIONAL STUDS SO THAT THE MAXIMUM INSTALLED SPACING DOES NOT EXCEED 24 " REGARDLESS OF QUANTITY INDICATED. IF NONE ARE INDICATED, PROVIDE AT 24" O.C.
7. W18X35 (16) — A SINGLE NUMBER GIVEN WITH A BEAM SIZE INDICATES TOTAL NUMBER OF STUDS EVENLY SPACED ALONG THE BEAM OR GIRDER. WHERE BEAMS FRAME PERPENDICULAR, SPACE QUANTITY OF STUDS INDICATED BETWEEN INTERSECTING PURLINS/COLUMNS EVENLY OVER THAT LENGTH.
8. INSTALL COMPOSITE SHEAR STUD CONNECTORS WITH 1 " MINIMUM LATERAL CONCRETE COVER. INSTALL STUDS WITH 2 " MINIMUM LATERAL COVER AT DECK MID-HEIGHT IN THE LOAD DIRECTION (TOWARD MID-SPAN OF THE BEAM) WHEN PLACED IN METAL DECK RIBS ORIENTED PERPENDICULAR TO THE BEAM.
9. FABRICATE PURLINS AND GIRDERS WITH NATURAL CAMBER UP. NO CAMBER REQUIRED FOR ROOF BEAMS. CAMBER MEMBERS NOTED "C = ON PLANS":
10. SCHEDULE ERECTION SEQUENCE AND/OR PROVIDE ADDITIONAL TEMPORARY VERTICAL BRACING SO THAT ALL PORTIONS OF THE STRUCTURAL FRAME ARE BRACED FOR LATERAL LOADS. HORIZONTAL DECK DIAPHRAGMS ARE TO BE COMPLETED BETWEEN STABILIZING BRACES PRIOR TO CONCRETE PLACEMENT.
11. ROOF AND FLOOR DECK IS TO BE CONTINUOUSLY SUPPORTED AT EACH END OF DECK SPANS. PROVIDE ADDITIONAL L3X3X1/4 DECK SUPPORT ANGLES WHERE REQUIRED.
12. ALL FRAMING CONNECTIONS, GROUTING OF COLUMN BASE PLATES, AND INSPECTIONS ARE TO BE COMPLETED PRIOR TO CASTING SLAB.
13. PURLINS AND GIRDERS ARE UNSHORED DURING CONCRETE SLAB PLACEMENT.
14. CONTRACTOR IS RESPONSIBLE TO PROVIDE A FINISHED SLAB EDGE WHICH IS STRAIGHT AND TRUE AND ACCURATELY LOCATED RELATIVE TO FINISH WALL LINES. GAGES SHOWN FOR CLOSURE ANGLES ARE THE MINIMUM REQUIRED. HEAVIER GAGE, STRAPS AND/OR A RETURN LIP AT TOP OF ANGLE MAY BE USED AT CONTRACTORS OPTION. FASTEN CLOSURE ANGLES TO DECK/BEAM AT 12 " MAX. O.C. OR AS REQUIRED TO PREVENT TORSIONAL DEFLECTION OF ANGLE.
15. ALL ANGLES, GIRTS AND OTHER MEMBERS SUPPORTING THE BUILDING FACADE, ARCHITECTURAL WALLS OF MASONRY OR GLASS, AND ITEMS NOTED "MASONRY SUPPORT" OR "CFMF SUPPORT" ARE CONSIDERED "ADJUSTABLE ITEMS" AND ARE TO BE LOCATED WITHIN 3/8" OF THEIR DESIGN VERTICAL AND HORIZONTAL LOCATION RELATIVE TO THE ESTABLISHED FINISH WALL LINE, FINISH FLOOR LINE, AND MASONRY COURSING.

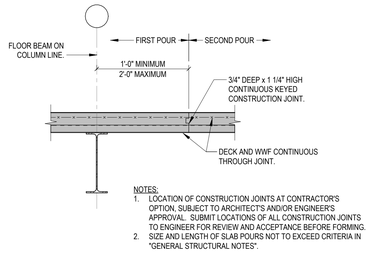
ABBREVIATIONS:

A.B.	ANCHOR BOLT	MATL	MATERIAL
ACI	AMERICAN CONCRETE INSTITUTE	MAX	MAXIMUM
ADDL	ADDITIONAL	MECH	MECHANICAL
ADJ	ADJACENT	MFGR	MANUFACTURER
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MIN	MINIMUM
ALT	ALTERNATE	MISC	MISCELLANEOUS
ALUM	ALUMINUM		
ARCH	ARCHITECT	N.F.	NEAR FACE
		NO	NUMBER
B.L.	BUILDING LINE		
BLDG	BUILDING	O.C.	ON CENTER
BM(S)	BEAM(S)	O.F.	OUTSIDE FACE
BTWN	BETWEEN	OPNG	OPENING
C.L.	CENTER LINE	P.C.	PRECAST
C.J.	CONSTRUCTION OR CONTROL JOINT	P.L.	PROPERTY LINE
CLR	CLEAR	P.T.	POST TENSIONING
COL	COLUMN	PED	PEDESTAL
CONC	CONCRETE	PERP	PERPENDICULAR
CONN	CONNECTION	PL	PLATE
CONT	CONTINUOUS	PLF	POUNDS PER LINEAR FOOT
		PSF	POUNDS PER SQUARE FOOT
D.B.	DECK BEARING	PSI	POUNDS PER SQUARE INCH
DET	DETAIL		
DWG(S)	DRAWING(S)	R	RADIUS
		R.D.	ROOF DRAIN
E.E.	EACH END	R.J.	RUSTICATION JOINT
E.F.	EACH FACE	REINF	REINFORCED OR REINFORCEMENT
E.S.	EACH SIDE		
E.W.	EACH WAY	SECT	SECTION
E.J.	EXPANSION JOINT	SHT	SHEET
ELEV	ELEVATION OR ELEVATOR	SIM	SIMILAR
EMBED	EMBEDMENT	S.O.G.	SLAB ON GRADE
ENGR	ENGINEER	SPECS	SPECIFICATIONS
EOD	EDGE OF DECK	SQ	SQUARE
EOS	EDGE OF SLAB	STL	STEEL
EQ	EQUAL		
EXIST	EXISTING	T&B	TOP AND BOTTOM
		T/CONC	TOP OF CONCRETE
F.F.	FAR FACE	T/FTG	TOP OF FOOTING
FNDN	FOUNDATION	T/STL	TOP OF STEEL
FL	FLOOR	T/SLAB	TOP OF SLAB
FT	FOOT OR FEET	TEMP	TEMPERATURE
FTG	FOOTING	t	THICKNESS
		TYP	TYPICAL
GALV	GALVANIZED		
		U.N.O.	UNLESS NOTED OTHERWISE
H.P.	HIGH POINT		
HORIZ	HORIZONTAL	VERT	VERTICAL
I.F.	INSIDE FACE	W.P.	WORK POINT
IN	INCHES	#	NUMBER
		f'c	SPECIF



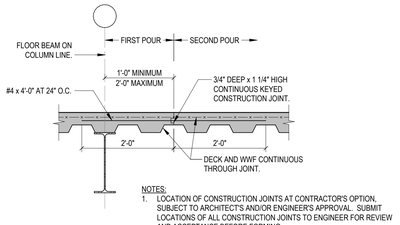
SECTION A

TYPICAL SUPPORTED SLAB ON METAL DECK



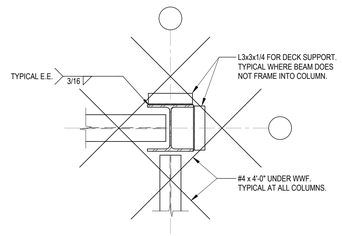
NOTES:
1. LOCATION OF CONSTRUCTION JOINTS AT CONTRACTOR'S OPTION, SUBJECT TO ARCHITECTS AND/OR ENGINEER'S APPROVAL. SUBMIT LOCATIONS OF ALL CONSTRUCTION JOINTS TO ENGINEER FOR REVIEW AND ACCEPTANCE BEFORE FORMING.
2. SIZE AND LENGTH OF SLAB POURS NOT TO EXCEED CRITERIA IN "GENERAL STRUCTURAL NOTES".

SLAB CONSTRUCTION JOINT (PERPENDICULAR)



NOTES:
1. LOCATION OF CONSTRUCTION JOINTS AT CONTRACTOR'S OPTION, SUBJECT TO ARCHITECTS AND/OR ENGINEER'S APPROVAL. SUBMIT LOCATIONS OF ALL CONSTRUCTION JOINTS TO ENGINEER FOR REVIEW AND ACCEPTANCE BEFORE FORMING.
2. SIZE AND LENGTH OF SLAB POURS NOT TO EXCEED CRITERIA IN "GENERAL STRUCTURAL NOTES".

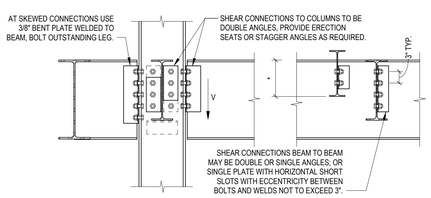
SLAB CONSTRUCTION JOINT (PARALLEL)



SLAB AT COLUMN

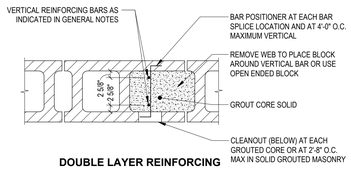
BEAM DEPTH * (INCHES)	MINIMUM ROWS OF BOLTS BY CONNECTIONS		
	DOUBLE ANGLE BOLT/WELD	DOUBLE ANGLE BOLT/BOLT	SINGLE ANGLE OR PLATE
8, 10	2	2	2
12	2	2	3
14	3	3	3
16	3	3	4
18	4	4	4
21	4	4	5
24	5	5	6
27	6	6	6
30	6	6	7
33	7	7	8
36	8	8	9
40	8	8	10
44	9	9	11

* EFFECTIVE BEAM DEPTH WHERE RAISED. SEE DETAIL AT RIGHT.

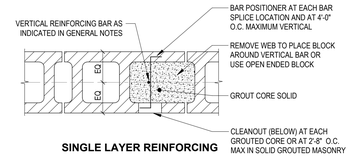


NOTE: FABRICATOR TO PROVIDE CONNECTION TYPES ABOVE AND DESIGN PER AISC MANUAL. USE FORCES INDICATED ON PLAN OR SHEAR FROM UNIFORM LOAD TABLE AT BEAM SPANS WHERE INDICATED. ROWS OF BOLTS NOT LESS THAN TABLE.

BEAM SHEAR CONNECTIONS (NO AXIAL)



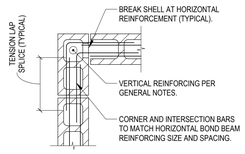
DOUBLE LAYER REINFORCING



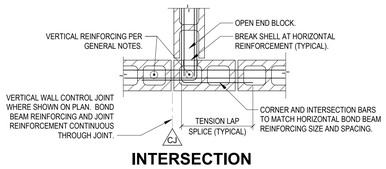
SINGLE LAYER REINFORCING

LAP SPLICE ALL REINFORCING PER GENERAL NOTES, U.N.O. ALTERNATIVELY, USE MECHANICAL CONNECTORS FOR REINFORCING BARS WHICH DEVELOP 125% OF YIELD STRENGTH OF BARS IN TENSION. SUBMIT MECHANICAL CONNECTORS, IF USED, FOR ENGINEER REVIEW.

REINFORCING IN MASONRY

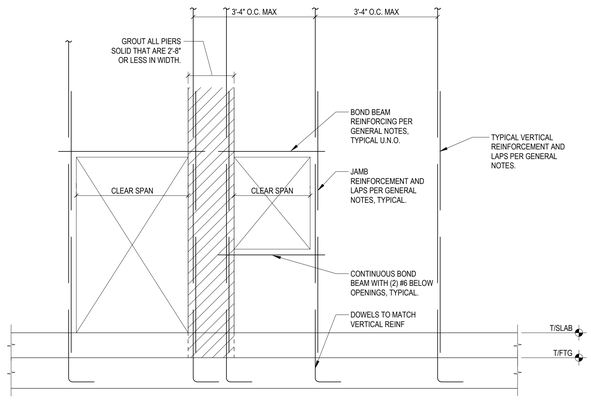


CORNER



INTERSECTION

TYPICAL BARS AT CMU WALL CORNERS AND INTERSECTIONS



TYPICAL CMU WALL REINFORCING

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/17/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

TYPICAL DETAILS

DRAWING NUMBER	ISSUE
S-002	3.1

K.0
L.0
P.0
Q.0
17.9
18
18.5
19
18.9
19.5
20
19.9
20.7
21
T/EXIST. SLAB = 507'-5"±
T/EXIST. SLAB = 501'-6"±
EX W18X35
EX W14X22
EX W12X26
EX W12X50
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EX W30X5033364176870
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EX W30X5459441616170
EX W30X5471606833370
EX

K.0
L.0
P.0
Q.0
17.9
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18.5
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19.5
19.9
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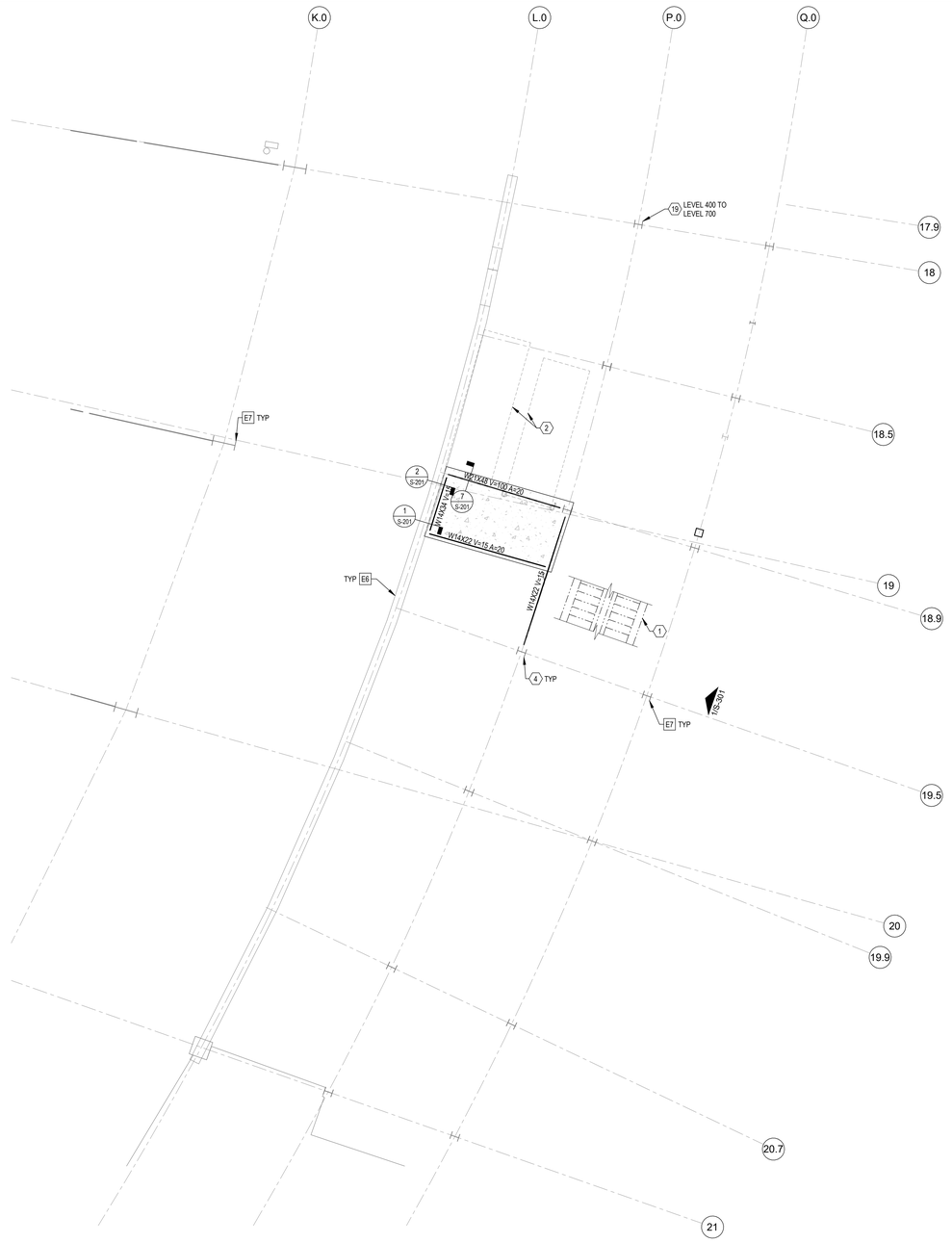
20.7
21
SIM 1 S-201
45 S-203
E5 BELOW
E7 ABOVE
19 LEVEL 400 TO LEVEL 700
71 S-304
76 S-205
L6X4X5/16
W21X48 V=70 A=20
W14X21 V=30
W18X40 V=75
W21X44 V=90
W24X68 V=125 A=20
W18X35 V=30 A=20
W14X26 V=30
W14X22 V=30
W18X50 V=65 A=20
HSS12X12X3/8 [53F-11 1/2"]
C12X20 [53F-11 1/2"]
HSS12X12X3/8 [53F-11 1/2"]
33 S-202
LEVEL 100 TO LEVEL 400
W18X40 V=60 A=20
W14X30 V=30
W14X82 V=30
W18X40 V=65 A=20
W14X61 V=30
W14X82 V=30
HSS12X12X3/8 [53F-6"]
HSS12X12X3/8 [53F-11 1/2"]
74 S-205
E7 TYP
E5 TYP
E6 TYP
E3 TYP
E1 TYP
E8 TYP
4 TYP
1S-301
41 S-203
9
EX W12X50
EX W14X82
EX W14X61
EX W14X30
EX W14X26
EX W14X22

SECTOR 4 - T/SLAB = 565'-6"± U.N.O.

1 S-104 LEVEL 600 FRAMING PLAN

1/8" = 1'-0"



SECTOR 4 - T/SLAB = 577'-6"± U.N.O.

2 S-104 LEVEL 650 FRAMING PLAN

1/8" = 1'-0"

DRAWING NOTES:

1. REFER TO S-001 AND S-002 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL DIMENSIONS AND REQUIREMENTS.
3. ALL EXISTING CONDITIONS SHOWN ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION OR CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

DRAWING NOTES: ☐

E1. EXISTING PRECAST DOUBLE TEE FLOOR FRAMING WITH STRUCTURAL TOPPING.
E2. EXISTING PRECAST PLANK FLOOR FRAMING WITH STRUCTURAL TOPPING.
E3. EXISTING CAST IN PLACE CONCRETE BEAM.
E4. EXISTING PRECAST CONCRETE BEAM.
E5. EXISTING CAST IN PLACE CONCRETE COLUMN.
E6. EXISTING CAST IN PLACE CONCRETE WALL.
E7. EXISTING STEEL COLUMN.
E8. EXISTING STEEL FLOOR FRAMING WITH SLAB ON METAL DECK.
E9. EXISTING EXPANSION JOINT.
E10. EXISTING STEEL BOOMERANG COLUMNS.

KEY NOTES: ⬡

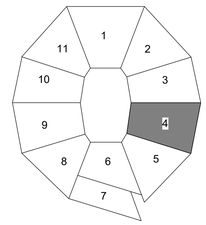
1. NEW ESCALATOR ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
2. NEW PRECAST STAIR. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
3. 4 1/2" NW CONCRETE OVER 2" 18 GA COMPOSITE METAL DECK (6 1/2" TOTAL THICKNESS) ON NEW STEEL FRAMING MIN. 2 SPANS. REFER TO TYP. DETAIL FOR ADDL. REINF. REQUIREMENTS.
4. EXISTING WF COLUMN TO REMAIN AND BE REUSED. DO NOT DAMAGE DURING DEMO OF EXISTING RAMP STRUCTURE.
5. 4" TOPPING SLAB OVER 6 1/2" STRUCTURAL SLAB. REFER TO ARCH.
6. HSS6X6X5/16 HANGER TO FLOOR ABOVE.
7. RAMP SLAB. REFER TO ARCH FOR ELEVATIONS.
8. EXISTING RAMP TO REMAIN THIS LEVEL. NO WORK.
9. REMOVE EXISTING SLAB THIS AREA. CUT SLAB (1) FLUTE NORTH/SOUTH OF EXISTING STOREFRONT AT EACH/WEST RAMP. REUSE EXISTING STEEL FRAMING TO SUPPORT NEW SLAB ON METAL DECK. PROVIDE 1" ADDITIONAL CONCRETE TO MATCH EXISTING ELEVATIONS.
10. HSS HANGER TO FLOOR BELOW.
11. HSS POST TO LANDING ABOVE.
12. HSS6X6X5/16 POST TO FLOOR BELOW.
13. NEW OPENING IN CONCRETE WALL. SAW CUT FULL DEPTH TO ROUGH SIZE OF OPENING AND CHIP BACK SALVAGING EXISTING REINFORCING PER DETAIL. REFER TO ARCH FOR DIMENSIONS.
14. CUT DOWN TOP OF EXISTING WALL TO ALLOW FOR TOPPING SLAB AND WATERPROOFING TO RUN CONTINUOUSLY THROUGH.
15. EXTEND COLUMN TO LEVEL OF NEW FRAMING WITH W12 TO MATCH EXIST. (W12X106 TYP. FIELD VERIFY). PREPARE TOP OF COLUMN AND PROVIDE COMPLETE PEN. WELD ALL AROUND.
16. SALVAGE EXISTING DIAPHRAGM REINFORCING EXTENDING FROM PEDESTRIAN BRIDGE. CAST INTO NEW SLAB ON METAL DECK.
17. REMOVE COLUMN BETWEEN 500 AND 600 LEVEL AFTER NEW BEAM AT 700 LEVEL IS INSTALLED AND ALL CONNECTIONS ARE COMPLETE. PORTION ABOVE 600 LEVEL TO REMAIN AS HANGER.

KEY NOTES: ⬡

18. NEW RAMP SUPPORTED BY REINFORCED CONCRETE WALLS BELOW. SEE DETAIL 14/S-201.
19. REINFORCE COLUMN, SEE DETAIL 4/S-201.
20. PLACE BEAM BELOW EXISTING PRECAST PLANK AT NEW STAIR BEARING. SHIM AND GROUT. PROVIDE 1/2" DIA HILTI HUS SCREW ANCHORS THRU FLANGE INTO UNDERSIDE OF PRECAST AT MID/SPAN AND QUARTER POINTS.
21. SAW CUT EXISTING PRECAST TO ALLOW FOR NEW BEAM PLACEMENT. SURVEY EXISTING CONDITIONS INCLUDING LOCATION OF ATTACHMENT POINTS AND SCANNING FOR REINFORCING AND REPORT TO ENGINEER PRIOR TO CUTTING.
22. 1 1/2" ROOF DECK.
23. KINK BEAM TO MATCH SLOPE OF EXISTING RAMP. PROVIDE COMPLETE PENETRATION SPLICE AT KINK.
24. V.I.F. EXISTING STEEL BEAM TO STEEL BEAM AND STEEL COLUMN CONNECTIONS. REINFORCE CONNECTIONS AS REQUIRED. SEE DETAIL 42/S-203.
25. ALTERNATIVELY SHORE EXISTING BEAMS AND REPLACE WITH WIDE FLANGE BEAM.
26. NEW STAIR LANDING SUPPORTED BY REINFORCED CONCRETE WALLS BELOW.

FRAMING PLAN LEGEND:

- SLAB STEP
- BEAM SPLICE
- DIRECTION OF DECK SPAN
- MOMENT CONNECTION
- [XXX'-XX"] INDICATES BEAM TOP OF STEEL ELEVATION U.N.O.
- XXX'-XX" DECK BEARING ELEVATION
- EP-5 EMBED PLATE MARK, SEE TYPICAL DETAIL



0 4' 8' 16'
SCALE: 1/8"=1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
2.2	4/28/26	ADDENDUM 01
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/17/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

SECTOR 4 - LEVEL 600 AND 650 FRAMING PLANS

DRAWING NUMBER ISSUE
S-104 3.1

K.0
L.0
P.0
Q.0
17.9
18
18.5
18.9
19
19.5
19.9
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20.7
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LEVEL 400 TO LEVEL 700
W14X22 V=20
W14X50 V=20 A=20
W18X50 V=80 A=20
W14X145 M=160 V=50 A=20
W14X68 V=35
W14X61 V=30
W14X43 V=40
W14X38 V=30
W18X35 V=30 A=20
W14X82 V=30
W12X14 V=10
W14X68 M=90 V=30
W14X61M=200 V=45
W18X35 M=150 V=90
W10X26 V=25
W14X68 M=150 V=90
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W14X26 V=20
W14X21 V=20
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W14X74 V=20
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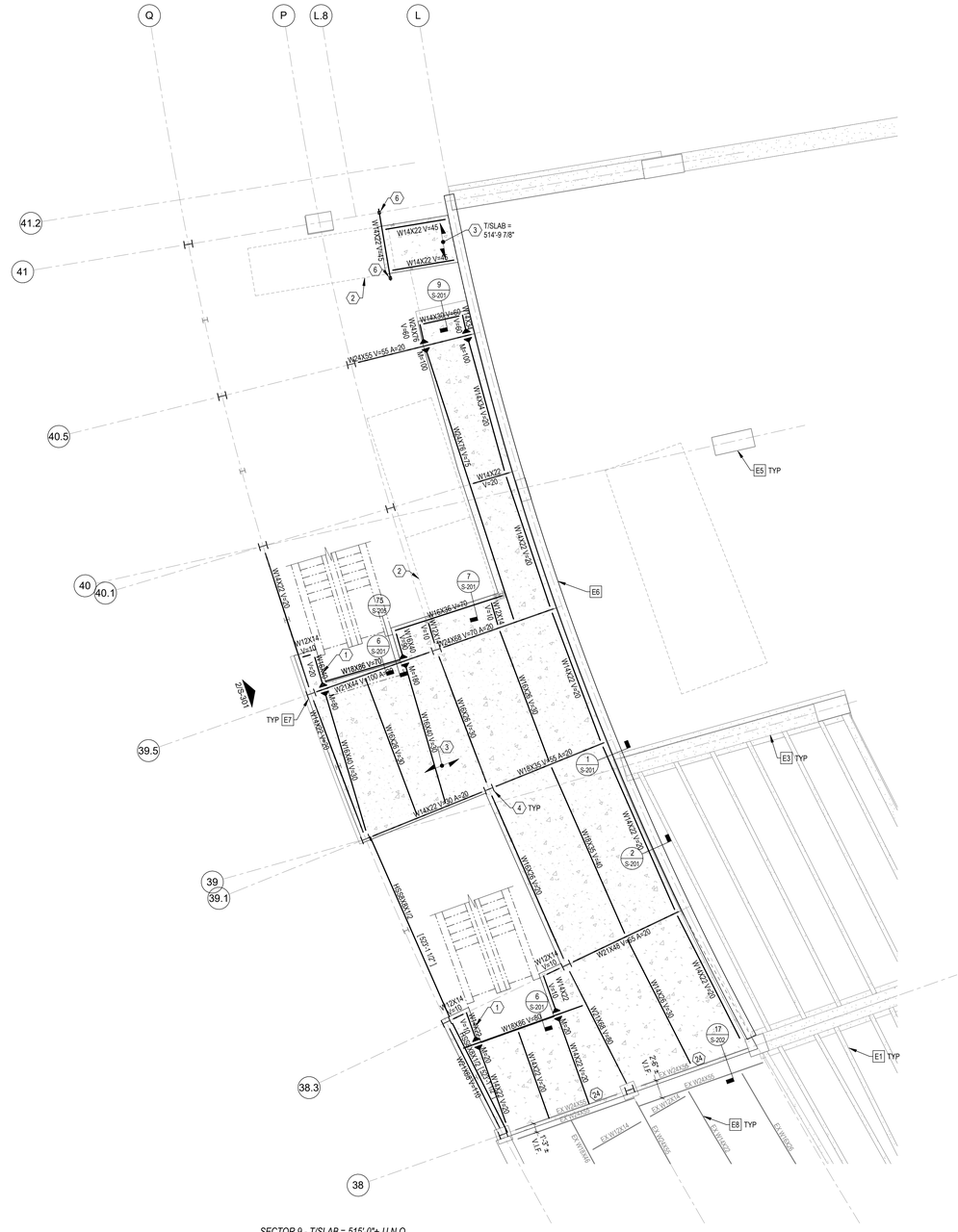
W14X53 V=40
W14X43 V=40
W14X30 V=20
W14X26 V=20
W14X22 V=20
W14X21 V=20
W14X74 V=20
W14X82 V=35
W14X61 V=35

SECTOR 9 - T/SLAB = 501'-6"± U.N.O.

1 S-106 LEVEL 200 FRAMING PLAN

1/8" = 1'-0"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39.1
38.3
38
E1 TYP
E2
E3 TYP
E5 TYP
E6
E7
E8 TYP
W14X22 V=45
T/SLAB = 514'-9 7/8"
W14X22 V=
W14X30 V=40
W24X55 V=55 A=20
W14X22 V=20
W14X22 V=20
W14X30 V=20
W18X86 V=70
W12X14 V=70
W12X14 V=70
W21X44 V=100 A=80
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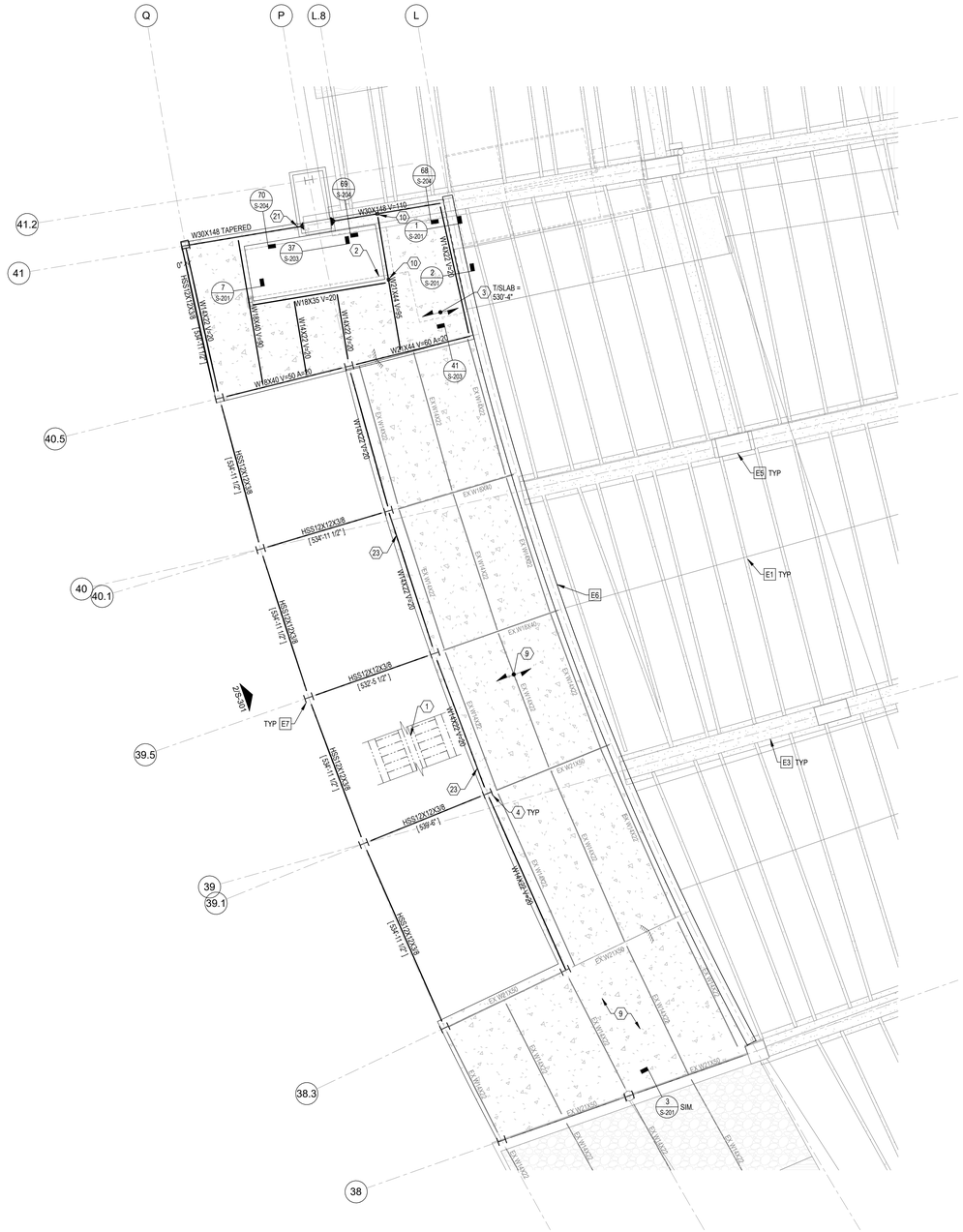
W18X35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39.5
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39.1
38.3
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W30X148 V=110
W18X35 V=20
W14X22 V=20
W14X34 V=60 A=20
W18X40 V=50 A=20
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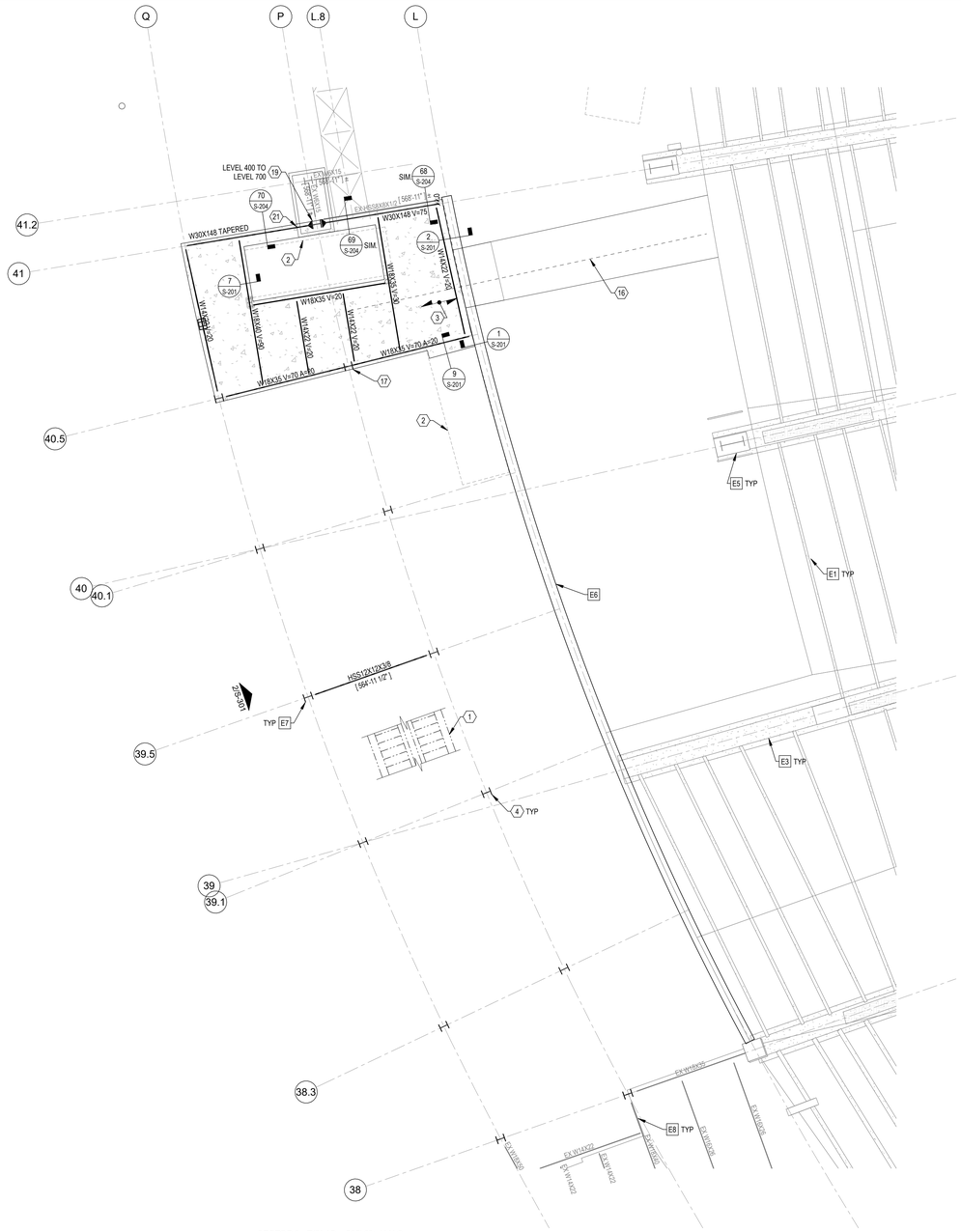
Q
P
L.8
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39.1
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38
LEVEL 400 TO LEVEL 700
19
68
S-204
SIM
70
S-204
21
69
S-204
SIM
2
S-201
W30X148 TAPERED
W20X148 V=75
W18X35 V=20
W18X35 V=70 A=20
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W14X30 V=30
W14X22 V=30
W14X30 V=30

Q
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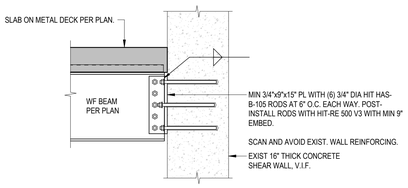
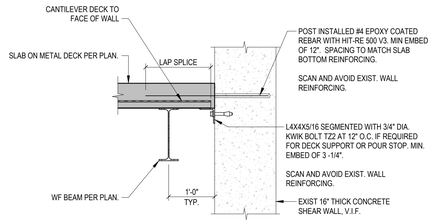
W14X74 V=30



NEW STEEL BEAM TO EXISTING CONCRTE WALL

1 S-201 SECTION

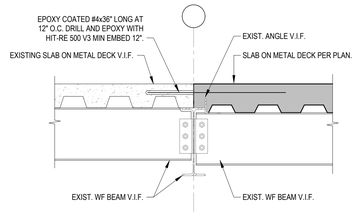
3/4" = 1'-0"



NEW SLAB TO EXISTING CONCRETE WALL

2 S-201 SECTION

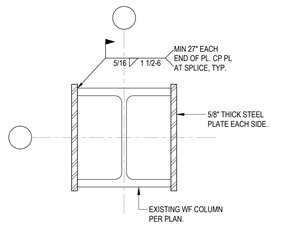
3/4" = 1'-0"



NEW SLAB TO EXISTING SLAB

3 S-201 SECTION

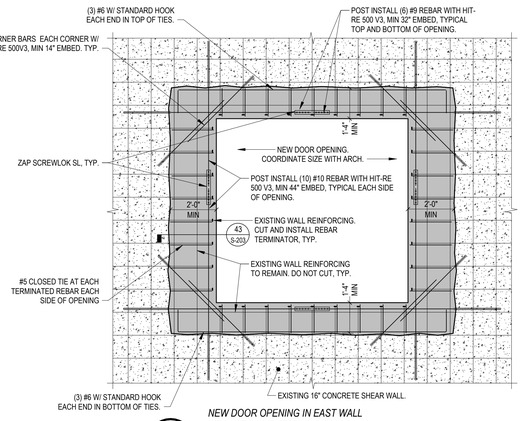
3/4" = 1'-0"



EXISTING COLUMN REINFORCING

4 S-201 PLAN DETAIL

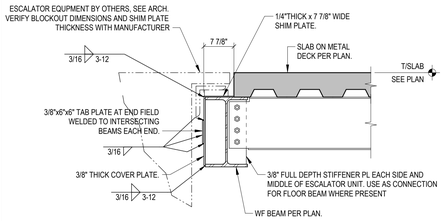
1 1/2" = 1'-0"



NEW DOOR OPENING IN EAST WALL

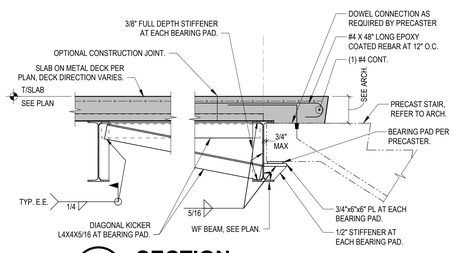
5 S-201 ELEVATION

3/8" = 1'-0"



6 S-201 SECTION

3/4" = 1'-0"



7 S-201 SECTION

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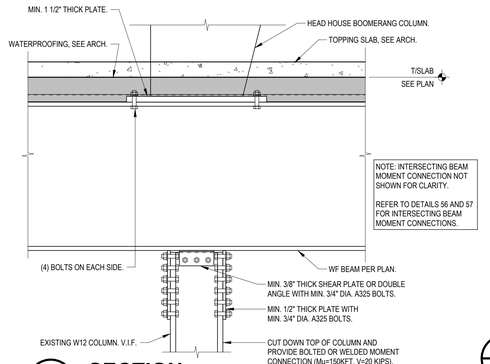

8 S-201 SECTION

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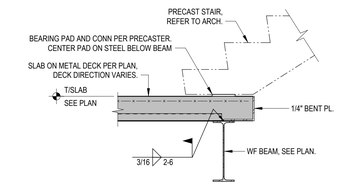

9 S-201 SECTION

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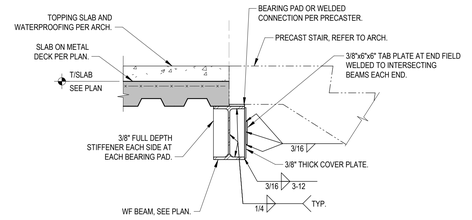

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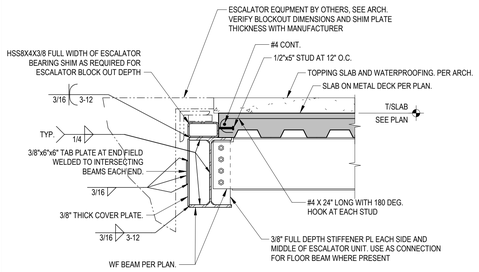

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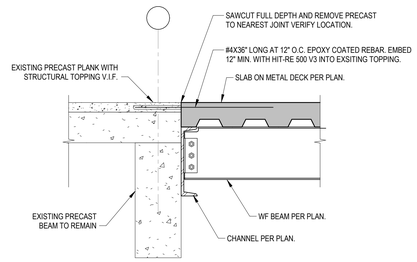

12 S-201 SECTION

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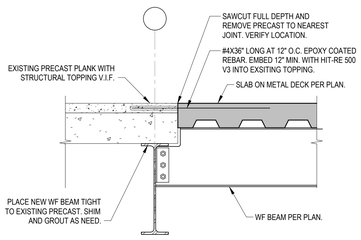
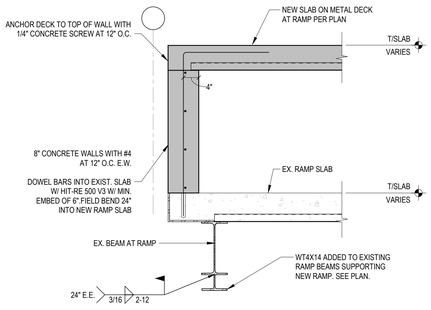


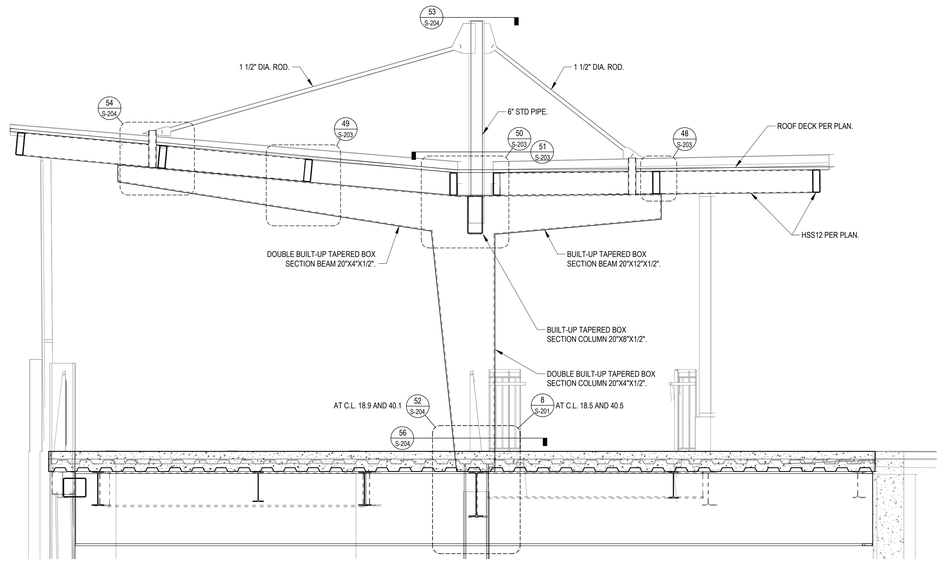
13 S-201 SECTION

3/4" = 1'-0"



14 S-201 SECTION

3/4" = 1'-0"



15 S-201 SECTION

3/8" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
2.2	4/28/26	ADDENDUM 01
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Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

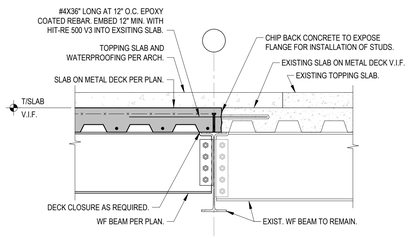
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

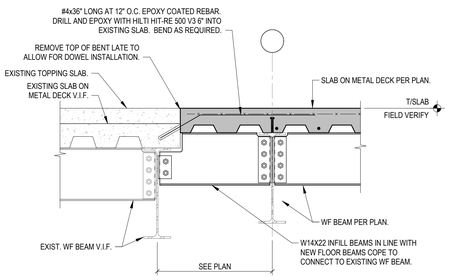
DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/17/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

FRAMING DETAILS

DRAWING NUMBER	ISSUE
S-201	3.1



16 S-202 **SECTION**
3/4" = 1'-0"



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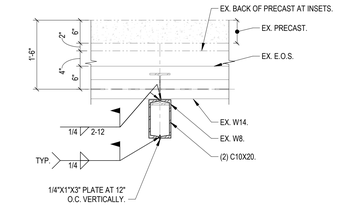
3/4" = 1'-0"



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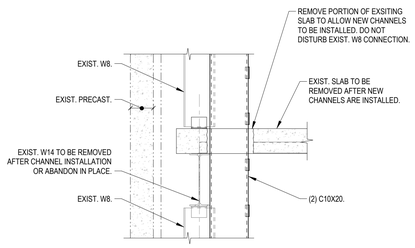
3/4" = 1'-0"



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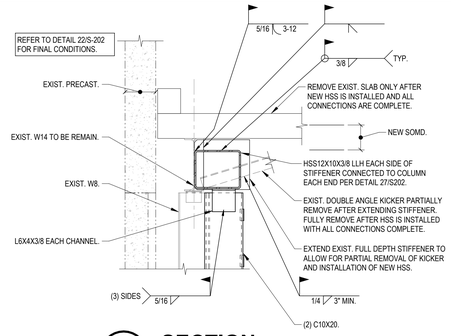
3/4" = 1'-0"



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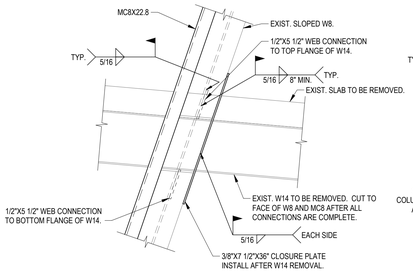
3/4" = 1'-0"



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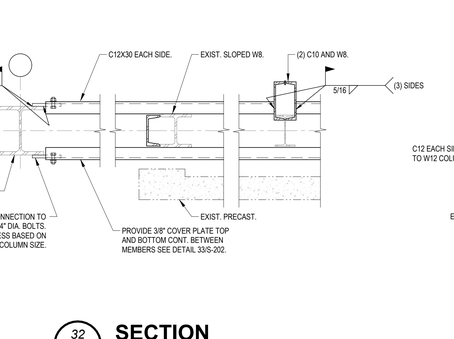
3/4" = 1'-0"



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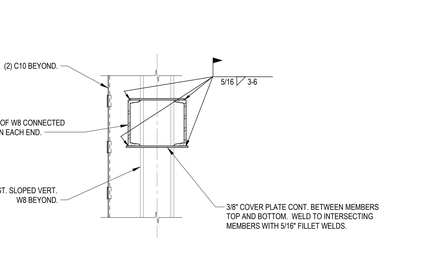
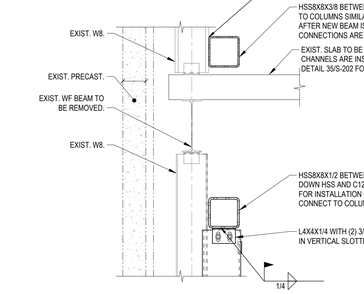


23 S-202 **SECTION**
3/4" = 1'-0"



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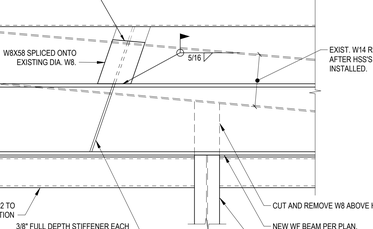

25 S-202 **SECTION**
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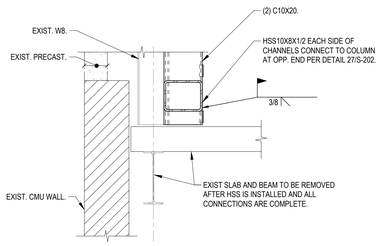
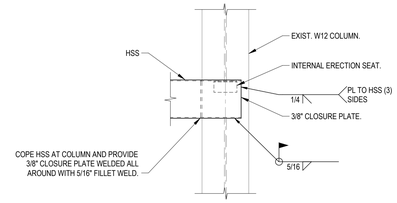


26 S-202 **SECTION**
3/4" = 1'-0"



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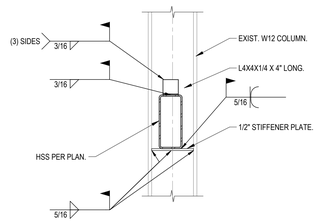

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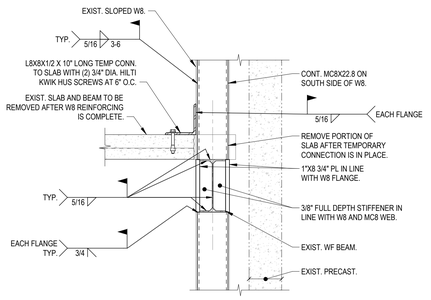
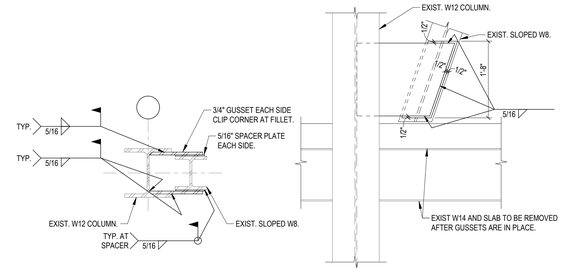


29 S-202 **SECTION**
3/4" = 1'-0"



30 S-202 **SECTION**
3/4" = 1'-0"

31 S-202 **SECTION**
3/4" = 1'-0"

32 S-202 **SECTION**
3/4" = 1'-0"

33 S-202 **SECTION**
3/4" = 1'-0"

34 S-202 **SECTION**
3/4" = 1'-0"

35 S-202 **SECTION**
3/4" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

Hamilton County OHIO

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J. Holman	04/17/26
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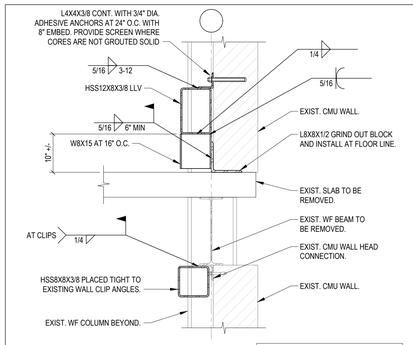
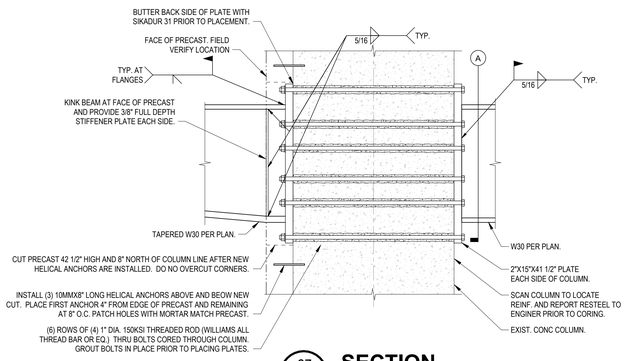
FRAMING DETAILS

DRAWING NUMBER	ISSUE
S-202	3.1

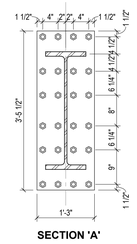


NOTE: CONNECT HSS MEMBERS TO COLUMNS EACH END SIMILAR TO 27/S-202

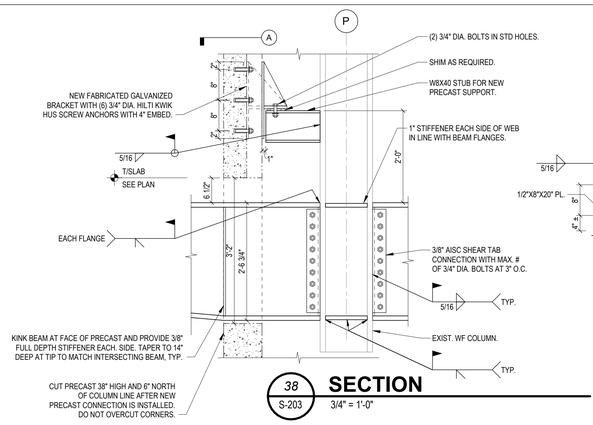
36 S-203 **SECTION**
3/4" = 1'-0"



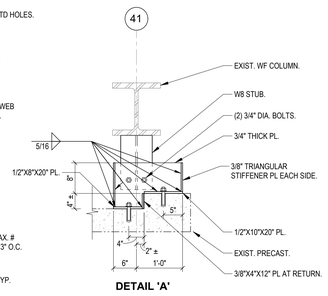
37 S-203 **SECTION**
3/4" = 1'-0"



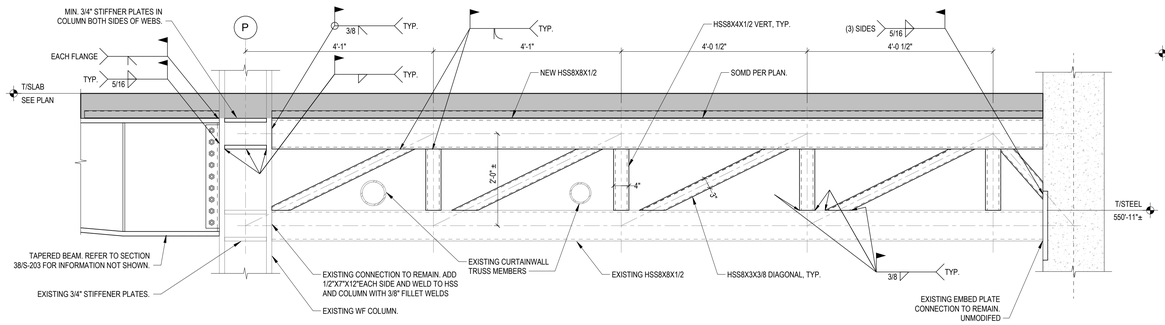
SECTION 'A'



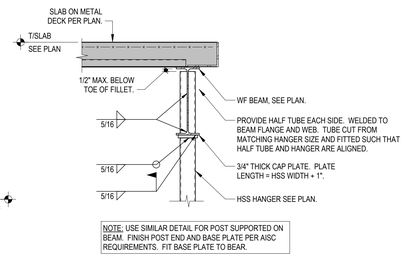
38 S-203 **SECTION**
3/4" = 1'-0"



DETAIL 'A'



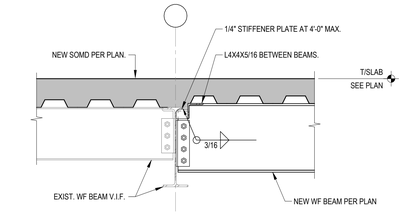
39 S-203 **SECTION**
3/4" = 1'-0"



NOTE: USE SIMILAR DETAIL FOR POST SUPPORTED ON BEAM. FINISH POST END AND BASE PLATE PER AISC REQUIREMENTS. FIT BASE PLATE TO BEAR.

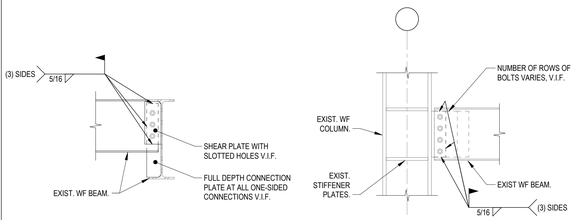
HANGER TO BEAM CONNECTION

40 S-203 **DETAIL**
3/4" = 1'-0"



METAL DECK SUPPORT AT BEAMS WITH DIFFERENT ELEVATIONS

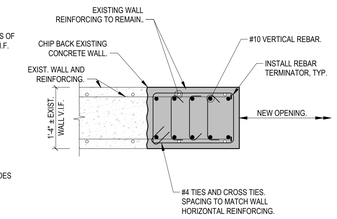
41 S-203 **DETAIL**
3/4" = 1'-0"



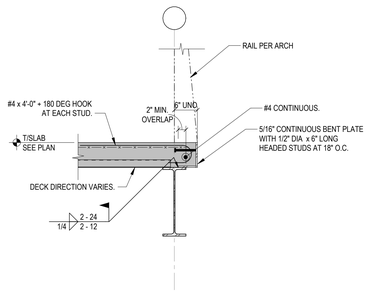
EXISTING BEAM TO BEAM CONNECTION REINFORCING

EXISTING BEAM TO COLUMN FLANGE CONNECTION REINFORCING

42 S-203 **DETAIL**
3/4" = 1'-0"

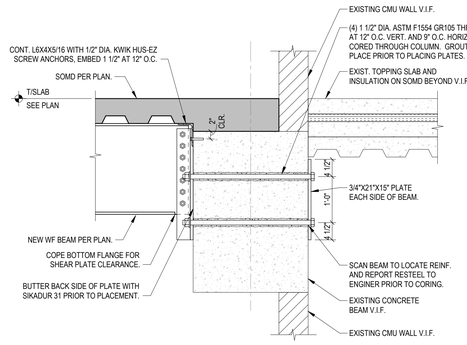


43 S-203 **DETAIL**
3/4" = 1'-0"



TYPICAL SLAB EDGE

44 S-203 **DETAIL**
3/4" = 1'-0"



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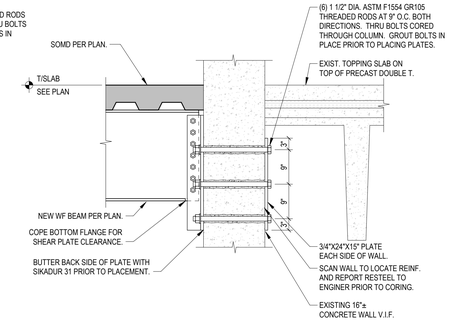
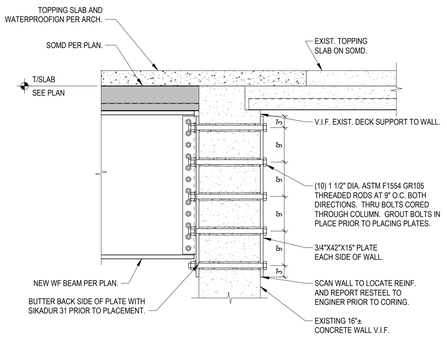


46 S-203 **SECTION**
3/4" = 1'-0"



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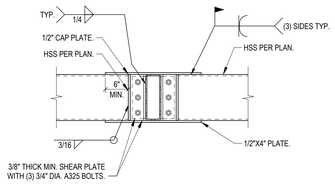

48 S-203 **SECTION**
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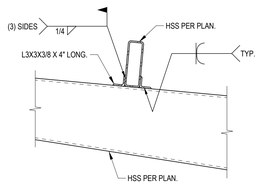

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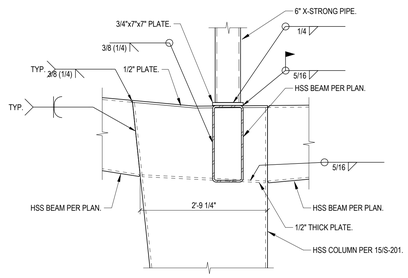
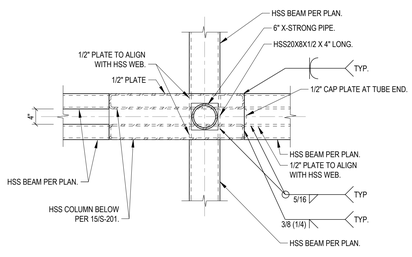


50 S-203 **SECTION**
3/4" = 1'-0"



51 S-203 **PLAN DETAIL**
3/4" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
2.2	4/28/26	ADDENDUM 01
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

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J. Holman	04/17/26
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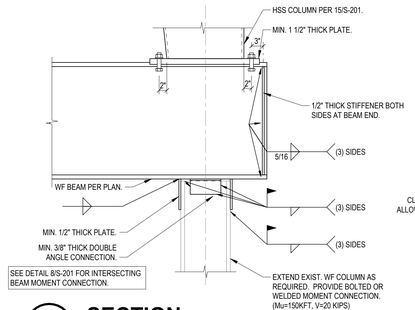
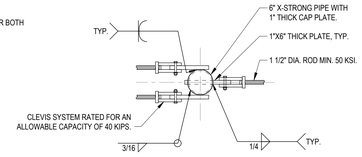
FRAMING DETAILS

DRAWING NUMBER **S-203** ISSUE **3.1**

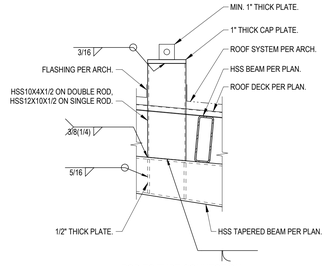


52 S-204 **SECTION** 3/4" = 1'-0"



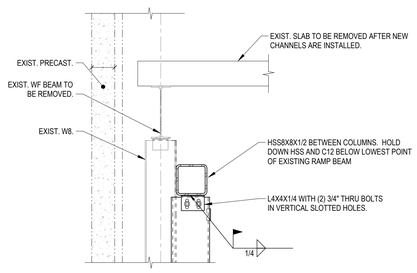
ROD TO PIPE CONNECTION

53 S-204 **PLAN DETAIL** 3/4" = 1'-0"

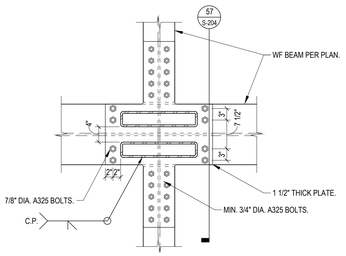


ROD TO TUBE CONNECTION

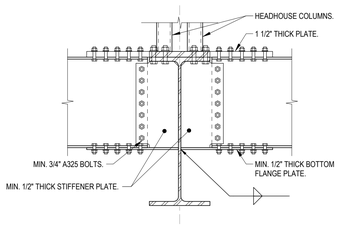
54 S-204 **SECTION** 3/4" = 1'-0"



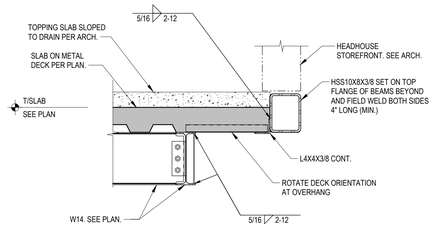
55 S-204 **SECTION** 3/4" = 1'-0"



56 S-204 **SECTION** 3/4" = 1'-0"



57 S-204 **SECTION** 3/4" = 1'-0"



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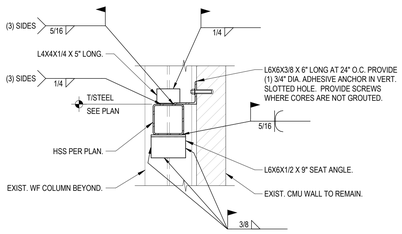
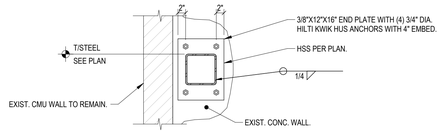
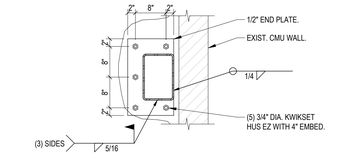


59 S-204 **SECTION** 3/4" = 1'-0"



60 S-204 **SECTION** 3/4" = 1'-0"



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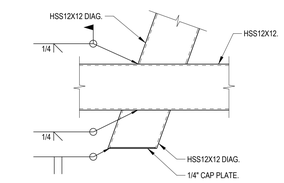
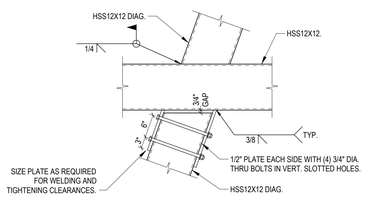
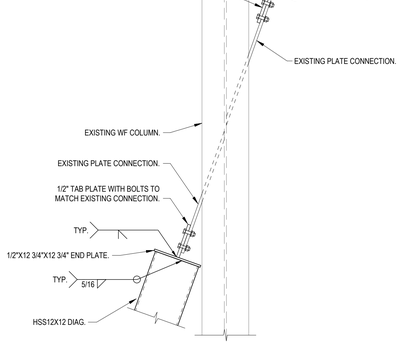


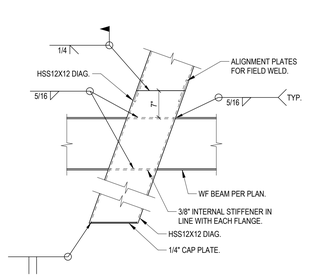
62 S-204 **SECTION** 3/4" = 1'-0"



63 S-204 **SECTION** 3/4" = 1'-0"



64 S-204 **SECTION** 3/4" = 1'-0"



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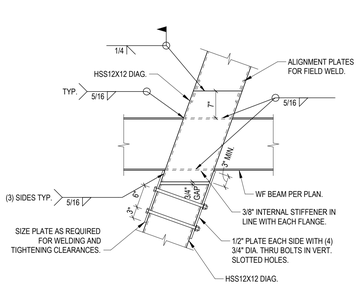
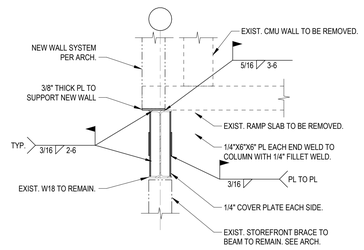
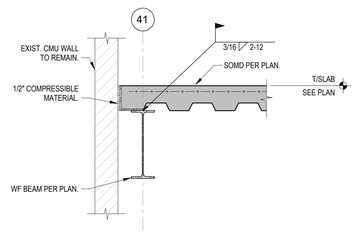


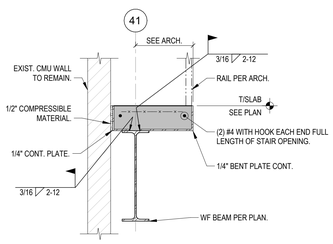
66 S-204 **SECTION** 3/4" = 1'-0"



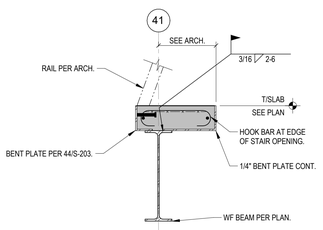
67 S-204 **SECTION** 3/4" = 1'-0"



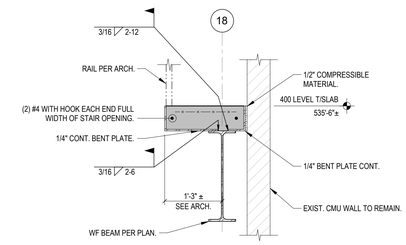
68 S-204 **SECTION** 3/4" = 1'-0"



69 S-204 **SECTION** 3/4" = 1'-0"



70 S-204 **SECTION** 3/4" = 1'-0"



71 S-204 **SECTION** 3/4" = 1'-0"

NO.	DATE	DESCRIPTION
2.1	4/17/26	STRUCTURAL AND DEMOLITION PACKAGE
2.2	4/28/26	ADDENDUM 01
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Tower

1 Paycor Stadium, Cincinnati, OH 45202, United States

KZF DESIGN
Designing Better Futures

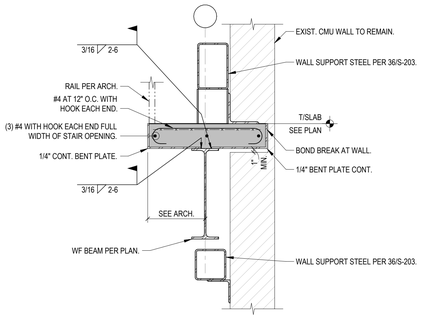
KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

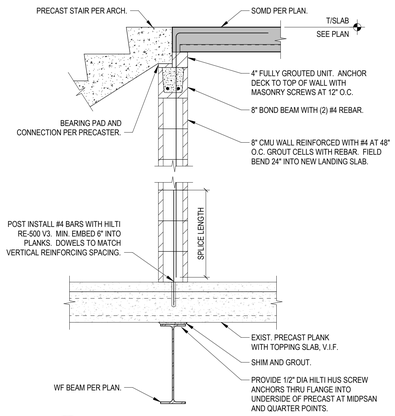
DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/17/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

FRAMING DETAILS

DRAWING NUMBER	ISSUE
S-204	3.1



72 S-205 **SECTION**
3/4" = 1'-0"



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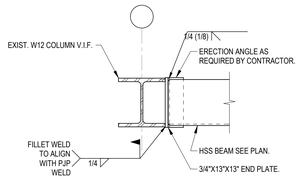
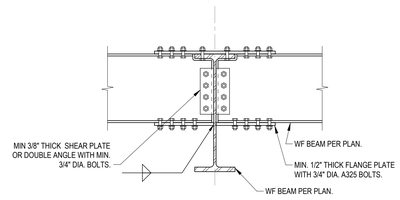
3/4" = 1'-0"



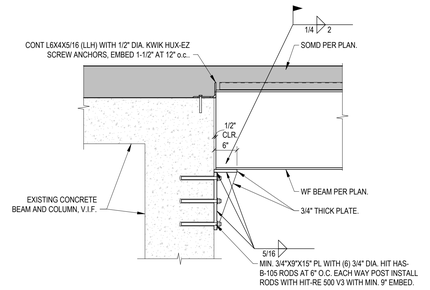
PERIMETER HSS GIRT TO COLUMN

74 S-205 **SECTION**
3/4" = 1'-0"



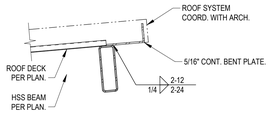
MOMENT CONNECTION AT ESCALATOR CANTILEVER

75 S-205 **SECTION**
3/4" = 1'-0"



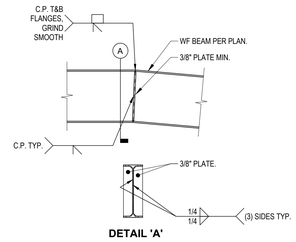
SEATED BEAM

76 S-205 **SECTION**
3/4" = 1'-0"



HEADHOUSE ROOF EDGE

77 S-205 **SECTION**
3/4" = 1'-0"



DETAIL 'A'

78 S-205 **SECTION**
3/4" = 1'-0"

NO.	DATE	DESCRIPTION
2.2	4/28/26	ADDENDUM 01
3.1	5/1/26	ARCHITECTURAL & MEP BID - FOR REFERENCE ONLY

Hamilton County OHIO

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DESIGNED	COMM. NO.
M. Hall	8445.01
DRAWN	DATE
J. Holman	04/24/26
CHECKED	PROJ. MGR.
J. Jones	L. Wang

FRAMING DETAILS

DRAWING NUMBER	ISSUE
S-205	3.1

PLUMBING SYMBOLS

- FS — FLOOR SINK
- CB — CATCH BASIN
- AD — AREA DRAIN
- FD — FLOOR DRAIN
- CO — CLEANOUT
- FCO — FLOOR CLEANOUT
- GCO — GROUND CLEANOUT
- HD — HUB DRAIN
- RD — ROOF DRAIN
- HOSE BIBB OR WALL HYDRANT
- HOSE BIBB RECESSED WALL BOX
- MH — MANHOLE
- WATER HAMMER ARRESTOR
- VTR — VENT THROUGH ROOF (VTR)
- FUNNEL DRAIN, AIR GAP

PLUMBING PIPE FITTING SYMBOLS

- ELBOW, 45°
- ELBOW, 90°
- ELBOW, SANITARY
- ELBOW, TURNED UP
- ELBOW, TURNED DOWN
- OFFSET AT 45°
- TEE
- TEE WITH CAP
- TEE, OUTLET UP
- TEE, OUTLET DOWN
- TEE, SANITARY
- UNION
- CAP
- BLIND FLANGE
- REDUCER
- FLANGED CONNECTION

PLUMBING PIPE VALVE SYMBOLS

- BALL VALVE
- BUTTERFLY VALVE
- GATE VALVE
- PLUG VALVE
- DOUBLE CHECK BACKFLOW PREVENTER
- REDUCED PRESSURE BACKFLOW PREVENTER
- PRESET FLOW CONTROL VALVE
- CALIBRATED BALANCING VALVE
- CHECK, SWING GATE
- PRESSURE REDUCING VALVE
- *SET AT ___ — RELIEF (R) OR SAFETY (S)

MEDICAL GAS SYMBOLS

- MEDICAL AIR OUTLET
- MEDICAL BALL VALVE - DOUBLE "O" RING STEM SEAL & TEFLON BALL
- MEDICAL VACUUM OUTLET
- MEDICAL OXYGEN OUTLET
- S — SLIDE

PLUMBING PIPING LEGEND

- NEW PIPE
- NEW PIPE BELOW GRADE
- NEW VENT PIPE
- NEW STORM PIPE
- NEW STORM BELOW GRADE
- NEW CITY WATER
- NEW CITY WATER BELOW GRADE OR HIDDEN
- NEW DOMESTIC HOT WATER
- NEW DOMESTIC HOT WATER BELOW GRADE OR HIDDEN
- NEW DOMESTIC HOT WATER RECIRCULATION
- NEW PNEUMATIC TUBING
- NEW CAPILLARY TUBE
- NEW NATURAL GAS
- NEW MEDICAL OXYGEN
- NEW MEDICAL AIR
- NEW MEDICAL VACUUM
- EXISTING SANITARY WASTE PIPE
- EXISTING LAB WASTE
- EXISTING SANITARY PIPE BELOW GRADE
- EXISTING SANITARY WASTE VENT PIPE
- EXISTING STORM PIPE
- EXISTING STORM BELOW GRADE
- EXISTING CITY WATER
- EXISTING DOMESTIC HOT WATER
- EXISTING DOMESTIC HOT WATER RECIRCULATION
- EXISTING MEDICAL OXYGEN
- EXISTING MEDICAL AIR
- EXISTING MEDICAL VACUUM
- PIPE TO BE REMOVED
- PIPE TO BE REMOVED

MISCELLANEOUS SYMBOLS

- (#) SPECIFIC DRAWING NOTE (NUMBERED)
- (EQUIP) NEW EQUIPMENT TAG
  - * EXISTING EQUIPMENT
  - + DESIGNATES EQUIPMENT FURNISHED BY OTHERS
  - ++ DESIGNATES EQUIPMENT FURNISHED & INSTALLED BY OTHERS
- (WR 1) RISER LABEL W=WASTE, E=EXHAUST, D=DOMESTIC WATER S=SUPPLY, R=RETURN; DESIGNATION NUMBER
- (2) REVISION NUMBER
- (12) VALVE NUMBER
- (123) ROOM NUMBER
- NEW TIE-IN POINT; X = TIE-IN POINT NUMBERS IF USED
- (12B) COLUMN NUMBER
- (AB) UPTO SYMBOL. PIPING UP TO FIXTURE ABOVE. REFER TO DIAGRAMS FOR SIZING

PLAN - (NORTH)
SCALE: 1/8" = 1'-0"
- DETAIL NUMBER OF DRAWING (1 / X100)
- DRAWING NUMBER IN SERIES WHERE DETAIL APPEARS
- SCALE OF PLAN
- BUILDING NORTH INDICATOR

DETAIL (NORTH)
SCALE: 1/4" = 1'-0"
- DETAIL NUMBER OF DRAWING (1 / X100)
- DRAWING NUMBER IN SERIES WHERE DETAIL APPEARS
- SCALE OF DETAIL
- DIRECTION FACING WHEN VIEWING

SECTION (1 / X100)
- DIRECTION OF SECTION CUT
- DETAIL NUMBER OF SECTION
- DRAWING NUMBER IN SERIES WHERE SECTION APPEARS

MATCH LINE (110 / 111)
- DRAWING NUMBER WHERE THIS SIDE OF PLAN APPEARS
- DRAWING NUMBER WHERE THIS SIDE OF PLAN APPEARS

PLUMBING ABBREVIATIONS

AC	ACCESS COVER
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHS	AUTOMATIC HAND SANITIZER
ANT	ACID NEUTRALIZATION TANK
AW	ACID WASTE
B	BUBBLER
BD	BIDET
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BLR	BOILER
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BP	BOOSTER PUMP
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BWV	BACKWATER VALVE
CA	COMPRESSED AIR
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CFM	CUBIC FOOT PER MINUTE
CO	CLEANOUT
CONC	CONCRETE
CL	CENTER OF PIPE
DCW	DOMESTIC COLD WATER
DC	DOUBLE CHECK VALVE
DF	DRINKING FOUNTAIN
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DI	DEIONIZED WATER
DIA	DIAMETER
DIT	DEIONIZED WATER TANK
DR	DRAIN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DW	DISHWASHER
DWS	DOMESTIC WATER SOFTENER
DWST	DOMESTIC WATER STORAGE TANK
DWV	DRAIN, WASTE & VENT
EW	EYE WASH
EWSS	EYE WASH / SHOWER STATION
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION TANK
F	FAHRENHEIT (DEGREES)
FA	FLAME ARRESTOR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FH	FLOOR HYDRANT
FOS	FUEL OIL SUPPLY
FOR	FUEL RETURN
FP	FIRE PROTECTION
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FLUSH TANK
FV	FLUSH VALVE
FW	FILTERED WATER
GAL	GALLON
GC	GENERAL CONTRACTOR
GCO	GROUND CLEANOUT
GW	GRAY WATER
HB	HOSE BIB
HD	HUB DRAIN
HP	HORSE POWER
HS	HOSE STATION
IE	INVERT ELEVATION
IN	INCHES
INT	INTERCEPTOR
IW	INDIRECT WASTE
KEC	KITCHEN CONTRACTOR
LAV	LAVATORY
MA	MEDICAL AIR
MAX	MAXIMUM
MG	MEDICAL GAS
MGA	MEDICAL GAS ALARM
MGO	MEDICAL GAS OUTLET
MGV	MEDICAL GAS ZONE VALVE
MH	MANHOLE
MHC	MANHOLE COVER
MIN	MINIMUM
MN	MEDICAL NITROGEN
MNO	MEDICAL NITROUS OXIDE
MO	MEDICAL OXYGEN
MSB	MOP SERVICE BASIN
MV	MEDICAL VACCUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OD	OVERFLOW DRAIN
NG	NATURAL GAS
NG-HP	NATURAL GAS HIGH PRESSURE
NG-IM	NATURAL GAS INTERMEDIATE PRESSURE
NG-LP	NATURAL GAS LOW PRESSURE
NG-MP	NATURAL GAS MEDIUM PRESSURE
NTS	NOT TO SCALE
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PLANTER DRAIN
PR	PROPANE
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
PWHS	PACKAGE WATER HEATER SYSTEM
RD	ROOF DRAIN
RCP	RECIRCULATION PUMP
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RV	RELIEF VALVE
SAN	SANITARY
SC	SHOWER CONTROLLER
SD	SHOWER DRAIN
SES	SEWAGE EJECTOR SYSTEM
SH	SHOWER HEAD / MODULE
SK	SINK
SS	SAFETY SHOWER
SSK	SERVICE SINK
SP	SUMP PUMP
ST	STORM
STM	STEAM
SV	SANITARY VENT
SW	SOFT WATER (DOMESTIC, NONPOTABLE)
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TW	TEMPERED WATER
TWR	TEMPERED WATER RETURN
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
UR	URINAL
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
WAGD	WASTE ANESTHETIC GAS DISPOSAL
WB	WALL BOX
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WM	WASHING MACHINE
WW	WELL WATER
YH	YARD HYDRANT

SOME SYMBOLS AND ABBREVIATIONS APPEARING ON THIS SHEET MAY NOT BE USED ON THE PROJECT.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE. FOR KEY PLAN AND DRAWING INDEX SEE ARCHITECTURAL DRAWINGS.

A BUILDING CODE REQUIREMENTS: 2024 INTERNATIONAL BUILDING CODE,2024 INTERNATIONAL PLUMBING CODE,2023 NEC,AND NFPA 70 WITH AMENDMENTS.

B COORDINATE THE INSTALLATION WITH EXISTING CONDITIONS, THE OWNER'S MAINTENANCE STAFF, AND THE WORK OF OTHER CONTRACTORS. THE CONTRACTOR SHALL INCUR ALL COSTS FOR RELOCATION OF EQUIPMENT CONFLICTING WITH EXISTING EQUIPMENT OR NEW WORK BY OTHER DISCIPLINES.

C EXAMINE ALL EXISTING CONDITIONS. VERIFY ALL DIMENSIONS. THE DRAWINGS ARE ILLUSTRATIVE AND MAY NOT REFLECT EXACT CONDITIONS OR DIMENSIONS.

D DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OR GEOMETRICAL RELATIONSHIP OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET, FITTING, AND COMPONENT. DO NOT USE THE PLANS FOR THE EXACT LOCATION OF EQUIPMENT, FIXTURES OR ARCHITECTURAL ITEMS SUCH AS WALLS, WINDOWS, SOFFITS, AND PILASTERS. SPECIFIC LOCATIONS, MOUNTING HEIGHTS AND OVERALL DIMENSIONS OF DEVICES AND FIXTURES ARE TO BE OBTAINED FROM THE ARCHITECTURAL DETAILS WHEN AVAILABLE.

E THE DESIGN AND DRAWINGS ARE BASED ON THE USE OF SPECIFIC REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS IMPACTED THE DESIGNS OF OTHER TRADES. IF ALTERNATE MANUFACTURERS, FUEL SOURCES, SIZES, OR MODELS ARE SUBMITTED OR BID, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO COORDINATE ALL IMPACTS PRIOR TO BID. NO EXTRAS WILL BE ALLOWED FOR CHANGES REQUIRED TO ACCOMMODATE ALTERNATE PRODUCTS THAT ARE BID OR INSTALLED AT THE CONTRACTOR'S OPTION. ENGINEERING FEES WHICH RESULT FROM RE-DESIGN FOR ALTERNATE PRODUCTS SHALL BE PAID BY THE CONTRACTORS AT NO ADDITIONAL COST TO THE OWNER.

F DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION PRIOR TO BID.

G WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MORE STRINGENT SHALL APPLY. NOTIFY THE ENGINEER OF ALL CONFLICTS FOR RESOLUTION OR INTERPRETATION.

H NOTIFY THE OWNER AND FIELD VERIFY CONDITIONS BEFORE TRENCHING, SAW CUTTING, CORING, OR MAKING OTHER STRUCTURAL MODIFICATIONS. INSURE THAT NO ADVERSE EFFECT TO THE BUILDING'S STRUCTURAL INTEGRITY WILL OCCUR.

I ANY EXISTING CONDITION DISCOVERED DURING THE DEMOLITION OR CONSTRUCTION PROCESS WHICH, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICES, SHOULD BE REMEDIED, SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT IMMEDIATELY, IN WRITING.

J COORDINATE THE LOCATION OF AIR TERMINAL DEVICES AND EQUIPMENT WITH THE CONTRACTORS FROM OTHER TRADES BEFORE ORDERING, FABRICATING, OR INSTALLING. CEILING-MOUNTED SPRINKLER, LIGHTING, AND ELECTRICAL EQUIPMENT MAY TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL EQUIPMENT. SEE REFLECTED CEILING PLANS FOR CEILING GRID AND LIGHTING LAYOUT FOR COORDINATION OF FINAL AIR TERMINAL LOCATIONS.

K PROVIDE PROTECTION TO THE EXISTING ROOF FROM DAMAGE OF ANY KIND DURING ALL PHASES OF THE PROJECT.

L OBTAIN WRITTEN APPROVAL FROM THE ENGINEER AND OWNER BEFORE RE-USING EXISTING EQUIPMENT, COMPONENTS, OR OPENINGS.

M EXCEPT WHERE MODIFIED BY SPECIFIC NOTATION, THE INDICATION OR DESCRIPTION OF ANY ITEM IN THE DRAWINGS, SPECIFICATIONS, OR BOTH CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM, REGARDLESS OF WHETHER OR NOT THIS INSTRUCTION IS EXPLICITLY STATED AS PART OF THE INDICATION OR DESCRIPTION.

N COORDINATE ALL SERVICE OUTAGES WITH THE OWNER. MAINTAIN SERVICE TO OTHER PARTS OF THE BUILDING DURING DEMOLITION.

O COORDINATE ALL DEMOLITION WORK WITH THE NEW WORK OF ALL OTHER TRADES.

P PATCH ALL HOLES IN FLOORS, WALLS, AND CEILINGS RESULTING FROM DEMOLITION WHICH WILL NOT BE USED FOR THE NEW WORK. USE MATERIALS TO MATCH THE EXISTING FINISH AND FIRE RATING.

Q TURN OVER TO THE OWNER ALL REMOVED EQUIPMENT THAT THE OWNER WISHES TO KEEP. DISPOSE OF ALL REMAINING EQUIPMENT.

R THE CONTRACTOR SHALL HAVE A FORMAL WORK SAFETY PROGRAM WHICH MEETS WEEKLY AND INCLUDES ALL EMPLOYEES AND SUB-CONTRACTORS ON SITE.

S THE CONTRACTOR SHALL CONDUCT A MEETING AT THE BEGINNING OF EACH SHIFT TO FAMILIARIZE THE WORKERS WITH THE REQUIREMENTS OF THE DAY'S WORK.

T THE CONTRACTOR SHALL HAVE A FORMAL WRITTEN LOCK-OUT/TAG-OUT PROCEDURE TO INSURE THE SAFETY OF PERSONS WORKING ON SITE. THE LOCK-OUT/TAG-OUT PROCEDURE SHALL MEET THE REQUIREMENTS OF OSHA.

U ALL SANITARY AND STORM DRAIN LINE SHALL BE GRAVITY SLOPED MIN 1/8 INCH PER FOOT MAX 1/2 INCH PER FOOT UNLESS OTHERWISE NOTED.

V ALL STORM LINES ABOVE CEILINGS SHALL BE INSULATED UNTIL THE FIRST VERTICAL RISER TO PREVENT CONDENSATION.

W ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS UNLESS OTHERWISE NOTED.

X ALL BACKFLOW PREVENTERS SHALL HAVE HARD PIPE DRAIN LINE FROM THE UNIT TO DRAIN.

Y PROVIDE ACCESS OR ACCESS PANELS TO ALL SHUT-OFF VALVES, TRAP PRIMERS AND WATER HAMMER ARRESTORS.

Z FIELD VERIFY ALL INVERT ELEVATIONS PRIOR TO EXCAVATION.

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers
CINCINNATI, OH

DAVIES engineering group
DaviesEngineeringGroup.com • 513-450-3575
Cincinnati, OH • Fort Worth, TX • Steubenville, PA • Lawrenceburg, IN

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

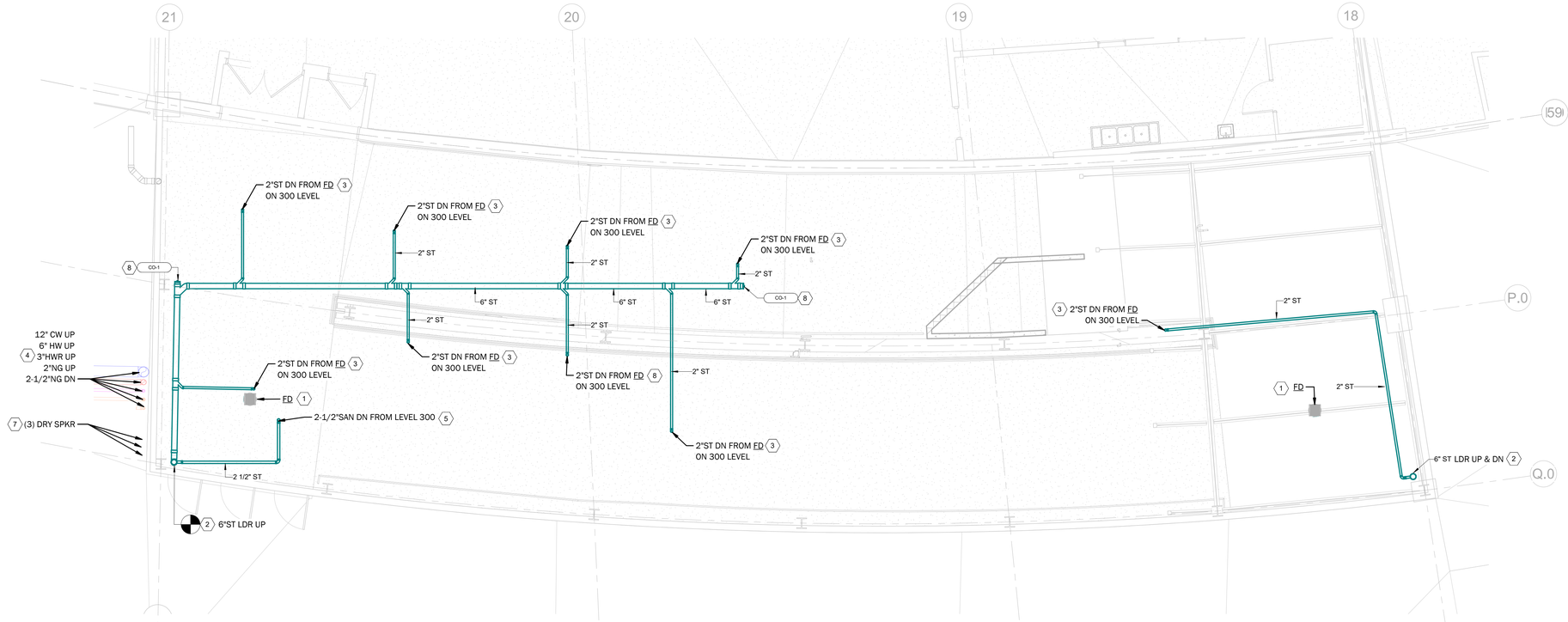
main 513.621.6211
kzf.com

STATE OF OHIO — REGISTERED — 75602 — PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/04/20
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING LEGEND & GENERAL NOTES

DRAWING NUMBER **P001** ISSUE 3.1

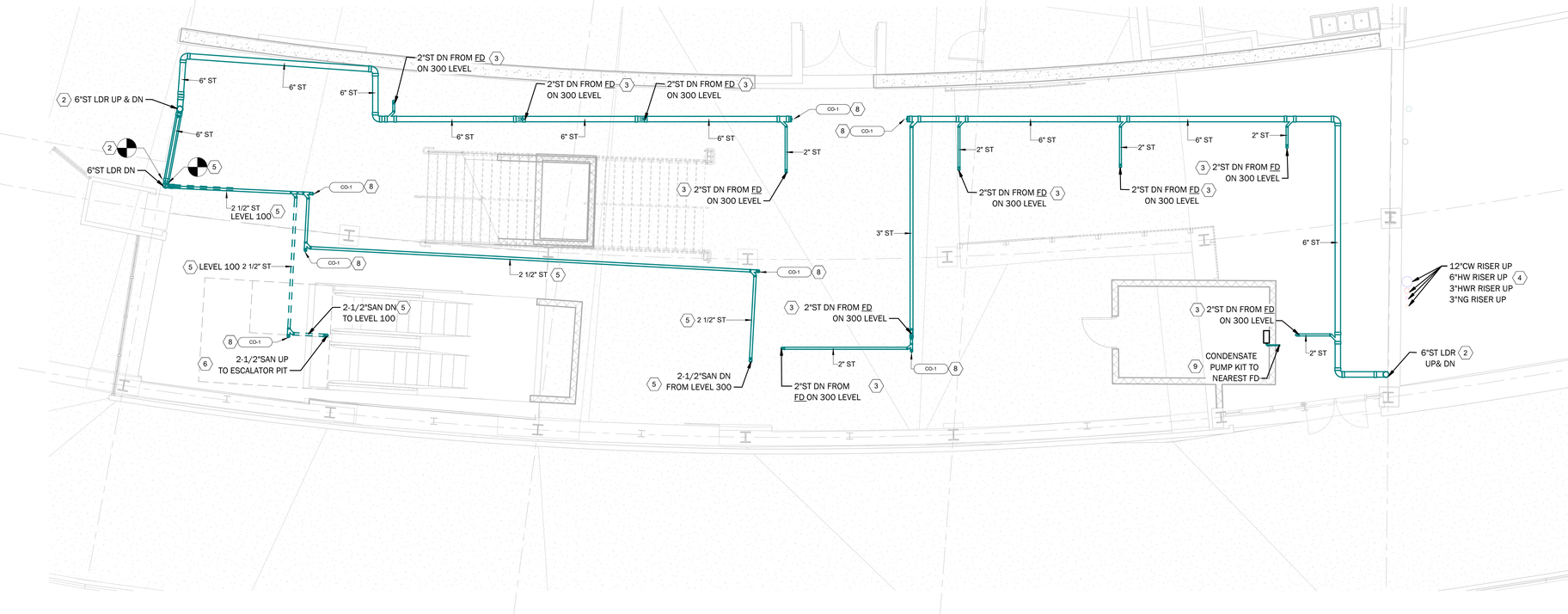


NORTH

PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

1 P200



NORTH

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

2 P200

DRAWING NOTES

DRAWING P200

1 EXISTING FLOOR DRAIN ON LEVEL 200 TO REMAIN.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 2" STORM DOWN FROM FLOOR DRAIN LOCATED ON 300 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

5 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM AT THIS APPROXIMATE LOCATION. PLUMBING CONTRACTOR TO PROVIDE COREDRILL AND FIRE STOP AND GC BRING UP TO NEW FIT AND FINISHES.

6 PLUMBING CONTRACTOR TO PROVIDE DRAIN FOR NEW ESCALATOR PIT AND GRAVITY DRAIN INTO EXISTING SANITARY PIPING AT THIS APPROXIMATE LOCATION.

7 EXISTING DRY SPRINKLER RISER TO REMAIN.

8 PLUMBING CONTRACTOR TO PROVIDE NEW CLEAN AT THIS APPROXIMATE LOCATION.

9 MECHANICAL CONTRACTOR TO PROVIDE CONDENSATE PUMP KIT AND PLUMBING CONTRACTOR TO EXTEND NEW 3/4"CONDENSATE PIPING TO NEAREST FLOOR DRAIN.

EQUIPMENT NOTES

SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET AND DRAWING G-000.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS, SEE DRAWING P-001.

C THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION IN THIS PROJECT SPACE IS 480'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

D ALL NEW SLOPED PIPING TO BE ROUTED AS HIGH WITHIN THE SPACE AS POSSIBLE. DROP VERTICALLY INTO EXISTING STORMWATER TIE-IN LOCATIONS AS REQUIRED. COORDINATE FINAL FIELD ROUTING WITH EXISTING AND NEW STRUCTURE, LIGHTING, AND ARCHITECTURAL ELEMENTS.

E ALL HORIZONTAL STORM PIPING THRU FIRST ELBOW TO VERTICAL DROP TO BE INSULATED

NO	DATE	DESCRIPTION
3.1	05/01/26	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group

DaviesEngineeringGroup.com ~ 513-703-2373

Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Leesburg, VA

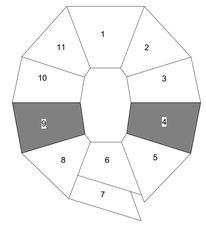
KZF DESIGN

Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO — REGISTERED PROFESSIONAL ENGINEER — 75602



N

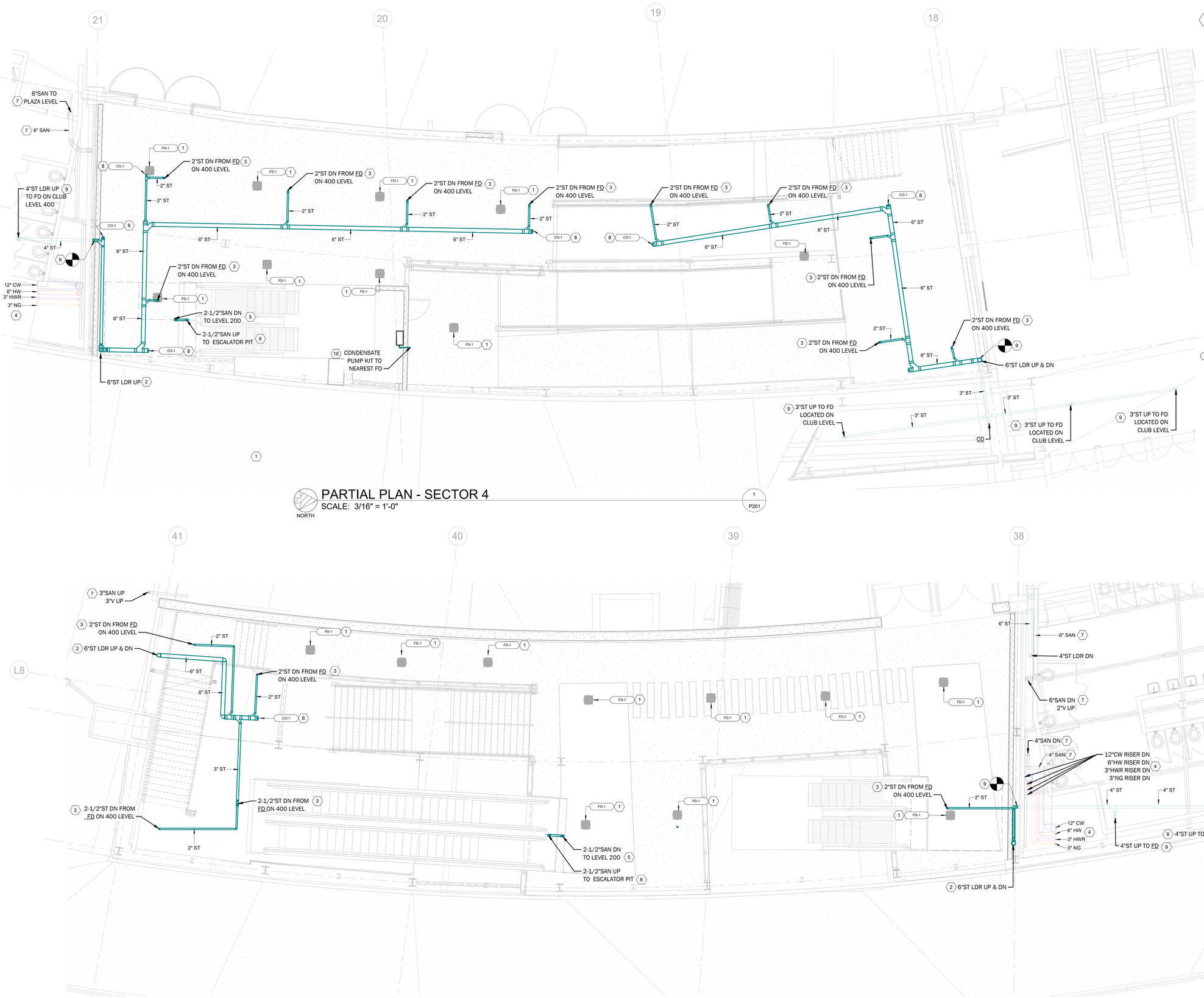
0 4' 8' 12'

SCALE: 3/16"=1'-0"

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLANS LEVEL 200 NEW WORK

DRAWING NUMBER	ISSUE
P200	3.1



PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 P201

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 P201

DRAWING NOTES

DRAWING P201

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 2" STORM DOWN FROM FLOOR DRAIN LOCATED ON 400 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

5 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM AT THIS APPROXIMATE LOCATION. PLUMBING CONTRACTOR TO PROVIDE COREDRILL AND FIRE STOP AND GC BRING UP TO NEW FIT AND FINISHES.

6 PLUMBING CONTRACTOR TO PROVIDE DRAIN FOR NEW ESCALATOR PIT AND GRAVITY DRAIN INTO EXISTING SANITARY PIPING AT THIS APPROXIMATE LOCATION.

7 PROVIDE PROTECTION OF EXISTING SANITARY AND VENT PIPING AT THIS APPROXIMATE LOCATION WITH REMOVAL OF STRUCTURE WALL AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

8 PLUMBING CONTRACTOR TO PROVIDE NEW CLEAN AT THIS APPROXIMATE LOCATION.

9 TIE IN EXISTING FLOOR DRAIN AT THIS APPROXIMATE LOCATION ON THE 400 LEVEL BACK TO MAIN RISER LOCATED ON THE 300 LEVEL. PLUMBING CONTRACTOR TO PROVIDE COREDRILL AND FIRE STOP AND GC BRING UP TO NEW FIT AND FINISHES.

10 MECHANICAL CONTRACTOR TO PROVIDE CONDENSATE PUMP KIT AND PLUMBING CONTRACTOR TO EXTEND NEW 3/4"CONDENSATE PIPING TO NEAREST FLOOR DRAIN.

EQUIPMENT NOTES

SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET AND DRAWING G-000.

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NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group
DaviesEngineeringGroup.com ~ 513-500-3375
Cincinnati, OH · Fort Worth, TX · Charlottetown, PA · Lawrenceburg, IN

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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

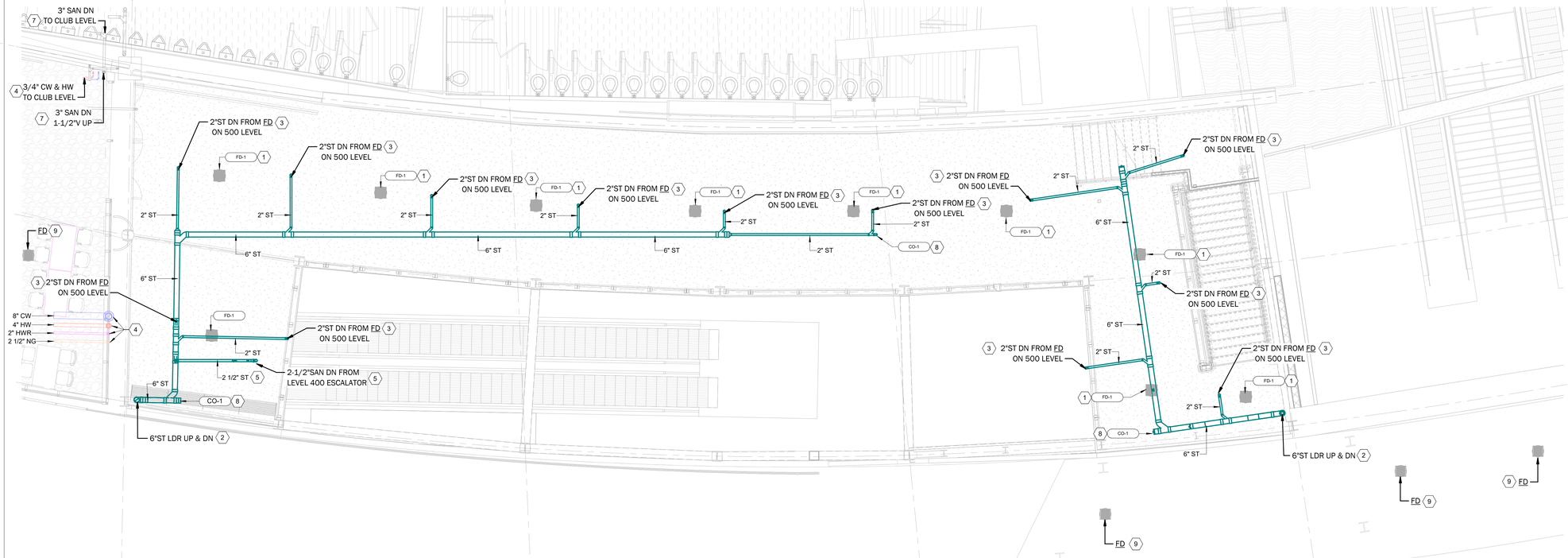
STATE OF OHIO · RYAN JOSEPH · 75602 · REGISTERED · PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLANS LEVEL 300 NEW WORK

DRAWING NUMBER ISSUE

P201 3.1

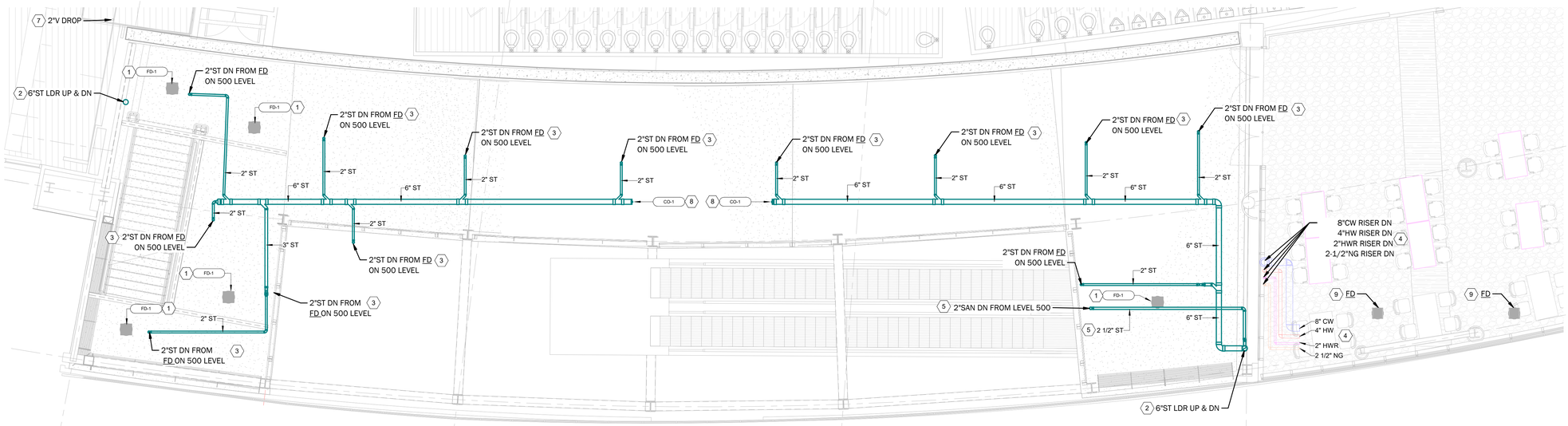


PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 P202



PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 P202

DRAWING NOTES

DRAWING P202

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 2" STORM DOWN FROM FLOOR DRAIN LOCATED ON 500 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

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9 TIE IN EXISTING FLOOR DRAIN AT THIS APPROXIMATE LOCATION ON THE 400 LEVEL BACK TO MAIN RISER LOCATED ON THE 300 LEVEL. . PLUMBING CONTRACTOR TO PROVIDE COREDRILL AND FIRE STOP AND GC BRING UP TO NEW FIT AND FINISHES.

EQUIPMENT NOTES

SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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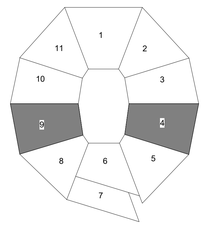


0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group

KZF DESIGN Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

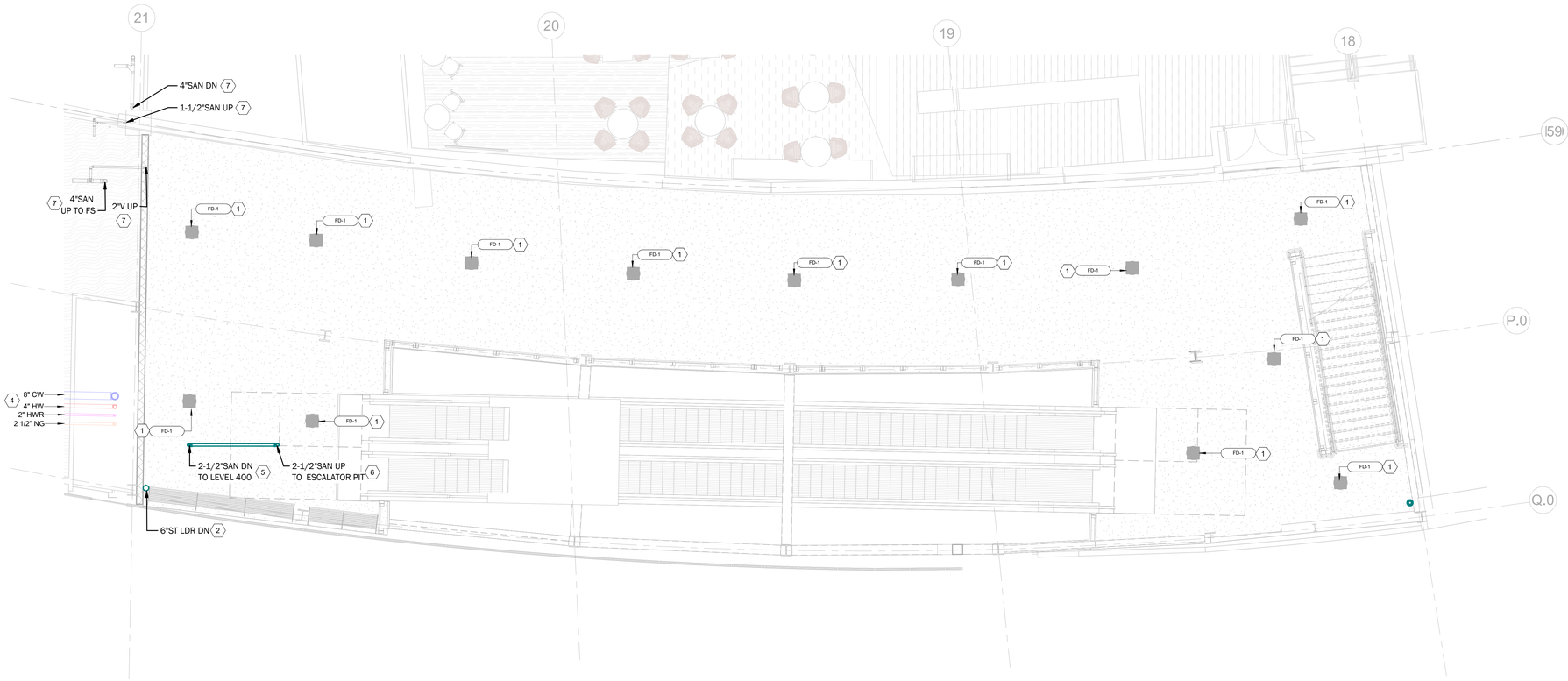
main 513.621.6211
kzf.com

STATE OF OHIO RAJ PATEL 75602 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLANS LEVEL 400 NEW WORK

DRAWING NUMBER	ISSUE
P202	3.1

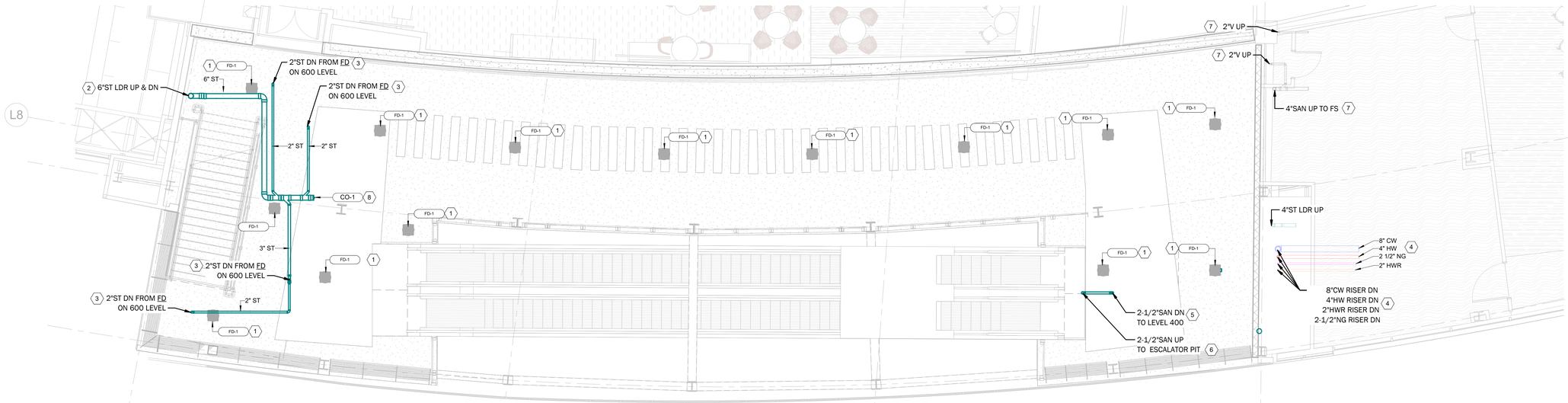


PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 P203



PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 P203

DRAWING NOTES

DRAWING P203

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 2" STORM DOWN FROM FLOOR DRAINLOCATED ON 600 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

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7 PROVIDE PROTECTION OF EXISTING SANITARY AND VENT PIPING AT THIS APPROXIMATE LOCATION WITH REMOVAL OF STRUCTURE WALL AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

8 PLUMBING CONTRACTOR TO PROVIDE NEW CLEAN AT THIS APPROXIMATE LOCATION.

EQUIPMENT NOTES

SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET AND DRAWING G-000.

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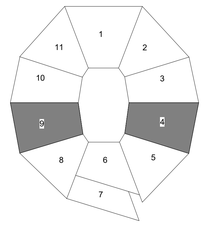
E ALL HORIZONTAL STORM PIPING THRU FIRST ELBOW TO VERTICAL DROP TO BE INSULATED



N

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group

DaviesEngineeringGroup.com - 513-503-2375

Cincinnati, OH - Fort Wayne, IN - Charlestown, IN - Lawrenceburg, IN

KZF DESIGN

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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

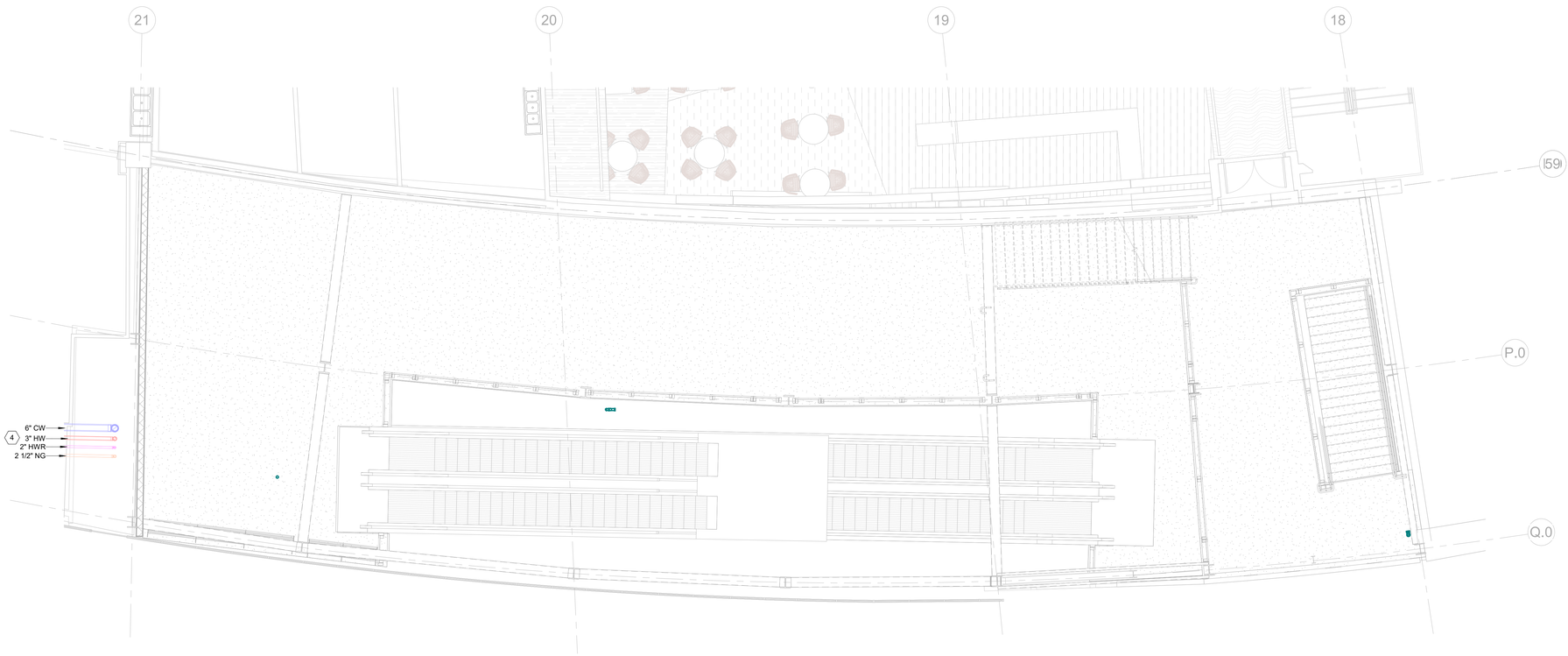
STATE OF OHIO
TYLER T. CROSSMAN
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

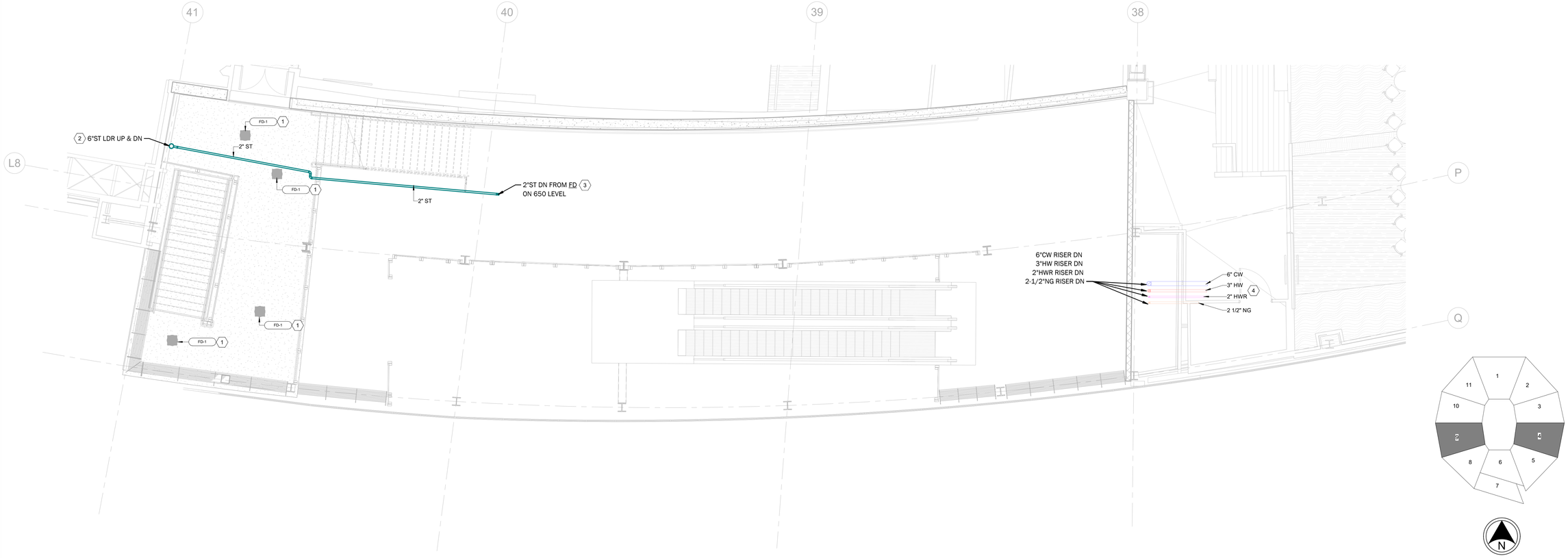
PLUMBING PARTIAL PLANS LEVEL 500 NEW WORK

DRAWING NUMBER ISSUE

P203 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 P204



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 P204

DRAWING NOTES
DRAWING P204

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 2" STORM DOWN FROM FLOOR DRAINLOCATED ON 650 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

EQUIPMENT NOTES
SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

GENERAL NOTES
APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET AND DRAWING G-000.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS, SEE DRAWING P-001.

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N

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SCALE: 3/16"=1'-0"

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers
CINCINNATI, OH

DAVIES engineering group
DaviesEngineeringGroup.com ~ 513-703-2373
Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Leavenworth, KS

KZF DESIGN
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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

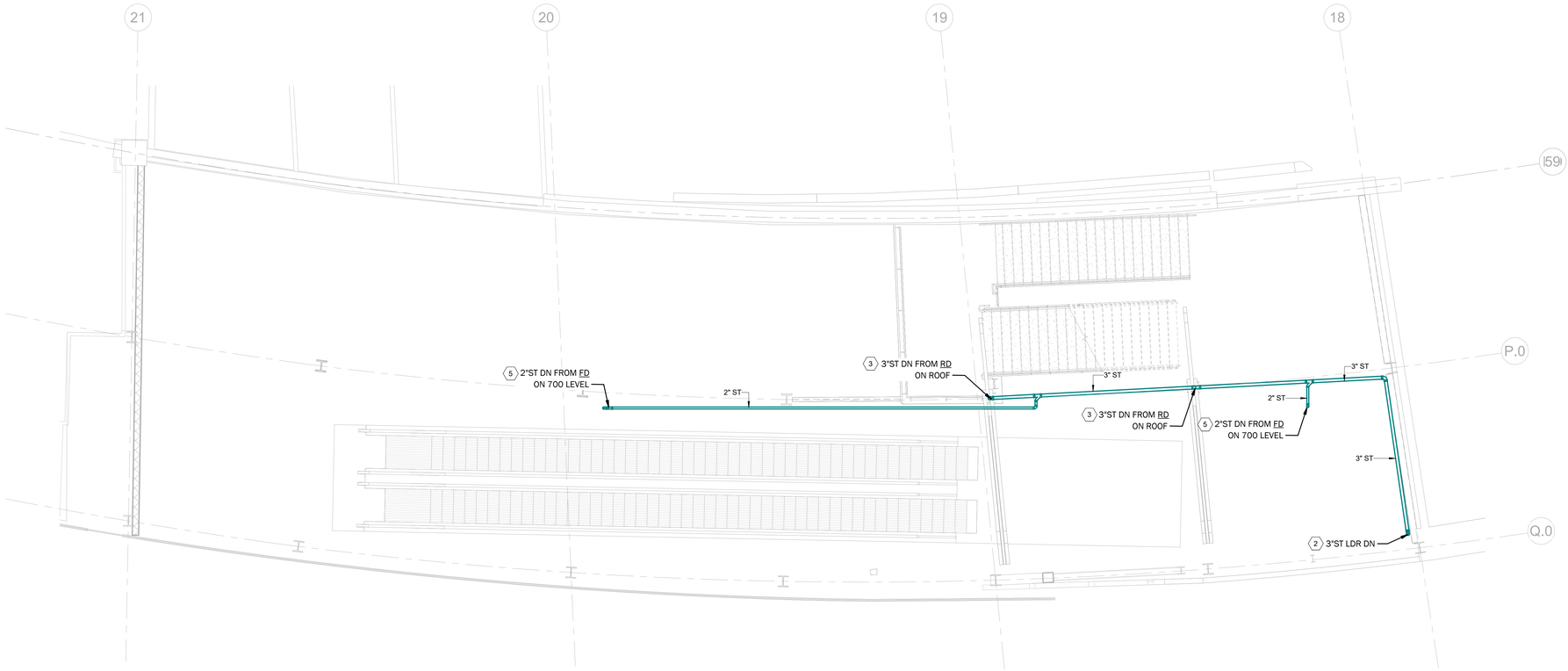
main 513.621.6211
kzf.com

STATE OF OHIO
RONALD A. JACKSON
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLANS LEVEL 600 NEW WORK

DRAWING NUMBER	ISSUE
P204	3.1

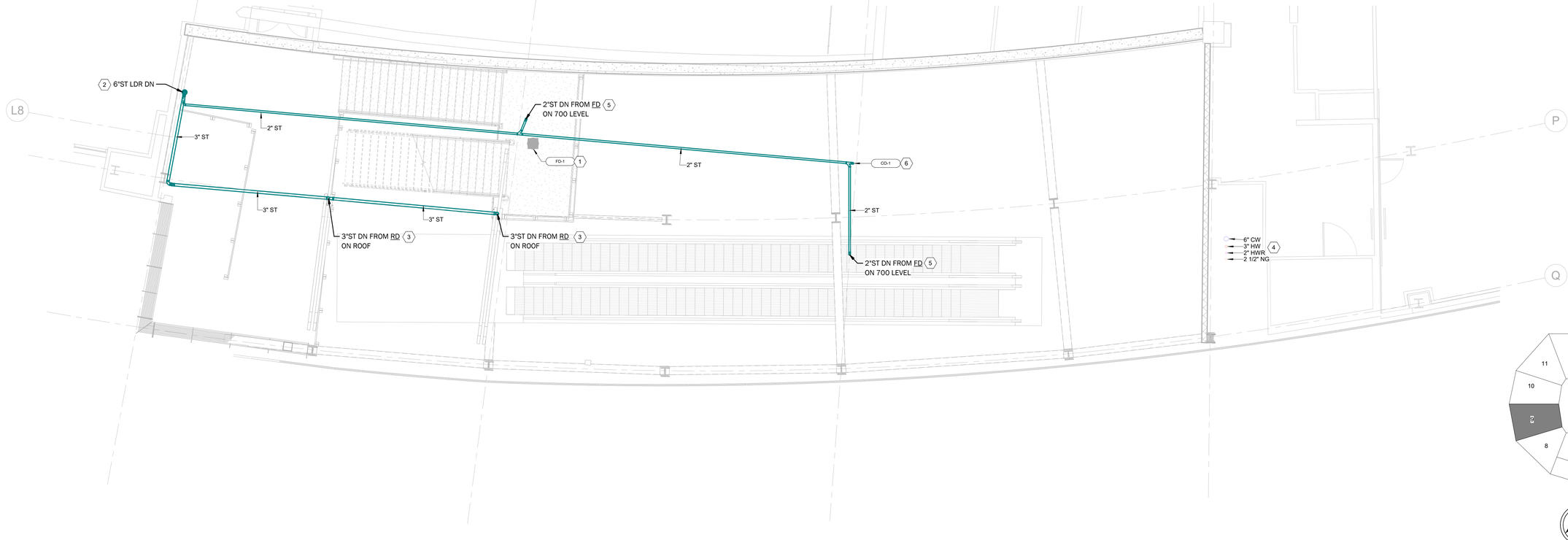


NORTH

PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

1 P205



NORTH

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

2 P205

DRAWING NOTES

DRAWING P205

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO TIE INTO EXISTING 6" STORM RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 3" STORM DOWN FROM HEN HOUSE ROOF LOCATED ON 700 LEVEL.

4 PROVIDE PROTECTION OF EXISTING COLD WATER, HOT WATER, HOT WATER RETURN AND NATURAL GAS PIPING RISER WITH REMOVAL OF STRUCTURE WALL LOCATED AT THIS APPROXIMATE LOCATION DURING THE DEMOLITION PHASE OF THIS PROJECT. ENSURE ALL SYSTEMS TIED TO THESE ARE OPERATIONAL AND REPORT FINDINGS BACK TO ENGINEER AND OWNER IF ANY ISSUE OCCUR.

5 2" STORM DOWN FROM 700 LEVEL FLOOR DRAIN.

6 PLUMBING CONTRACTOR TO PROVIDE NEW CLEAN AT THIS APPROXIMATE LOCATION.

EQUIPMENT NOTES

SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

CO-1 NEW CLEANOUT

FD-1 NEW FLOOR DRAIN

RD-1 NEW ROOF DRAIN

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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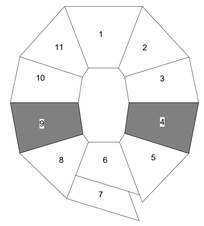

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

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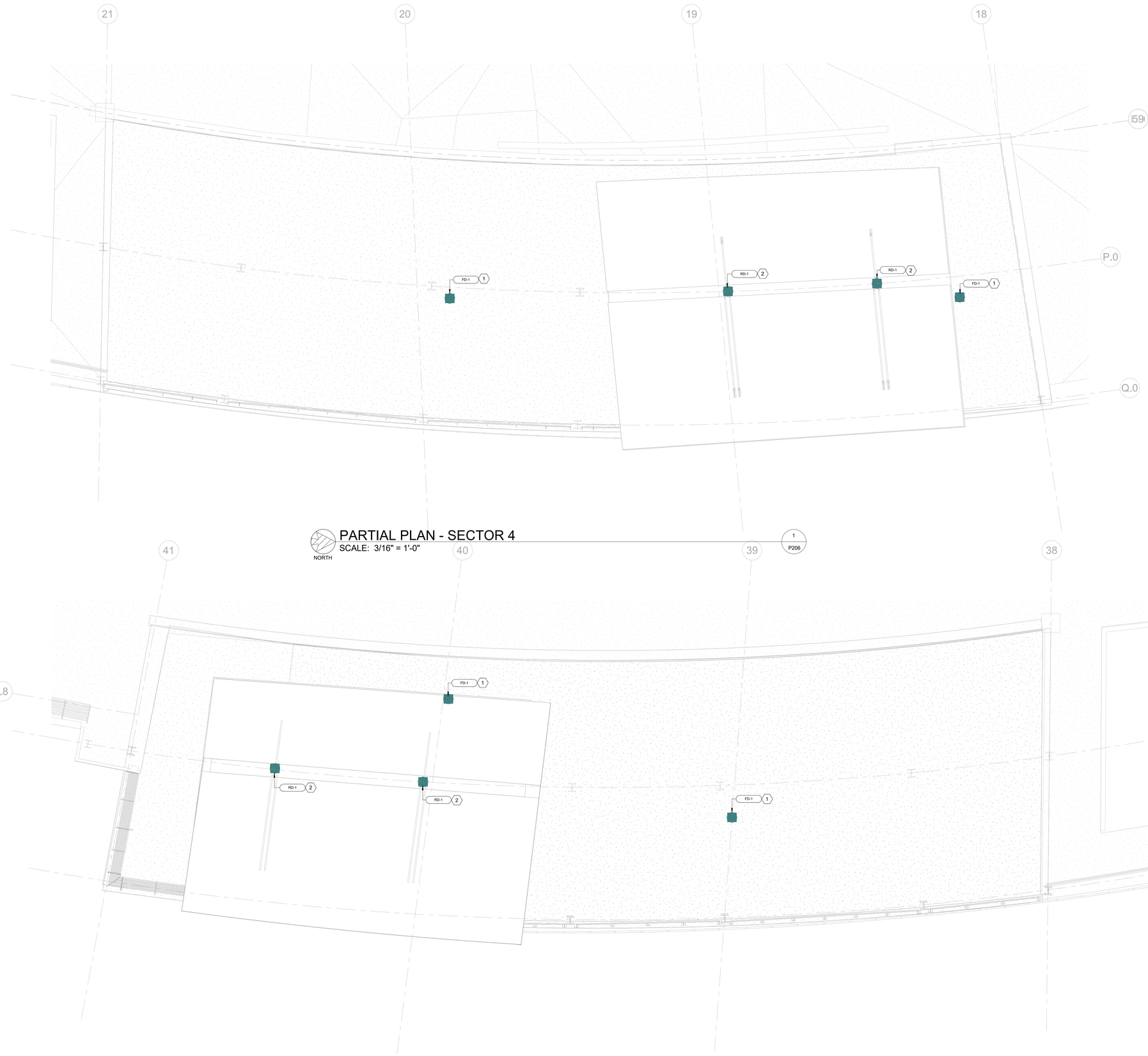
STATE OF OHIO REGISTERED PROFESSIONAL ENGINEER 75602

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLAN LEVEL 650 NEW WORK

DRAWING NUMBER	ISSUE
P205	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 P206

PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 P206

DRAWING NOTES
DRAWING P206

1 PLUMBING CONTRACTOR TO PROVIDE NEW FLOOR DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE.

2 PLUMBING CONTRACTOR TO PROVIDE NEW ROOF DRAIN AS SCHEDULED; PROVIDE NEW STORM PIPING TO EACH FIXTURE. PLUMBING CONTRACTOR TO PROVIDE COREDRILL AND FIRE STOP AND GC BRING UP TO NEW FIT AND FINISHES.

EQUIPMENT NOTES
SEE EQUIPMENT SCHEDULES ON DRAWING P700 FOR MORE INFORMATION.

FD-1 NEW FLOOR DRAIN

RD-1 NEW ROOF DRAIN

GENERAL NOTES
APPLIES TO ALL DRAWINGS OF THIS TRADE

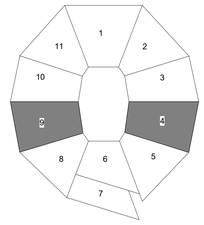
A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET AND DRAWING G-000.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS, SEE DRAWING P-001.

C THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION IN THIS PROJECT SPACE IS 480'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

D ALL NEW SLOPED PIPING TO BE ROUTED AS HIGH WITHIN THE SPACE AS POSSIBLE. DROP VERTICALLY INTO EXISTING STORMWATER TIE-IN LOCATIONS AS REQUIRED. COORDINATE FINAL FIELD ROUTING WITH EXISTING AND NEW STRUCTURE, LIGHTING, AND ARCHITECTURAL ELEMENTS.

E ALL HORIZONTAL STORM PIPING THRU FIRST ELBOW TO VERTICAL DROP TO BE INSULATED



0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/26	ARCHITECTURAL & MEP BID

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DAVIES engineering group
DaviesEngineeringGroup.com ~ 513-550-2375
Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Leavenworth, KS

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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING PARTIAL PLANS LEVEL 700 NEW WORK

DRAWING NUMBER	ISSUE
P206	3.1

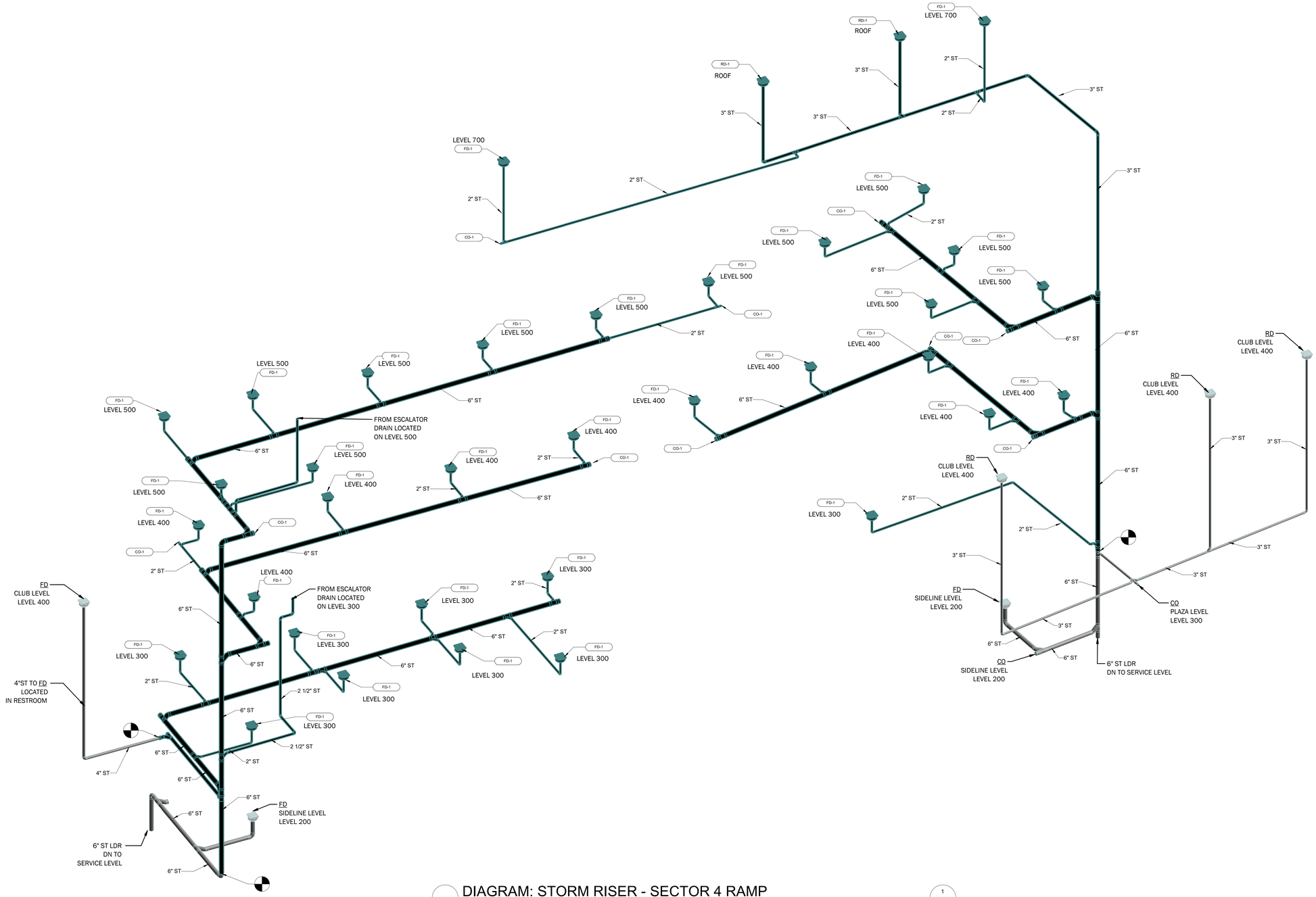

DIAGRAM: STORM RISER - SECTOR 4 RAMP
SCALE:

1
P600

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO
ROBERT A. JOHNSON
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/26/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING RISER DIAGRAM - SOUTHEAST RAMP NEW WORK

DRAWING NUMBER	ISSUE
P600	3.1

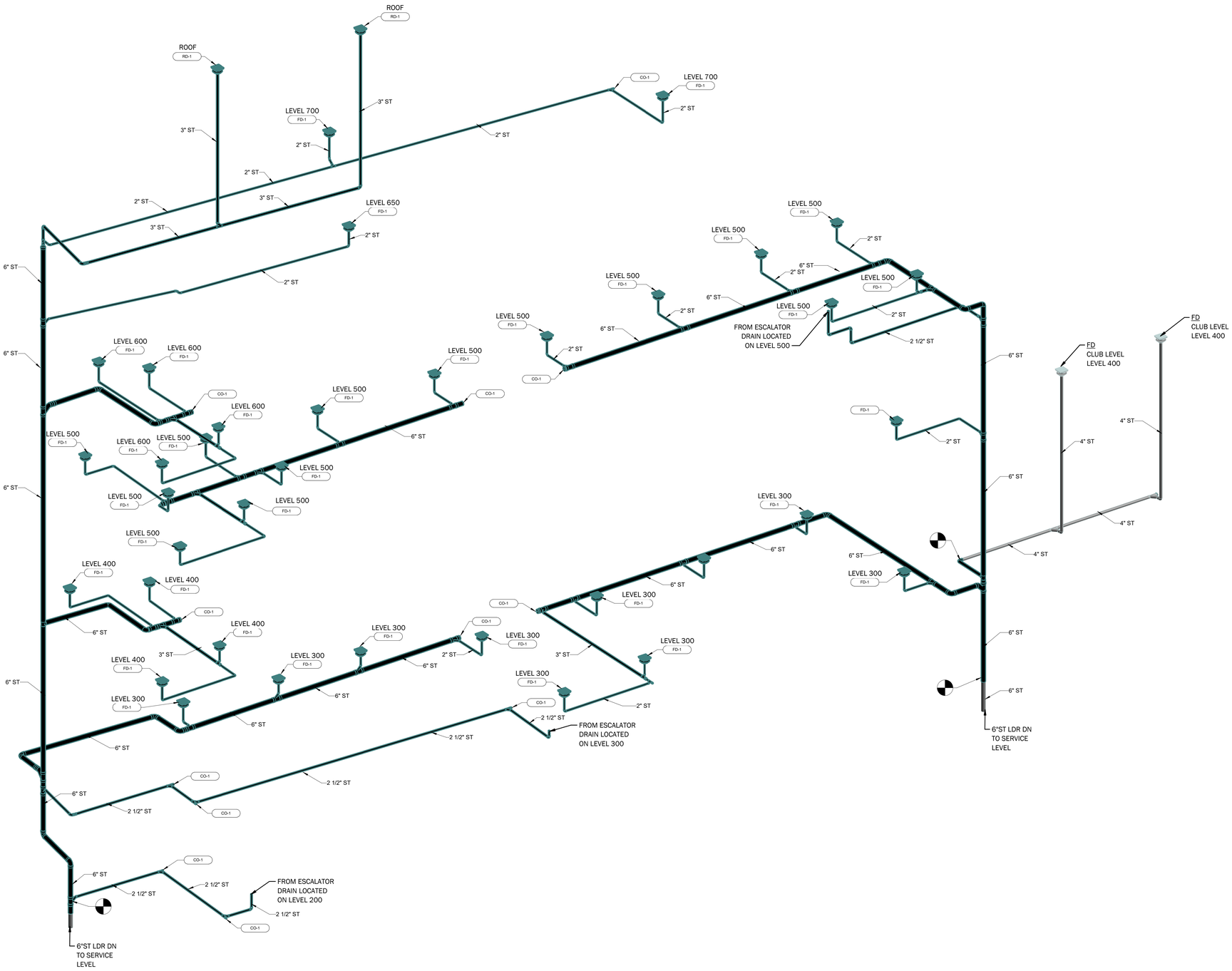

DIAGRAM: STACK & STORM RISER - SECTOR 9 RAMP

SCALE:

1
P601

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

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DaviesEngineeringGroup.com ~ 513-550-2375
Cincinnati, OH | Fort Worth, TX | Elizabethtown, PA | Lawrenceburg, IN

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO
THOMAS C. COSSMAN
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/26/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING RISER DIAGRAM - SOUTHWEST RAMP NEW WORK

DRAWING NUMBER	ISSUE
P601	3.1

PLUMBING DRAIN AND CLEANOUT SCHEDULE

FIXTURE IDENT	FIXTURE DESCRIPTION	REFERENCE PRODUCT	ALTERNATE PRODUCT MANUFACTURER	NOTES A	B	C	D	E	F	G	H	I	REMARKS
FD-1	14" PROMENADE DECK DRAINS DUCO CAST IRON BODY AND FLASHING CLAMP WITH SEEPAGE OPENING AND SECURED SQUARE HOLE ADA GRATE.	JAY R. SMITH 1410YM	WATTS JOSAM ZURN	X	X						X		PLAZA'S, CONCOURSES, STAIR RAMPS
CO-1	NO-HUB PVC SCHEDULE 40 CLEANOUT TEE WITH SCREW-IN BRONZE PLUG	CHARLOTTE PIPE	WADE ZURN JAY R. SMITH WATTS										
RD-1	4-1/2 [114] DIAMETER CORNICE DRAIN BOTTOM OUTLET DURA-COATED CAST IRON BODY, PLAIN BRONZE DOME, AND MEMBRANE FLASHING CLAMP	ZURN Z180 NO-HUB	JAY R. SMITH WATTS JOSAM			X							HEAD HOUSE

A SEDIMENT BUCKET
B GALVANIZED
C 3" PIPE SIZE
D SQUARE TOP
E SCREW IN TOP
F HEAVY DUTY CASTIRON SCORIATED TOP
G STAINLESS STEEL TOP
H EXTENSIONS
I P-TRAP, PROVIDE TRAP WRAP ON EXPOSED DRAINS

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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KZF DESIGN INC.
700 Broadway Street
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STATE OF OHIO
RICHARD A. JOHNSON
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
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CHECKED	PROJ. MGR.
TTC	C. MOORMAN

PLUMBING SCHEDULES

DRAWING NUMBER **P700** ISSUE 3.1

AIR DISTRIBUTION SYSTEM LEGEND

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		NEW DUCTWORK
		EXISTING DUCTWORK
		DUCTWORK TO BE REMOVED
		DUCTWORK TO BE REMOVED
20x12	20x12	DUCT DIMENSIONS STATED ARE THE INSIDE, CLEAR DIMENSION. THE FIRST NUMBER IS THE DIMENSION OF THE SIDE SHOWN. THE SECOND DIMENSION THE DUCT DEPTH.
20x12	20x12	DUCT WITH LINER - DUCT DIMENSIONS STATED ARE THE INSIDE CLEAR DIMENSIONS OF THE INSULATION. ALLOW FOR THE ADDITIONAL SPACE REQUIRED BY INSULATION AND DUCTWORK FOR INSTALLATION.
20x12 20x12	20x12 20x12	SUPPLY DUCT SECTION-(NET, INSIDE AREA). THE FIRST NUMBER IS THE HORIZONTAL DIMENSION IN VIEW, THE SECOND IS THE VERTICAL DIMENSION IN VIEW.
20x12 20x12	20x12 20x12	RETURN DUCT SECTIONS. DUCT DIMENSION AS DEFINED ABOVE.
		DUCT TURNING BEYOND PLANE OF DRAWING (SUPPLY DUCT SHOWN TURNING AWAY FROM VIEW).
		ELBOW, VANED TYPE
		ELBOW, RADIUS TYPE
		SUPPLY AIR OUTLET SOLID SHADING REFLECTS BLANKED THROW
		RETURN OR EXHAUST AIR INLET
		EXHAUST AIR INLET
		SIDEWALL OUTLET
		SIDEWALL INLET
AIR FLOW	AIR FLOW	FLEXIBLE DUCT - ROUND TAP INTO MAIN WITH SPIN-IN COLLAR & INTEGRAL BALANCING DAMPER.
AIR FLOW		45° RECTANGULAR TAP
		DAMPER IN VERTICAL POSITION - WITH ACCESS DOOR FD = FIRE DAMPER SD = SMOKE DAMPER FS = FIRE/SMOKE DAMPER RD = RADIATION DAMPER
		DAMPER IN HORIZONTAL POSITION - WITH ACCESS DOOR FD = FIRE DAMPER SD = SMOKE DAMPER FS = FIRE/SMOKE DAMPER RD = RADIATION DAMPER
		VOLUME DAMPER, MANUAL (HAND DAMPER)
		DAMPER - SEE SCHEDULE FOR BLADE TYPE AND DAMPER SPECIFICATIONS
		POINT OF CHANGE IN DUCT CONSTRUCTION DUCT PRESSURE RATING: # = RATING IN INCHES W.C.PER SMACNA STANDARDS

IDENTIFICATION TAGS

TERMINAL UNITS: F C H - 1 (TYPE / DUTY; UNIT NO. / HEATING COIL)

TYPE:
- S - SINGLE DUCT
- D - DUAL DUCT
- F - FAN POWERED (SERIES)
- P - FAN POWERED (PARALLEL)
- R - RETROFIT

DUTY:
- C - CONSTANT VOLUME PRESSURE IND.
- S - CONSTANT VOLUME PRESSURE DEP.
- V - VARIABLE VOLUME PRESSURE IND.
- R - VARIABLE VOLUME PRESSURE DEP.

HEATING COIL:
- N - NO HEAT
- H - HOT WATER
- E - ELECTRIC RESISTANCE
- S - STEAM

UNIT NUMBER:
- 1 - (SEE SCHEDULE)

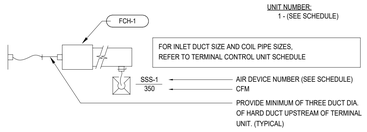
AIR DEVICES: S S S - 1 (DUTY / TYPE; UNIT NO. / HEATING COIL)

DUTY:
- S - SUPPLY
- R - RETURN
- E - EXHAUST
- T - TRANSFER

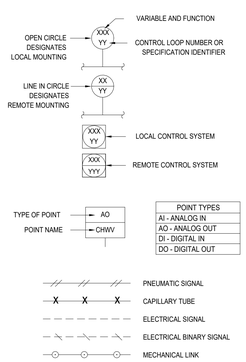
TYPE:
- L - LINEAR DIFFUSER
- S - CEILING DIFFUSER, LAY-IN
- R - CEILING DIFFUSER, SURFACE
- O - ROUND DIFFUSER, SURFACE
- G - SIDEWALL GRILLE
- D - DOOR GRILLE
- P - PLENUM

FACE
- L - LOUVER
- S - SINGLE DEFLECTION
- D - DOUBLE DEFLECTION
- P - PERFORATED
- O - PLAQUE
- 1 - 1 SLOT
- 2 - 2 SLOTS
- 3 - 3 SLOTS
- 4 - 4 SLOTS

UNIT NUMBER:
- 1 - (SEE SCHEDULE)



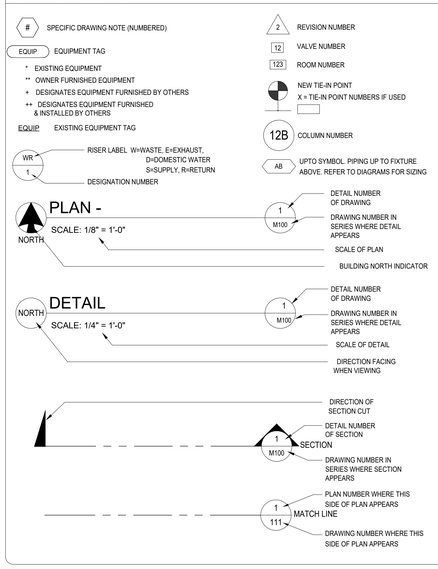
INSTRUMENT AND CONTROL LOOP TAGGING (PER ISA STANDARD 2003)



POINT TYPES
AI - ANALOG IN
AO - ANALOG OUT
DI - DIGITAL IN
DO - DIGITAL OUT

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS,QUALITY		ALARM		
B	BURNER FLAME,COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	COND,pH,ORP			CONTROL	
D	DEW POINT	DIFFERENTIAL			
E	VOLTAGE (ELECTRICAL)		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS,VIEWING DEVICE		
H	MANUAL OPERATING				HIGH (OPEN)
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW (CLOSE)
M	MOISTURE (HUMIDITY)	MOMENTARY			MIDDLE (INTERMEDIATE)
N	NOT USED		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	NOT USED		ORIFICE,RESTRICTION		
P	PRESSURE		POINT (TEST) CONN.		
Q	QUANTITY	TOTALIZE,INTEGRATE			
R	RADIATION		RECORD (HARDWIRE)		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE,DAMPER,LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT,STATE OR PRESENCE	Y AXIS		RELAY,COMPUTE,CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS SYMBOLS



PIPE FLUID ABBREVIATIONS

BBD	BOILER BLOW DOWN
BD	BLOW DOWN
BCA	BOILER COMBUSTION AIR
BFG	BOILER FLUE GAS
BFW	BOILER FEED WATER
BS	BRINE SUPPLY
BR	BRINE RETURN
CBD	CONTINUOUS BOILER BLOW DOWN
CD	CONDENSATE DRAIN
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CW	CITY WATER (POTABLE,DOM)
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
DHW	DOMESTIC HOT WATER (POTABLE)
DHWR	DOMESTIC HOT WATER RETURN (POTABLE)
DR	DRAIN
DTWS	DUAL TEMPERATURE WATER SUPPLY
DTWR	DUAL TEMPERATURE WATER RETURN
EXH	ENGINE EXHAUST
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FP	FIRE PROTECTION
FW	FACTORY WATER
GLR	GLYCOL RETURN
GLS	GLYCOL SUPPLY
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HTWR	HIGH TEMPERATURE WATER RETURN
HTWS	HIGH TEMPERATURE WATER SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IA-XXX	INSTRUMENT AIR (PSIG)
KHW	KITCHEN HOT WATER (POTABLE)
KHWCR	KITCHEN HOT WATER RETURN
MA	MEDICAL AIR
ME	MEDICAL EVACUATION
MNO	MEDICAL NITROUS OXIDE
MO	MEDICAL OXYGEN
MUW	MAKE UP WATER
MV	MEDICAL VACUUM
NG-XXX	NATURAL GAS (PSIG)
N2	NITROGEN
PC	PUMPED CONDENSATE
PR	PROPANE
PW	PROCESS WASTE, VENTS & DRAINS
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
ROW	REVERSE OSMOSIS WATER
RS	REFRIGERANT SUCTION
RV	RELIEF VENT
RWS	RIVER WATER SUPPLY
RWR	RIVER WATER RETURN
SAN	SANITARY SEWER
SC-XXX	STEAM CONDENSATE (PSIG)
ST	STORM SEWER
STM-XXX	STEAM (PSIG)
SS-XX/XX	SUPERHEATED STEAM (PSIG/TEMP)
SSW	SOFTENED SERVICE WATER (NON-POTABLE)
SV	SANITARY VENT
SW	SERVICE WATER (NON-POTABLE)
TW	TREATED WATER (DEMINERALIZED)
V	VENT
VSC	VACUUM STEAM CONDENSATE
VTR	VENT THROUGH ROOF
WW	WELL WATER
WWS	WELL WATER SUPPLY
WWR	WELL WATER RETURN

MISCELLANEOUS ABBREVIATIONS

ACFM	ACTUAL CUBIC FEET/MINUTE
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BLR	BOILER
BOD	BOTTOM OF DUCT
BOI	BOTTOM OF INSULATION
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BTU	BRITISH THERMAL UNIT
C	COMMON
CC	CONTROLS CONTRACTOR
CONC	CONCRETE
COND	CONDENSER
COP	CENTER OF PIPE
CFM	CUBIC FEET PER MINUTE
DIA	DIAMETER
DWG	DRAWING
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
F	FAHRENHEIT (DEGREES)
FBO	FURNISHED BY OTHERS
FC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FT	FEET
FTF	FITTING TO FITTING
GAL	GALLONS
GC	GENERAL TRADES CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIB
HP	HORSEPOWER
HZ	HERTZ
IE	INVERT ELEVATION
IN	INCHES
KEC	KITCHEN EQUIPMENT CONTRACTOR
KW	KILOWATT
M	MOTOR
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MGC	MEDICAL GAS COLUMN
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPC	NITROGEN PRESSURE CONTROL
NPS	NITROGEN PRESSURE SWITCH
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OF	OWNER FURNISHED
PC	PLUMBING CONTRACTOR
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
SA	SUPPLY AIR
SC	SECURITY CONTRACTOR
SCFM	STANDARD CUBIC FEET PER MINUTE
SPEC	SPECIFICATIONS
TA	TRANSFER AIR
TDH	TOTAL DYNAMIC HEAD
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL
VB	VALVE BOX
VIF	VERIFY IN FIELD
VS	VACUUM SWITCH
WK	WORK POINT (ELEVATION)
WP	WATER PROOF

GENERAL NOTES

A FOR KEY PLAN/MAP AND DRAWING INDEX SEE COVER SHEET.

B FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING LEGEND SHEET.

C COORDINATE THE INSTALLATION WITH EXISTING CONDITIONS, THE OWNER'S MAINTENANCE STAFF, AND THE WORK OF OTHER CONTRACTORS.

D EXAMINE ALL EXISTING CONDITIONS. VERIFY ALL DIMENSIONS. THE DRAWINGS ARE ILLUSTRATIVE AND MAY NOT REFLECT EXACT CONDITIONS OR DIMENSIONS.

E DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OR GEOMETRICAL RELATIONSHIP OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET, FITTING, AND COMPONENT. DO NOT USE THE PLANS FOR THE EXACT LOCATION OF EQUIPMENT.

F THE DESIGN AND DRAWINGS ARE BASED ON THE USE OF SPECIFIC REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS IMPACTED THE DESIGNS OF OTHER TRADES. IF ALTERNATE MANUFACTURERS, SIZES, OR MODELS ARE SUBMITTED OR BID, IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL SUBCONTRACTORS TO COORDINATE ALL IMPACTS PRIOR TO BID. NO EXTRAS WILL BE ALLOWED FOR CHANGES REQUIRED TO ACCOMMODATE ALTERNATE PRODUCTS THAT ARE BID OR INSTALLED AT THE CONTRACTOR'S OPTION. ENGINEERING FEES WHICH RESULT FROM RE-DESIGN FOR ALTERNATE PRODUCTS SHALL BE PAID BY THE CONTRACTORS AT NO ADDITIONAL COST TO THE OWNER.

G DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION PRIOR TO BID.

H WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MORE STRINGENT SHALL APPLY. NOTIFY THE ENGINEER OF ALL CONFLICTS FOR RESOLUTION OR INTERPRETATION.

I NOTIFY THE OWNER AND FIELD VERIFY CONDITIONS BEFORE EXCAVATING, TRENCHING, SAW CUTTING, CORING, OR MAKING OTHER STRUCTURAL MODIFICATIONS.

J ANY EXISTING CONDITION DISCOVERED DURING THE DEMOLITION OR CONSTRUCTION PROCESS WHICH, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICES, SHOULD BE REMEDIED, SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT IMMEDIATELY, IN WRITING.

K PROVIDE PROTECTION TO THE EXISTING FACILITY FROM DAMAGE OF ANY KIND DURING ALL PHASES OF THE PROJECT.

M OBTAIN WRITTEN APPROVAL FROM THE ENGINEER BEFORE RE-USING EXISTING EQUIPMENT, COMPONENTS, OR OPENINGS.

N COORDINATE ALL SERVICE OUTAGES WITH THE OWNER. MAINTAIN SERVICE TO OTHER PARTS OF CAMPUS DURING DEMOLITION.

O THE CONTRACTOR SHALL CONDUCT A MEETING AT THE BEGINNING OF EACH SHIFT TO FAMILIARIZE THE WORKERS WITH THE REQUIREMENTS OF THE DAY'S WORK.

P OSHA EXCAVATION SAFETY PRACTICES ARE TO BE FOLLOWED AT ALL TIMES. OPEN TRENCHES ARE TO BE CLEARLY MARKED OR ILLUMINATED DURING NON-WORKING PERIODS.

Q CONTRACTOR IS TO NOTIFY CUSTOMER ASSOCIATE PRIOR TO ANY EXCAVATION OR TRENCHING. ALL KNOWN UNDERGROUND UTILITIES WILL BE MARKED BY THE CUSTOMER. ANY DAMAGE TO MARKED UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE CUSTOMER ASSOCIATE AND PROJECT ENGINEER.

R THE PROJECT INTENT IS TO MINIMIZE ANY SYSTEM DOWNTIME AND ROAD CLOSURES. THE ACTUAL SYSTEM TIE IN WILL BE COORDINATED AND SCHEDULED WITH THE OWNER.

S IN PROJECT AREAS WHERE CEILINGS ARE REMOVED AND REPLACED AT THE SAME OR NEARLY THE SAME ELEVATION, THE HVAC CONTRACTOR WILL TEMPORARILY REMOVE, SUPPORT, AND REINSTALL ALL AIR DEVICES IN THE CEILING GRID AS PART OF THE PROJECT SCOPE.

SOME SYMBOLS AND ABBREVIATIONS APPEARING ON THIS SHEET MAY NOT BE USED ON THE PROJECT.

NO.	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group
DaviesEngineering@icloud.com ~ 502.643.2273
Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, KY ~ Lewisburg, TN

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Cincinnati, OH 45202

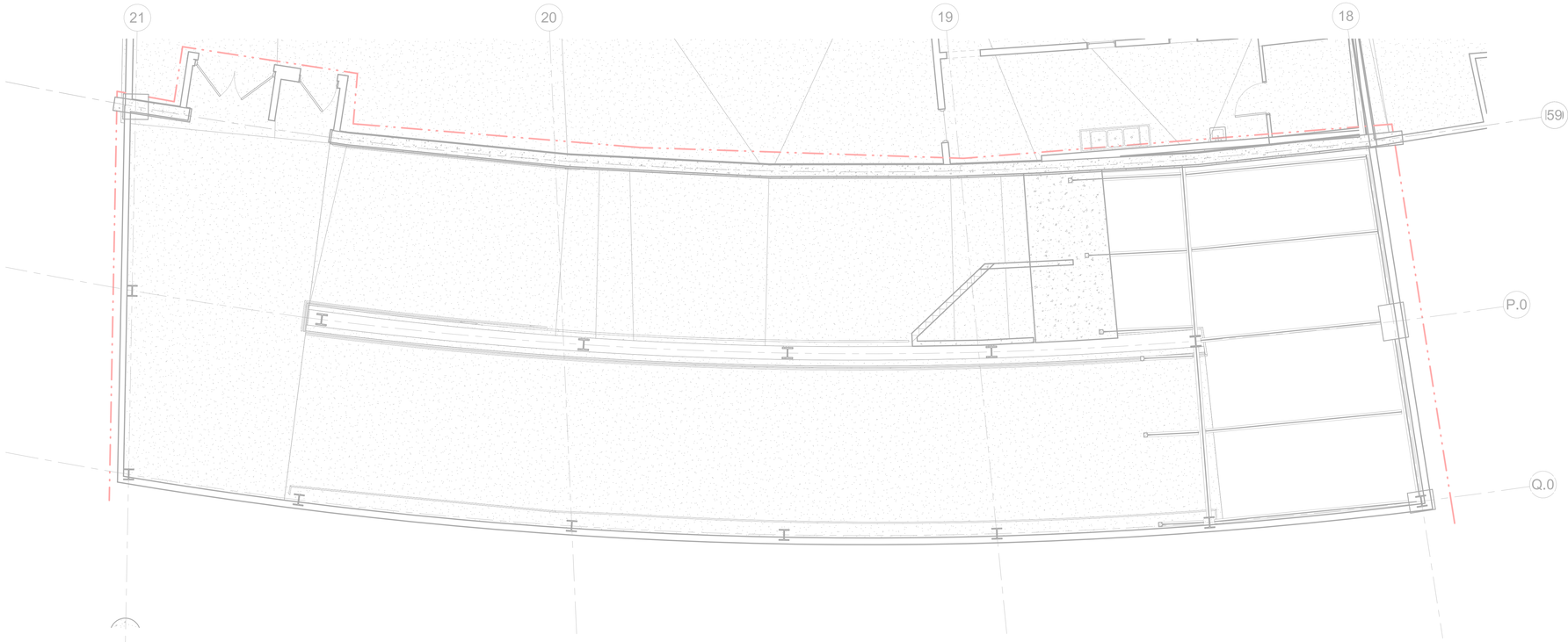
main 513.621.6211
kzf.com

STATE OF OHIO — CHRISTOPHER T. MOORMAN — 75602 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
CMOOR	250127
DRAWN	DATE
CMOOR	03/04/20
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

HVAC LEGEND & GENERAL NOTES

DRAWING NUMBER	ISSUE
H001	3.1

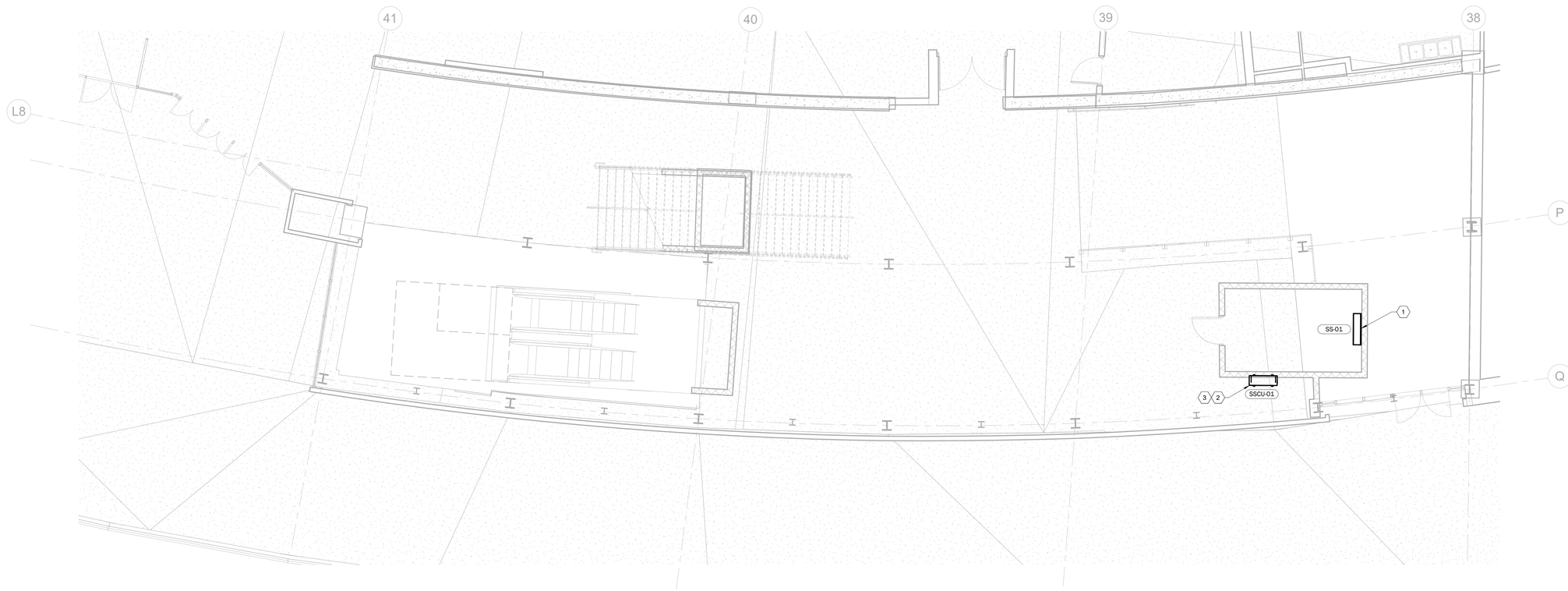


PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 H200



PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 H200

DRAWING NOTES

1 PROVIDE NEW MOUNTED INDOOR UNIT HIGH ON WALL IN APPROXIMATE LOCATION INDICATED. COORDINATE FINAL INSTALLATION LOCATION WITH OTHER TRADES AND REQUIRED SERVICE CLEARANCES.

2 PROVIDE NEW MATCHED CONDENSING UNIT IN APPROXIMATE LOCATION INDICATED. PROVIDE NEW WALL SUPPORT STRUCTURE BELOW UNIT FOR INSTALLATION. MOUNT UNIT AS HIGH ABOVE FLOOR SLAB AS POSSIBLE. COORDINATION FINAL INSTALLATION LOCATION WITH REQUIRED SERVICE CLEARANCES.

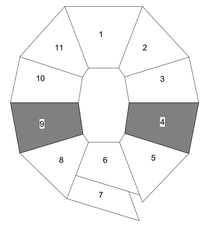
3 PROVIDE NEW CONDENSATE TRAP PIPING FOR NEW INDOOR MINI-SPLIT UNIT PER DETAIL 1 ON DRAWING H700 AND MANUFACTURER'S REQUIREMENTS. P.C. TO PROVIDE NEW CONDENSATE PIPING FROM TRAP DISCHARGE TO EXISTING FLOOR DRAIN.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING H001.



N

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
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main 513.621.6211
kzf.com

STATE OF OHIO
THOMAS J. MOORMAN
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
CMOOR	250127
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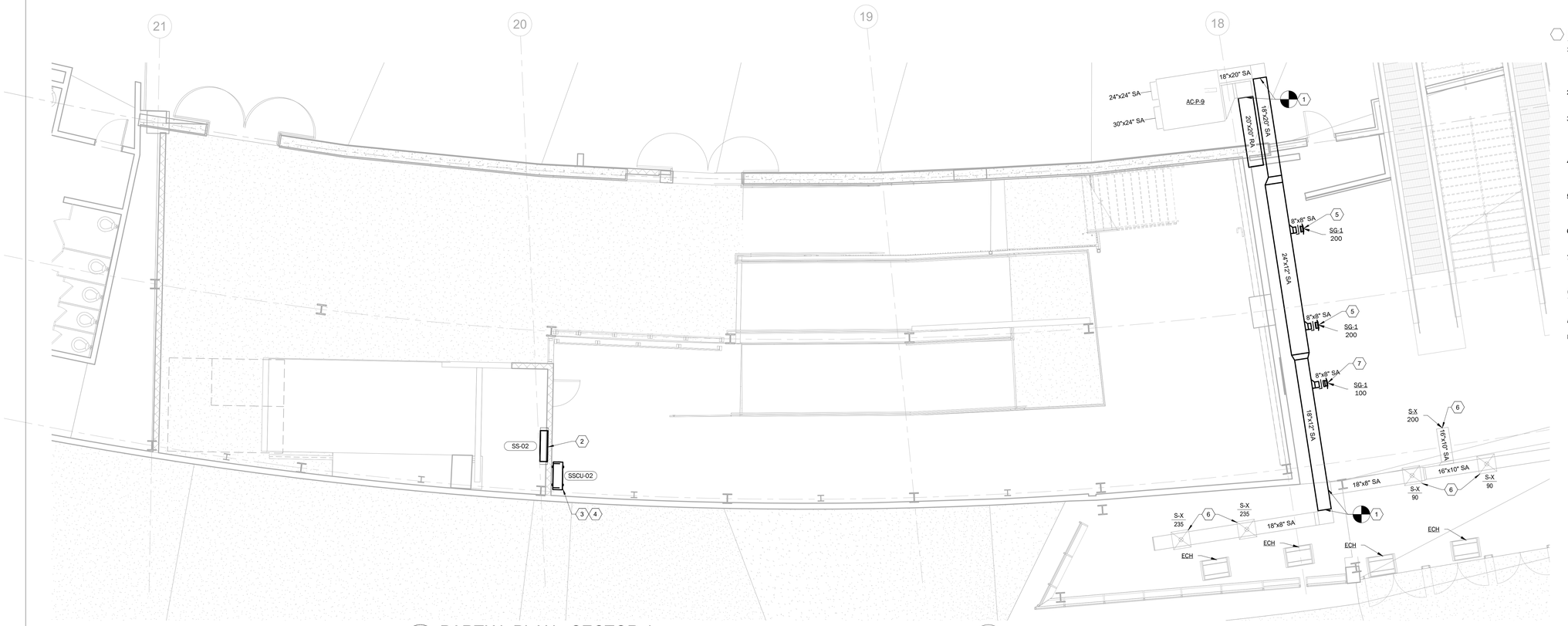
MSTEF	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

HVAC PARTIAL PLANS LEVEL 200 NEW WORK

DRAWING NUMBER	ISSUE
H200	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 H201

PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 H201

DRAWING NOTES

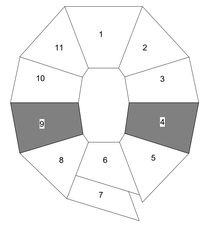
1. RE-INSTALL EXISTING SUPPLY AND RETURN DUCTWORK, FITTINGS, SUPPORTS, AND AIR DEVICES WITHIN NEW SOFFIT. COORDINATE EXACT ROUTING WITH NEW SOFFIT CONSTRUCTION AND OTHER TRADES. PROVIDE NEW TRANSITIONS TO/FROM EXISTING DUCTWORK TIE-IN LOCATIONS. CLEAN ALL EXISTING DUCTWORK PRIOR TO RE-INSTALLATION.
2. PROVIDE NEW MOUNTED INDOOR UNIT HIGH ON WALL IN APPROXIMATE LOCATION INDICATED. COORDINATE FINAL INSTALLATION LOCATION WITH OTHER TRADES AND REQUIRED SERVICE CLEARANCES.
3. PROVIDE NEW MATCHED CONDENSING UNIT IN APPROXIMATE LOCATION INDICATED. PROVIDE NEW WALL SUPPORT STRUCTURE BELOW UNIT FOR INSTALLATION. MOUNT UNIT AS HIGH ABOVE FLOOR SLAB AS POSSIBLE. COORDINATION FINAL INSTALLATION LOCATION WITH REQUIRED SERVICE CLEARANCES.
4. PROVIDE NEW CONDENSATE TRAP PIPING FOR NEW INDOOR MINI-SPLIT UNIT PER DETAIL 1 ON DRAWING H700 AND MANUFACTURER'S REQUIREMENTS. P.C. TO PROVIDE NEW CONDENSATE PIPING FROM TRAP DISCHARGE TO EXISTING FLOOR DRAIN.
5. RE-INSTALL EXISTING AIR DEVICES ON FACE OF NEW SOFFIT WALL. PROVIDE NEW BALANCING DAMPERS IN BRANCH DUCTWORK TO EACH AIR DEVICE. BALANCE TO AIRFLOWS INDICATED ON PLANS. CLEAN ALL EXISTING DUCTWORK PRIOR TO RE-INSTALLATION.
6. EXISTING AIR DEVICES TO REMAIN IN PLACE. REBALANCE TO MATCH EXISTING AIRFLOW VOLUMES FOLLOW RE-INSTALLATION OF EXISTING DUCTWORK MAINS.
7. PROVIDE NEW BRANCH DUCTWORK AND REGISTER ON FACE OF NEW SOFFIT WALL. PROVIDE NEW BALANCING DAMPERS IN BRANCH DUCTWORK TO EACH AIR DEVICE. BALANCE TO AIRFLOW AS INDICATED ON PLANS.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING H001.



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0 4' 8' 12'
SCALE: 3/16"=1'-0"

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TTC	C. MOORMAN

HVAC PARTIAL PLANS LEVEL 300 NEW WORK

DRAWING NUMBER	ISSUE
H201	3.1

DUCTLESS SPLIT SYSTEM AIR CONDITIONERS AND CONDENSING UNITS

SYSTEM DESIG.	SERVES	EVAPORATOR UNIT								CONDENSING UNIT				NOTES AND OPTIONS (SEE BELOW)																	
		COOLING CAPACITY			HEATING CAPACITY		REFRIG. TYPE	ELEC. DATA	LENNOX EVAPORATOR MODEL #	ELEC. DATA			LENNOX CONDENSER MODEL #																	
		AIR FLOW CFM	SUCT TEMP, DEG F	CAP. BTUH	AIR FLOW CFM	CAP BTUH		FAN FLA		MCA	MOCP	UNIT V/FREQ/PH		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
SS-01,02 / SSCU-01,02	DATA	364	45	9,000	396	11000	R-32	0.12	MWHD009S6S0-1P	12	20	208/60/1	MWHD009S6-1P	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	

NOTES AND OPTIONS:

- A UNIT MOUNTED THERMOSTATS
- B LOW AMBIENT CONTROL TO 0 DEGREES
- C NON-FUSED DISCONNECT SWITCH ON EACH UNIT
- D CONDENSATE PUMP AND 3/4" DRAIN LINE TO FLOOR DRAIN
- E MATCHED CONDENSING UNIT
- F PROVIDE REFRIG PIPING PER MANUF REQUIREMENTS
- G MFR'S STANDARD FILTERS WITH FILTER CHANGE INDICATOR LIGHT
- H HAIL GUARD
- I SHORT CYCLE COMPRESSOR PROTECTION
- J HEAT PUMP SYSTEM
- K SURFACE MOUNTED, HIGH ON WALL
- L INSTALL SSCU ON WALL MOUNTING STRUCTURE
- M A2L REFRIGERANT DETECTION SYSTEM
- N INTEGRAL UNIT CONTROLS W/ BAS CONNECTIVITY MODULE
- O
- P EQUAL BY TRANE, CARRIER, OR JCI

AIR DEVICE SCHEDULE (GRILLES, REGISTERS, DIFFUSERS)

DESIGNATION	FACE	MATERIAL	PANEL SIZE, IN. x IN.	# OF SLOTS	SLOT WIDTH	MINIMUM CEILING OPENING WIDTH, IN.	NECK SIZE, IN.	FLOW RANGE, CFM	MAXIMUM PRES. DROP, IN. WG	MAX THROW @ MAX FLOW, FEET	NC RATING AT MAX FLOW	FINISH [5]	NOTES & OPTIONS (SEE BELOW)										REFERENCE PRODUCT	
													A	B	C	D	E	F	G	H	I	J	MAKE	MODEL
SG-1	DOUBLE DEFLECTION GRILLE	STEEL	8 x 6	-	-	-	-	0 - 156	0.052	9	11	-	X							X		X	TITUS	300FL

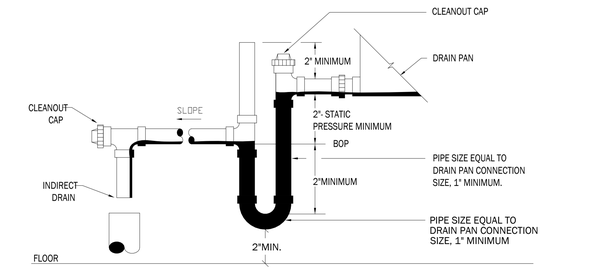
DESIGNATION
FIRST CHARACTER = DUTY
SECOND CHARACTER = TYPE
THIRD CHARACTER = FACE
NUMBER = UNIT NUMBER

DUTY
- S = SUPPLY
- R = RETURN
- E = EXHAUST
- T = TRANSFER

TYPE
- L = LINEAR
- P = PLENUM
- O = ROUND
- G = GRILLE
- D = DIFFUSER
- N = NOZZLE

GENERAL NOTES:
1 FOR MOUNTING TYPE, REFER TO ARCHITECTURAL REFLECTED CEILING PLANS.
2 FOR SUPPLY DIFFUSERS WITH ROUND NECKS, FLEXIBLE CONNECTION SHALL BE SAME DIAMETER AS NECK. MAXIMUM LENGTH OF FLEXIBLE CONNECTION SHALL BE 5 FT. PROVIDE TRANSITION FROM METAL DUCT TO FLEXIBLE DUCT.
3 PAINT DUCTWORK VISIBLE BEHIND AIR OUTLETS AND INLETS MATTE BLACK.
4 PROVIDE TRM MOUNTING FRAMES FOR CEILING DIFFUSERS INSTALLED IN HARD CEILINGS.
5 COORDINATE WITH ARCHITECT FOR OWNER-APPROVED FINISH

NOTES & OPTIONS:
- A FURNISH WITH OPPOSED-BLADE DAMPER
- B PROVIDE MATCHING DIFFUSER PLENUM W/ ACOUSTICAL LINER
- C BORDER TYPE TO INSTALL IN DROP CEILING
- D BORDER TYPE TO INSTALL SUSPENDED
- E BORDER TYPE TO INSTALL IN WOODEN BAFFEL CEILING
- F AIRFLOW PATTERN OUTWARD (HIGHTHROW)
- G AIRFLOW PATTERN DOWNWARD (JETTHROW)
- H SIDEWALL MOUNTED
- I NO SPACING BETWEEN DIFFUSERS IN THE TWO-SLOT OPTION (TYPE 2CRA)
- J EQUAL BY PRICE



DETAIL - CONDENSATE DRAIN, DRAW-THRU UNIT 1 H700
SCALE: NONE

NO	DATE	DESCRIPTION
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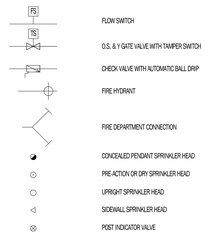
STATE OF OHIO · TIMOTHY T. CROSSMAN · 75602 · REGISTERED · PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
CMOOR	250127
DRAWN	DATE
MSTEF	03/26/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

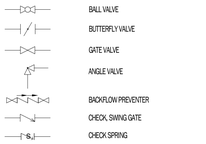
HVAC SCHEDULES AND DETAILS

DRAWING NUMBER **H700** ISSUE 3.1

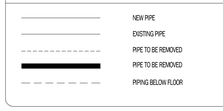
FIRE PROTECTION SYMBOLS



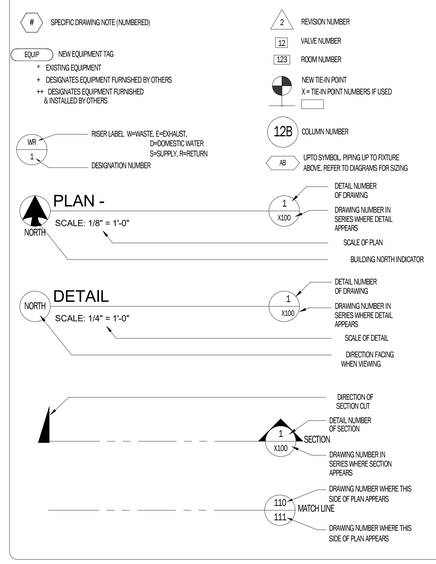
FIRE PROTECTION VALVE SYMBOLS



FIRE PROTECTION PIPING LEGEND



MISCELLANEOUS SYMBOLS



PLUMBING ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AS	AUTOMATIC SPRINKLER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
CONC	CONCRETE
COP	CENTER OF PIPE
DIA	DIAMETER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
FBO	FURNISHED BY OTHERS
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOW SWITCH
GC	GENERAL TRADES CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HC	HEATING CONTRACTOR
HV	HOSE VALVE WITH CABINET
HP	HORSEPOWER
HZ	HERTZ
IN	INCHES
KEC	KITCHEN EQUIPMENT CONTRACTOR
MC	MECHANICAL CONTACTOR
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PC	PLUMBING CONTRACTOR
PI	PRESSURE INDICATOR
PIV	POST INDICATOR VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
SPEC	SPECIFICATIONS
SPK HD	SPRINKLER HEAD
TDH	TOTAL DYNAMIC HEAD
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TS	TAMPER SWITCH
TYP	TYPICAL
VIF	VERIFY IN FIELD

GENERAL NOTES

A ALL SPRINKLER HEADS USED ON THIS PROJECT TO BE QUICK RESPONSE TYPE, UNLESS OTHERWISE NOTED.

B COORDINATE ROUTING OF PIPING ABOVE HIGH CEILING.PROVIDE RETURN BEND ARRANGEMENTS AS REQUIRED.

C THE SPRINKLER CONTRACT IS TO PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS.

D ALL RECESSED SPRINKLER HEADS SHALL BE LOCATED WITHIN 3" OF THE CEILING TILE CENTER LINE.SPRINKLER HEAD DIFFUSER SHALL EXTEND A MAXIMUM OF 1-1/4" BELOW THE ESCUTCHEON AND A MINIMUM OF 3/4" BELOW THE ESCUTCHEON.

E IN ADDITION TO GENERAL SPRINKLER COVERAGE, PROVIDE SPRINKLERS IN AREAS AS INDICATED ON PLANS.

F CEILINGS WITHOUT GRID LAYOUT ARE DRYWALL CEILINGS. UNLESS NOTED OTHERWISE, DRYWALL CEILINGS TO HAVE CONCEALED SPRINKLER HEAD LOCATED AS INDICATED ON INTERIOR FINISH REFLECTED CEILING PLANS.

G ALL FLOOR PIPE PENETRATION TO BE WITH A SLEEVE.SLEEVE TO EXTEND 2" ABOVE FLOOR AND BE FIRE STOPPED.

H SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED WALLS. SLEEVE AND FIRE STOP.

I SEE INTERIOR FINISH DRAWINGS FOR REFLECTED CEILING PLANS.

J ALL PIPING THROUGH INTERIOR WALLS TO BE SLEEVED AND GROUTED IN PLACE AND PIPE THROUGH SLEEVE TO BE SEALED OR FIRE STOPPED.

K ALL ABOVE CEILING PIPING TO BE ROUTED AND COORDINATED WITH OTHER CONTRACTS.CONTRACTOR TO ROUTE ALL PIPING AT ELEVATION AS INDICATED ON DRAWINGS, UNLESS CONDITIONS REQUIRE LOWER ELEVATION.

L CONTRACTOR TO OFFSET AND ROUTE PIPE TO CLEAR ALL ABOVE CEILING MECHANICAL EQUIPMENT.ACCESS A MINIMUM OF 42" CLEAR IN FRONT OF UNIT CONTROL AND ACCESS PANELS.

M DO NOT ROUTE ANY PIPING ABOVE OR ACROSS ANY ELECTRIC PANELS.COORDINATE WITH E.C.

N ALL AREAS WITHOUT CEILINGS TO HAVE PIPES TIGHT TO BEAMS AND SPRINKLER HEADS LOCATED WITHIN 6" OF DECK ABOVE.COORDINATE WITH STRUCTURAL STEEL DRAWINGS AND PROVIDE COVERAGE BETWEEN BEAMS.

O ALL EXPOSED DUCTWORK TO BE SPRINKLERED ABOVE AND BELOW PER NFPA 13.

P PROVIDE ALL INSPECTOR TEST VALVES WITH SITE GLASS AND CONCEALED PIPING, EXTENDED TO EXTERIOR AT 12 INCHES ABOVE GRADE.

SOME SYMBOLS AND ABBREVIATIONS APPEARING ON THIS SHEET MAY NOT BE USED ON THE PROJECT.

GENERAL NOTES

A. FIRE PROTECTION/PLUMBING CONTRACTOR SHALL PROVIDE NICET CERTIFIED DRAWINGS AND CALCULATIONS FOR THIS PROJECT UNDER THE JURISDICTION OF THE CITY OF CINCINNATI FOR PERMITTING, GREATER CINCINNATI WATERWORKS FOR FIRE PIT INSTALLATION AND THE CINCINNATI FIRE DEPARTMENT FOR APPROVAL. ALL CONTRACTORS SHALL BE LICENSED FOR THIS WORK.

B. THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION AND BASIC SCOPE PRESENTATION. THE CONTRACTOR MUST PROVIDE A FULLY FUNCTIONAL FIRE SPRINKLER SYSTEM ALONG WITH HYDRAULIC CALCULATIONS AND COMPLETE CERTIFIED AND STAMPED DRAWINGS FOR PERMITTING AND CONSTRUCTION.

C. CENTER ALL SPRINKLER HEADS WHERE POSSIBLE. CATALOG/RECORD EXISTING CEILING TILE CONDITIONS PRIOR TO BEGINNING WORK. THIS CONTRACT SHALL REPLACED ALL TILES DAMAGED, BROKEN OR DEGRADED BY THIS PROJECT.

D. ALL PIPE CUTTING AND MACHINING SHALL BE STAGED AND PERFORMED IN NON WORK AREA SPACES AND COORDINATED WITH THE OWNER ON A TWO WEEK LOOK AHEAD SCHEDULE THROUGHOUT THE PROJECT.

E. PROVIDE UPRIGHT HEADS IN AREAS WITH NO CEILINGS AND PENDANT HEAD IN AREAS WITH CEILINGS. SEAL ALL WALL PENETRATION FIRETIGHT AND USE ESCUTCHEON PLATES ON ALL VISIBLE WALL PENETRATION. PAINT VISIBLE PIPE TO MATCH EXISTING.

F. COORDINATE THE INSTALLATION WITH EXISTING CONDITIONS, THE OWNER'S MAINTENANCE STAFF, AND THE WORK OF OTHER CONTRACTORS. THE CONTRACTOR SHALL INCLUDE ALL COSTS FOR RELOCATION OF EQUIPMENT CONFLICTING WITH EXISTING EQUIPMENT OR NEW WORK BY OTHER DISCIPLINES.

G. DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION PRIOR TO BID.

H. TURN OVER TO THE OWNER ALL REMOVED EQUIPMENT THAT THE OWNER WISHES TO KEEP. DISPOSE OF ALL REMAINING EQUIPMENT.

I THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR.SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION IN THIS PROJECT SPACE IS 480'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

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TIMOTHY T. CHRISTOPHER
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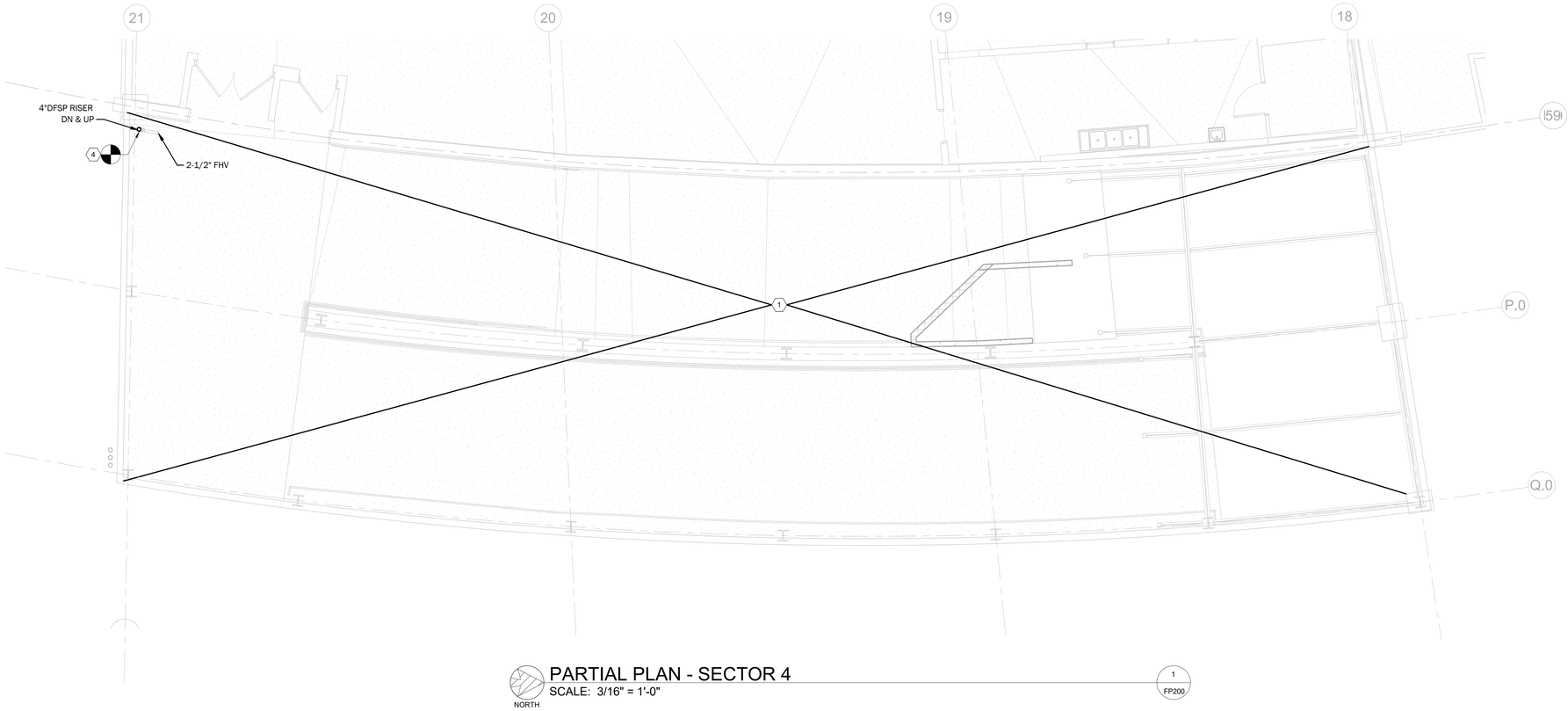
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/04/20
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

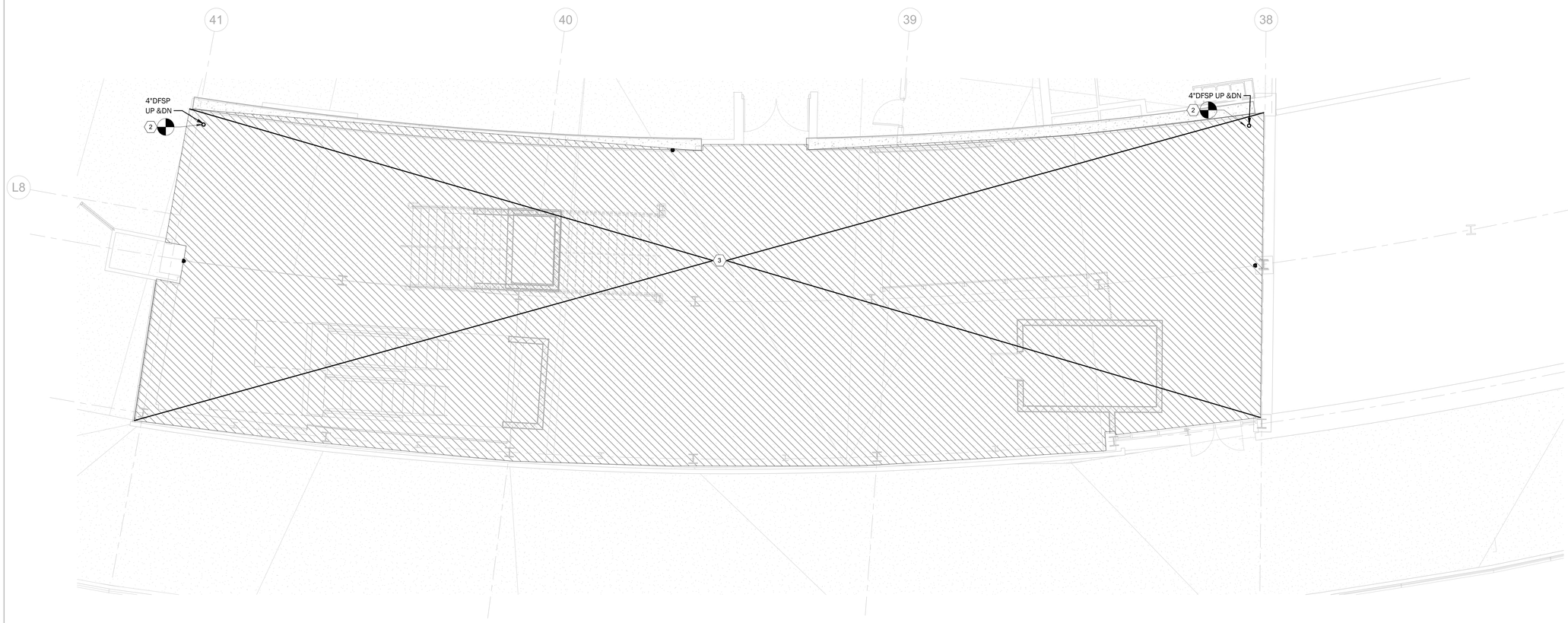
FIRE PROTECTION LEGEND & GENERAL NOTES

DRAWING NUMBER ISSUE

FP001 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 FP200



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 FP200

DRAWING NOTES
DRAWING FP200

1 NO NEW FIRE PROTECTION WORK IN THIS AREA. PARTIAL PLAN IS FOR REFERENCE ONLY.

2 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO EXISTING 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

3 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW SPRINKLERS IN THIS AREA AND PROVIDE NEW DRY PENDENT SPRINKLER HEADS AROUND NEW WALLS, STAIRS AND ESCALATORS WHERE REQUIRED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE LIGHT HAZARD COVERAGE (0.10 GPM/1500 SQ. FT). SEE ARCHITECTURAL DRAWINGS FOR FINAL DEMOLITION AND NEW WORK SCOPE.

4 TIE INTO EXISTING 4" DRY FIRE PROTECTION SYSTEM RISER AT THIS APPROXIMATE LOCATION AND EXTEND UP TO 300 LEVEL AT THIS APPROXIMATE LOCATION.

GENERAL NOTES
APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS, SEE DRAWING FP-001.

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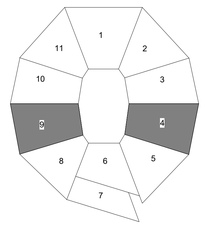
F DRAIN AND REFILL THE FIRE PROTECTION SYSTEM AFTER WORK IS COMPLETE.

G PERFORM FIRE WATCH OVER 8-HOUR DURATION IF FIRE SYSTEM IS DRAINED.

H EQUIPMENT AND/OR PIPING TEMPORARILY REMOVED FOR ACCESS IS TO BE STORED ON SITE AND PROTECTED FROM DAMAGE. ANY DAMAGED OCCURRED TO EQUIPMENT, PIPING, INSULATION, AND SPECIALTIES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPLACED WITH LIKE EQUIPMENT AND MATERIALS.

I INSULATE AND HEAT TRACE ALL WET SPRINKLER PIPING LOCATED IN OUTDOOR AREAS.

J FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE CLOSELY SPACED SPRINKLER HEADS AS NEEDED AROUND NEW ESCALATORS.



0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers
CINCINNATI, OH

DAVIES engineering group
DaviesEngineeringGroup.com ~ 513-703-2373
Cleveland, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Lawrenceburg, IN

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

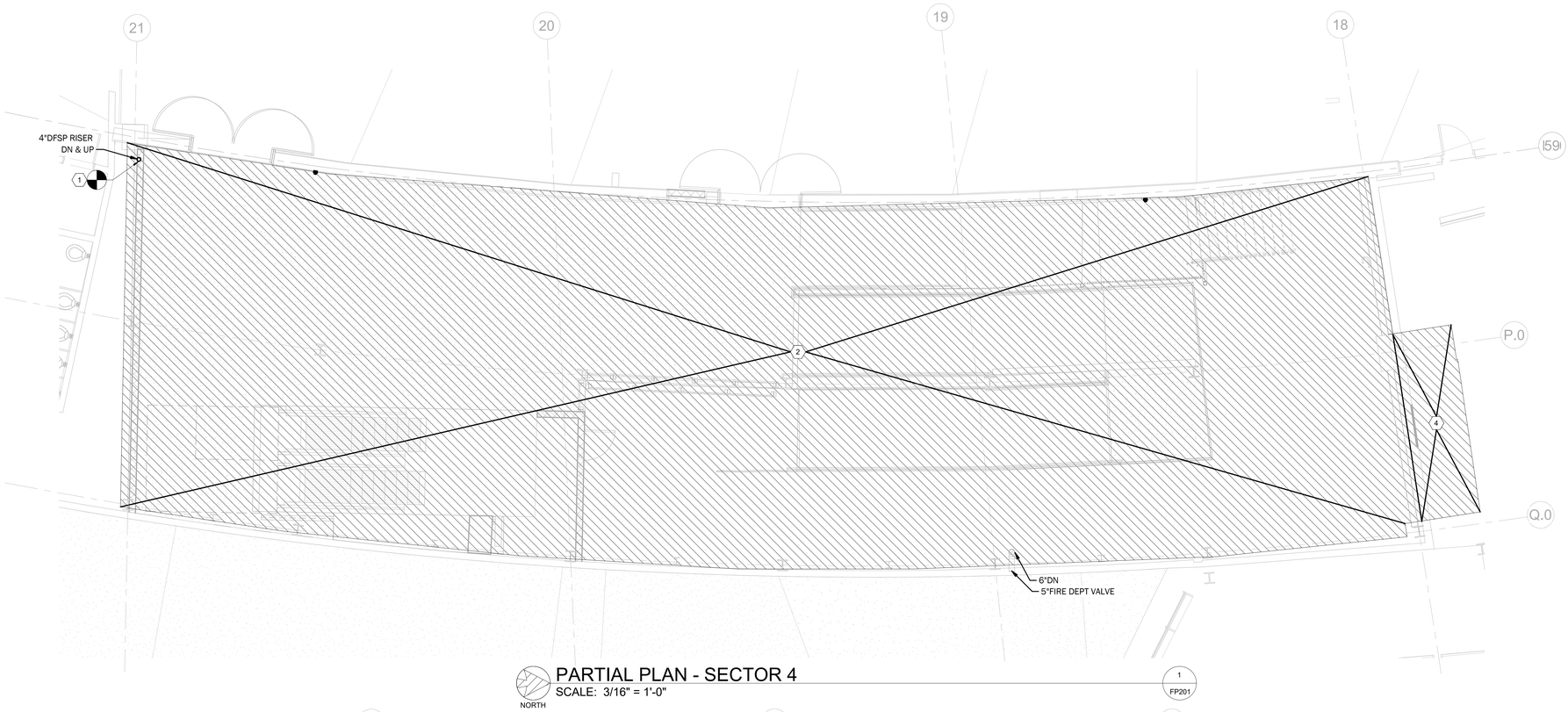
main 513.621.6211
kzf.com

STATE OF OHIO
RAJ
RAJESH JOSHI
75602
REGISTERED
PROFESSIONAL ENGINEER

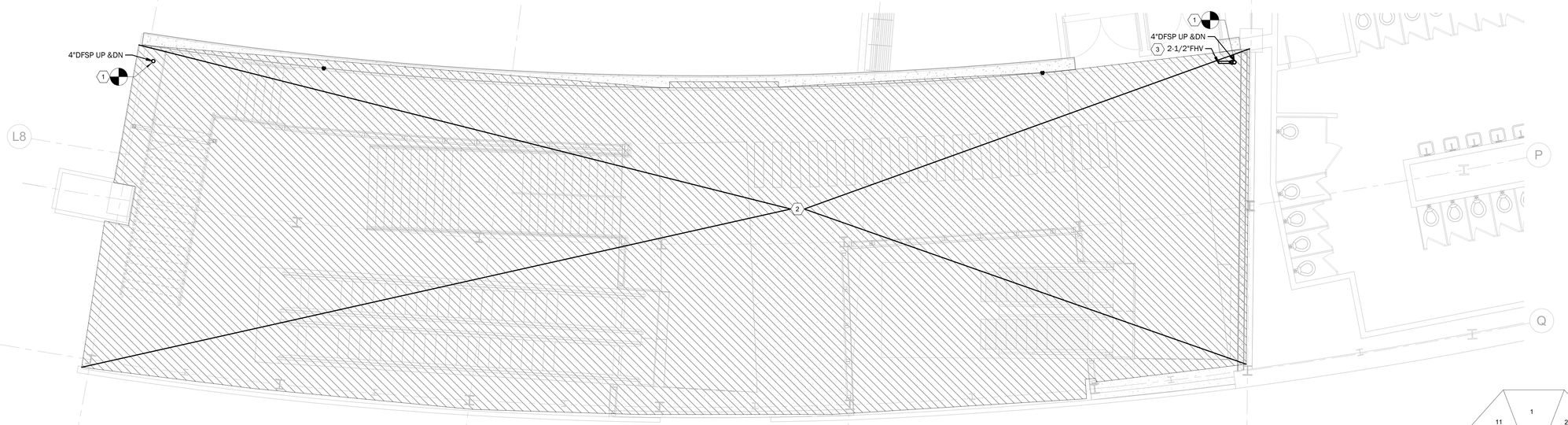
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 200 NEW WORK

DRAWING NUMBER	ISSUE
FP200	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 FP201



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 FP201

DRAWING NOTES

DRAWING FP201

1 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO NEW 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

2 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW SPRINKLERS IN THIS AREA AND PROVIDE NEW DRY PENDENT SPRINKLER HEADS AROUND NEW WALLS, STAIRS AND ESCALATORS WHERE REQUIRED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE LIGHT HAZARD COVERAGE (0.10 GPM/1500 SQ. FT). SEE ARCHITECTURAL DRAWINGS FOR FINAL DEMOLITION AND NEW WORK SCOPE.

3 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW 2-1/2" FIRE DEPARTMENT VALVE AT THIS APPROXIMATE LOCATION.

4 FIRE PROTECTION CONTRACTOR (FPC) SHALL MODIFY EXISTING WET SPRINKLER SYSTEM IN THIS AREA TO MEET LIGHT HAZARD COVERAGE (0.10 GPM/1500 SQ.FT.) WHERE NECESSARY. PROVIDE ALL PERMIT DRAWINGS REQUIRED WITH LOCAL AHJ TO NICET CERTIFIED DESIGN AND DRAWING LEVEL BASED ON FINAL LAYOUT REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR FINAL DEMOLITION AND NEW WORK SCOPE.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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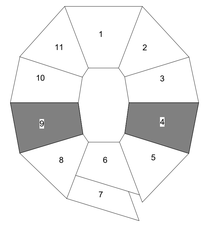
J FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE CLOSELY SPACED SPRINKLER HEADS AS NEEDED AROUND NEW ESCALATORS.



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NO	DATE	DESCRIPTION
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Hamilton County OHIO

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700 Broadway Street
Cincinnati, OH 45202

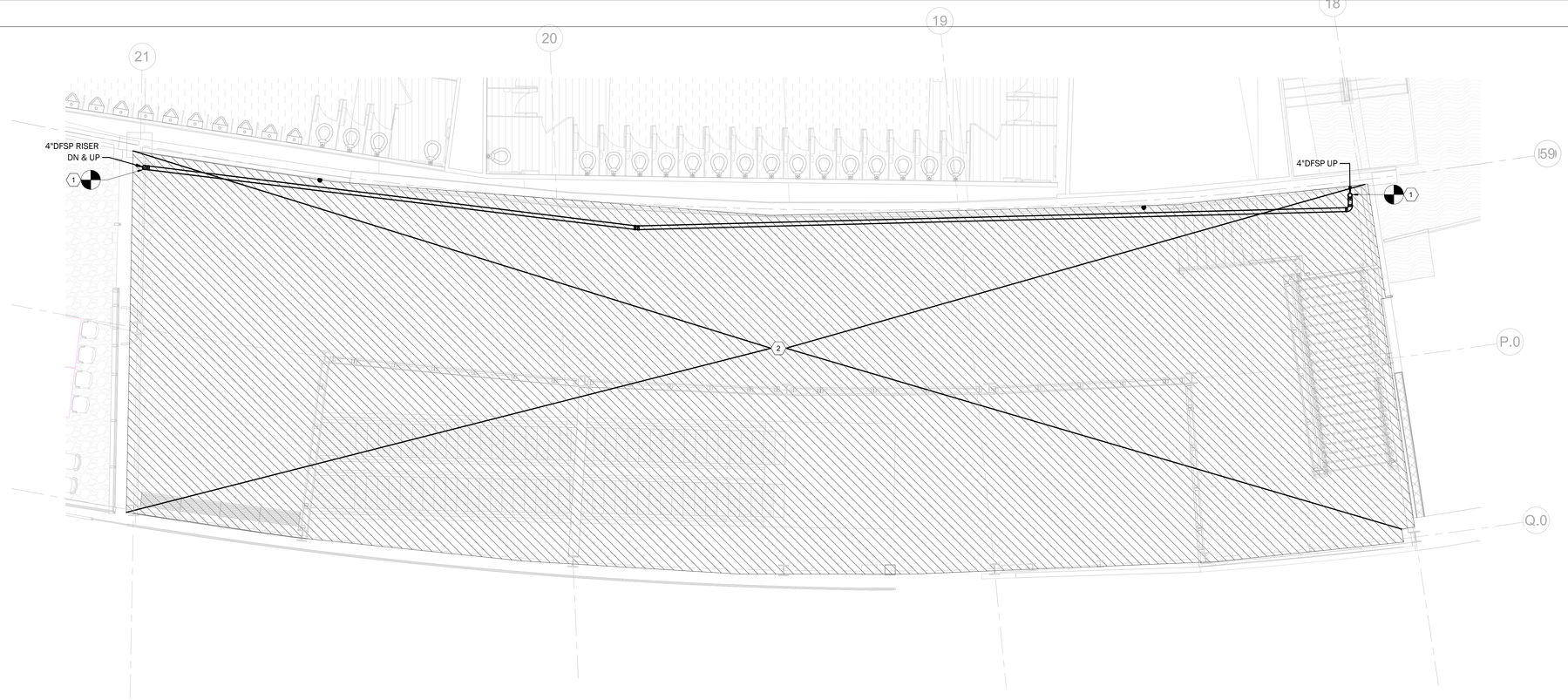
main 513.621.6211
kzf.com

STATE OF OHIO
RYAN JAMES ALLEN
75602
REGISTERED
PROFESSIONAL ENGINEER

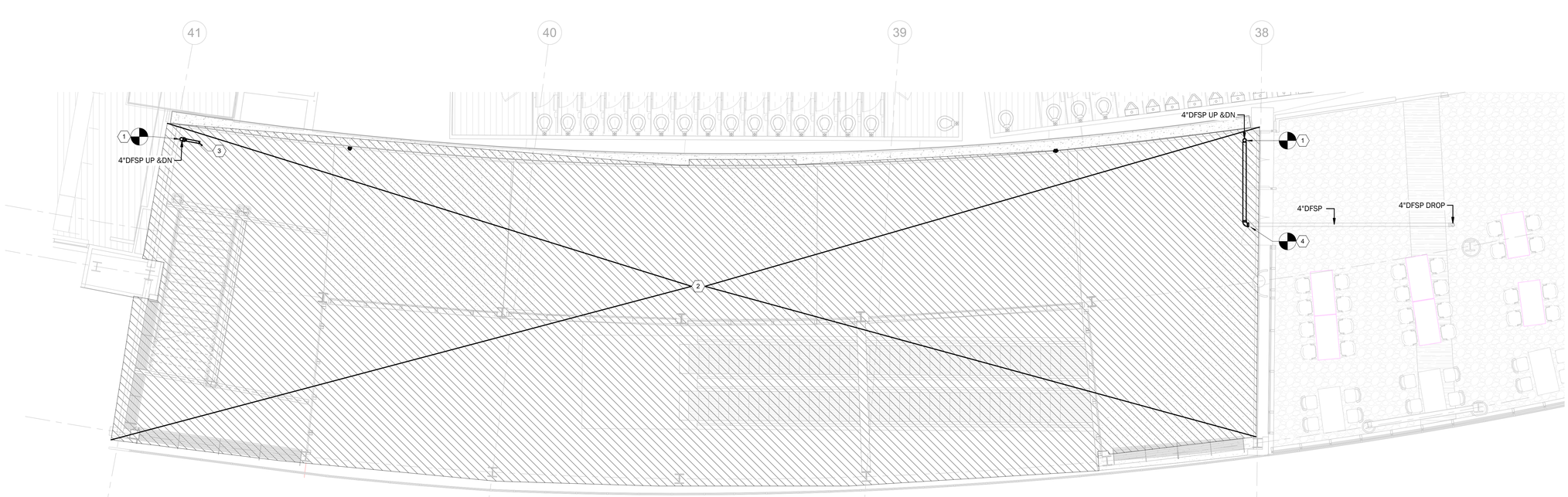
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 300 NEW WORK

DRAWING NUMBER	ISSUE
FP201	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1
FP202



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2
FP202

DRAWING NOTES
DRAWING FP202

1 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO NEW 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

2 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW SPRINKLERS IN THIS AREA AND PROVIDE NEW DRY PENDENT SPRINKLER HEADS AROUND NEW WALLS, STAIRS AND ESCALATORS WHERE REQUIRED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE LIGHT HAZARD COVERAGE (0.10 GPM/1500 SQ. FT). SEE ARCHITECTURAL DRAWINGS FOR FINAL DEMOLITION AND NEW WORK SCOPE.

3 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW 2-1/2" FIRE DEPARTMENT VALVE AT THIS APPROXIMATE LOCATION.

4 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO EXISTING 4" DFSP PIPE AT THIS APPROXIMATE LOCATION LOCATED OUTSIDE THE AREA OF WORK SCOPE THAT WAS REMOVED DURING THE DEMOLITION PHASE OF THE PROJECT. ENSURE SYSTEM IN THIS AREA IS IN WORKING ORDER.

GENERAL NOTES
APPLIES TO ALL DRAWINGS OF THIS TRADE

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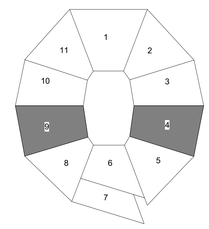

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NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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Cincinnati, OH 45202

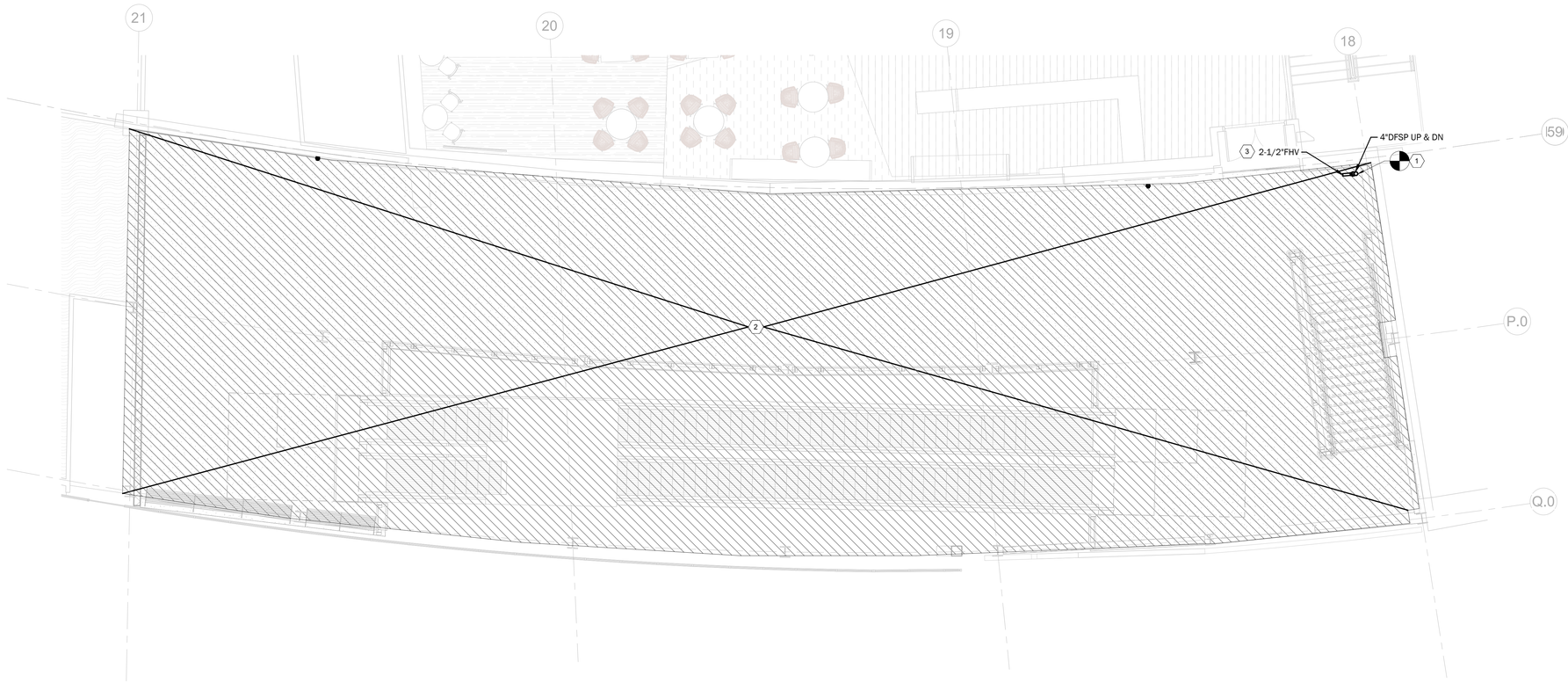
main 513.621.6211
kzf.com

STATE OF OHIO
TIMOTHY T. CHAMBERLAIN
75602
REGISTERED
PROFESSIONAL ENGINEER

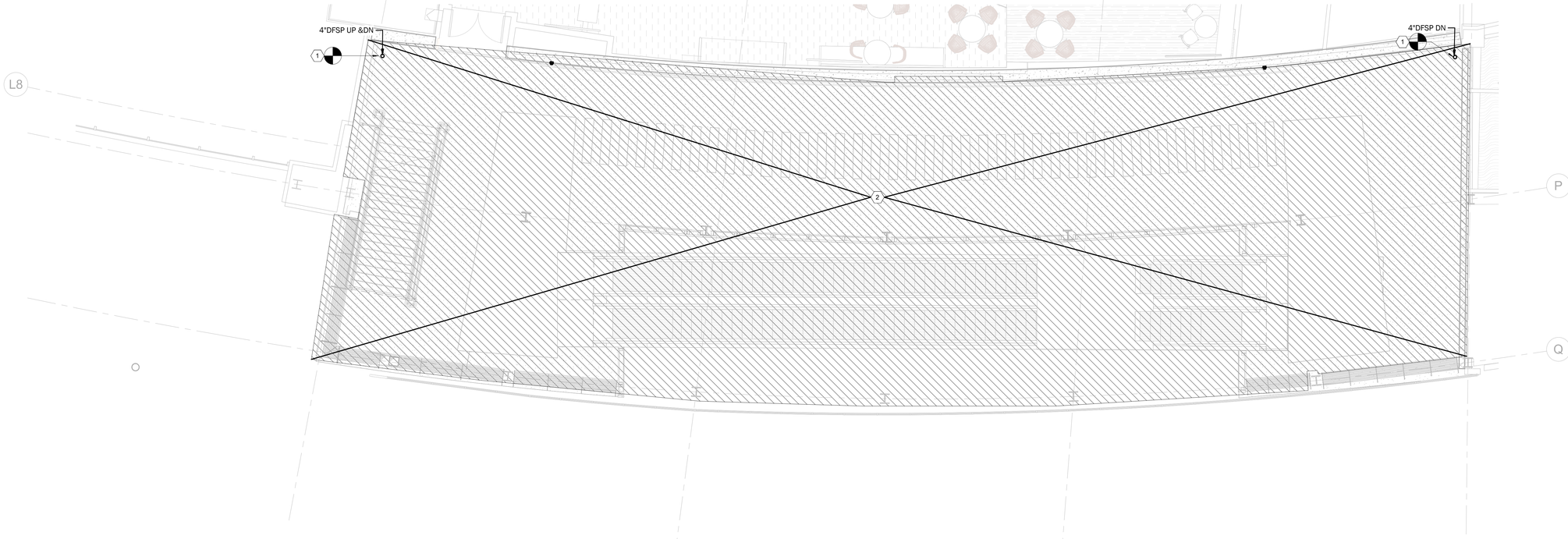
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 400 NEW WORK

DRAWING NUMBER ISSUE
FP202 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 FP203



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 FP203

DRAWING NOTES
DRAWING FP203

1 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO NEW 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

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NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers
CINCINNATI, OH

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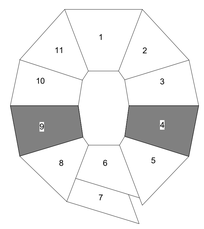

N

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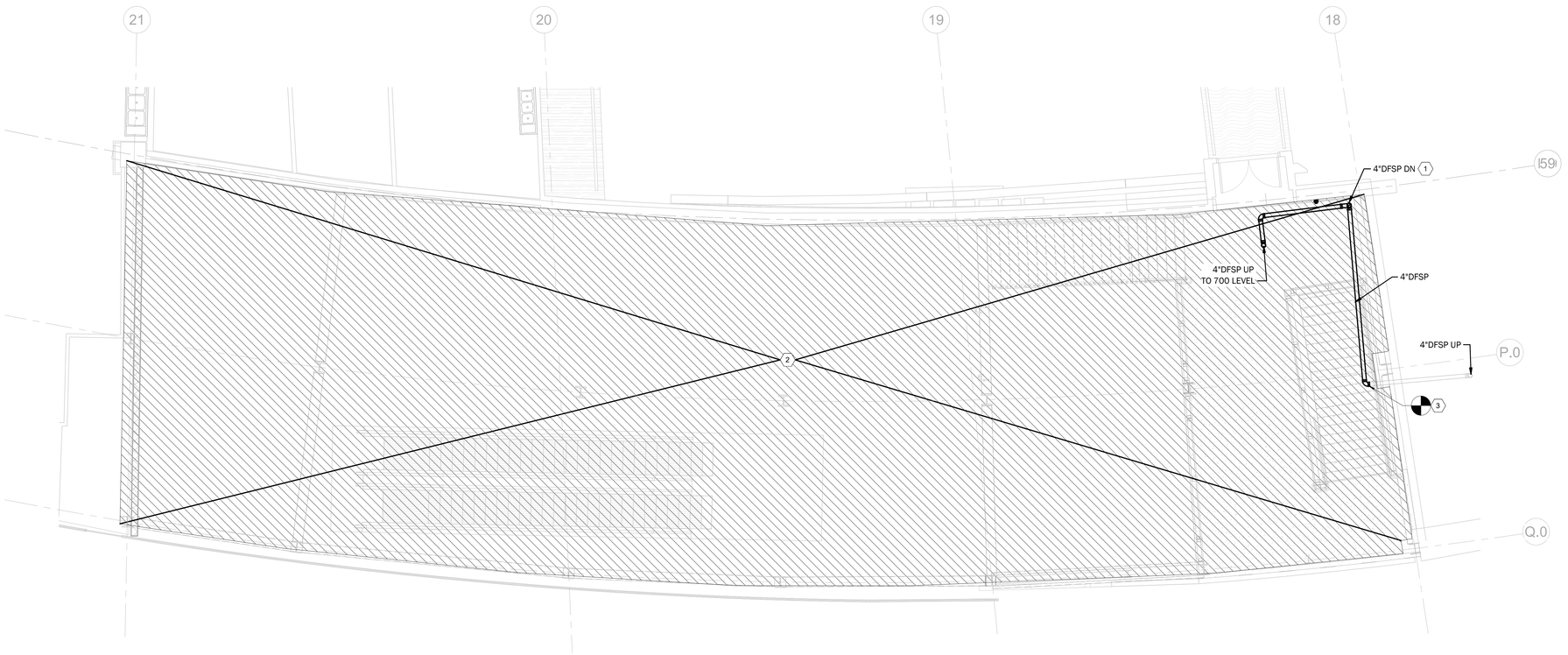
SCALE: 3/16"=1'-0"

STATE OF OHIO
RAJ
PROFESSIONAL ENGINEER
75602
REGISTERED

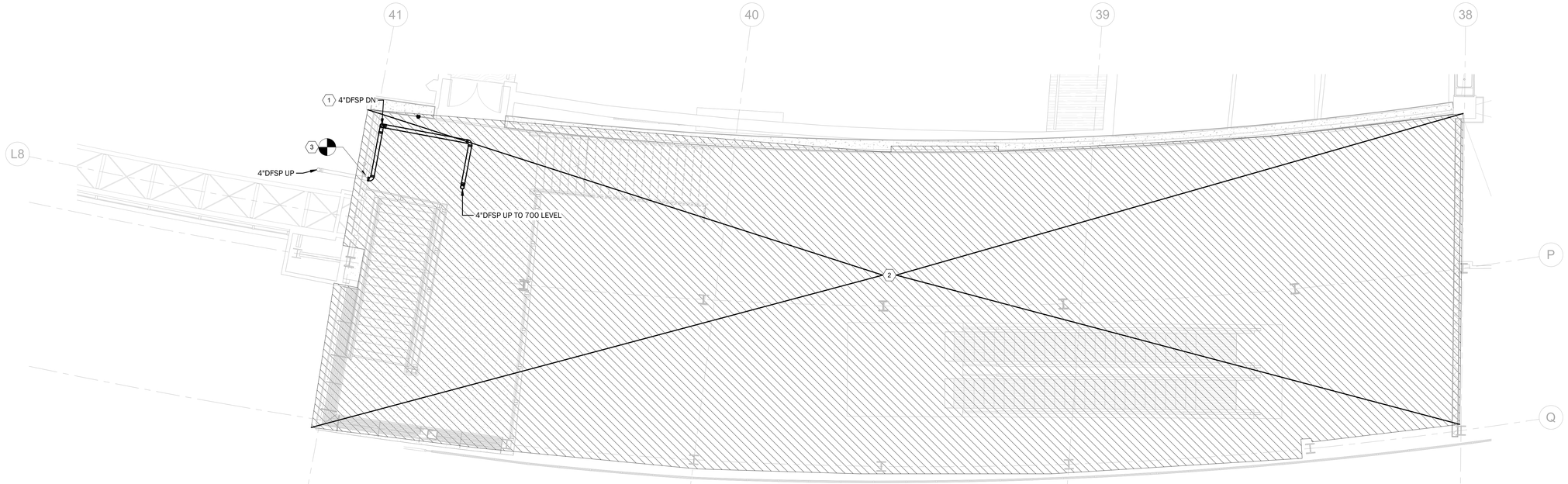
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 500 NEW WORK

DRAWING NUMBER ISSUE
FP203 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 FP204



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 FP204

DRAWING NOTES

DRAWING FP204

1 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO NEW 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

2 FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE NEW SPRINKLERS IN THIS AREA AND PROVIDE NEW DRY PENDENT SPRINKLER HEADS AROUND NEW WALLS, STAIRS AND ESCALATORS WHERE REQUIRED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE LIGHT HAZARD COVERAGE (0.10 GPM/1500 SQ. FT). SEE ARCHITECTURAL DRAWINGS FOR FINAL DEMOLITION AND NEW WORK SCOPE.

3 FIRE PROTECTION CONTRACTOR (FPC) TO TIE INTO EXISTING 4" DFSP PIPE AT THIS APPROXIMATE LOCATION LOCATED OUTSIDE THE AREA OF WORK SCOPE THAT WAS DEMOED DURING THE DEMOLITION PHASE OF THE PROJECT. ENSURE SYSTEM IN THIS AREA IS IN WORKING ORDER.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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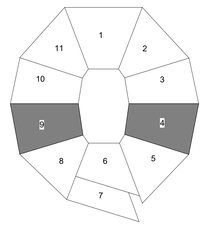

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3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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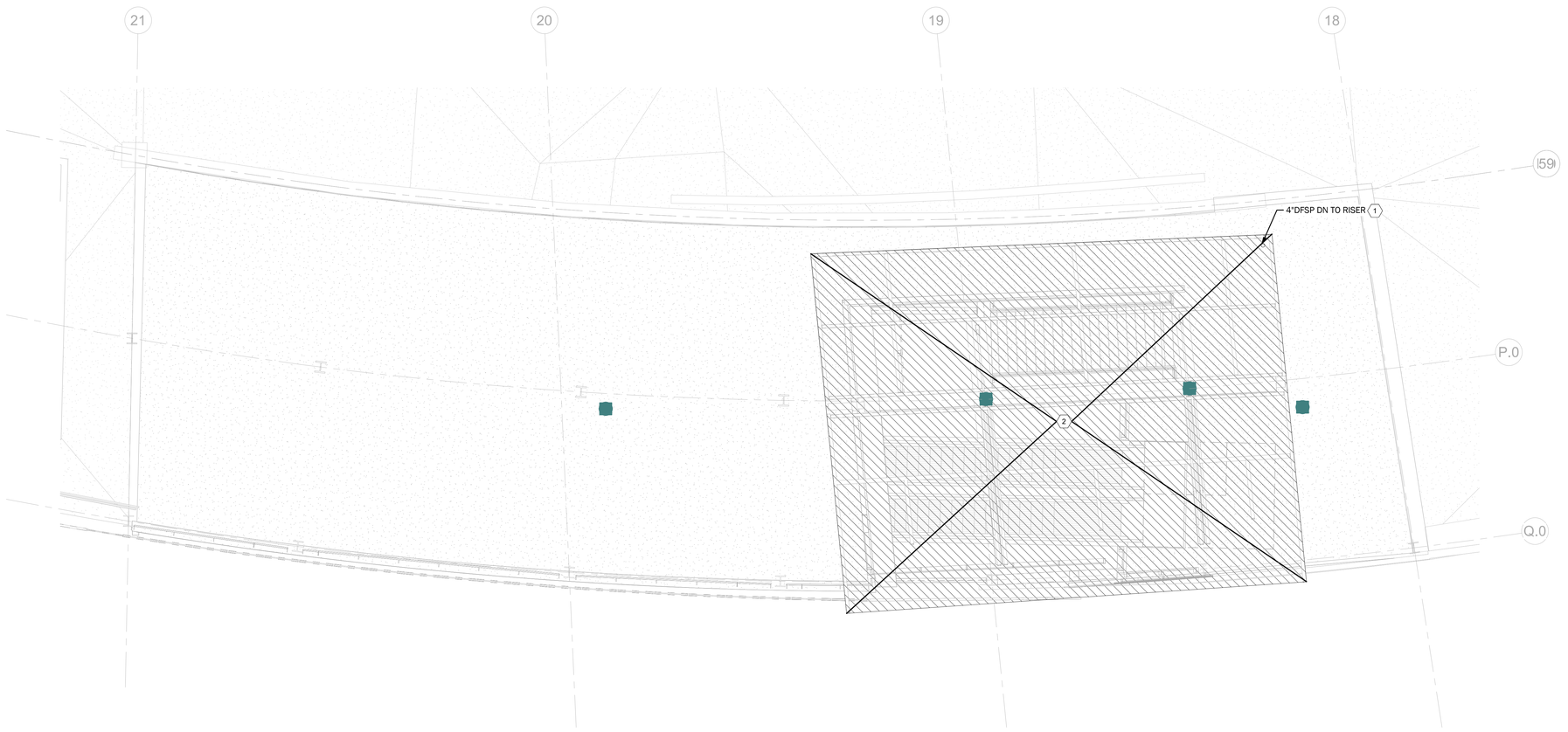
STATE OF OHIO
PROFESSIONAL ENGINEER
75602
REGISTERED

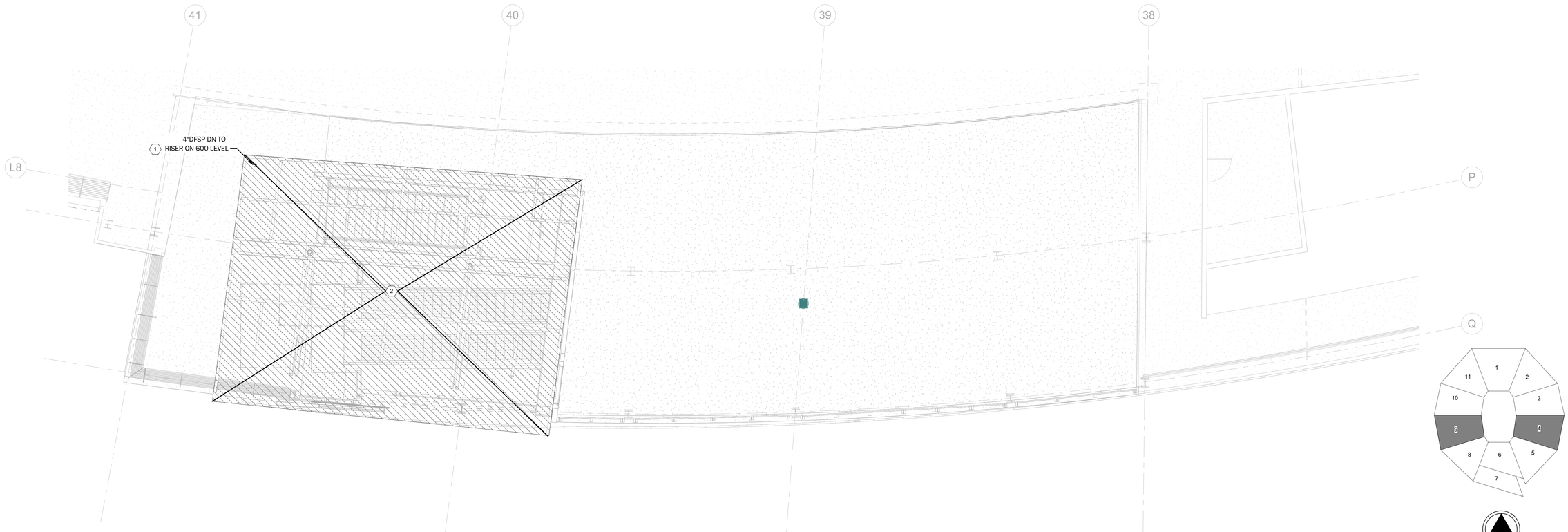
DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 600 NEW WORK

DRAWING NUMBER ISSUE
FP204 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 FP205



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 FP205

DRAWING NOTES
DRAWING FP205

1 FIRE PROTECTION CONTRACTOR (FPC) TO EXTEND NEW 4" DRY STANDPIPE RISER LOCATED ON THE 200 LEVEL AT THIS APPROXIMATE LOCATION.

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GENERAL NOTES
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A FOR KEY PLAN AND DRAWING INDEX SEE COVER SHEET.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS, SEE DRAWING FP-001.

C THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION IN THIS PROJECT SPACE IS 480'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

D PROVIDE COMPLIANCE WITH THE AHJ AND OHIO BILDING CODE, WHICH PARTIALLY ADOPTS THE 2009 IFC. FIRE PROTECTION CONTRACTOR SHALL PROVIDE NICET CERTIFIED DRAWINGS AND CALCULATIONS FOR THIS PROJECT.

E THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION AND BASIC SCOPE PRESENTATION. THE CONTRACTOR MUST PROVIDE A FULLY FUNCTIONAL FIRE SPRINKLER SYSTEM ALONG WITH HYDRAULIC CALCULATIONS AND COMPLETE CERTIFIED AND STAMPED DRAWINGS FOR PERMITTING AND CONSTRUCTION.

F DRAIN AND REFILL THE FIRE PROTECTION SYSTEM AFTER WORK IS COMPLETE.

G PERFORM FIRE WATCH OVER 8-HOUR DURATION IF FIRE SYSTEM IS DRAINED.

H EQUIPMENT AND/OR PIPING TEMPORARILY REMOVED FOR ACCESS IS TO BE STORED ON SITE AND PROTECTED FROM DAMAGE. ANY DAMAGED OCCURRED TO EQUIPMENT, PIPING, INSULATION, AND SPECIALTIES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPLACED WITH LIKE EQUIPMENT AND MATERIALS.

I INSULATE AND HEAT TRACE ALL WET SPRINKLER PIPING LOCATED IN OUTDOOR AREAS.

J FIRE PROTECTION CONTRACTOR (FPC) TO PROVIDE CLOSELY SPACED SPRINKLER HEADS AS NEEDED AROUND NEW ESCALATORS.

N

0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

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KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO
RAJ
RYAN JOSEPH
75602
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
RAJ	250127
DRAWN	DATE
RAJ	03/25/26
CHECKED	PROJ. MGR.
TTC	C. MOORMAN

FIRE PROTECTION PARTIAL PLANS LEVEL 700 NEW WORK

DRAWING NUMBER ISSUE
FP205 3.1

FIRE SYSTEM

- FACP — FIRE ALARM CONTROL PANEL
- FABP — FIRE ALARM BOOSTER PANEL
- ANNUN — REMOTE ANNUNCIATOR PANEL
- PIV — POST INDICATOR VALVE FLOW SWITCH
- F — PULL STATION
- COMBINATION STROBE ANNUNCIATION DEVICE ★ F = HORN S = SPEAKER
- HORN
- HORN STROBE
- STROBE
- SD ★ — SMOKE DETECTOR ★ R = RELAY BASE S = SOUNDER BASE
- HD — HEAT DETECTOR
- SD ★ — DUCT MOUNTED SMOKE DETECTOR ★ S = STANDARD VELOCITY H = HIGH VELOCITY
- RM — RELAY MODULE
- DH — DOOR HOLD
- FS — SPRINKLER SYSTEM WATER FLOW SWITCH
- TS — SPRINKLER SYSTEM TAMPER SWITCH
- MM — MONITOR MODULE
- CM — CONTROL MODULE
- CORRIDOR ZONE LIGHT ★ W = WALL C = CEILING
- SP — SPEAKER
- B — BELL

COMMUNICATION SYSTEM

- TELEPHONE OUTLET FLUSH MOUNTED ON WALL AT 18"AFF UNLESS OTHERWISE NOTED. W = WALL TELEPHONE MOUNTED AT 54"AFF. EXTEND 3/4"C WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING.
- DATA OUTLET FLUSH MOUNTED ON WALL AT 18"AFF UNLESS OTHERWISE NOTED. EXTEND 3/4"C WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING.
- TELEPHONE/DATA OUTLET FLUSH MOUNTED ON WALL AT 18"AFF UNLESS OTHERWISE NOTED. EXTEND 3/4" C WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING.
- 1D-D05 — DATA OUTLET ANNOTATION SYNTAX: 1D = 1 DATA DROP D05 = UNIQUE IDENTIFIER FOR DATA OUTLET
- TELEPHONE/DATA FLOOR OUTLET WITH ALL REQUIRED ACCESSORIES AND BRASS TRIM RINGS
- S — CEILING MOUNTED SPEAKER
- B — BELL - MOUNTED AT 90"AFF OR 6" BELOW CEILING
- C — CLOCK HANGER RECEPT.- MOUNTED AT 90"AFF OR 6" BELOW CEILING
- MIC — MICROPHONE JACK
- I — INTERCOM BACK BOX. EXTEND 3/4"C WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING
- TV — TELEVISION BACK BOX. EXTEND 3/4"C WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING

CONDUIT AND CONDUCTORS

- NEW CONDUIT OR CABLE CONCEALED EXCEPT IN MECHANICAL OR NON FINISHED SPACES
- EXISTING CONDUIT OR CABLE
- CONDUIT OR CABLE TO BE REMOVED
- CONDUIT OR CABLE TO BE REMOVED
- UNDERGROUND, UNDER FLOOR, UNDER SLAB CONDUIT
- FLEXIBLE CONDUIT
- CONDUIT TURNS UP (PENETRATES UPPER LEVEL OR TERMINATES)
- CONDUIT TURNS DOWN (PENETRATES LOWER LEVEL OR TERMINATES)
- CONDUIT RUNS UP AND DOWN (PASSES BETWEEN LEVELS)
- CONDUIT CHANGES ELEVATION (WITHIN SAME LEVEL)
- LPA-1,3,5 — PANEL DESIGNATOR, CIRCUIT NUMBERS
- BRANCH CIRCUIT HOMERUN
- fb1 — FEEDER DESIGNATION (TYPICAL)

DISTRIBUTION SYSTEM - PLAN VIEW

- M — MOTOR
- GENERATOR
- DISCONNECT SWITCH - FUSED
- DISCONNECT SWITCH - NON-FUSED
- MAGNETIC STARTER
- COMBINATION STARTER
- MANUAL MOTOR STARTER - SIZE OVERLOADS BASED ON MOTOR NAMEPLATE
- MISCELLANEOUS ELECTRICAL CONNECTION
- PB — PUSH BUTTON (START - STOP)
- ELECTRICAL PANEL 208/120V OR 120/240V
- ELECTRICAL PANEL 480/277V OR 480V
- MISCELLANEOUS ELECTRICAL PANEL
  - ★ PANEL DESIGNATION LP = 120/208V
  - ★ PANEL DESIGNATION HP = 277/480V
  - ★ PANEL DESIGNATION PP = 480V
  - ★ PANEL DESIGNATION EXX = EMERGENCY PANEL
  - ★ PANEL DESIGNATION RP = RELAY PANEL
- J — JUNCTION BOX
- J — LARGE CAPACITY JUNCTION BOX
- TRANSFORMER

LUMINAIRE

- A a — RECESSED LIGHT FIXTURE A = IDENTIFIER, a = SWITCH
- WALL MOUNTED LIGHT
- NIGHT LIGHT OR EMERGENCY LIGHT
- STRIP LIGHT OR INDUSTRIAL LIGHT
- SURFACE MOUNTED LIGHT OR PENDANT LIGHT
- DOWN LIGHT SURFACE MOUNTED OR RECESSED
- WALL WASH LIGHT SURFACE MOUNTED OR RECESSED
- EXIT LIGHT ARROWS = DIRECTION OF EXIT, SHADING = # OF FACES CONTRACTOR TO VERIFY ARROW DIRECTION IN FIELD
- COMBINATION EXIT SIGN EMERGENCY LIGHT
- EMERGENCY BATTERY LIGHT UNIT, HEADS AS SHOWN
- REMOTE EMERGENCY LIGHT HEAD
- EXTERIOR POLE LIGHT
- TRACK LIGHTING
- CEILING FAN
- FLOOD LIGHT
- TRACK HEAD LIGHT FIXTURE

SECURITY SYSTEM

- MS — INTRUSION DETECTION MOTION SENSOR
- BRG — INTRUSION DETECTION CONTROL PANEL
- DB — SECURITY SYSTEM MAIN DATABASE COMPUTER
- SCP — SECURITY SYSTEM CONTROL PANEL
- REQUEST TO EXIT PUSH BUTTON
- MR — REQUEST TO EXIT MOTION SENSOR
- KP — KEYPAD
- DPS — DOOR POWER SUPPLY
- CR ★ — PROXIMITY CARD READER
- HR ★ — HAZARDOUS LOCATION PROXIMITY CARD READER
- EL — ELECTRIC LATCH
- ES — ELECTRIC STRIKE
- KR ★ — PROXIMITY CARD READER WITH INTEGRAL KEY PAD
- ML — MAGNETIC LOCK
- MR ★ — MULLION STYLE PROXIMITY CARD READER
- MR ★ — MEDIUM RANGE PROXIMITY CARD READER
- DS — DOOR POSITION SWITCH
- DH — ELECTRIC DOOR HARDWARE
- DVR — DIGITAL VIDEO RECORDER
- M ★ — VIDEO SURVEILLANCE MONITOR
- MP — MULTIPLEXOR
- CPS — CAMERA POWER SUPPLY
- VIDEO SURVEILLANCE CAMERA
- PZ — PANEL TILT ZOOM KEYBOARD CONTROLLER
- VA — VIDEO AMPLIFIER
- VS — VIDEO SWITCHER

MISCELLANEOUS SYMBOLS

- 12 — SPECIFIC DRAWING NOTE (NUMBERED)
- EQUIP — NEW EQUIPMENT TAG
  - * EXISTING EQUIPMENT
  - + DESIGNATES EQUIPMENT FURNISHED BY OTHERS
  - ++ DESIGNATES EQUIPMENT FURNISHED & INSTALLED BY OTHERS
- WR 1 — RISER LABEL W=WASTE, E=EXHAUST, D=DOMESTIC WATER S=SUPPLY, R=RETURN; DESIGNATION NUMBER
- PLAN - NORTH, SCALE: 1/8" = 1'-0" — 1 / X100 — DETAIL NUMBER OF DRAWING; DRAWING NUMBER IN SERIES WHERE DETAIL APPEARS; SCALE OF PLAN; BUILDING NORTH INDICATOR
- DETAIL NORTH, SCALE: 1/4" = 1'-0" — 1 / X100 — DETAIL NUMBER OF DRAWING; DRAWING NUMBER IN SERIES WHERE DETAIL APPEARS; SCALE OF DETAIL; DIRECTION FACING WHEN VIEWING
- DIRECTION OF SECTION CUT; 1 / X100 — DETAIL NUMBER OF SECTION; SECTION; DRAWING NUMBER IN SERIES WHERE SECTION APPEARS
- 110 / 111 — MATCH LINE; DRAWING NUMBER WHERE THIS SIDE OF PLAN APPEARS
- 2 — REVISION NUMBER
- 12 — VALVE NUMBER
- 123 — ROOM NUMBER
- NEW TIE-IN POINT; X = TIE-IN POINT NUMBERS IF USED
- 12B — COLUMN NUMBER
- AB — UP TO SYMBOL PIPING UP TO FIXTURE ABOVE. REFER TO DIAGRAMS FOR SIZING

RECEPTACLE

- POWER POLE
- FURNITURE WHIP
- CORD REEL
- SINGLE RECEPTACLE,120 VOLT
- DUPLEX RECEPTACLE,120 VOLT
- DUPLEX FLOOR MOUNTED
- CEILING DUPLEX
- DUPLEX RECEPTACLE FOR EMERGENCY. PROVIDE ORANGE COVER PLATE.
- HIGH CAPACITY RECESSED FLOOR BOX, TO CONTAIN (2) 120V. DUPLEX RECEPTACLES AND (2) DATA/TELEPHONE JACKS.
- DUPLEX,GFCI RECEPTACLE,120 VOLT
- DUPLEX, SPLIT WIRED RECEPTACLE,120 VOLT
- EMERGENCY DOUBLE DUPLEX RECEPTACLE,120 VOLT
- DOUBLE DUPLEX RECEPTACLE,120 VOLT
- DOUBLE DUPLEX FLOOR MOUNTED
- SINGLE, SPECIAL PURPOSE RECEPTACLE AS IDENTIFIED BY NOTE
- MULTI-OUTLET ASSEMBLY, 2 PIECE WITH OUTLETS ON CENTERS AS INDICATED ON DRAWINGS WITH ALL REQUIRED FITTINGS AND ACCESSORIES. MOUNTING HEIGHT AS NOTED ON DRAWING.

* TYPICAL RECEPTACLE MOUNTING HEIGHT IS 18"AFF UNLESS NOTED OTHERWISE.

WALL SWITCH

- S^a_T — 120/277V SWITCH (FLUSH MOUNTED AT 44"AFF TO BOTTOM OF BOX UNLESS OTHERWISE NOTED)
- S^a_3 — 2 = DOUBLE POLE; 3 = 3 WAY; 4 = 4 WAY; M = MOTOR RATED; T = ROTARY TIME SWITCH; E = EXISTING; a = FIXTURES CONTROLLED; BY SWITCH
- OS OS ★ — OCCUPANCY SENSOR DUAL TECHNOLOGY, WALL MOUNTED ★ U = ULTRASONIC I = INFRARED
- OS OP — OCCUPANCY SENSOR DUAL TECHNOLOGY, CEILING MOUNTED OS = OCCUPANCY SENSOR OP = OCCUPANCY SENSOR WITH PHOTO CELL
- LOW VOLTAGE OCCUPANCY SENSOR PASSIVE INFRARED WALL SWITCH TYPE (FLUSH MOUNTED AT 44"AFF TO BOTTOM OF BOX UNLESS OTHERWISE NOTED)
- D^a_3 — DIMMER (MOUNTED AT 44"AFF TO BOTTOM OF BOX UNLESS OTHERWISE NOTED). a = FIXTURES CONTROLLED BY DIMMER
- WALL SWITCH TYPE OCCUPANCY SENSOR - PIR
- PC — PHOTO CELL

DISCONNECT SWITCH DESIGNATION

VOLTAGE; NUMBER OF POLES; 480 3; 30 NF; FRAME SIZE; FUSE SIZE
NF = NON-FUSED
P = PER EQUIPMENT NAMEPLATE DATA

DISTRIBUTION SYSTEM - SCHEMATIC DIAGRAMS

- NON-FUSIBLE SWITCH
- FUSIBLE SWITCH
- DISCONNECTING FUSE
- FUSE CUTOUT (NOTE WHETHER OIL OR AIR)
- POWER CIRCUIT BREAKER - STATIONARY
- POWER CIRCUIT BREAKER - DRAWOUT
- DISCONNECTING SWITCH - DRAWOUT
- OIL CIRCUIT BREAKER
- 800 / 600 — POWER AIR CIRCUIT BREAKER; FRAME SIZE; TRIP SETTING
- 600 / 500 — MOLDED CASE CIRCUIT BREAKER (FRAME/TRIP SETTING)
- CIRCUIT BREAKERS WITH ACCESSORIES: ST = SHUNT TRIP; AC = AUX. CONTACT; NA = NON-AUTOMATIC; EO = ELECTRICALLY OPERATED; UV = UNDERVOLTAGE TRIP; GFI = GROUND FAULT INTERRUPT
- 600 / 500 ST — FUSED SWITCH (RATING INDICATED); SWITCH SIZE; FUSE SIZE
- 60 / NF — NON-FUSED SWITCH (RATING INDICATED); SWITCH SIZE; NON-FUSED
- MAGNETIC MOTOR STARTER
- 600 / 500 — COMBINATION CIRCUIT BREAKER AND MAGNETIC MOTOR STARTER (FRAME/TRIP INDICATED)
- COMBINATION FUSED SWITCH AND MAGNETIC MOTOR STARTER
- TRANSFORMER △ = DELTA △ = DELTA
- TRANSFORMER △ = DELTA ⅄ = WYE
- GROUND CONNECTION
- POTHEAD
- LIGHTNING ARRESTOR
- CAPACITOR
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- A — INSTRUMENTS A = AMMETER, V = VOLTMETER
- INSTRUMENT TRANSFER SWITCH AS = AMMETER SWITCH VS = VOLTMETER SWITCH
- KWH — KW = KILOWATT METER, VAR = VARMETER PF = POWER FACTOR METER KWH = KILOWATT-HOUR METER KWD = KILOWATT-DEMAND METER
- BATTERY
- MAGNETIC STARTER
- AIR CIRCUIT BREAKER SERIES TRIP
- START/STOP WITH PILOT LIGHT
- START STOP
- HAND-OFF-AUTO
- HOA WITH PILOT LIGHT
- fb1 — FEEDER DESIGNATION (TYPICAL)

NURSE CALL SYSTEM

- DPS — DUAL PATIENT STATION
- PS — PATIENT STATION
- NC — MAIN NURSE CALL STATION
- PC — PULL CORD
- NDS — NURSE CALL DUTY STATION
- DOME LIGHT
- CB — CODE BLUE

ELECTRICAL ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISH FLOOR
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BD	BOARD
BKR	BREAKER
C	CONDUIT
CAB	CABINET
CATV	CO-AXIAL CABLE TV SYSTEM
CB	CIRCUIT BREAKER
CLG	CEILING
C L	CENTERLINE
CIRC	CIRCUIT
CKT	CIRCUIT
CONT	CONTROL
CRT	COLOR CRT MONITOR
CT	CURRENT TRANSFORMER
C/C	CENTER TO CENTER
DIA	DIAMETER
DISC	DISCONNECT
ELP	EMERGENCY LIGHTING PANEL
EPP	EMERGENCY POWER PANEL
EXIST	EXISTING
E	EXISTING TO REMAIN
F	FLOOR
FA	FIRE ALARM
FDR	FEEDER
FIX	FIXTURE
FRACT	FRACTIONAL
FSBL	FUSIBLE
G	GROUND
GFR	GROUND FAULT RELAY
GFCI	GROUND FAULT CURRENT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HTG	HEATING
IC	INTERCOM
IG	ISOLATED GROUND
J	JUNCTION BOX
KO	KNOCK OUT
LCD	COLOR LCD MONITOR
MFGR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MTG	MOUNTING
PA	PUBLIC ADDRESS
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PB	PUSH BUTTON
PP	POWER PANEL
P.A.	PUBLIC ADDRESS
RECEPT	RECEPTACLE
SW	SWITCH
SWBD	SWITCH BOARD
SWBD	SWITCH BOARD
EXIST	EXISTING
TELE	TELEPHONE
TV	TELEVISION
T.V.	TELEVISION
TRANS	TRANSFER
TFMR	TRANSFORMER
TYP	TYPICAL
W	WIRE
WL	WALL
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX SEE ARCHITECTURAL DRAWING.

B FOR LEGEND, AND SYMBOLS, SEE THIS DRAWING.

C COORDINATE THE INSTALLATION WITH EXISTING CONDITIONS. THE OWNER'S MAINTENANCE STAFF, AND THE WORK OF OTHER CONTRACTORS. THE CONTRACTOR SHALL INCUR ALL COSTS FOR RELOCATION OF EQUIPMENT CONFLICTING WITH EXISTING EQUIPMENT OR NEW WORK BY OTHER DISCIPLINES.

D EXAMINE EXISTING CONDITIONS. VERIFY ALL DIMENSIONS. THE DRAWINGS ARE ILLUSTRATIVE AND MAY NOT REFLECT EXACT CONDITIONS OR DIMENSIONS.

E DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OR GEOMETRICAL RELATIONSHIP OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET, FITTING, AND COMPONENT. DO NOT USE THE PLANS FOR THE EXACT LOCATION OF EQUIPMENT, FIXTURES OR ARCHITECTURAL ITEMS SUCH AS WALLS, WINDOWS, SOFFITS, AND PILASTERS. SPECIFIC LOCATIONS, MOUNTING HEIGHTS AND OVERALL DIMENSIONS OF DEVICES AND FIXTURES ARE TO BE OBTAINED FROM THE ARCHITECTURAL DETAILS WHEN AVAILABLE.

F THE DESIGN AND DRAWINGS ARE BASED ON THE USE OF SPECIFIC REFERENCE PRODUCTS. THE SELECTION OF WHICH HAS IMPACTED THE DESIGNS OF OTHER TRADES. IF ALTERNATE MANUFACTURERS, FUEL SOURCES, SIZES, OR MODELS ARE SUBMITTED OR BID, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO COORDINATE ALL IMPACTS PRIOR TO BID. NO EXTRAS WILL BE ALLOWED FOR CHANGES REQUIRED TO ACCOMMODATE ALTERNATE PRODUCTS THAT ARE BID OR INSTALLED AT THE CONTRACTOR'S OPTION. ENGINEERING FEES WHICH RESULT FROM RE-DESIGN FOR ALTERNATE PRODUCTS SHALL BE PAID BY THE CONTRACTORS AT NO ADDITIONAL COST TO THE OWNER.

G DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION PRIOR TO BID.

H WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MORE STRINGENT SHALL APPLY. NOTIFY THE ENGINEER OF ALL CONFLICTS FOR RESOLUTION OR INTERPRETATION.

I NOTIFY THE OWNER AND FIELD VERIFY CONDITIONS BEFORE TRENCHING, SAW CUTTING, CORING, OR MAKING OTHER STRUCTURAL MODIFICATIONS. INSURE THAT NO ADVERSE EFFECT TO THE BUILDING'S STRUCTURAL INTEGRITY WILL OCCUR.

J ANY EXISTING CONDITION DISCOVERED DURING THE DEMOLITION OR CONSTRUCTION PROCESS WHICH, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICES, SHOULD BE REMEDIED, SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT IMMEDIATELY, IN WRITING.

K COORDINATE THE LOCATION OF AIR TERMINAL DEVICES AND EQUIPMENT WITH THE CONTRACTORS FROM OTHER TRADES BEFORE ORDERING, FABRICATING, OR INSTALLING. CEILING-MOUNTED SPRINKLER, LIGHTING, AND ELECTRICAL EQUIPMENT MAY TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL EQUIPMENT. SEE REFLECTED CEILING PLANS FOR CEILING GRID AND LIGHTING LAYOUT FOR COORDINATION OF FINAL AIR TERMINAL LOCATIONS.

L PROVIDE PROTECTION TO THE EXISTING ROOF FROM DAMAGE OF ANY KIND DURING ALL PHASES OF THE PROJECT.

M OBTAIN WRITTEN APPROVAL FROM THE ENGINEER BEFORE RE-USING EXISTING EQUIPMENT, COMPONENTS, OR OPENINGS.

N EXCEPT WHERE MODIFIED BY SPECIFIC NOTATION, THE INDICATION OR DESCRIPTION OF ANY ITEM IN THE DRAWINGS, SPECIFICATIONS, OR BOTH CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM, REGARDLESS OF WHETHER OR NOT THIS INSTRUCTION IS EXPLICITLY STATED AS PART OF THE INDICATION OR DESCRIPTION.

O COORDINATE ALL SERVICE OUTAGES WITH THE OWNER. MAINTAIN SERVICE TO OTHER PARTS OF THE BUILDING DURING DEMOLITION.

P COORDINATE ALL DEMOLITION WORK WITH THE NEW WORK OF ALL OTHER TRADES.

Q PATCH ALL HOLES IN FLOORS, WALLS, AND CEILINGS RESULTING FROM DEMOLITION WHICH WILL NOT BE USED FOR THE NEW WORK. USE MATERIALS TO MATCH THE EXISTING FINISH AND FIRE RATING.

R TURN OVER TO THE OWNER ALL REMOVED EQUIPMENT THAT THE OWNER WISHES TO KEEP. DISPOSE OF ALL REMAINING EQUIPMENT.

S COORDINATE CEILING DEVICE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.

T THE CONTRACTOR SHALL HAVE A FORMAL WORK SAFETY PROGRAM WHICH MEETS WEEKLY AND INCLUDES ALL EMPLOYEES AND SUB-CONTRACTORS ON SITE.

U THE CONTRACTOR SHALL CONDUCT A MEETING AT THE BEGINNING OF EACH SHIFT TO FAMILIARIZE THE WORKERS WITH THE REQUIREMENTS OF THE DAY'S WORK.

V THE DRAWINGS INDICATE THE REQUIRED SIZE AND POINTS OF TERMINATION OF CONDUIT AND SUGGEST PROPER ROUTES TO CONFORM TO THE STRUCTURE. AVOID OBSTRUCTIONS AND PRESERVE CLEARANCES. HOWEVER, IT IS NOT INTENDED THAT DRAWINGS INDICATE ALL NECESSARY OFFSETS, AND IT SHALL BE THE WORK OF THIS CONTRACTOR TO INSTALL CONDUIT AND EQUIPMENT IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER INSTRUCTIONS OR COST TO THE OWNER.

W PRIOR TO SUBMITTING A BID, THE EC SHALL PERFORM A DETAILED WALK-THROUGH FIELD INSPECTION, TO REVIEW THE EXISTING STRUCTURES AND PREMISES, TO DETERMINE ALL EXISTING CONDITIONS, DEVICE/EQUIPMENT LOCATIONS, AND SHALL MAKE ALL NECESSARY ALLOWANCES FOR ALL REQUIRED ELECTRICALLY RATED DEMOLITION AND NEW CONSTRUCTION WORK. THIS PRE-BID INSPECTION BY THE EC SHALL INCLUDE INSPECTION OF ALL APPLICABLE ACCESSIBLE CEILING CAVITY, AREAS ETC.

X SHOULD THE EC TAKE ANY EXCEPTIONS TO PROVIDING ANY RELATED DEMOLITION OR NEW WORK; SUCH EXCEPTIONS SHALL BE STATED IN DETAIL WITHIN BID. NO SUBSEQUENT ALLOWANCE TO THE CONTRACT COST SHALL BE MADE FOR ANY INSUFFICIENT ALLOWANCES MADE BY THE EC DURING BIDDING WHICH MAY RESULT FROM THE EC FAILURE TO VISIT THE JOB SITE AND REVIEW DRAWINGS. DEMOLITION RELATED WORK MAY NOT BE SPECIFICALLY INDICATED ON DRAWINGS, BUT SHALL BE INCLUDED UNDER BASE BID.

Y ALL ELECTRICALLY RELATED DEMOLITION, RELOCATION, ETC WORK, INCLUDING WORK DESCRIBED HEREIN, SHALL BE UNDER BASE BID AND SUCH WORK SHALL APPLY NOT ONLY TO LIGHTING AND POWER SYSTEMS, BUT ALSO TO ALL OTHER APPLICABLE ELECTRICAL SYSTEMS.

Z ROUTING OF NEW CONDUIT WORK IN EXISTING BUILDING SHALL BE APPROVED BY OWNERS REP PRIOR TO INSTALLATION.

AA IT IS RECOGNIZED THAT THERE MAY BE SOME CONDUIT SYSTEMS RENDERED INACTIVE BY DEMOLITION, CAUSING DISCONNECTION OF DOWNSTREAM OUTLETS, ETC. IT SHALL BE THE RESPONSIBILITY OF THE EC TO INVESTIGATE THESE TYPES OF CONDITIONS PRIOR TO DEMOLITION. PROVIDE ALL NECESSARY CORRECTIVE ELECTRICAL WORK PRIOR (INCLUDING CONDUIT, BOXES, WIRING, CONNECTIONS, ETC) TO DEMOLITION TO ENSURE DOWNSTREAM DEVICES REMAIN PERMANENTLY ACTIVE THROUGHOUT DEMOLITION, NEW CONSTRUCTION AND AFTER PROJECT COMPLETION.
TO THE EXTENT THAT SUCH WORK IS UNCOVERED IN THE IMMEDIATE PROJECT AREAS AFFECTED BY DEMOLITION AND/OR NEW CONSTRUCTION AND ONLY TO THE LIMITED EXTENT THAT IT APPLIES TO PRE-EXISTING GENERAL INSTALLATION METHODS (MISSING JB PLATES, OPEN JB KNOCKOUTS, CONDUIT ANCHORING, EXPOSED LIGHTING AND POWER WIRING/CONNECTIONS, ETC).

AB ALL EXISTING WIRING, CONDUIT, ETC. WHICH IS ACCESSED AND/OR USED UNDER THIS PROJECT SHALL BE INSPECTED AND BROUGHT INTO COMPLIANCE WITH CURRENT NEC BY THE EC. THIS SHALL APPLY ONLY TO EQUIPMENT, DEVICES, AND/OR FIXTURES THAT ARE SPECIFICALLY WITHIN THE AREA OF SCOPE FOR THIS PROJECT.

AC IF MORE EXTENSIVE CODE OR SAFETY VIOLATIONS ARE DISCOVERED BY THE EC, THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION (DETAILED IN WRITING) OF THE OWNER'S REP ALONG WITH THE CONTRACTORS PROPOSED COST FOR CORRECTIONS.

AD THE CONTRACTOR SHALL HAVE A FORMAL WRITTEN LOCK-OUT/TAG-OUT PROCEDURE TO INSURE THE SAFETY OF PERSONS WORKING ON SITE. THE LOCK-OUT/TAG-OUT PROCEDURE SHALL MEET THE REQUIREMENTS OF OSHA.

AE ALL DIMENSIONS ARE TO THE CENTER OF DEVICE UNLESS OTHERWISE NOTED.

AF IN PROJECT AREAS WHERE CEILINGS ARE REMOVED AND REPLACED AT THE SAME OR NEARLY THE SAME ELEVATION, THE HVAC CONTRACTOR WILL TEMPORARILY REMOVE, SUPPORT, AND REINSTALL ALL AIR DEVICES IN THE CEILING GRID AS PART OF THE PROJECT SCOPE.

SOME SYMBOLS AND ABBREVIATIONS APPEARING ON THIS SHEET MAY NOT BE USED ON THE PROJECT.

NO.	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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DAVIES engineering group
DaviesEngineeringGroup.com • 513.943.2273
Cincinnati, OH • Fort Worth, TX • Elizabethtown, KY • Lawrenceburg, IN

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Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

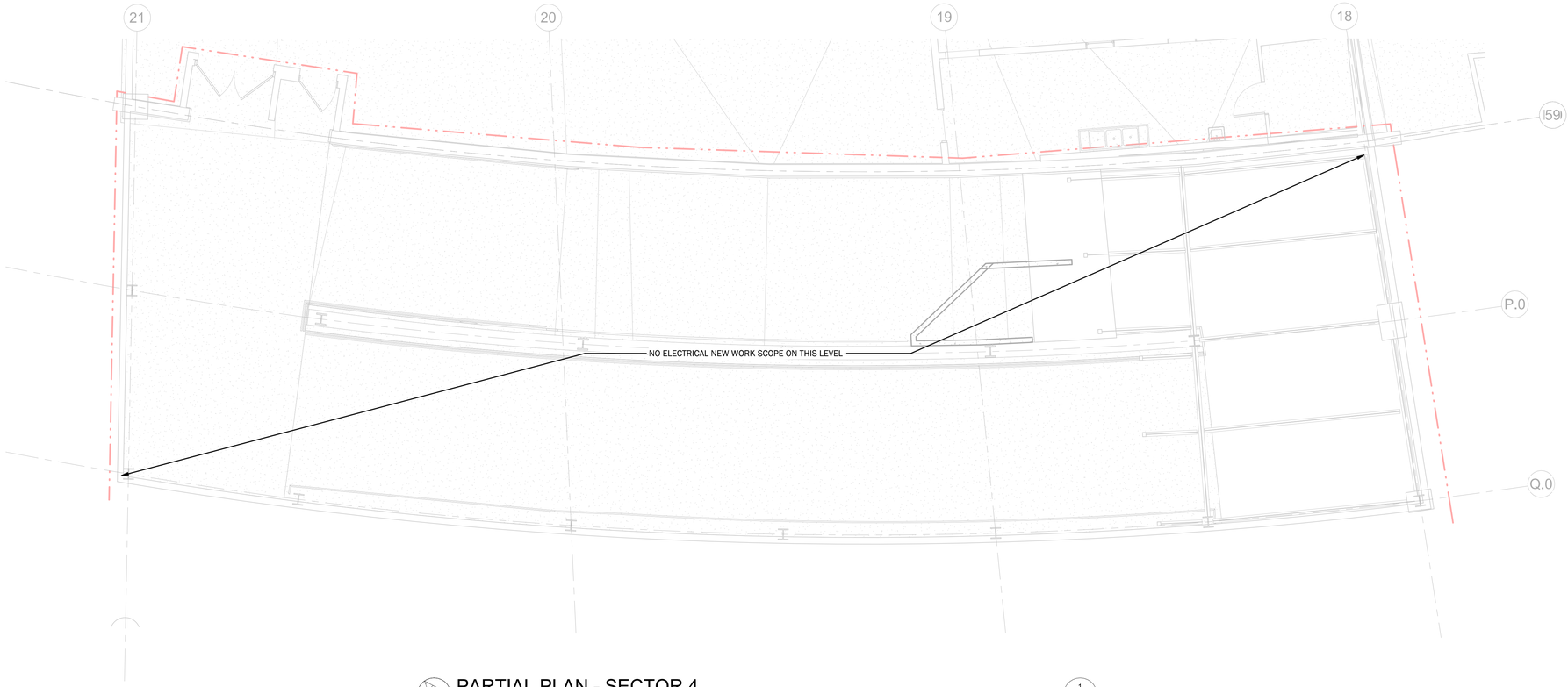
main 513.621.6211
kzf.com

STATE OF OHIO — MICHAEL A. HUNTWORK — E-75660 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/07/22
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL LEGEND & GENERAL NOTES

DRAWING NUMBER	ISSUE
E001	3.1

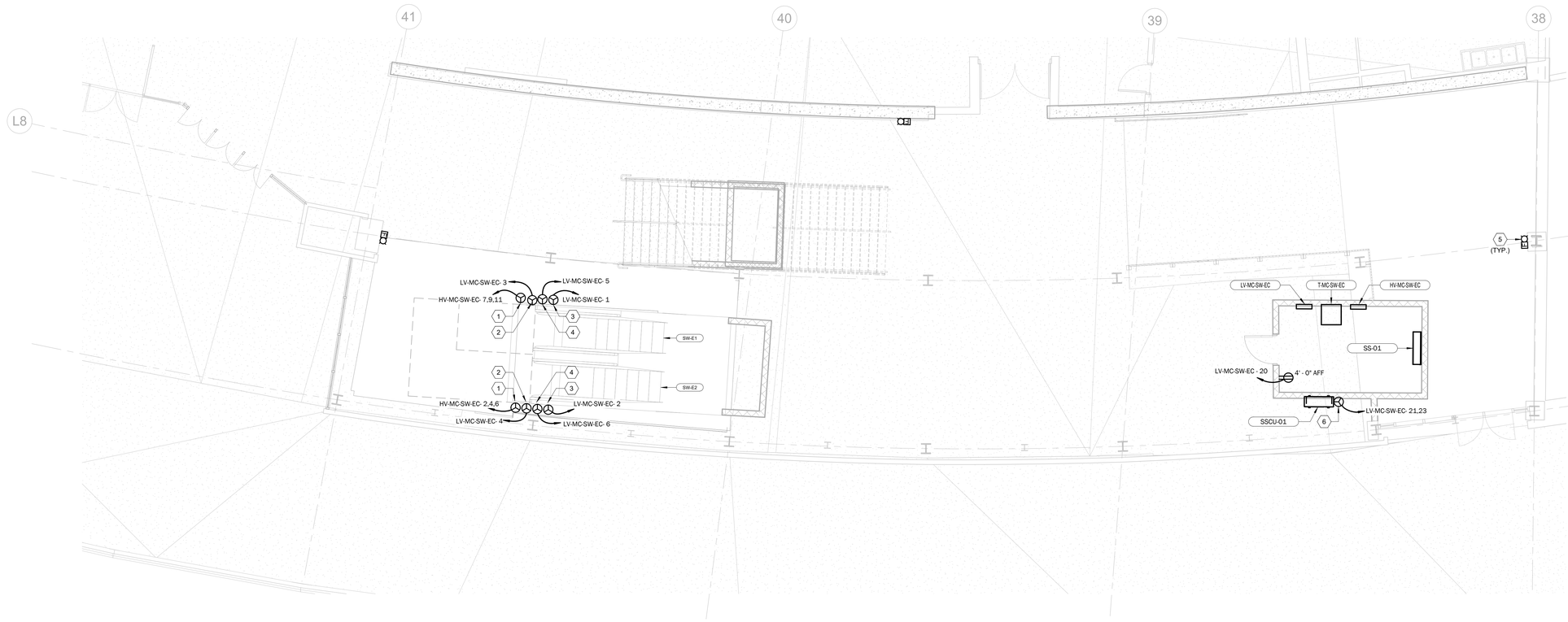


NORTH

PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

1 E200



NORTH

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

2 E200

DRAWING NOTES

1 PROVIDE 480V THREE PHASE POWER FOR TRUSS HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (3)#10, #10G in 3/4"C

2 PROVIDE 120V SINGLE PHASE POWER FOR COMBPLATE HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (2)#12, #12G IN 1/2"C

3 PROVIDE 120V SINGLE PHASE POWER FOR ESCALATOR LIGHTS, LAMP RECEPTACLES, AND SERVICE OUTLETS. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

4 PROVIDE 120V SINGLE PHASE POWER FOR BALUSTRADE, SKIRT, AND HANDRAIL LIGHTING. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

5 PROVIDE FIRE ALARM HORN AND STROBE AND CONNECT TO EXISTING FIRE ALARM SYSTEM. TYPICAL FOR ALL FIRE ALARM HORN AND STROBE DEVICES.

6 PROVIDE 208V SINGLE PHASE POWER TO SPLIT SYSTEM AIR CONDITIONER AND ASSOCIATED CONDENSING UNIT. PROVIDE WEATHERPROOF, LOCKABLE, NON-FUSED DISCONNECT SWITCH WITHIN SIGHT OF UNIT. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

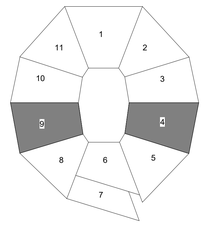
A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL THE PANELS AFFECTED BY SCOPE OF WORK.

D THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION OF THE PROJECT SPACE IS 500'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.



N

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

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Cincinnati, OH 45202

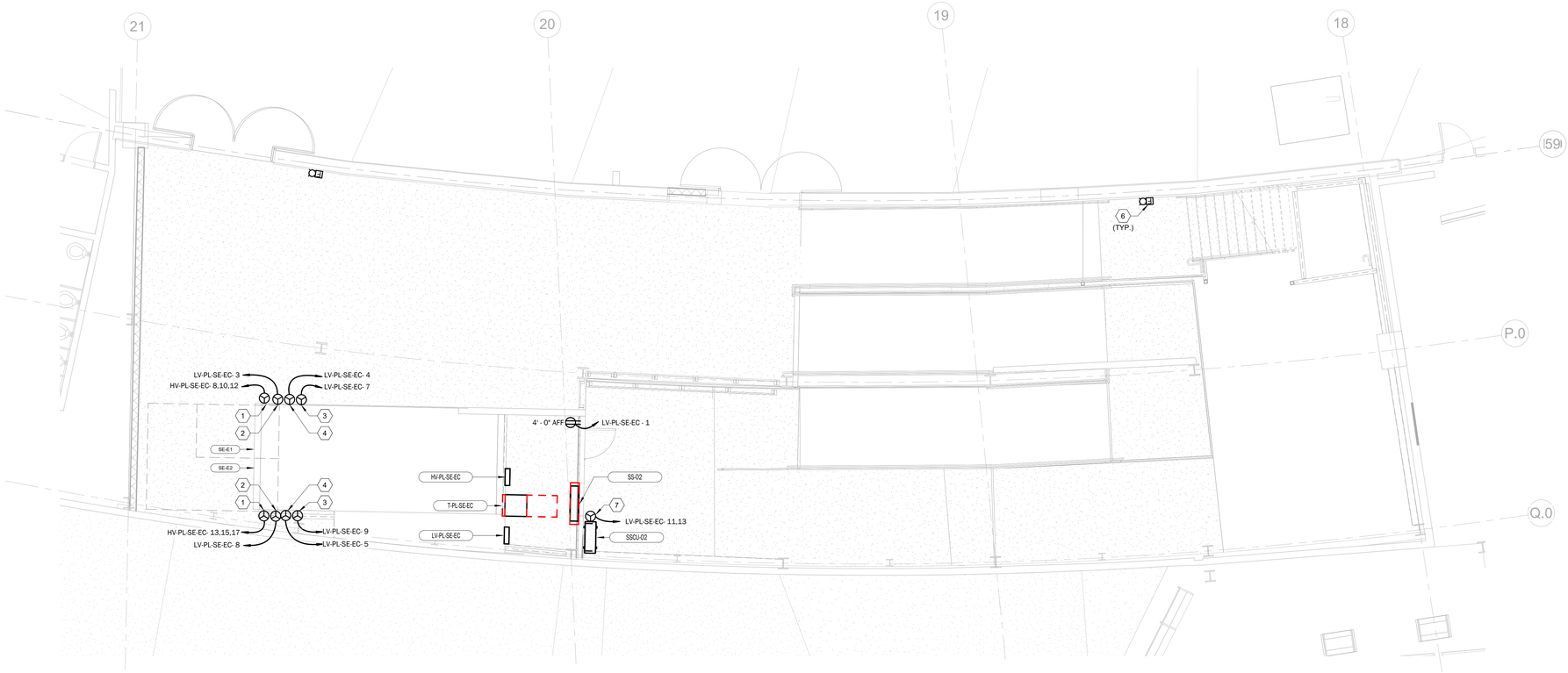
main 513.621.6211
kzf.com

STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 200 NEW WORK POWER

DRAWING NUMBER	ISSUE
E200	3.1

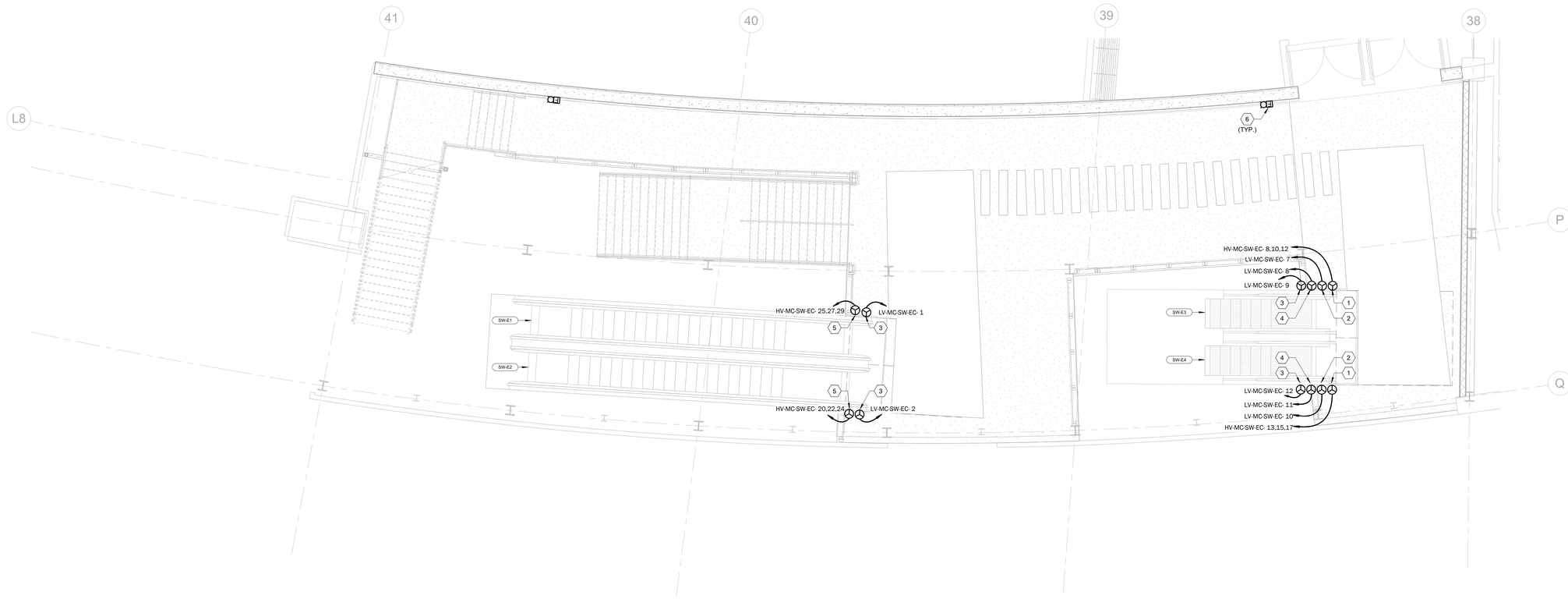


NORTH

PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

1 E201



NORTH

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

2 E201

DRAWING NOTES

1 PROVIDE 480V THREE PHASE POWER FOR TRUSS HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (3)#10, #10G in 3/4"C

2 PROVIDE 120V SINGLE PHASE POWER FOR COMBPLATE HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (2)#12, #12G IN 1/2"C

3 PROVIDE 120V SINGLE PHASE POWER FOR ESCALATOR LIGHTS, LAMP RECEPTACLES, AND SERVICE OUTLETS. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

4 PROVIDE 120V SINGLE PHASE POWER FOR BALLISTRADE, SKIRT, AND HANDRAIL LIGHTING. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

5 PROVIDE 480V THREE PHASE POWER FOR ESCALATOR AND MOTOR CONTROLLER. CONNECT TO INDICATED PANEL. FEEDER SIZE: (3)#10, #10G IN 3/4"C

6 PROVIDE FIRE ALARM HORN AND STROBE AND CONNECT TO EXISTING FIRE ALARM SYSTEM. TYPICAL FOR ALL FIRE ALARM HORN AND STROBE DEVICES.

7 PROVIDE 208V SINGLE PHASE POWER TO SPLIT SYSTEM AIR CONDITIONER AND ASSOCIATED CONDENSING UNIT. PROVIDE WEATHERPROOF, LOCKABLE, NON-FUSED DISCONNECT SWITCH WITHIN SIGHT OF UNIT. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL THE PANELS AFFECTED BY SCOPE OF WORK.

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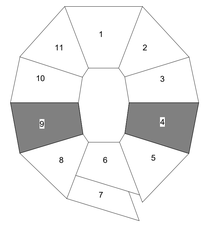
E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.



0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

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Cincinnati, OH 45202

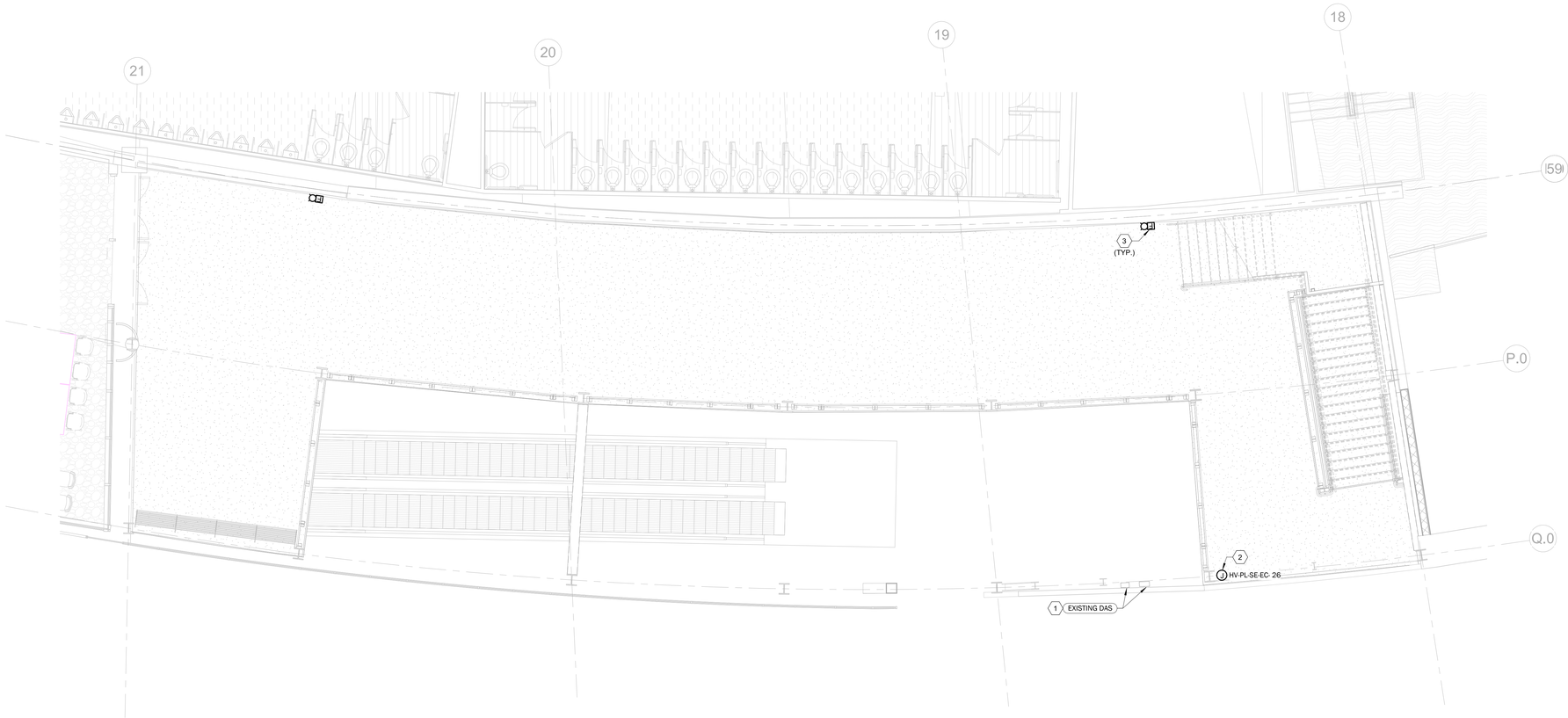
main 513.621.6211
kzf.com

STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

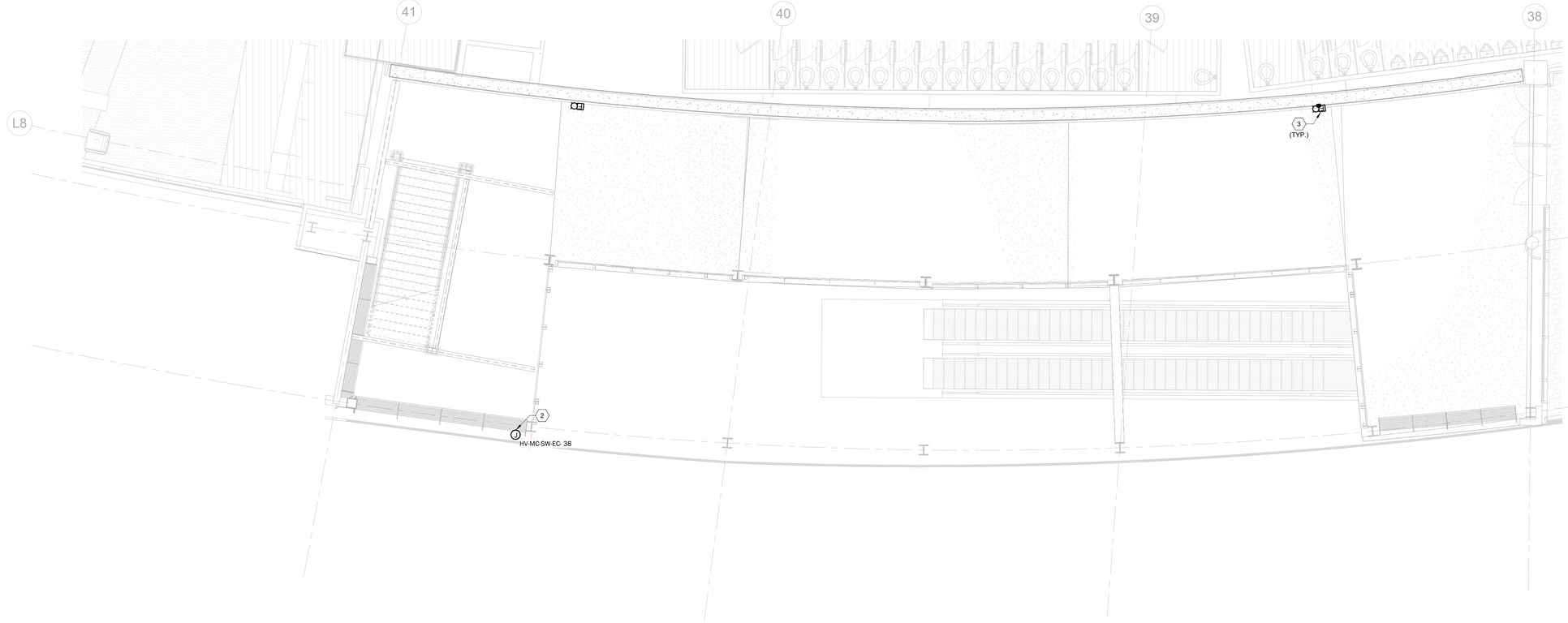
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 300 NEW WORK POWER

DRAWING NUMBER	ISSUE
E201	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 E202



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 E202

DRAWING NOTES

1 COORDINATE ANY REQUIRED RELOCATION OF EXISTING DISTRIBUTED ANTENNAE SYSTEM (DAS) EQUIPMENT AND ASSOCIATED CABLING WITH OWNER AND DAS PROVIDER PRIOR TO CONSTRUCTION. PROVIDE TEMPORARY SUPPORT AND REINSTALL TO MAINTAIN EXISTING SYSTEM COVERAGE.

2 PROVIDE 277V SINGLE PHASE POWER TO A JUNCTION BOX FOR FUTURE FACADE LIGHTING. INSTALL CONDUIT FROM SOURCE TO JUNCTION BOX. PROVIDE BRANCH CIRCUIT CONDUCTORS, CAPPED, COILED, AND LABELED FOR FUTURE USE.

3 PROVIDE FIRE ALARM HORN AND STROBE AND CONNECT TO EXISTING FIRE ALARM SYSTEM. TYPICAL FOR ALL FIRE ALARM HORN AND STROBE DEVICES.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

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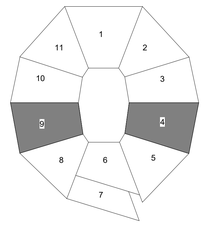
E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.



0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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Cincinnati, OH 45202

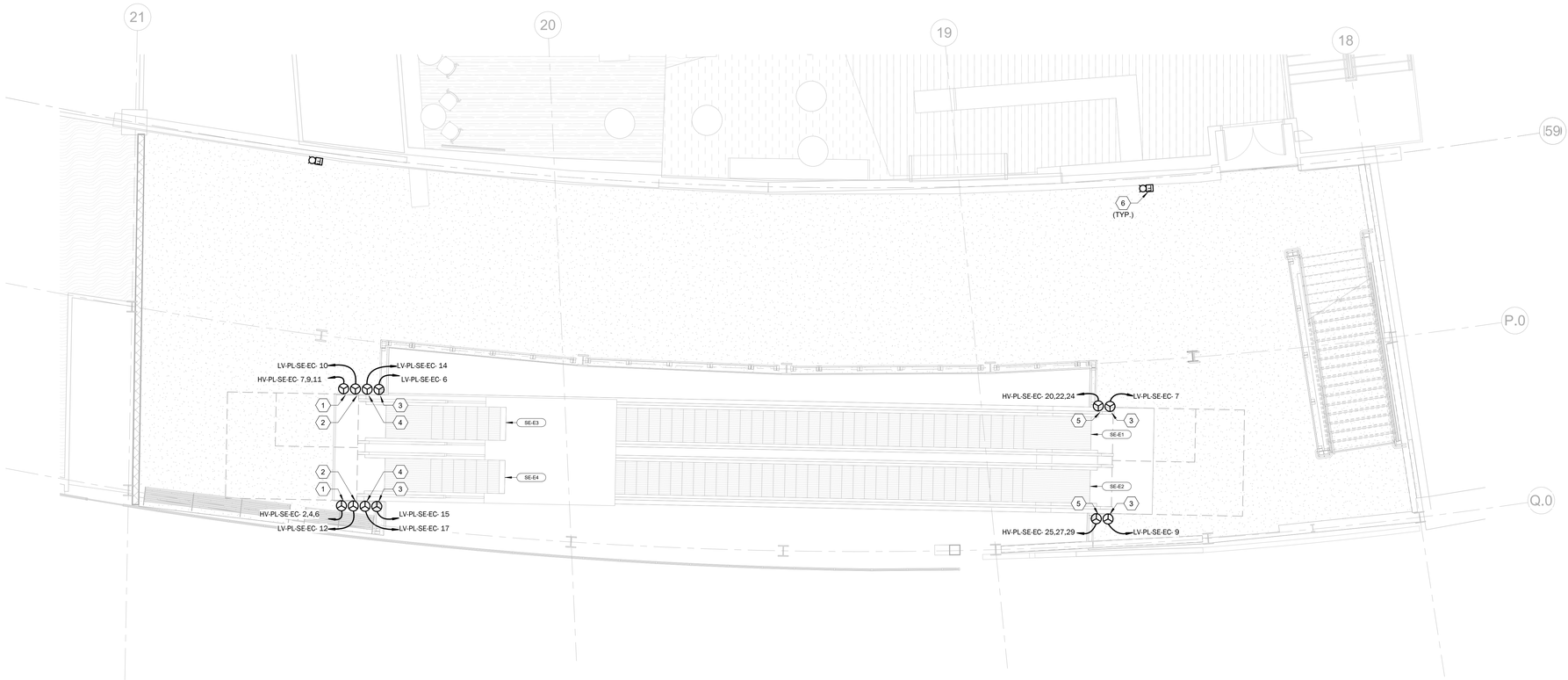
main 513.621.6211
kzf.com

STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 400 NEW WORK POWER

DRAWING NUMBER	ISSUE
E202	3.1

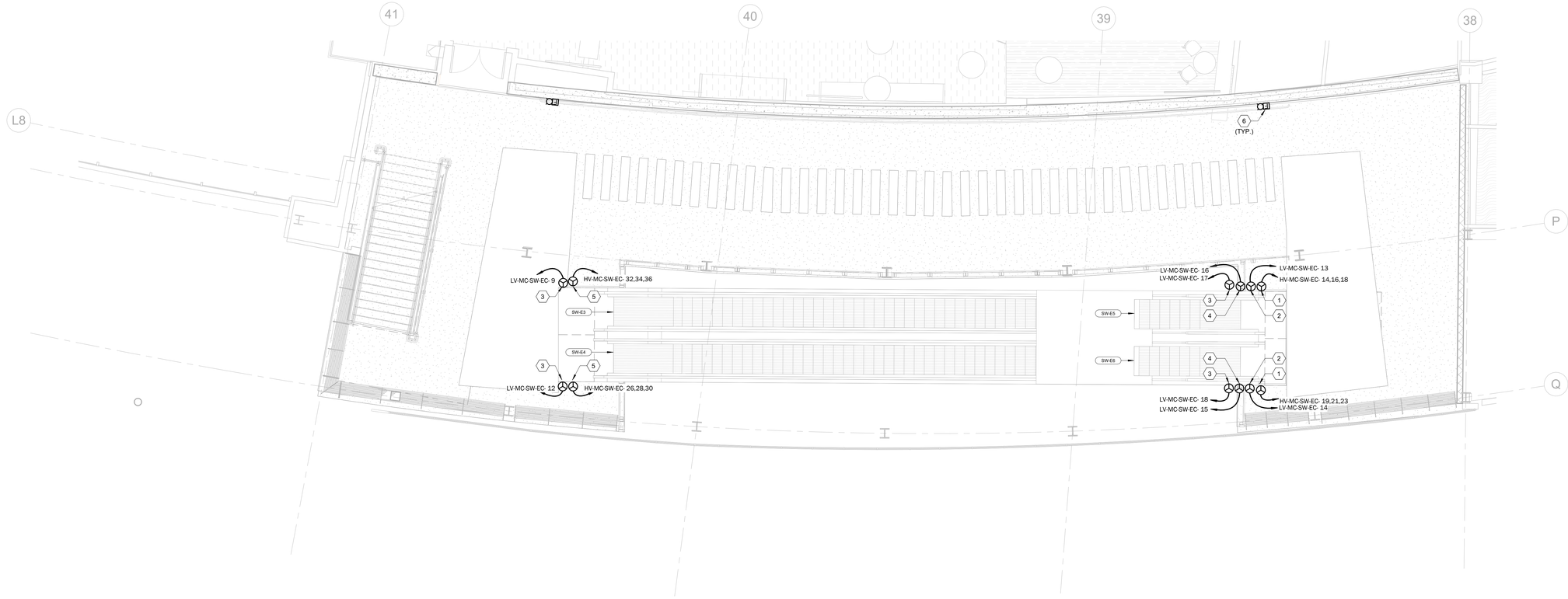


PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 E203



PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 E203

DRAWING NOTES

1 PROVIDE 480V THREE PHASE POWER FOR TRUSS HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (3)#10, #10G in 3/4"C

2 PROVIDE 120V SINGLE PHASE POWER FOR COMBPLATE HEATERS. CONNECT TO PANEL INDICATED. FEEDER SIZE: (2)#12, #12G IN 1/2"C

3 PROVIDE 120V SINGLE PHASE POWER FOR ESCALATOR LIGHTS, LAMP RECEPTACLES, AND SERVICE OUTLETS. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

4 PROVIDE 120V SINGLE PHASE POWER FOR BALUSTRADE, SKIRT, AND HANDRAIL LIGHTING. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

5 PROVIDE 480V THREE PHASE POWER FOR ESCALATOR AND MOTOR CONTROLLER. CONNECT TO INDICATED PANEL. FEEDER SIZE: (3)#6, #8G IN 3/4"C

6 PROVIDE FIRE ALARM HORN AND STROBE AND CONNECT TO EXISTING FIRE ALARM SYSTEM. TYPICAL FOR ALL FIRE ALARM HORN AND STROBE DEVICES.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

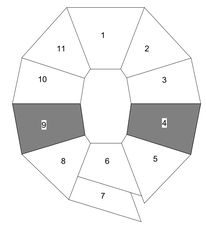
A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL THE PANELS AFFECTED BY SCOPE OF WORK.

D THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION OF THE PROJECT SPACE IS 500'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.



N

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO.	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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Cincinnati, OH 45202

main 513.621.6211

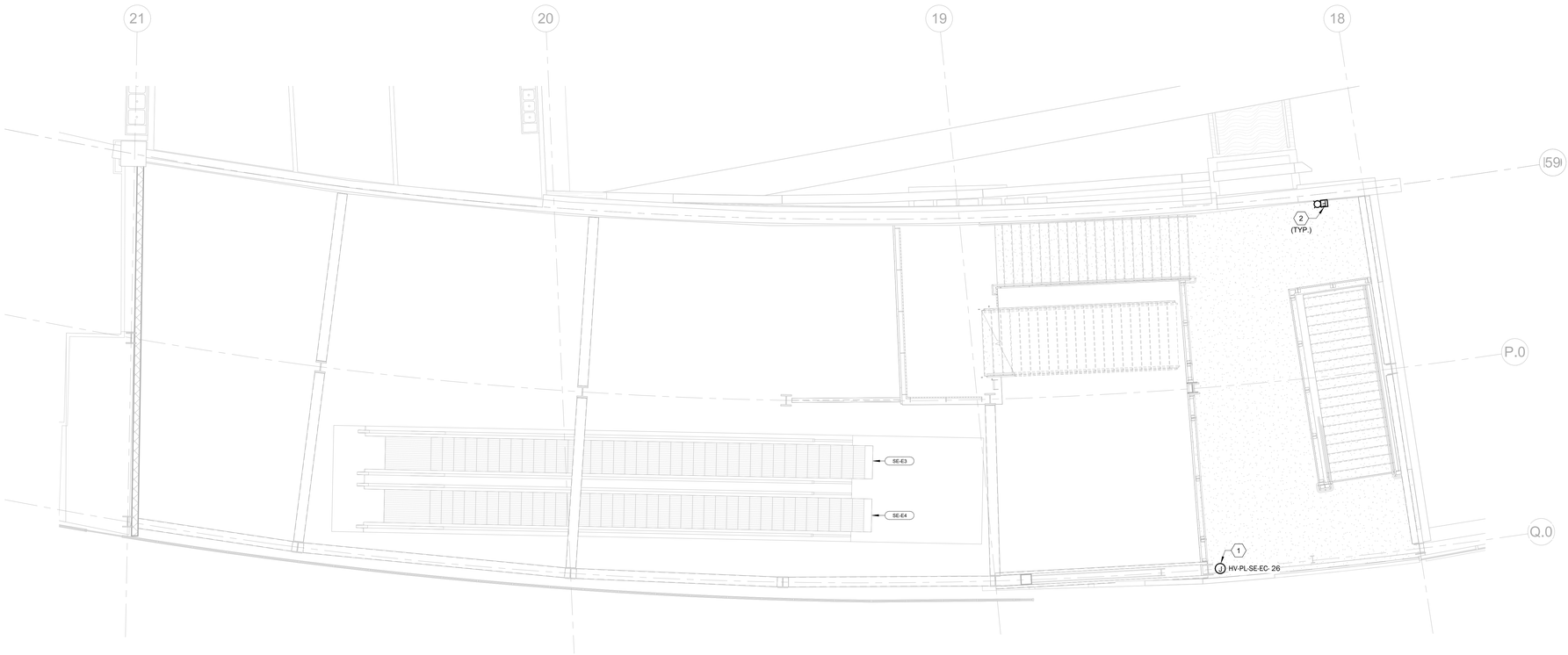
kzf.com

STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

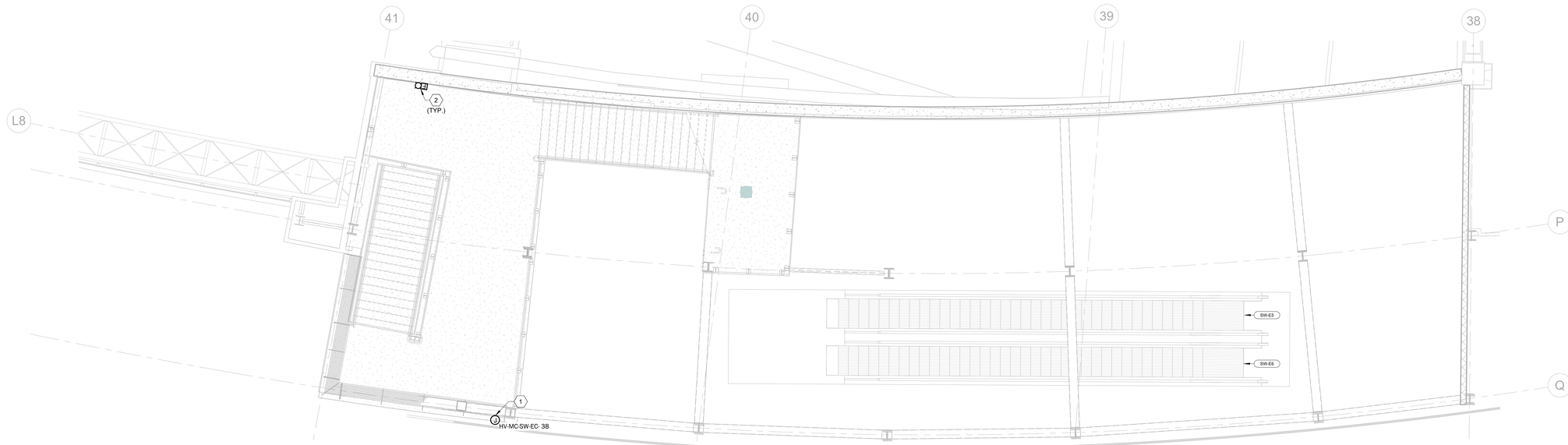
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 500 NEW WORK POWER

DRAWING NUMBER	ISSUE
E203	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 E204



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 E204

DRAWING NOTES

1 PROVIDE 277V SINGLE PHASE POWER TO A JUNCTION BOX FOR FUTURE FACADE LIGHTING. INSTALL CONDUIT FROM SOURCE TO JUNCTION BOX. PROVIDE BRANCH CIRCUIT CONDUCTORS, CAPPED, COILED, AND LABELED FOR FUTURE USE.

2 PROVIDE FIRE ALARM HORN AND STROBE AND CONNECT TO EXISTING FIRE ALARM SYSTEM. TYPICAL FOR ALL FIRE ALARM HORN AND STROBE DEVICES.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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CINCINNATI, OH

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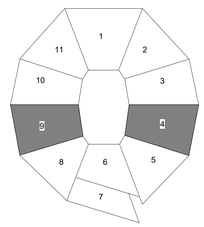
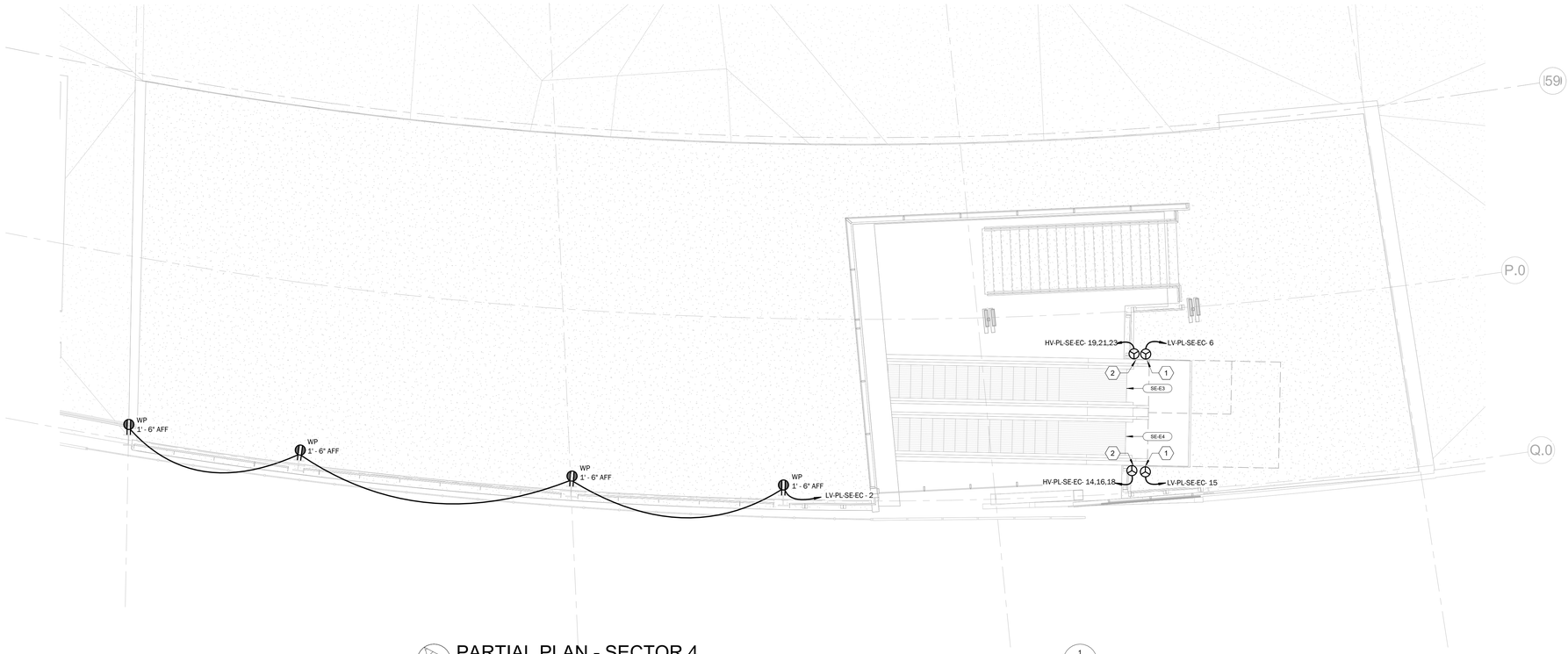


N

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 600 NEW WORK POWER

DRAWING NUMBER	ISSUE
E204	3.1



PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

NORTH

1 / E205

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

NORTH

2 / E205

DRAWING NOTES

1 PROVIDE 120V SINGLE PHASE POWER FOR ESCALATOR LIGHTS, LAMP RECEPTACLES, AND SERVICE OUTLETS. CONNECT TO INDICATED PANEL. FEEDER SIZE: (2)#12, #12G IN 1/2"C

2 PROVIDE 480V THREE PHASE POWER FOR ESCALATOR AND MOTOR CONTROLLER. CONNECT TO INDICATED PANEL. FEEDER SIZE: (3)#6, #8G IN 3/4"C

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

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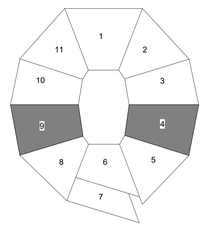

N

0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

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CINCINNATI, OH

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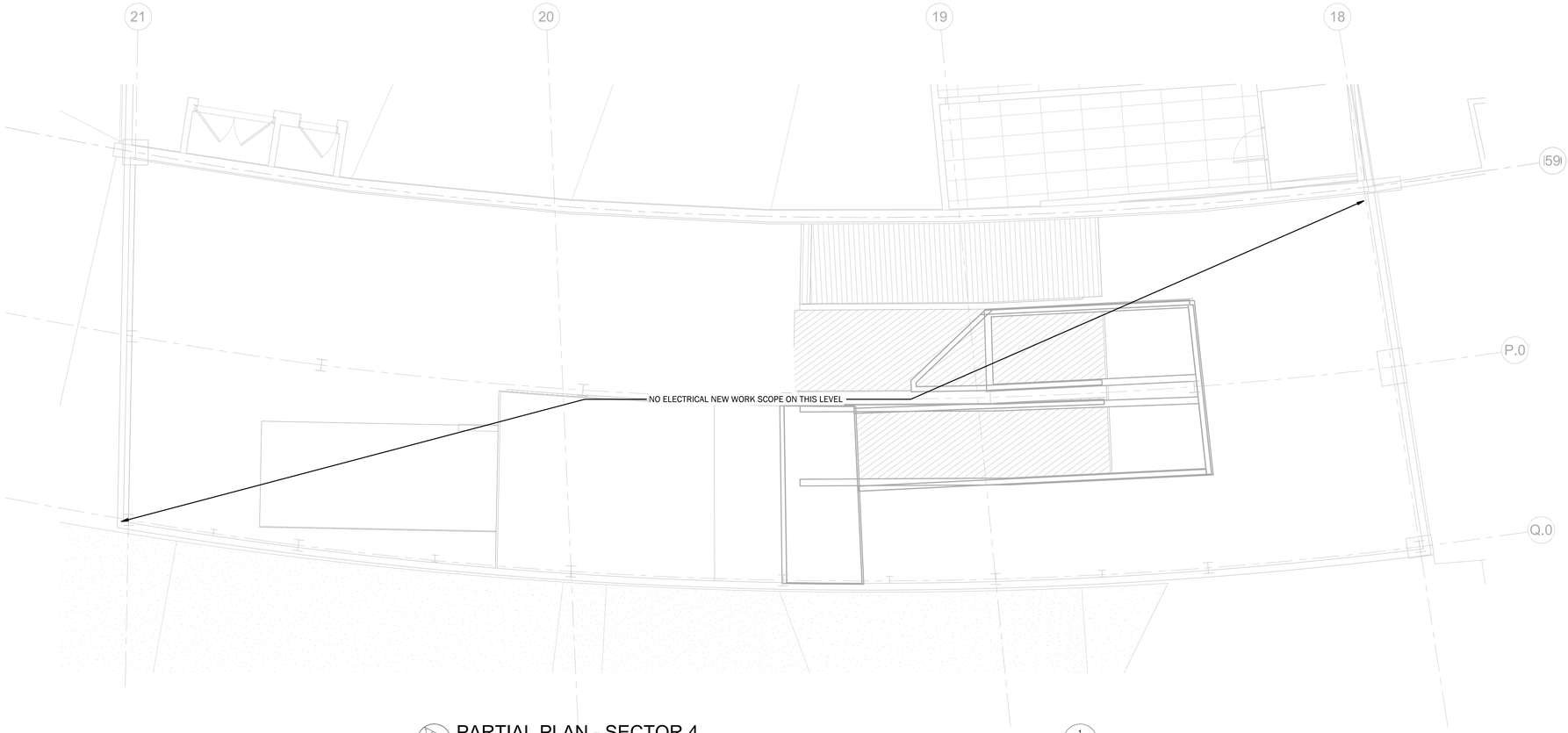
STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 700 NEW WORK POWER

DRAWING NUMBER	ISSUE
E205	3.1

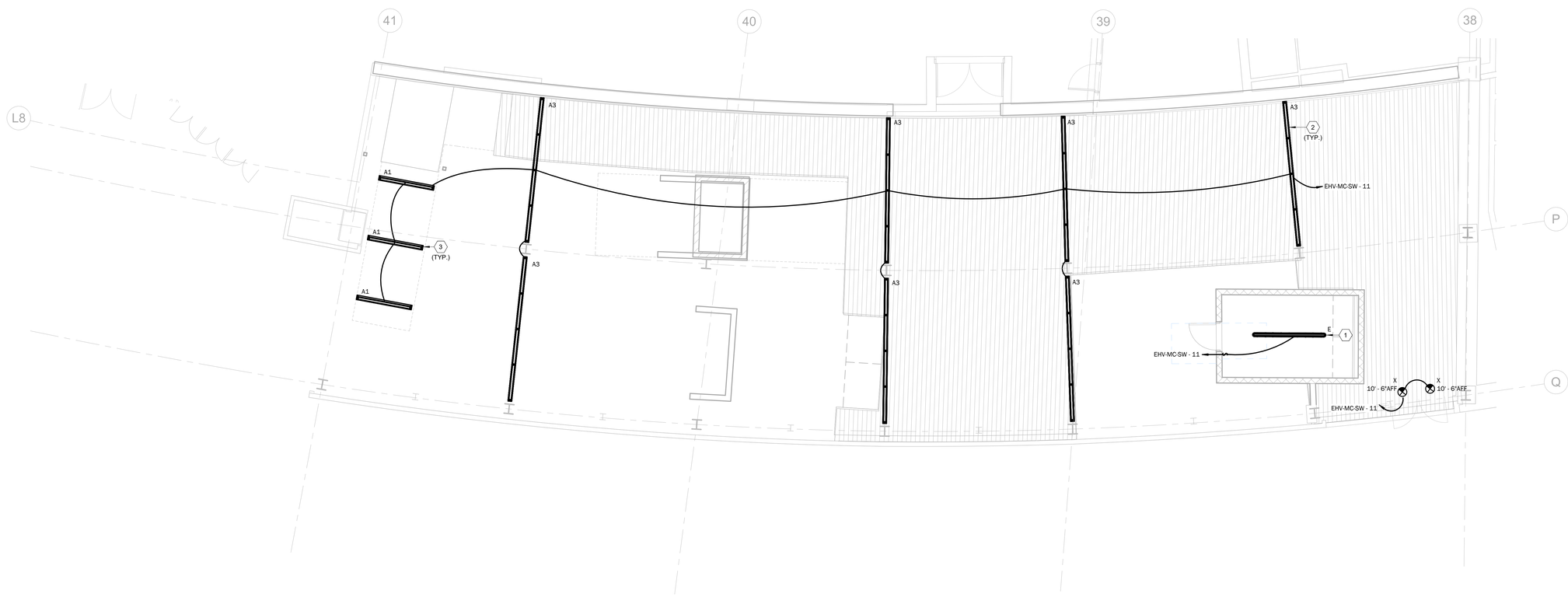


NORTH

PARTIAL PLAN - SECTOR 4

SCALE: 3/16" = 1'-0"

1 E206



NORTH

PARTIAL PLAN - SECTOR 9

SCALE: 3/16" = 1'-0"

2 E206

DRAWING NOTES

1 MOUNT LIGHT FIXTURE TO THE CEILING ABOVE.

2 MOUNT LIGHT FIXTURE AT A CONSISTENT BOTTOM-OF-FIXTURE ELEVATION OF 12' - 0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE MOUNTING STEM LENGTHS WITH FIELD CONDITIONS AND STRUCTURAL ELEVATIONS TO MAINTAIN UNIFORM FIXTURE ELEVATION. PROVIDE MANUFACTURER'S STEM LENGTHS AS REQUIRED. TYPICAL FOR ALL TYPE A3 FIXTURES.

3 MOUNT LIGHT FIXTURE TO UNDERSIDE OF STAIR STRUCTURE. TYPICAL FOR ALL FIXTURES OF THIS TYPE.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

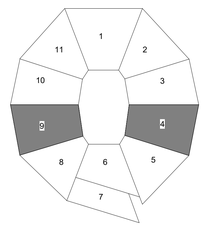
A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL THE PANELS AFFECTED BY SCOPE OF WORK.

D THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2), THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION OF THE PROJECT SPACE IS 500'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.



0 4' 8' 12'

SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

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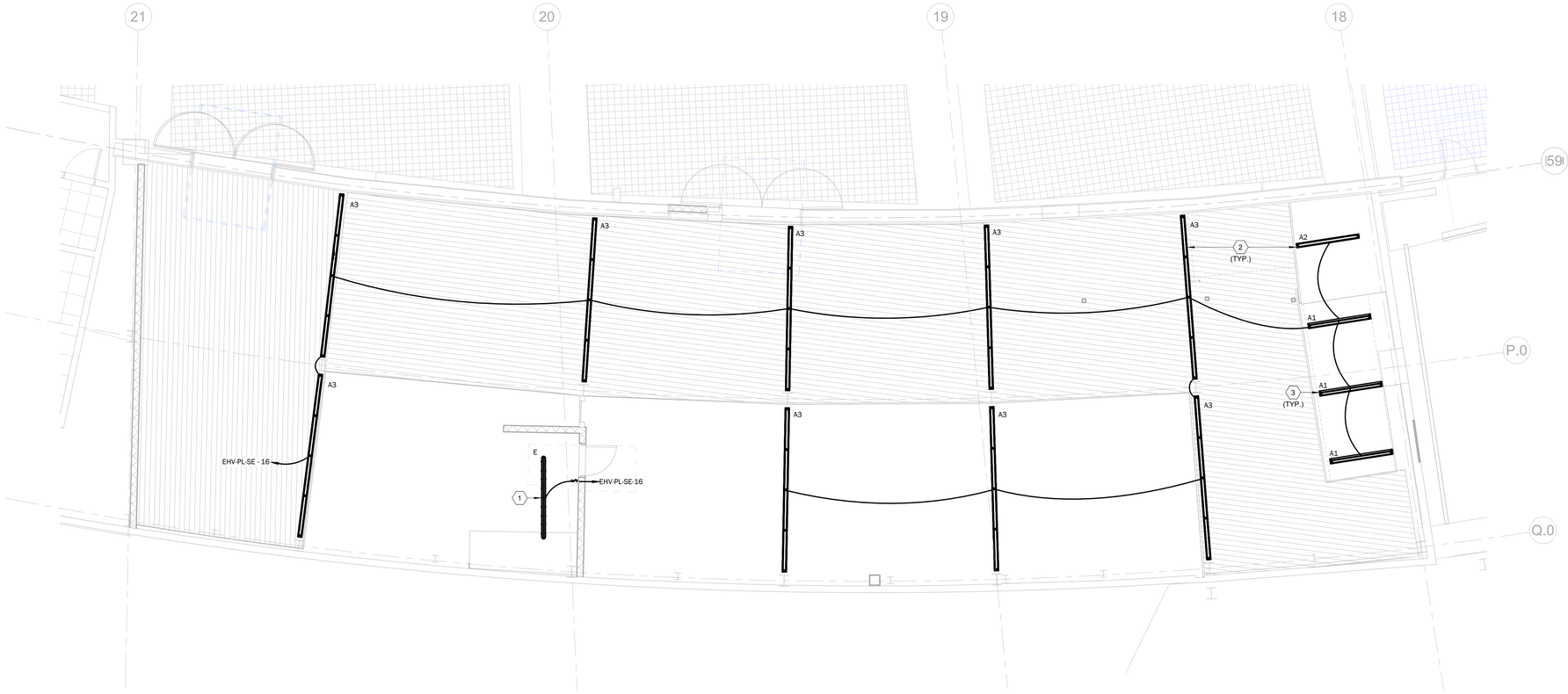
STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

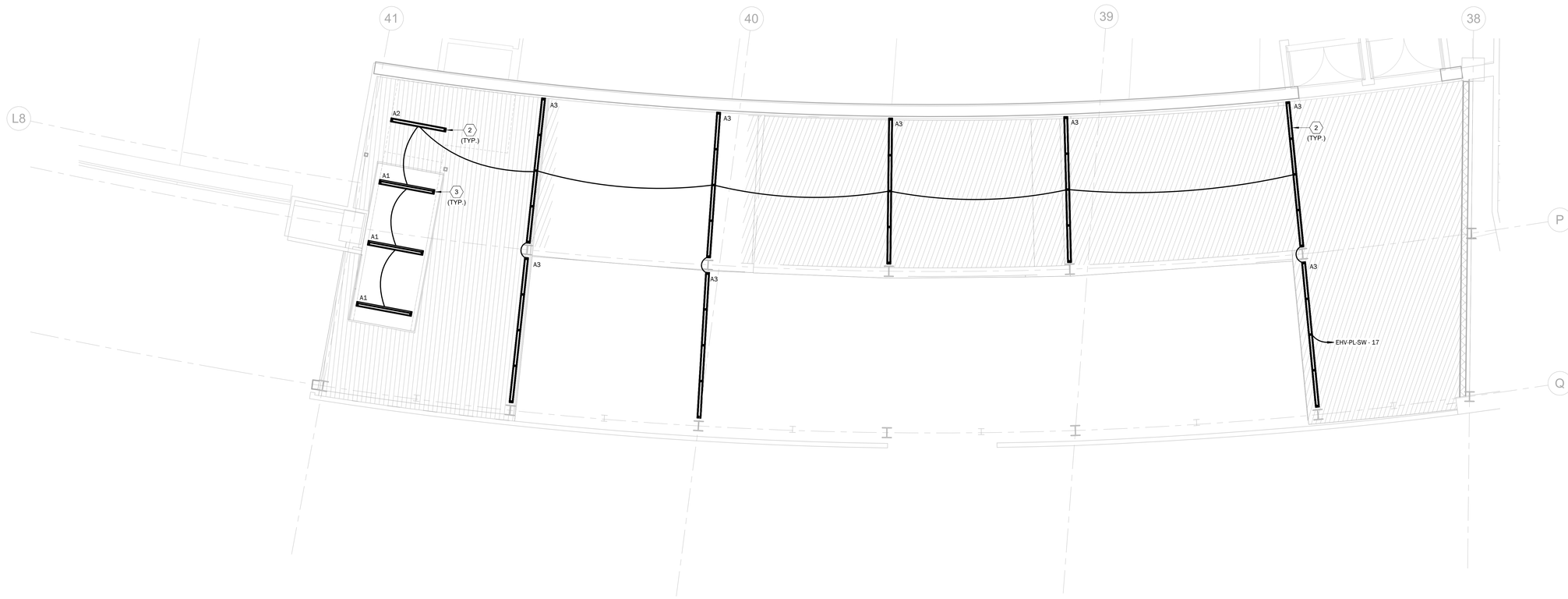
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 200 NEW WORK LIGHTING

DRAWING NUMBER	ISSUE
E206	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1
E207



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2
E207

DRAWING NOTES

1 MOUNT LIGHT FIXTURE TO THE CEILING ABOVE.
2 MOUNT LIGHT FIXTURE AT A CONSISTENT BOTTOM-OF-FIXTURE ELEVATION OF 12' - 0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE MOUNTING STEM LENGTHS WITH FIELD CONDITIONS AND STRUCTURAL ELEVATIONS TO MAINTAIN UNIFORM FIXTURE ELEVATION. PROVIDE MANUFACTURER'S STEM LENGTHS AS REQUIRED. TYPICAL FOR ALL TYPE A3 FIXTURES.
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GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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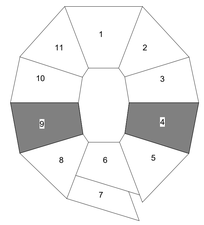

N

0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
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STATE OF OHIO
MICHAEL A. HUNTWORK
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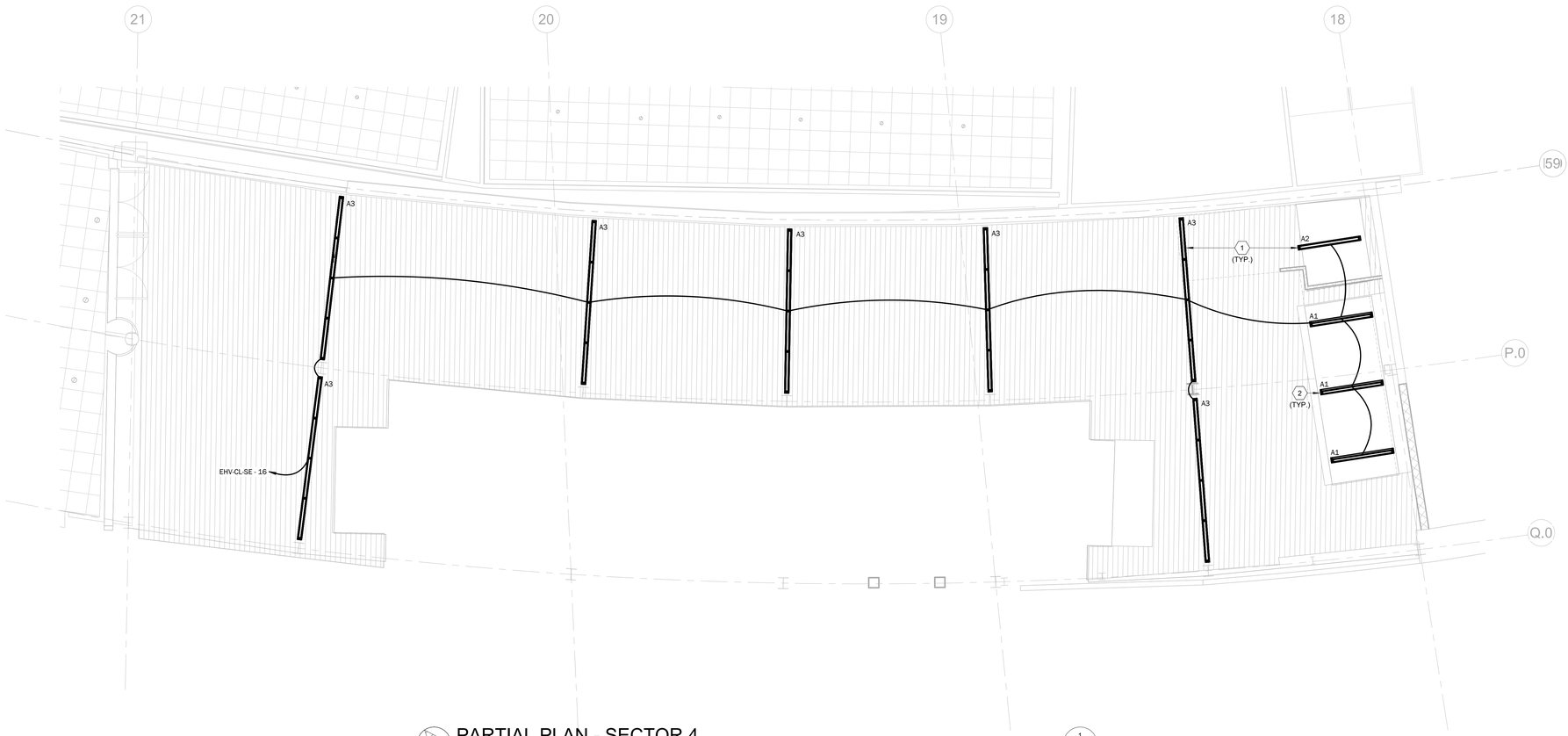
REGISTERED PROFESSIONAL ENGINEER

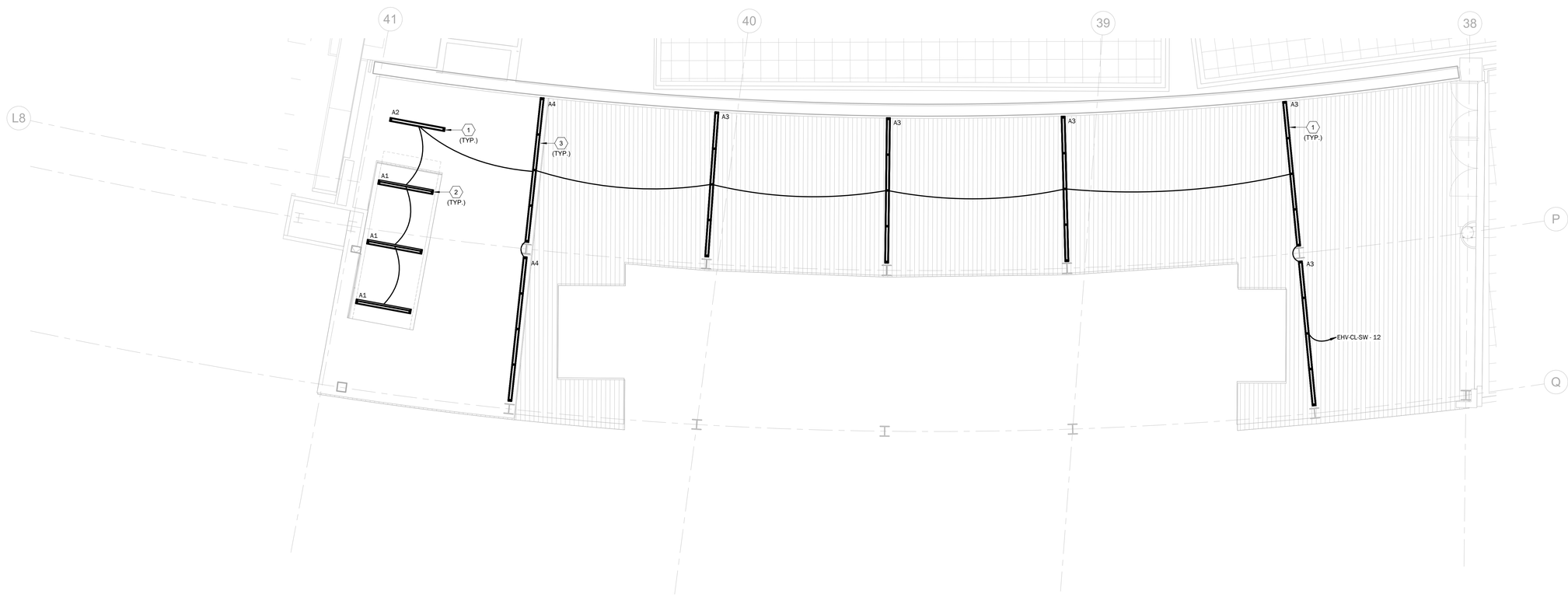
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 300 NEW WORK LIGHTING

DRAWING NUMBER	ISSUE
E207	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 E208



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 E208

DRAWING NOTES

1 MOUNT LIGHT FIXTURE AT A CONSISTENT BOTTOM-OF-FIXTURE ELEVATION OF 12' - 0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE MOUNTING STEM LENGTHS WITH FIELD CONDITIONS AND STRUCTURAL ELEVATIONS TO MAINTAIN UNIFORM FIXTURE ELEVATION. PROVIDE MANUFACTURER'S STEM LENGTHS AS REQUIRED. TYPICAL FOR ALL TYPE A3 FIXTURES.

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GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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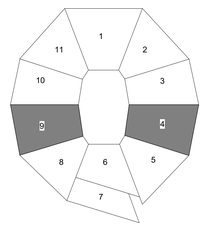
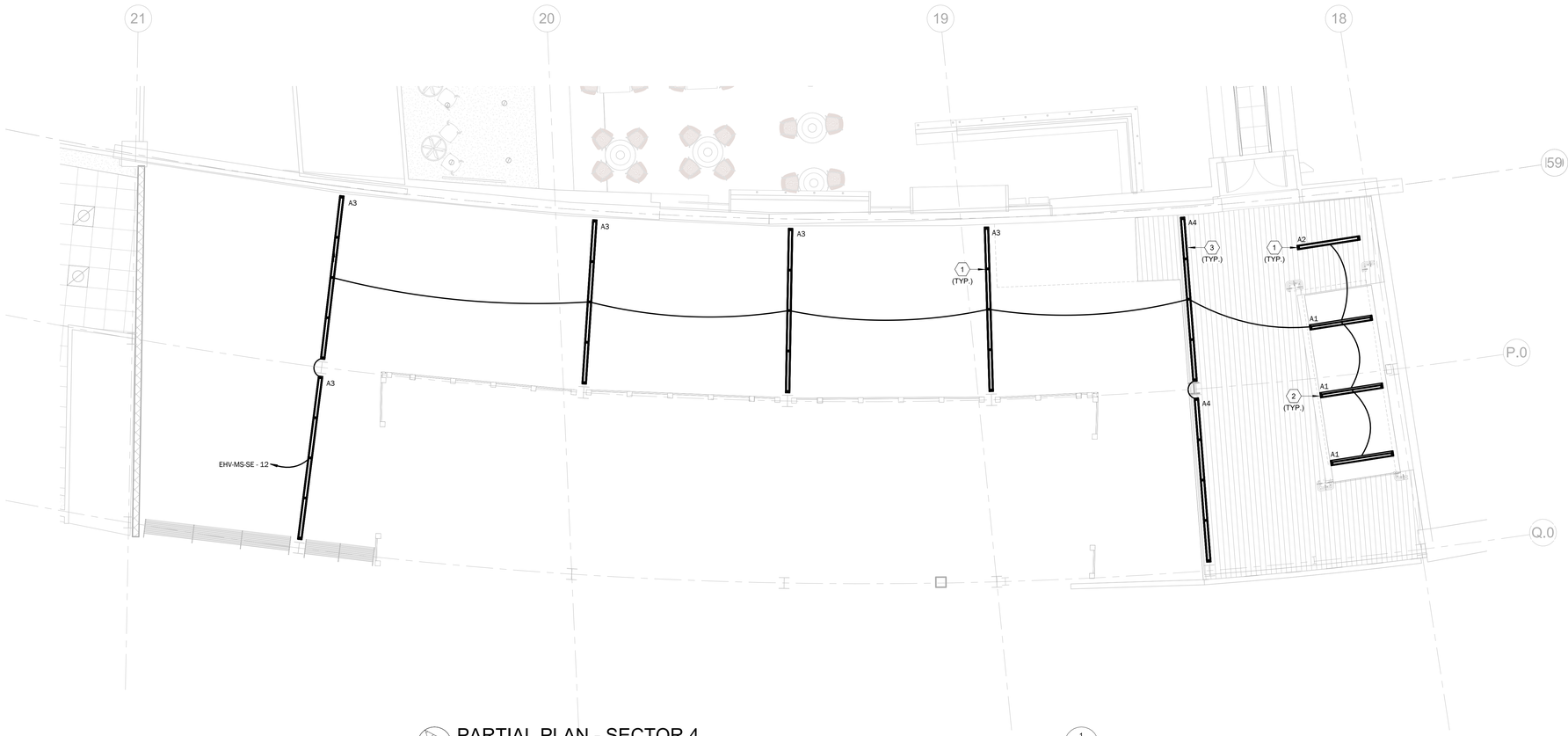


DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

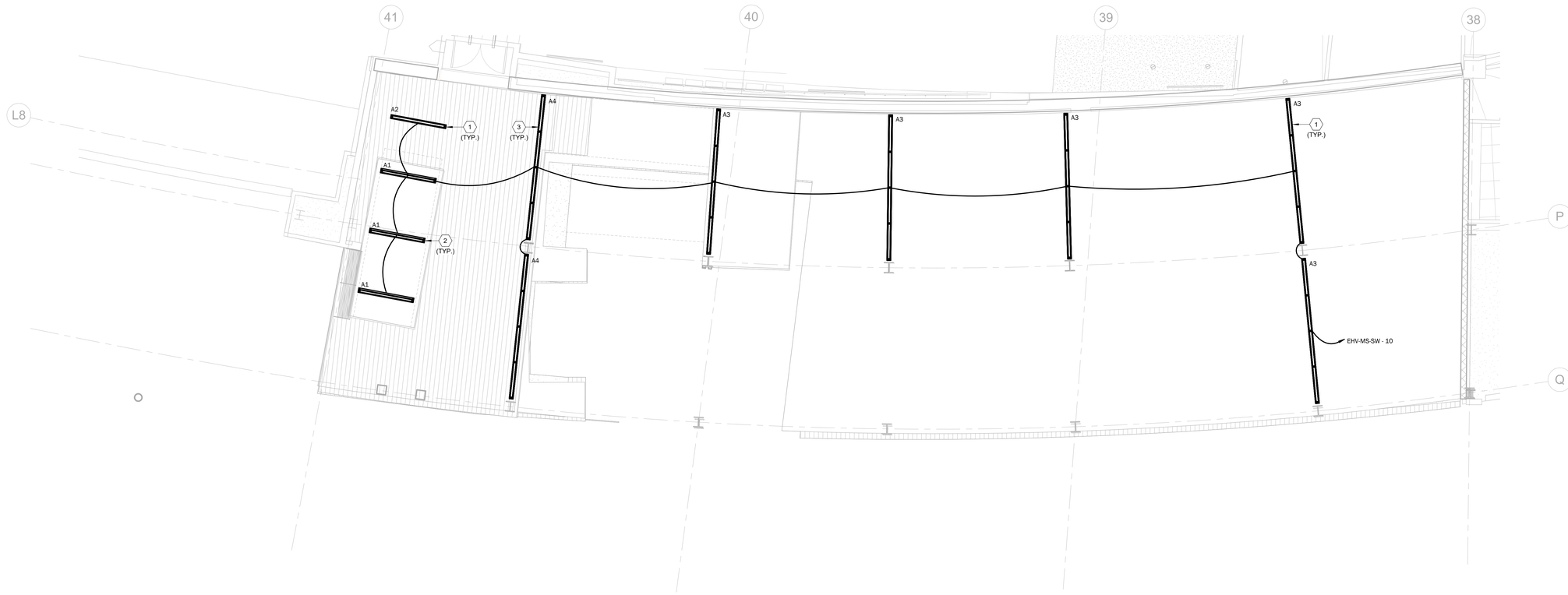
ELECTRICAL PARTIAL PLANS LEVEL 400 NEW WORK LIGHTING

DRAWING NUMBER	ISSUE
E208	3.1

SCALE: 3/16"=1'-0"



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 E209



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 E209

DRAWING NOTES

1 MOUNT LIGHT FIXTURE AT A CONSISTENT BOTTOM-OF-FIXTURE ELEVATION OF 12' - 0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE MOUNTING STEM LENGTHS WITH FIELD CONDITIONS AND STRUCTURAL ELEVATIONS TO MAINTAIN UNIFORM FIXTURE ELEVATION. PROVIDE MANUFACTURER'S STEM LENGTHS AS REQUIRED. TYPICAL FOR ALL TYPE A3 FIXTURES.

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NO.	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

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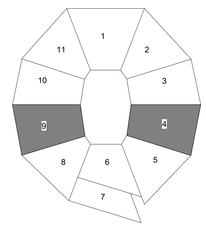
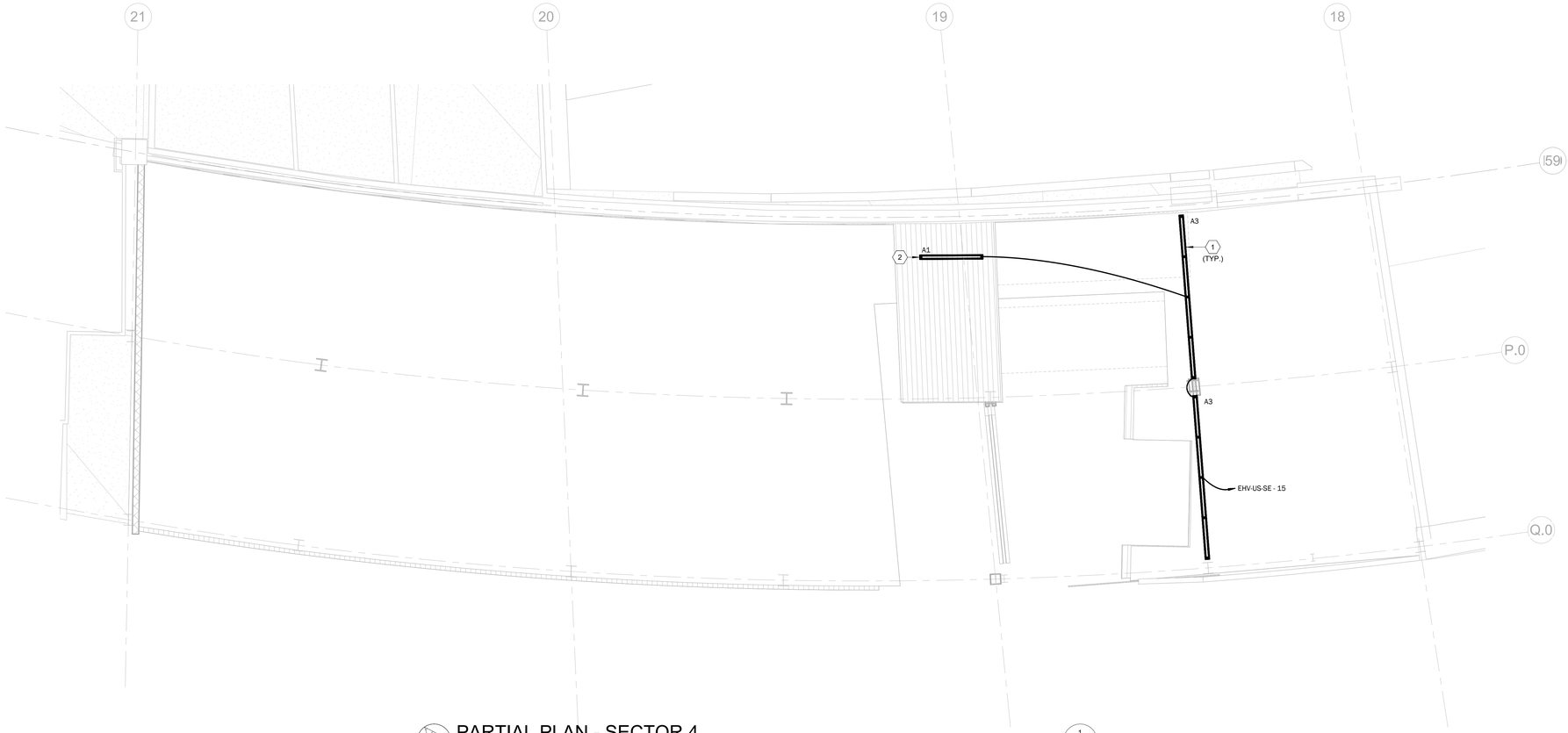


0 4' 8' 12'
SCALE: 3/16"=1'-0"

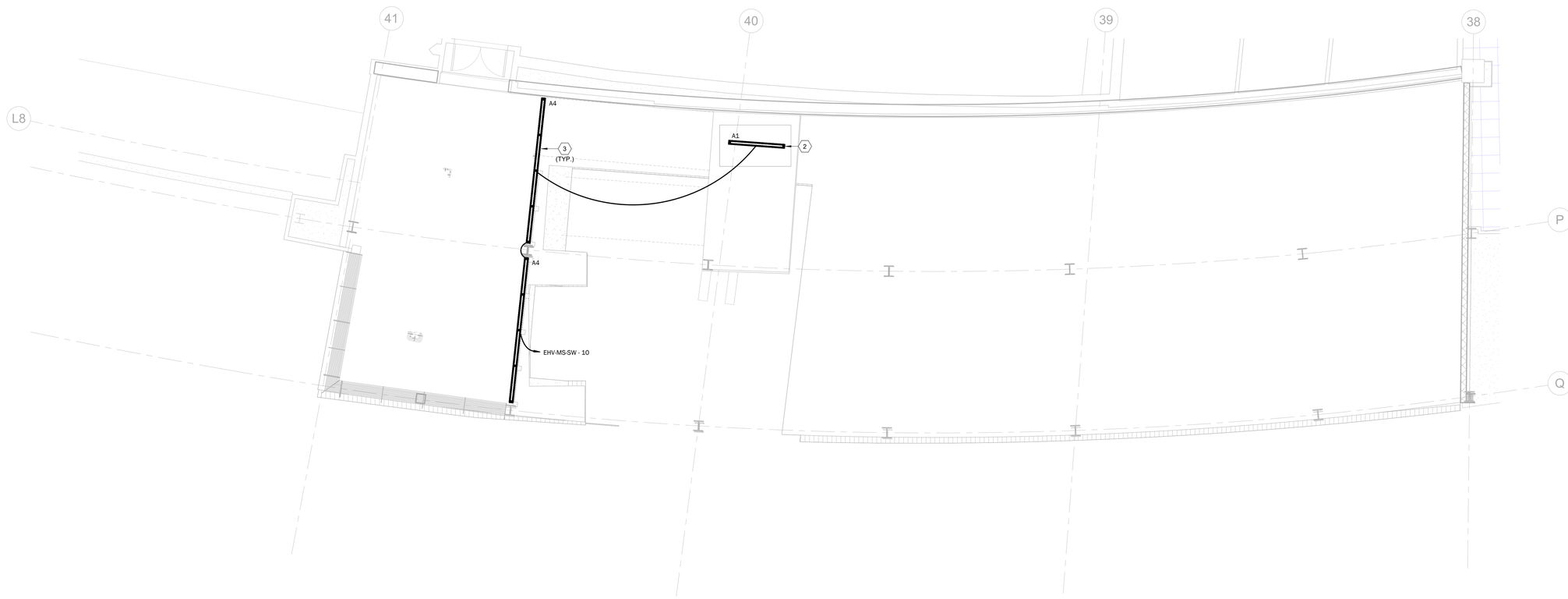
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 500 NEW WORK LIGHTING

DRAWING NUMBER **E209** ISSUE 3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1
E210



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2
E210

DRAWING NOTES

1 MOUNT LIGHT FIXTURE AT A CONSISTENT BOTTOM-OF-FIXTURE ELEVATION OF 12' - 0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE MOUNTING STEM LENGTHS WITH FIELD CONDITIONS AND STRUCTURAL ELEVATIONS TO MAINTAIN UNIFORM FIXTURE ELEVATION. PROVIDE MANUFACTURER'S STEM LENGTHS AS REQUIRED. TYPICAL FOR ALL TYPE A3 FIXTURES.

2 <varies>

3 MOUNT LIGHT FIXTURE TO THE UNDERSIDE OF STRUCTURAL SUPPORT. TYPICAL FOR ALL FIXTURES OF THIS TYPE.

GENERAL NOTES

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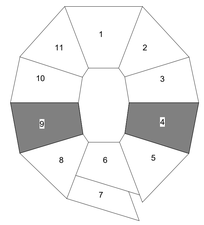

N

0 4' 8' 12'
SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
3.1	05/01/026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers
CINCINNATI, OH

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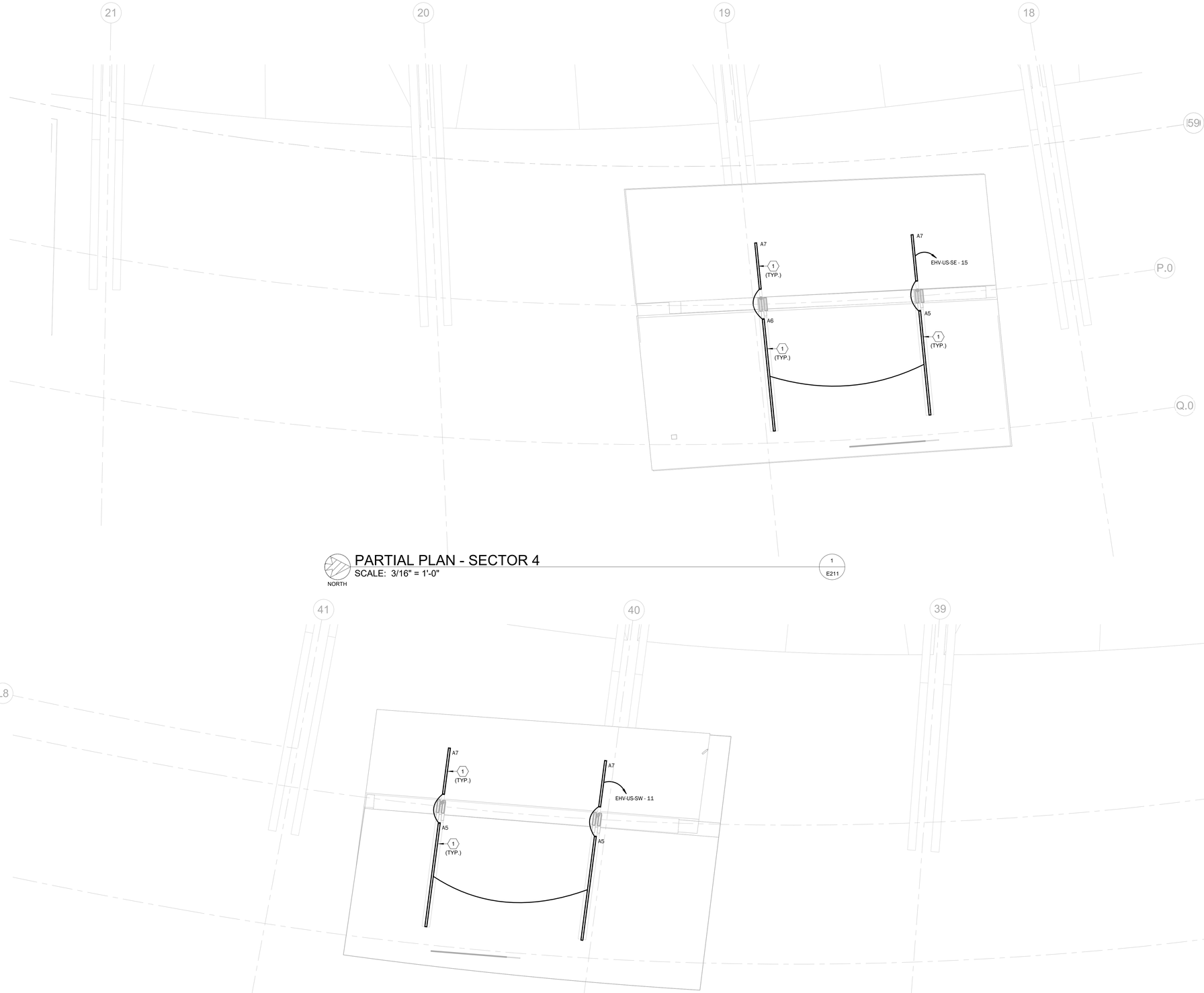
STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

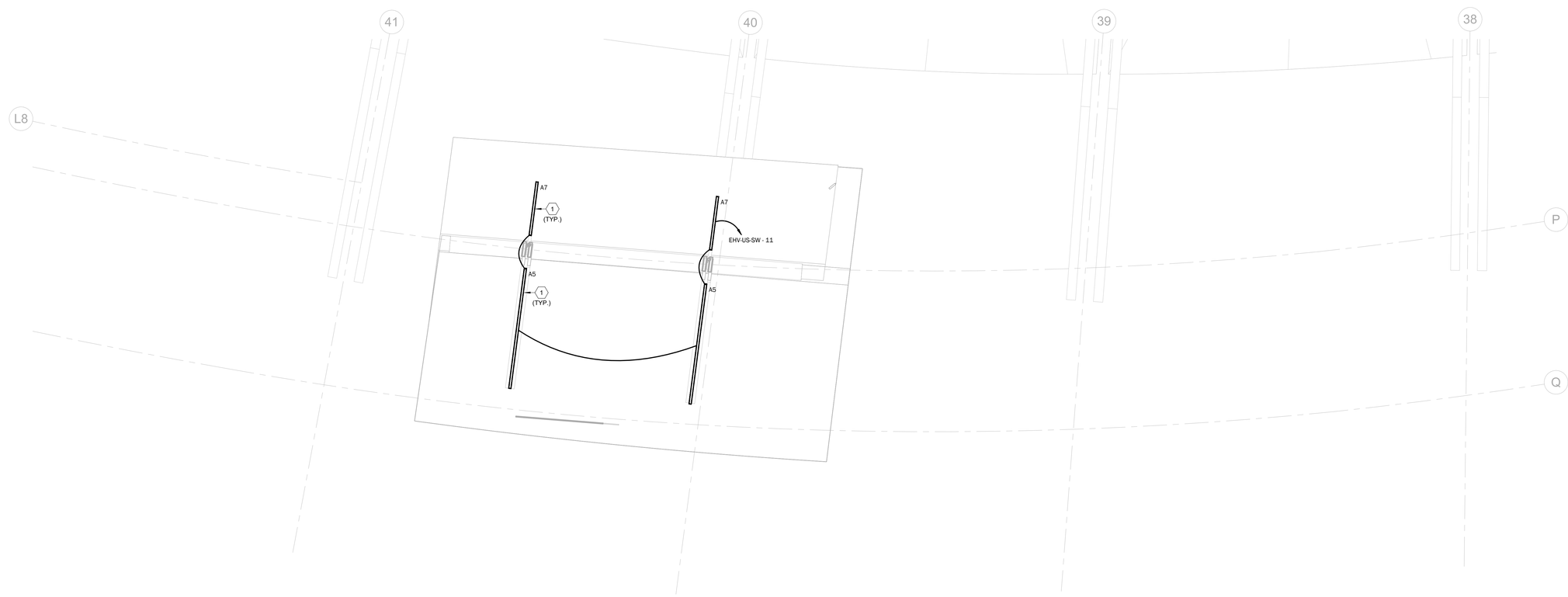
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 600 NEW WORK LIGHTING

DRAWING NUMBER	ISSUE
E210	3.1



PARTIAL PLAN - SECTOR 4
SCALE: 3/16" = 1'-0"
NORTH
1 E211



PARTIAL PLAN - SECTOR 9
SCALE: 3/16" = 1'-0"
NORTH
2 E211

DRAWING NOTES

1 PENDANT FIXTURE TO BE SEMI-RECESSED WITHIN STRUCTURAL ELEMENTS. MOUNT FIXTURE SUCH THAT THE BOTTOM LENS IS FLUSH WITH THE BOTTOM OF THE ADJACENT STRUCTURAL ELEMENTS. COORDINATE MOUNTING STEM LENGTHS WITH STRUCTURAL DEPTH. TYPICAL FOR ALL FIXTURES OF THIS TYPE.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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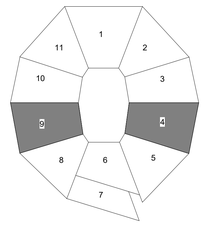

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SCALE: 3/16"=1'-0"

NO	DATE	DESCRIPTION
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Hamilton County OHIO

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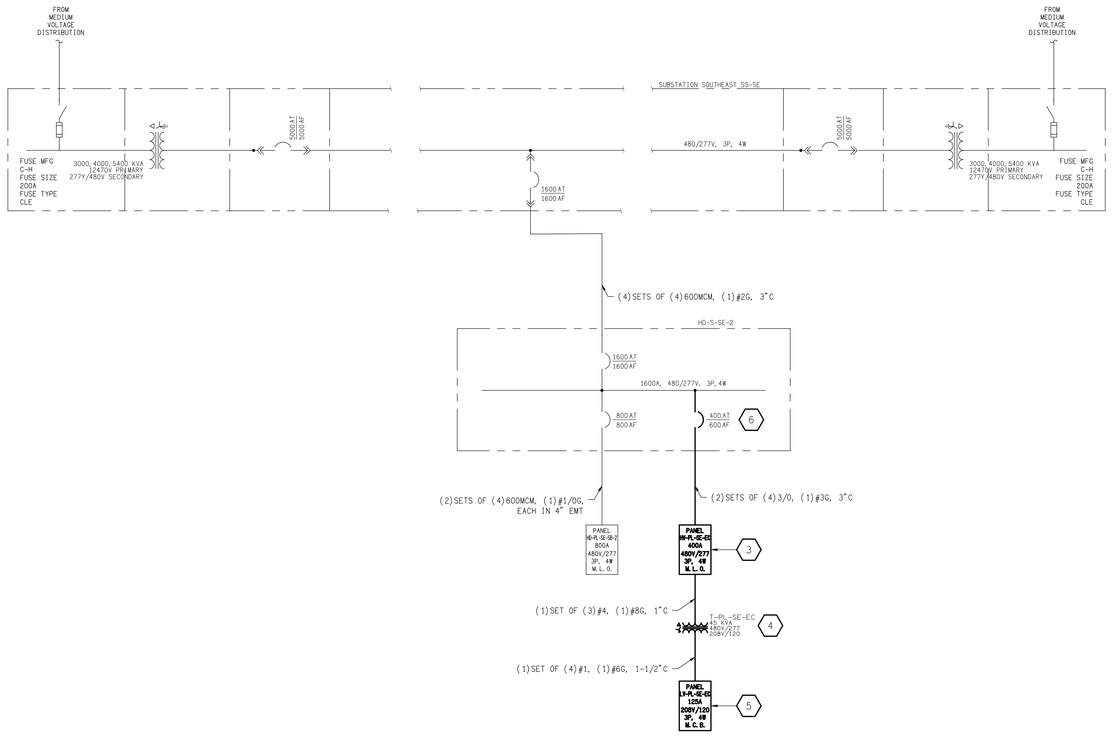
DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/25/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL PARTIAL PLANS LEVEL 700 NEW WORK LIGHTING

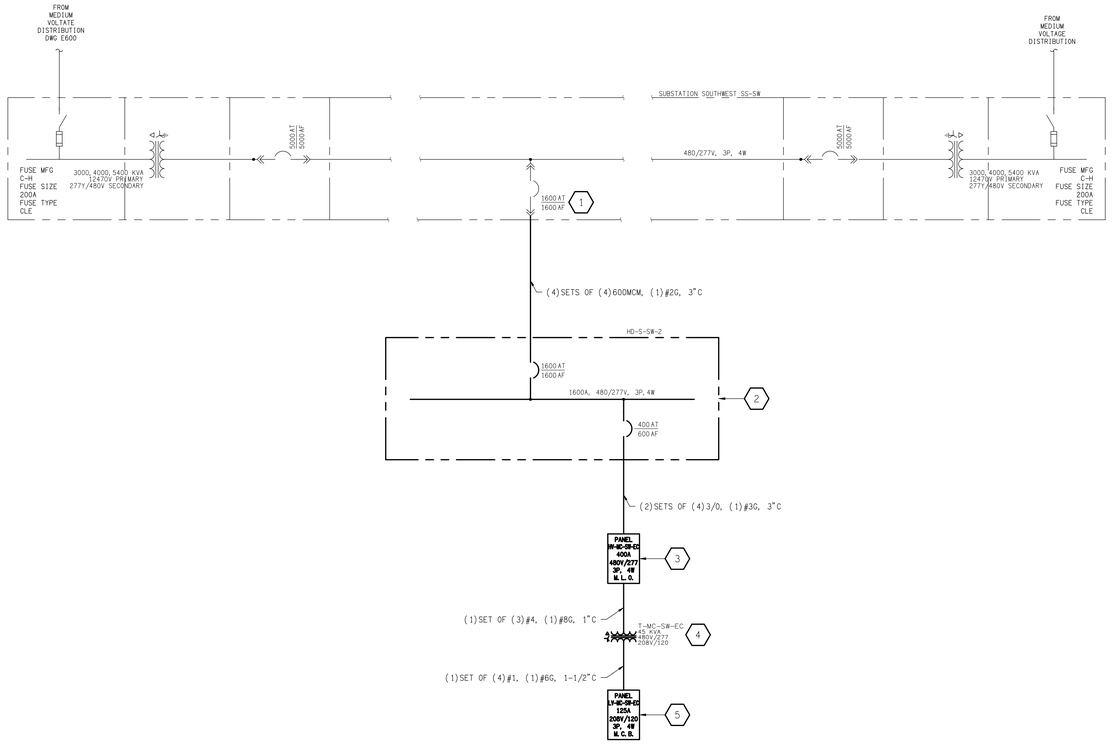
DRAWING NUMBER	ISSUE
E211	3.1



SINGLE LINE DIAGRAM - SOUTHEAST

SCALE: NONE

1 E600



SINGLE LINE DIAGRAM - SOUTHWEST

SCALE: NONE

2 E600

DRAWING NOTES

DRAWING E600

1 UTILIZE EXISTING SPARE 1600AT/1600AF BREAKER FOR NEW PANELBOARD.

2 PROVIDE NEW 1600A PANELBOARD.

3 PROVIDE NEW 400A PANELBOARD.

4 PROVIDE NEW 45KVA TRANSFORMER.

5 PROVIDE NEW 125A PANELBOARD.

6 PROVIDE 400AT/600AF BREAKER FOR NEW PANELBOARD.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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D ALL ELECTRICAL EQUIPMENT AND FEEDERS SHOWN FADED ARE EXISTING TO REMAIN.

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SERVICE SIZE CALCULATIONS
SUBSTATION SOUTHEAST SS-SE

EXISTING LOAD	1625 kVA
NEW LOAD ADDED	234 kVA
LOAD REMOVED	5.7 kVA

NET LOAD ON 5000A SERVICE: 1853 kVA (2230A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

SERVICE SIZE CALCULATIONS
SUBSTATION SOUTHWEST SS-SW

EXISTING LOAD	2011 kVA
NEW LOAD ADDED	232 kVA
LOAD REMOVED	8.5 kVA

NET LOAD ON 5000A SERVICE: 2235 kVA (2690A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

NO.	DATE	DESCRIPTION
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DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/07/22
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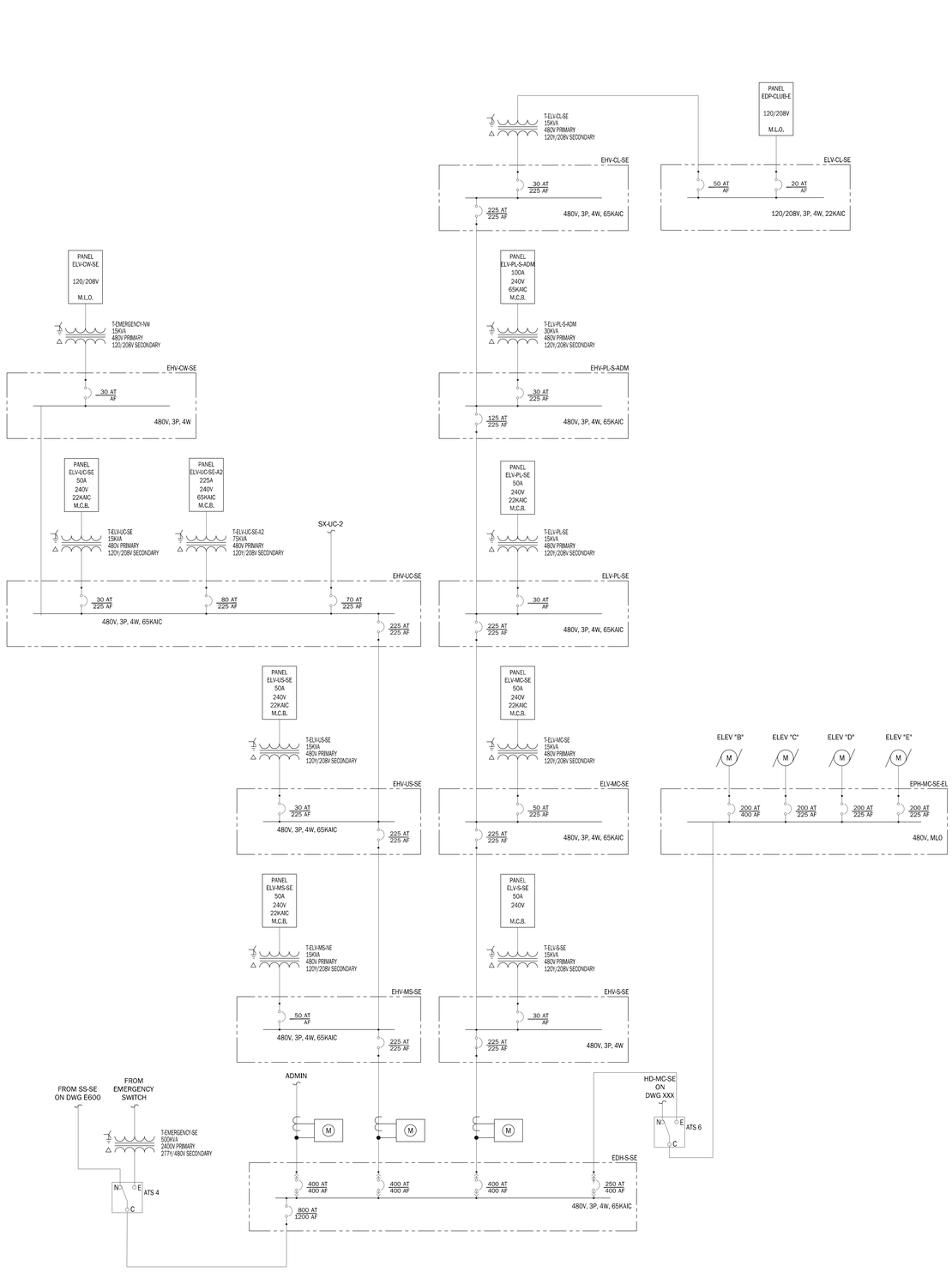
MAH	C. MOORMAN

ELECTRICAL SINGLE LINE DIAGRAMS

DRAWING NUMBER **E600** ISSUE **3.1**

G:\HAMCO #25\250127 PAYCOR STADIUM SOUTH VERT TRANSPORTATION\ARCH_ACAD\E600.DWG
05/01/2026 13:07 PLOT SCALE: 1=1"



SINGLE LINE DIAGRAM - EDH-S-SE

SCALE: NONE

1 E601

SINGLE LINE DIAGRAM - EDH-S-SW

SCALE: NONE

2 E601

DRAWING NOTES

DRAWING E601

1 ALL ELECTRICAL EQUIPMENT AND FEEDERS SHOWN FADED ARE EXISTING TO REMAIN.

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGEND AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL PANELS AFFECTED BY SCOPE OF WORK.

D THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 133.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION OF THE PROJECT SPACE IS 500'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

SERVICE SIZE CALCULATIONS
EHV-S-SE

EXISTING LOAD	18	kVA
NEW LOAD ADDED	2	kVA
LOAD REMOVED	0	kVA
NET LOAD ON 225A SERVICE:	20	kVA (24A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

SERVICE SIZE CALCULATIONS
EHV-MS-SE

EXISTING LOAD	8	kVA
NEW LOAD ADDED	1	kVA
LOAD REMOVED	0	kVA
NET LOAD ON 225A SERVICE:	9	kVA (11A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

SERVICE SIZE CALCULATIONS
EHV-S-SW

EXISTING LOAD	24	kVA
NEW LOAD ADDED	1	kVA
LOAD REMOVED	0	kVA
NET LOAD ON 5000A SERVICE:	25	kVA (30A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

SERVICE SIZE CALCULATIONS
EHV-MS-SW

EXISTING LOAD	16	kVA
NEW LOAD ADDED	2	kVA
LOAD REMOVED	0	kVA
NET LOAD ON 5000A SERVICE:	18	kVA (22A)

SERVICE IS EQUIPED WITH 100% MAIN BREAKER.
SERVICE AND FEEDERS ARE OF ADEQUATE SIZE AND WILL REMAIN

NO.	DATE	DESCRIPTION
3.1	05/01/2026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group
DaviesEngineeringGroup.com ~ 513-561-2275
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STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/07/22
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL SINGLE LINE DIAGRAMS

DRAWING NUMBER **E601** ISSUE **3.1**

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL	LAMP	VOLTAGE	WATTAGE
A1	6' LINEAR SURFACE MOUNT LED, DIRECT, MVOLT	LUMENWERX	#VSPLS-D-TMG-HLO-SW-80CRI-500LMF-40K-6FT-UNV-D1-1C-TF-GSM-B	LED	MVOLT	24.6 W
A2	6' LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#VSPLP-D-TMG-HLO-SW-80CRI-500LMF-40K-6FT-UNV-D1-1C-TF-STC(5NPC-XIN-B-STB)-B	LED	MVOLT	24.6 W
A3	16' LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#VSPLP-D-TMG-SW-80CRI-750LMF-40K-16FT-UNV-D1-1C-TF-STC(5NPC-#IN-B-STB)-B	LED	MVOLT	100.8 W
A4	16' LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#VSPLS-D-TMG-HLO-SW-80CRI-750LMF-40K-16FT-UNV-D1-1C-TF-GSM-B	LED	MVOLT	100.8 W
A5	13' - 8" LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#V3SEALP-D-IP54-EPDO-SW-80CRI-750LM-40K-13FT8IN-UNV-D1-1C-NA-TF-STC(5NPC-#IN-AL-STAL-SLS)-AL-NA	LED	MVOLT	96.25 W
A6	14' - 8" LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#V3SEALP-D-IP54-EPDO-SW-80CRI-750LM-40K-14FT8IN-UNV-D1-1C-NA-TF-STC(5NPC-#IN-AL-STAL-SLS)-AL-NA	LED	MVOLT	96.25 W
A7	6' - 0" LINEAR PENDANT MOUNT LED, DIRECT, MVOLT	LUMENWERX	#V3SEALP-D-IP54-EPDO-SW-80CRI-750LM-40K-6FT0IN-UNV-D1-1C-NA-TF-STC(5NPC-#IN-AL-STAL-SLS)-AL-NA	LED	MVOLT	46.2 W
E	8' VAPOR TIGHT LED STRIP LIGHT, SELECTABLE, SET TO 8000LM AND 40K	LITHONIA LIGHTING	#CSVT-L96-ALO4-MVOLT-40K-80CRI	LED	MVOLT	68 W
X	SURFACE EDGE-LIT LED EXIT SIGN	ISOLITE	#UEL-AC-R-1C2M-MTEBR/EUNR1M	LED	MVOLT	2 W

Branch Panel: HV-MC-SW-EC

Location: ELECT. 2.04.03 | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: Type 1

				Load (kVA)									
				A		B		C					
Ckt.	Load Description	Brkr. Size								Brkr. Size	Load Description	Ckt.
1				7.560	0.333							2
3	**(NEW) T-MC-SW-EC**	70 A	3			7.910	0.333			3	25 A **(NEW) SW-E2 TRUSS HEATER**	4
5								12.770	0.333			6
7				0.333	0.333							8
9	**(NEW) SW-E1 TRUSS HEATER**	25 A	3			0.333	0.333			3	25 A **(NEW) SW-E3 TRUSS HEATER**	10
11								0.333	0.333			12
13				0.333	0.333							14
15	**(NEW) SW-E4 TRUSS HEATER**	25 A	3			0.333	0.333			3	25 A **(NEW) SW-E5 TRUSS HEATER**	16
17								0.333	0.333			18
19				0.333	4.572							20
21	**(NEW) SW-E5 TRUSS HEATER**	25 A	3			0.333	4.572			3	40 A **(NEW) SW-E2 MOTOR/CONTROLLER**	22
23								0.333	4.572			24
25				4.572	14.132							26
27	**(NEW) SW-E1 MOTOR/CONTROLLER**	40 A	3			4.572	14.132			3	90 A **(NEW) SW-E4 MOTOR/CONTROLLER**	28
29								4.572	14.132			30
31				14.132	14.132							32
33	**(NEW) SW-E6 MOTOR/CONTROLLER**	90 A	3			14.132	14.132			3	90 A **(NEW) SW-E3 MOTOR/CONTROLLER**	34
35								14.132	14.132			36
37				14.132	1.000					1	20 A **(NEW) FACADE LTG**	38
39	**(NEW) SW-E5 MOTOR/CONTROLLER**	90 A	3			14.132	0.000			1	20 A SPARE	40
41								14.132	0.000	1	20 A SPARE	42
	Total Conn. Load by Phase:			76.234		75.584		80.444				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	197.022 kVA	100.00%	197.022 kVA		
Power	34.340 kVA	100.00%	34.340 kVA		
Receptacle	0.900 kVA	100.00%	0.900 kVA	**Total Conn. Load:**	232 kVA
				Total Est. Demand:	232 kVA
				Total Conn. Current:	279 A
				Total Est. Demand Current:	279 A

Notes:

Branch Panel: HV-PL-SE-EC

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: Type 1

				Load (kVA)									
				A		B		C					
Ckt.	Load Description	Brkr. Size								Brkr. Size	Load Description	Ckt.
1				6.290	0.333							2
3	**(NEW) T-PL-SE-EC**	70 A	3			6.360	0.333			3	25 A **(NEW) SE-E4 TRUSS HEATER**	4
5								7.310	0.333			6
7				0.333	0.333							8
9	**(NEW) SE-E3 TRUSS HEATER**	25 A	3			0.333	0.333			3	25 A **(NEW) SE-E1 TRUSS HEATER**	10
11								0.333	0.333			12
13				0.333	14.132							14
15	**(NEW) SE-E2 TRUSS HEATER**	25 A	3			0.333	14.132			3	90 A **(NEW) SE-E4 MOTOR/CONTROLLER**	16
17								0.333	14.132			18
19				14.132	14.132							20
21	**(NEW) SE-E3 MOTOR/CONTROLLER**	90 A	3			14.132	14.132			3	90 A **(NEW) SE-E1 MOTOR/CONTROLLER**	22
23								14.132	14.132			24
25				14.132	1.000					1	20 A **(NEW) FACADE LTG**	26
27	**(NEW) SE-E2 MOTOR/CONTROLLER**	90 A	3			14.132	0.000			1	20 A SPARE	28
29								14.132	0.000	1	20 A SPARE	30
31	SPARE	20 A	1	0.000	0.000					1	20 A SPARE	32
33	SPARE	20 A	1			0.000	0.000			1	20 A SPARE	34
35	SPACE	--	1					--	--	1	-- SPACE	36
37	SPACE	--	1	--	--					1	-- SPACE	38
39	SPACE	--	1			--	--			1	-- SPACE	40
41	SPACE	--	1					--	--	1	-- SPACE	42
	Total Conn. Load by Phase:			65.153		64.223		65.173				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2.500 kVA	100.00%	2.500 kVA		
Motor	169.588 kVA	100.00%	169.588 kVA		
Power	21.560 kVA	100.00%	21.560 kVA	**Total Conn. Load:**	195 kVA
Receptacle	0.900 kVA	100.00%	0.900 kVA	**Total Est. Demand:**	195 kVA
				Total Conn. Current:	234 A
				Total Est. Demand Current:	234 A

Notes:

Branch Panel: LV-MC-SW-EC

Location: ELECT. 2.04.03 | **Volts:** 120/208V Wye | **A.I.C. Rating:**
Supply From: T-MC-SW-EC | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 125 A
Enclosure: Type 1

				Load (kVA)									
				A		B		C					
Ckt.	Load Description	Brkr. Size								Brkr. Size	Load Description	Ckt.
1	**(NEW) SW-E1 LTG AND RECEPT**	20 A	1	1.920	1.920					1	20 A **(NEW) SW-E2 LTG & RECEPT**	2
3	**(NEW) SW-E1 COMBPLATE HEATER**	20 A	1			0.300	0.300			1	20 A **(NEW) SW-E2 COMBPLATE HEATER**	4
5	**(NEW) SW-E1 SKIRT LTG**	20 A	1					1.920	1.920	1	20 A **(NEW) SW-E2 SKIRT LTG**	6
7	**(NEW) SW-E3 COMBPLATE HEATER**	20 A	1	0.300	1.920					1	20 A **(NEW) SW-E3 SKIRT LTG**	8
9	**(NEW) SW-E3 LTG & RECEPT**	20 A	1			1.920	0.300			1	20 A **(NEW) SW-E4 COMBPLATE HEATER**	10
11	**(NEW) SW-E4 SKIRT LTG**	20 A	1					1.920	1.920	1	20 A **(NEW) SW-E4 LTG RECEPT**	12
13	**(NEW) SW-E5 COMBPLATE HEATER**	20 A	1	0.300	0.300					1	20 A **(NEW) SW-E6 COMBPLATE HEATER**	14
15	**(NEW) SW-E6 SKIRT LTG**	20 A	1			1.920	1.920			1	20 A **(NEW) SW-E5 SKIRT LTG**	16
17	**(NEW) SW-E5 LTG & RECEPT**	20 A	1					1.920	1.920	1	20 A **(NEW) SW-E6 LTG & RECEPT**	18
19	**(NEW) LEVEL 700 RECEPT**	20 A	1	0.720	0.180					1	20 A **(NEW) ELECTRICAL ROOM RECEPT**	20
21	**(NEW) SS-1/SSCU-1**	20 A	2			1.250	0.000			1	20 A SPARE	22
23								1.250	0.000	1	20 A SPARE	24
25	SPARE	20 A	1	0.000	0.000					1	20 A SPARE	26
27	SPACE	--	1			--	--			1	-- SPACE	28
29	SPACE	--	1					--	--	1	-- SPACE	30
31	SPACE	--	1	--	--					1	-- SPACE	32
33	SPACE	--	1			--	--			1	-- SPACE	34
35	SPACE	--	1					--	--	1	-- SPACE	36
37	SPACE	--	1	--	--					1	-- SPACE	38
39	SPACE	--	1			--	--			1	-- SPACE	40
41	SPACE	--	1					--	--	1	-- SPACE	42
	Total Conn. Load by Phase:			7.560		7.910		12.770				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	27.340 kVA	100.00%	27.340 kVA		
Receptacle	0.900 kVA	100.00%	0.900 kVA		
				Total Conn. Load:	28 kVA
				Total Est. Demand:	28 kVA
				Total Conn. Current:	78 A
				Total Est. Demand Current:	78 A

Notes:

Branch Panel: LV-PL-SE-EC

Location: | **Volts:** 120/208V Wye | **A.I.C. Rating:**
Supply From: T-PL-SE-EC | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 125 A
Enclosure: Type 1

				Load (kVA)									
				A		B		C					
Ckt.	Load Description	Brkr. Size								Brkr. Size	Load Description	Ckt.
1	**(NEW) ELECTRICAL ROOM RECEPT**	20 A	1	0.180	0.720					1	20 A **(NEW) LEVEL 700 RECEPT**	2
3	**(NEW) SE-E1 COMBPLATE HEATER**	20 A	1			0.300	1.920			1	20 A **(NEW) SE-E1 SKIRT LTG**	4
5	**(NEW) SE-E2 SKIRT LTG**	20 A	1					1.920	1.920	1	20 A **(NEW) SE-E3 LTG & RECEPT**	6
7	**(NEW) SE-E1 LTG & RECEPT**	20 A	1	1.920	0.300					1	20 A **(NEW) SE-E2 COMBPLATE HEATER**	8
9	**(NEW) SE-E2 LTG & RECEPT**	20 A	1			1.920	0.300			1	20 A **(NEW) SE-E3 COMBPLATE HEATER**	10
11	**(NEW) SS-02/SSCU-02**	20 A	2					1.250	0.300	1	20 A **(NEW) SE-E4 COMBPLATE HEATER**	12
13				1.250	1.920					1	20 A **(NEW) SE-E3 SKIRT LTG**	14
15	**(NEW) SE-E4 LTG & RECEPT**	20 A	1			1.920	0.000			1	20 A SPARE	16
17	(NEW) SE-E4 SKIRT LIGHTING	20 A	1					1.920	0.000	1	20 A SPARE	18
19	SPARE	20 A	1	0.000	0.000					1	20 A SPARE	20
21	SPACE	--	1			--	--			1	-- SPACE	22
23	SPACE	--	1					--	--	1	-- SPACE	24
25	SPACE	--	1	--	--					1	-- SPACE	26
27	SPACE	--	1			--	--			1	-- SPACE	28
29	SPACE	--	1					--	--	1	-- SPACE	30
31	SPACE	--	1	--	--					1	-- SPACE	32
33	SPACE	--	1			--	--			1	-- SPACE	34
35	SPACE	--	1					--	--	1	-- SPACE	36
37	SPACE	--	1	--	--					1	-- SPACE	38
39	SPACE	--	1			--	--			1	-- SPACE	40
41	SPACE	--	1					--	--	1	-- SPACE	42
	Total Conn. Load by Phase:			6.290		6.360		7.310				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2.500 kVA	100.00%	2.500 kVA		
Power	16.560 kVA	100.00%	16.560 kVA		
Receptacle	0.900 kVA	100.00%	0.900 kVA	**Total Conn. Load:**	20 kVA
				Total Est. Demand:	20 kVA
				Total Conn. Current:	55 A
				Total Est. Demand Current:	55 A

Notes:

DRAWING NOTES

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

A FOR KEY PLAN AND DRAWING INDEX REFER TO COVERSHEET.

B FOR GENERAL NOTES, LEGENDS AND SYMBOLS SEE DRAWING E001.

C PROVIDE UPDATED PANEL SCHEDULES ON THE DOOR OF ALL THE PANELS AFFECTED BY SCOPE OF WORK.

D THIS BUILDING IS PROTECTED BY FLOOD PROTECTION SYSTEMS INCLUDING FLOOD WALLS AND A GENERATOR-SUPPLIED DEEP WELL PUMPING SYSTEM IN COMPLIANCE WITH ORC 1333.15(E)(2). THE WATER LEVEL IS MAINTAINED TO 470' WITHIN THE FACILITY. THE FLOODPLAIN ELEVATION IS 498'. THE LOWEST FLOOR ELEVATION OF THE PROJECT SPACE IS 500'. THEREFORE, THERE ARE NO SPECIAL INSTALL REQUIREMENTS.

E PROVIDE HEAT TRACE ON ALL EXPOSED FIRE SUPPRESSION PIPING. COORDINATE REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR.

F LIMIT DEMOLITION TO AREAS INDICATED. REMOVE FEEDERS, BRANCH CIRCUITS, AND ASSOCIATED RACEWAYS BACK TO A LOCATION WITHIN THE STADIUM OUTSIDE DEMOLITION LIMITS. TERMINATE IN JUNCTION BOXES AND LABEL TO IDENTIFY SERVICE AND CIRCUIT FOR RE-USE.

NO.	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

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STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/26/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL SCHEDULES

DRAWING NUMBER **E700** ISSUE 3.1

Branch Panel: EHV-MC-SW

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

Ckt.	Load Description	Brkr. Size	Load (kVA) A		Load (kVA) B		Load (kVA) C		Brkr. Size	Load Description	Ckt.
1	VIDEO PRODUCTION LTG	20 A 1	0.800	0.500					1 20 A	CAF/GYM BALCONY LTG	2
3	CAF/GYM LTG	20 A 1			3.200	0.300			1 20 A	CORRIDOR LTG	4
5	VOMITORY LTG	20 A 1					0.500	0.200	1 20 A	TOILET LTG	6
7	STAIR LTG	20 A 1	0.100	0.200					1 20 A	ELEC/IDF LTG	8
9	RAMP LTG	20 A 1			1.500	0.500			1 20 A	PREP/CONCESS LTG	10
11	**(NEW) LEVEL 200 LTG**	20 A 1					0.537	0.100	1 20 A	EXIT LTG	12
13	SPACE	-- 1	--	--					1 --	SPACE	14
15	SPACE	-- 1			--	--			1 --	SPACE	16
17	SPACE	-- 1					--	--	1 --	SPACE	18
19	SPACE	-- 1	--	--					1 --	SPACE	20
21	SPACE	-- 1			--	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	1.100							38
39	SPACE	-- 1			--	1.100			3 30 A	TRANSFORMER ELV-MC-SW	40
41	SPACE	-- 1					--	1.400			42
	Total Conn. Load by Phase:		3.000		6.900		2.737				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	4.200 kVA	125.00%	5.250 kVA		
Existing Load - Lighting	7.900 kVA	125.00%	9.875 kVA		
Lighting	0.004 kVA	100.00%	0.004 kVA	**Total Conn. Load:**	13 kVA
Other	0.533 kVA	100.00%	0.533 kVA	**Total Est. Demand:**	16 kVA
				Total Conn. Current:	15 A
				Total Est. Demand Current:	19 A

Notes:

Branch Panel: EHV-PL-SW

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

Ckt.	Load Description	Brkr. Size	Load (kVA) A		Load (kVA) B		Load (kVA) C		Brkr. Size	Load Description	Ckt.
1	SUITE CONCOURSE LTG	20 A 1	0.600	2.700					1 20 A	SUITE CONCOURSE LTG	2
3	SUITE CONCOURSE LTG	20 A 1			2.900	1.800			1 20 A	RAMP LTG	4
5	SUITE CONCOURSE LTG	20 A 1					2.400	0.500	1 20 A	CONCESSIONS LTG	6
7	RAMP LTG	20 A 1	1.000	1.200					1 20 A	HEAT TRACE	8
9	HEAT TRACE	20 A 1			1.200	0.100			1 20 A	HEAT TRACE PANEL	10
11	HEAT TRACE	20 A 1					1.200	0.400	1 20 A	VOMITORY LTG	12
13	HEAT TRACE (CLUB)	20 A 1	1.200	0.500					1 20 A	CONCESSION LTG	14
15	HEAT TRACE (CLUB)	20 A 1			1.200	0.300			1 20 A	TOILET LTG	16
17	**(NEW) LEVEL 300 LTG**	20 A 1					0.623	0.100	1 20 A	EXIT LTG	18
19	SPACE	-- 1	--	0.200					1 20 A	ELEC/MECH LTG	20
21	SPACE	-- 1			--	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	1.100							38
39	SPACE	-- 1			--	1.100			3 30 A	TRANSFORMER ELV-PL-SW	40
41	SPACE	-- 1					--	1.100			42
	Total Conn. Load by Phase:		8.500		8.600		6.323				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	9.400 kVA	125.00%	11.750 kVA		
Existing Load - Lighting	13.400 kVA	125.00%	16.750 kVA		
Other	0.623 kVA	100.00%	0.623 kVA	**Total Conn. Load:**	23 kVA
				Total Est. Demand:	29 kVA
				Total Conn. Current:	28 A
				Total Est. Demand Current:	35 A

Notes:

Branch Panel: EHV-CL-SW

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

Ckt.	Load Description	Brkr. Size	Load (kVA) A		Load (kVA) B		Load (kVA) C		Brkr. Size	Load Description	Ckt.
1	VOMITORY LTG	20 A 1	0.600	0.300					1 20 A	EXIT LTG	2
3	TOILET RM LTG	20 A 1			1.100	0.300			1 20 A	CLUB	4
5	RAMP LTG	20 A 1					1.900	0.700	1 20 A	PREP LTG	6
7	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	8
9	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	10
11	SPARE	20 A 1					0.000	0.558	1 20 A	**(NEW) LEVEL 400 LTG**	12
13	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	14
15	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	16
17	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	18
19	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	20
21	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	2.367							38
39	SPACE	-- 1			--	2.367			3 30 A	TRANSFORMER ELV-CL-SW	40
41	SPACE	-- 1					--	2.367			42
	Total Conn. Load by Phase:		3.267		3.767		5.524				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	7.100 kVA	125.00%	8.875 kVA		
Existing Load - Lighting	4.900 kVA	125.00%	6.125 kVA		
Other	0.558 kVA	100.00%	0.558 kVA	**Total Conn. Load:**	13 kVA
				Total Est. Demand:	16 kVA
				Total Conn. Current:	15 A
				Total Est. Demand Current:	19 A

Notes:

Branch Panel: EHV-PL-SE

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

Ckt.	Load Description	Brkr. Size	Load (kVA) A		Load (kVA) B		Load (kVA) C		Brkr. Size	Load Description	Ckt.
1	CONCOURSE LTG	20 A 1	1.200	1.100					1 20 A	RAMP LTG	2
3	BRIDGE & CONC. LTG	20 A 1			1.200	1.700			1 20 A	CONCOURSE LTG	4
5	CONCOURSE LTG	20 A 1					2.200	1.500	1 20 A	CONCOURSE LTG	6
7	HEAT TRACE	20 A 1	1.200	1.200					1 20 A	HEAT TRACE	8
9	HEAT TRACE	20 A 1			1.200	0.100			1 20 A	HEAT TRACE PANEL	10
11	HEAT TRACE	20 A 1					1.200	1.200	1 20 A	HEAT TRACE S. END ZONE	12
13	HEAT TRACE (CLUB)	20 A 1	1.200	0.300					1 20 A	ELEC/MECH LTG	14
15	HEAT TRACE (CLUB)	20 A 1			1.200	0.558			1 20 A	**(NEW) LEVEL 300 LTG**	16
17	TOILET LTG	20 A 1					1.300	--	1 --	SPACE	18
19	CONCESSION LTG	20 A 1	0.400	--					1 --	SPACE	20
21	EXIT LTGS	20 A 1			0.100	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37			37.000	1.467							38
39	112.5KVA TRANSF SCOREBOARD	175 A 3			37.000	1.467			3 30 A	TRANSFORMER ELV-PL-SE	40
41							37.000	1.467			42
	Total Conn. Load by Phase:		45.067		44.524		45.867				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	123.900 kVA	125.00%	154.875 kVA		
Existing Load - Lighting	11.000 kVA	125.00%	13.750 kVA		
Lighting	0.000 kVA	0.00%	0.000 kVA	**Total Conn. Load:**	135 kVA
Other	0.558 kVA	100.00%	0.558 kVA	**Total Est. Demand:**	169 kVA
				Total Conn. Current:	163 A
				Total Est. Demand Current:	203 A

Notes:

Branch Panel: EHV-CL-SE

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

Ckt.	Load Description	Brkr. Size	Load (kVA) A		Load (kVA) B		Load (kVA) C		Brkr. Size	Load Description	Ckt.
1	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	2
3	SECURITY EQUIP IDF RM	20 A 1			1.200	0.000			1 20 A	SPARE	4
5	SPARE	20 A 1					0.000	0.100	1 20 A	EXIT LTG	6
7	CLUB ZONE 18 LTG	20 A 1	0.500	0.200					1 20 A	ELEC/TELE ROOM LTG	8
9	CONCOURSE/VOM LTG	20 A 1			0.800	0.600			1 20 A	CONCESSIONS/STORAGE LTG	10
11	RAMP LTG	20 A 1					2.000	0.300	1 20 A	BRIDGE LTG - ZONE 10	12
13	TOILET LTG	20 A 1	1.300	0.100					1 20 A	STAIR LTG	14
15	SPACE	-- 1			--	0.558			1 20 A	**(NEW) LEVEL 400 LTG**	16
17	SPACE	-- 1					--	--	1 --	SPACE	18
19	SPACE	-- 1	--	--					1 --	SPACE	20
21	SPACE	-- 1			--	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	2.133							38
39	SPACE	-- 1			--	2.133			3 30 A	TRANSFORMER ELV-CL-SE	40
41	SPACE	-- 1					--	2.133			42
	Total Conn. Load by Phase:		4.233		5.291		4.533				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	8.700 kVA	125.00%	10.875 kVA		
Existing Load - Lighting	4.800 kVA	125.00%	6.000 kVA		
Other	0.558 kVA	100.00%	0.558 kVA	**Total Conn. Load:**	14 kVA
				Total Est. Demand:	17 kVA
				Total Conn. Current:	17 A
				Total Est. Demand Current:	21 A

Notes:

DRAWING NOTES

GENERAL NOTES

APPLIES TO ALL DRAWINGS OF THIS TRADE

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NO.	DATE	DESCRIPTION
3.1	05/01/1026	ARCHITECTURAL & MEP BID

Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group
DaviesEngineering@Gmail.com ~ 513-766-2373
Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Lawrenceburg, IN

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO
MICHAEL A. HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/26/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL SCHEDULES

DRAWING NUMBER	ISSUE
E701	3.1

Branch Panel: EHV-MS-SW

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

				Load (kVA)								
Ckt.	Load Description	Brkr. Size	A		B		C		Brkr. Size	Load Description	Ckt.
1	MS CORRIDOR/BRIDGE LTG	20 A 1	0.800	0.000					1 20 A	SPARE	2
3	CONCOURSE LTG	20 A 1			0.500	0.200			1 20 A	ELEC/IDF ROOM LTG	4
5	TOILET ROOM LTG	20 A 1					0.400	0.100	1 20 A	EXIT LTG	6
7	RAMP LTG	20 A 1	1.900	0.000					1 20 A	SPARE	8
9	SPARE	20 A 1			0.000	0.713			1 20 A	**(NEW) LEVEL 500 LTG**	10
11	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	12
13	SPACE	-- 1	--	--					1 --	SPACE	14
15	SPACE	-- 1			--	--			1 --	SPACE	16
17	SPACE	-- 1					--	--	1 --	SPACE	18
19	SPACE	-- 1	--	--					1 --	SPACE	20
21	SPACE	-- 1			--	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	0.973							38
39	SPACE	-- 1			--	0.973			3 30 A	TRANSFORMER ELV-MS-SW	40
41	SPACE	-- 1					--	0.973			42
	Total Conn. Load by Phase:		3.673		2.387		1.473				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	2.920 kVA	125.00%	3.650 kVA		
Existing Load - Lighting	3.900 kVA	125.00%	4.875 kVA		
Other	0.713 kVA	100.00%	0.713 kVA	**Total Conn. Load:**	8 kVA
				Total Est. Demand:	9 kVA
				Total Conn. Current:	9 A
				Total Est. Demand Current:	11 A

Notes:

Branch Panel: EHV-MS-SE

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

				Load (kVA)								
Ckt.	Load Description	Brkr. Size	A		B		C		Brkr. Size	Load Description	Ckt.
1	MS CORRIDOR LTG	20 A 1	0.560	0.100					1 20 A	STEP EM LTG	2
3	CONCOURSE LTG	20 A 1			0.790	0.200			1 20 A	ELEC/IDF LTG	4
5	TOILET LTG	20 A 1					0.370	0.100	1 20 A	EXIT LTG	6
7	RAMP LTG	20 A 1	1.110	0.740					1 20 A	STAIR LTG	8
9	BRIDGE LTG	20 A 1			0.500	0.000			1 20 A	SPARE	10
11	SPARE	20 A 1					0.000	0.558	1 20 A	**(NEW) LEVEL 500 LTG**	12
13	SPACE	-- 1	--	--					1 --	SPACE	14
15	SPACE	-- 1			--	--			1 --	SPACE	16
17	SPACE	-- 1					--	--	1 --	SPACE	18
19	SPACE	-- 1	--	--					1 --	SPACE	20
21	SPACE	-- 1			--	--			1 --	SPACE	22
23	SPACE	-- 1					--	--	1 --	SPACE	24
25	SPACE	-- 1	--	--					1 --	SPACE	26
27	SPACE	-- 1			--	--			1 --	SPACE	28
29	SPACE	-- 1					--	--	1 --	SPACE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	1.120							38
39	SPACE	-- 1			--	1.120			3 30 A	TRANSFORMER ELV-MS-SE	40
41	SPACE	-- 1					--	1.120			42
	Total Conn. Load by Phase:		3.630		2.610		2.148				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	3.360 kVA	125.00%	4.200 kVA		
Existing Load - Lighting	4.470 kVA	125.00%	5.588 kVA		
Other	0.558 kVA	100.00%	0.558 kVA	**Total Conn. Load:**	8 kVA
				Total Est. Demand:	10 kVA
				Total Conn. Current:	10 A
				Total Est. Demand Current:	12 A

Notes:

Branch Panel: EHV-US-SW

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

				Load (kVA)								
Ckt.	Load Description	Brkr. Size	A		B		C		Brkr. Size	Load Description	Ckt.
1	CLUB - ZONE 14	20 A 1	0.900	0.200					1 20 A	TELE/ELEC LTG	2
3	CONCOURSE LTG	20 A 1			3.100	0.100			1 20 A	EXIT LTG	4
5	VOMITORY LTG	20 A 1					3.200	1.200	1 20 A	HEAT TRACE	6
7	SUITE CORR LTG	20 A 1	0.400	0.400					1 20 A	BAR CEILING	8
9	HEAT TRACE (MS)	20 A 1			1.200	0.100			1 20 A	HEAT TRACE PANEL	10
11	**(NEW) LEVEL 600/700 LTG**	20 A 1					0.670	0.000	1 20 A	SPARE	12
13	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	14
15	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	16
17	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	18
19	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	20
21	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	22
23	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	24
25	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	26
27	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	28
29	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	0.767							38
39	SPACE	-- 1			--	0.767			3 125 A	TRANSFORMER ELV-US-SW	40
41	SPACE	-- 1					--	0.767			42
	Total Conn. Load by Phase:		2.667		5.267		5.837				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	6.100 kVA	125.00%	7.625 kVA		
Existing Load - Lighting	7.000 kVA	125.00%	8.750 kVA		
Other	0.670 kVA	100.00%	0.670 kVA	**Total Conn. Load:**	14 kVA
				Total Est. Demand:	17 kVA
				Total Conn. Current:	17 A
				Total Est. Demand Current:	21 A

Notes:

Branch Panel: EHV-US-SE

Location: | **Volts:** 480/277V Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1

				Load (kVA)								
Ckt.	Load Description	Brkr. Size	A		B		C		Brkr. Size	Load Description	Ckt.
1	VOMITORY LTG	20 A 1	3.000	0.400					1 20 A	TOILET LTG	2
3	SUITE CORRIDOR LTG	20 A 1			1.800	1.900			1 20 A	RAMP LTG	4
5	CONCESS/ELEC/TELE LTG	20 A 1					0.200	1.200	1 20 A	HEAT TRACE	6
7	HEAT TRACE	20 A 1	1.200	0.400					1 20 A	CLUB ZONE 11	8
9	BAR CEILING LTG	20 A 1			0.300	0.100			1 20 A	CLUB ZONE 13	10
11	EXIT LITG	20 A 1					0.100	0.300	1 20 A	CLUB ZONE 14	12
13	HEAT TRACE (MS)	20 A 1	1.200	0.100					1 20 A	HEAT TRACE PANEL	14
15	**(NEW) LEVEL 600/700 LTG**	20 A 1			0.441	0.000			1 20 A	SPARE	16
17	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	18
19	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	20
21	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	22
23	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	24
25	SPARE	20 A 1	0.000	0.000					1 20 A	SPARE	26
27	SPARE	20 A 1			0.000	0.000			1 20 A	SPARE	28
29	SPARE	20 A 1					0.000	0.000	1 20 A	SPARE	30
31	SPACE	-- 1	--	--					1 --	SPACE	32
33	SPACE	-- 1			--	--			1 --	SPACE	34
35	SPACE	-- 1					--	--	1 --	SPACE	36
37	SPACE	-- 1	--	1.120							38
39	SPACE	-- 1			--	1.120			3 30 A	TRANSFORMER ELV-US-SE	40
41	SPACE	-- 1					--	1.120			42
	Total Conn. Load by Phase:		7.420		5.661		2.920				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Existing Load	7.060 kVA	125.00%	8.825 kVA		
Existing Load - Lighting	8.500 kVA	125.00%	10.625 kVA		
Other	0.441 kVA	100.00%	0.441 kVA	**Total Conn. Load:**	16 kVA
				Total Est. Demand:	20 kVA
				Total Conn. Current:	19 A
				Total Est. Demand Current:	24 A

Notes:

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NO.	DATE	DESCRIPTION
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Hamilton County OHIO

Paycor Stadium - Southeast/Southwest Escalator Towers

CINCINNATI, OH

DAVIES engineering group
DaviesEngineering@mail.com ~ 513-560-2373
Cincinnati, OH ~ Fort Worth, TX ~ Elizabethtown, PA ~ Lawrenceburg, IN

KZF DESIGN
Designing Better Futures

KZF DESIGN INC.
700 Broadway Street
Cincinnati, OH 45202

main 513.621.6211
kzf.com

STATE OF OHIO
MICHAEL A HUNTWORK
E-75660
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	COMM. NO.
OGOLL	250127
DRAWN	DATE
OGOLL	03/26/26
CHECKED	PROJ. MGR.
MAH	C. MOORMAN

ELECTRICAL SCHEDULES

DRAWING NUMBER **E702** ISSUE 3.1