ADDENDUM NO. 2

July 22, 2022

Lawrence Township High School Site Improvements
7802 Hague Road, Indianapolis, IN 46256
7300 E. 56th St., Indianapolis, IN 46226

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and Drawings dated June 22, 2022, by Schmidt Associates. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 2-1 through ADD 2-2, Revised Bid Form, Asphalt Overview and attached Schmidt Associates Addendum No. 2, dated July 21, 2022 consisting of 3 pages, Specification Sections – 08 71 00 Door Hardware, 10 14 26 Post & Panel Signage, 31 23 19 Dewatering, 31 50 00 Excavation Support and Protection, 32 93 00 Plants and Drawing Sheets A-600.N, CD102.C, CL104.C, CL105.C, CL502.C, CG110.C, CU102.C, CU105.C and A-600.C.

A. SPECIFICATION SECTION 00 00 20 TABLE OF CONTENTS

Add Sections

08 71 00	Door Hardware
31 23 19	Dewatering
31 50 00	Excavation Support and Protection

B. SPECIFICATION SECTION 00 02 00 NOTICE TO BIDDERS

Bid Date has been changed to August 4, 2022.

C. SPECIFICATION SECTION 00 10 00 INSTRUCTIONS TO BIDDERS

Article 1.18 Time of Commencement and Completion

1. It is anticipated that construction will start March 15, 2023.
2. Construction shall be complete December 15, 2023.

D. SPECIFICATION SECTION 00 31 00 BID FORM

Replace the Bid Form in its entirety with the enclosed Bid Form.

E. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

Article 1.16 Time of Commencement and Completion

1. It is anticipated that construction will start March 15, 2023.
2. Construction shall be complete December 15, 2023.

A. BID CATEGORY NO. 01 – GENERAL TRADES

Add Clarifications:

10. The perimeter curb for the synthetic turf alternates is the responsibility of the **BC#4 Contractor.**
11. Sheets CL101, CL102, CL103 and CL104 are included to define the scope of the Asphalt Paving work. (see attached highlighted drawings).

C. BID CATEGORY NO. 03 – ASPHALT PAVING

Add Clarifications:

3. Sheets CL101, CL102, CL103 and CL104 are included to define the scope of the Asphalt Paving work. (see attached highlighted drawings).

D. BID CATEGORY NO. 04 – SYNTHETIC TURF

Add Clarifications:

3. The perimeter curb for the synthetic turf alternates is the responsibility of the **BC#4 Contractor**.
4. Include $20,000 allowance for Alternate 3 and $10,000 allowance for Alternate 4 of the $30,00 contingency allowance.

CONTRACTOR'S BID FOR PUBLIC WORKS FORM NO. 96

Format (Revised 2013)
(Amended for MSDLT)

Lawrence Township High Schools Site Improvements

MSD of Lawrence Township
Marion County, Indiana

PART I

(To be completed for all bids. Please type or print)

Date (month, day, year):_____

BIDDER (Firm) _____

Address _____ P.O. Box _____

City/State/Zip ___

Telephone Number: _____ Email Address: _____

Person to contact regarding this Bid_____

Pursuant to notices given, the undersigned offers to furnish labor and/or materials necessary to complete the public works project of:

_____
Insert Category No. (s) and Name(s)

Of public works project, ***Lawrence Township High Schools Site Improvements***, in accordance with Plans and Specifications prepared by ***Schmidt Associates, 415 Massachusetts Ave., Indianapolis, IN 46204***, as follows:

BASE BID

For the sum of _____
(Sum in words)

_____DOLLARS ($_____)
(Sum in figures)

The undersigned acknowledges receipt of the following Addenda:
Receipt of Addenda No. (s) _____

PROPOSAL TIME

Bidder agrees that this Bid shall remain in force for a period of sixty (60) consecutive calendar days from the due date, and Bids may be accepted or rejected during this period. Bids not accepted within said sixty (60) consecutive calendar days shall be deemed rejected.

Attended pre-bid conference YES _____ NO_____

Has visited the jobsite YES _____ NO_____

The Bidder has reviewed the Guideline Schedule in Section 01 32 00 and the intent Of the schedule can be met. YES _____ NO_____

Bidder has included their Written Drug Testing Plan that covers all employees of the bidder who will perform work on the public work project and meets or exceeds the requirements set in IC 4-13-18-5 or IC 4-13-18-6. YES _____ NO_____

The Skillman Corporation's diversity initiative is to create a program to encourage, assist and measure the active participation of Minority- Owned, Women-Owned, Veteran – Owned and Disabled Individual-Owned Businesses. The Program is to ensure that MWVDBEs are provided full and equal opportunity to participate in all Skillman Corporation's Projects.

Bidder has included:
DBE: YES _____% NO _____
MBE: YES _____% NO _____
WBE: YES _____% NO _____
VBE: YES _____% NO _____

The undersigned further agrees to furnish a bond or certified check with this Bid for an amount specified in the Notice to Bidders. If Alternate Bids apply, submit a proposal for each in accordance with the Plans and Specifications.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit bases, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS
(if applicable)

I, the undersigned bidder, or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ALTERNATE BIDS

A blank entry or an entry of "No Bid", "N/A", or similar entry on any Alternate will cause the bid to be rejected as non-responsive only if that Alternate is selected. If no change in the bid amount is required, indicate "No Change".

****MARK "ADD" OR "DEDUCT" FOR EACH ALTERNATE****

Alternate Bid No. 1 – Natural Turf: LN &LC Varsity Baseball – Sod

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 2 – Natural Turf: LC Varsity Soccer– Sod

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3A – FIELDTURF Synthetic Turf: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3B – MOTZ Synthetic Turf: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3C – SPRINTTURF Synthetic Turf: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3D – ACT GLOBAL Synthetic Turf: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3E – ASTROTURF Synthetic Turf: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 4A - FIELDTURF Synthetic Turf: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 4B - MOTZ Synthetic Turf: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 4C - SPRINTTURF Synthetic Turf: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 4D – ACT GLOBAL Synthetic Turf: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 4E - ASTROTURF Synthetic Turf: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 5 – Sports Lighting: LN&LC Varsity Baseball/Softball

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 6 – Sports Lighting: LN&LC Varsity Soccer

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 7 – Natural Turf: LC JV Soccer – Sod

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

PART II

(For projects of $150,000 or more – IC 36-1-12-4)

These statements to be submitted under oath by each bidder with and as a part of his bid. (Attach additional pages for each section as needed.)

SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you?_____If so, where and why?

_____

_____

_____

4. List references from private firms for which you have performed work.

_____

_____

_____

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed Work. (Examples could include a narrative of when you could begin, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)

2. Please list the names and addresses of all subcontractors (i.e. persons or firms outside your own firm who have performed part of the work) that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

3. If you intend to sublet any portion of the work, state the name and addresses of each subcontractor, equipment to be used by the subcontractor, and whether you will required a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

4. What equipment do you have available to use for the proposed Project? Any equipment used by subcontractors may also be required to be listed by the governmental unit.

5. Have you into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which corroborate the process listed.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of Bidder's financial statement is mandatory. Any Bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the Contract must be specific enough in detail so that said governing body can make a proper determination of the Bidder's capability for completing the Project if awarded.

SECTION IV CONTRACTOR NON-COLLUSION AFFIDAVIT

The undersigned Bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this Bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporations has, have, or will receive directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of such contract.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT

Dated at _____this _____ day of _____, 20

_____
(Name of Organization)

By
_____

_____
(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
) SS:
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named
_____

Swore that the statements contained in the foregoing document are true and correct.

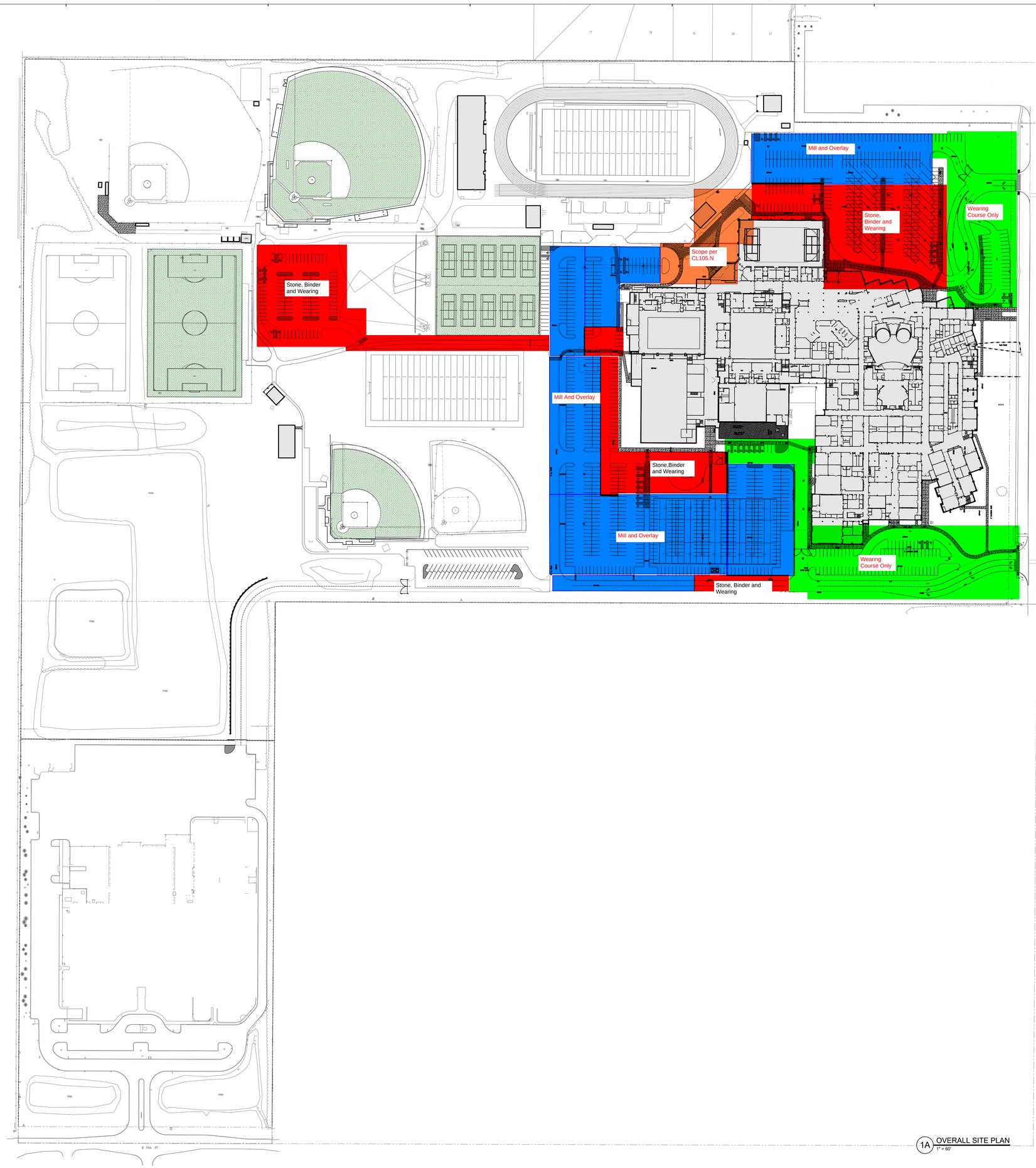
Subscribed and sworn to before me this _____ day of _____,
_____
(Title)

_____
Notary Public

My Commission Expires: _____

County of Residence: _____

END OF SECTION 00 31 00



1A OVERALL SITE PLAN
1" = 60'

SCHMIDT
ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

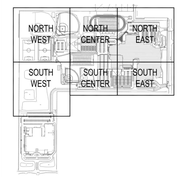
Project No. 2018-050.LNH
Project Date 07.06.2020
Produced JS / AJ

CONSTRUCTION SET

THIS CONSTRUCTION SET, WHICH INCORPORATES ADDENDA, IS FOR THE CONVENIENCE OF THE CONTRACTOR. THE ORIGINAL CONTRACT DOCUMENTS AND ADDENDA SHALL SERVE AS THE OFFICIAL SET OF CONTRACT DOCUMENTS.

#	Revision	Date

7802 Hague Road
Indianapolis, IN 46256



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

ADDITIONS AND RENOVATIONS TO LAWRENCE NORTH HIGH SCHOOL

OVERALL SITE PLAN

C-002

ADDENDUM NO. 2
JULY 21, 2022

PREPARED BY SCHMIDT ASSOCIATES FOR:

LAWRENCE NORTH AND LAWRENCE CENTRAL ATHLETIC FIELDS
LAWRENCE TOWNSHIP, M.S.D. OF

This Addendum consists of 3 Addendum pages and 57 attachment pages totaling 60 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 DIVISION 08 – OPENINGS

A. **Section 087100 "DOOR HARDWARE"**

1. ADD Section per the attached.

2.2 DIVISION 10 – SPECIALTIES

A. **Section 101426 "POST & PANEL SIGNAGE"**

1. DELETE AND REPLACE Section 101426 in its entirety per the attached.

2.3 DIVISION 12 – FURNISHINGS

A. **Section 123200 "MANUFACTURED WOOD CASEWOK"**

1. DELETE AND REPLACE Paragraph 2.1.A. as follows:

"A. 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:

1. Wood Manufactured Casework:

a. Advanced Cabinet Systems
b. Stevens Industries, Inc.
c. TMI Systems Design Corporation.
d. Antreasian Design Inc.
e. Chisholm Architectural Woodwork.
f. Marc Woodworking Company."

2.4 DIVISION 31 – EARTHWORK

A. **Section 312319 "DEWATERING"**

1. ADD Section 312319 per the attached.

B. **Section 315000 "EXCAVATION SUPPORT AND PROTECTION"**

1. ADD Section 315000 per the attached.

2.5 DIVISION 32 - EXTERIOR IMPROVEMENTS

A. **Section 321823.99 "SYNTHETIC TURF PLAYING SURFACE"**

1. MODIFY Text within 2.5.A as follows:

"Provide 1 field groomer per Synthetic Turf field for each school, which shall include a towing mechanism compatible with a field utility vehicle. Field groomer shall be manufacturer's standard field groomer."

B. **Section 329300 "PLANTS"**

1. DELETE AND REPLACE Section 329300 in its entirety per the attached.

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain unchanged.

3.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS FOR LAWRENCE NORTH

DRAWING NO.	INDICATE ACTION: REPLACE (R), ADD (A), DELETE (D)
A-SERIES DRAWINGS	
A-600.N	DELETE AND REPLACE

3.2 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS FOR LAWRENCE CENTRAL

DRAWING NO.	INDICATE ACTION: REPLACE (R), ADD (A), DELETE (D)
C-SERIES DRAWINGS	
CD102.C	DELETE AND REPLACE
CL104.C	DELETE AND REPLACE
CL105.C	DELETE AND REPLACE
CL502.C	DELETE AND REPLACE
CG110.C	DELETE AND REPLACE
CU102.C	DELETE AND REPLACE
CU105.C	DELETE AND REPLACE
A-SERIES DRAWINGS	
A-600.C	DELETE AND REPLACE

END OF ADDENDUM 2

AVAILABLE PROJECT INFORMATION

The following Bidders' Question and Answer Sheet is being made available to Bidders for informational purposes only and is not a part of the Addendum.

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical door hardware

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:

a. "Metal Doors and Frames"

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
2. NFPA 101 – Life Safety Code

3. NFPA 105 – Smoke and Draft Control Door Assemblies
4. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:

a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

3. Door Hardware Schedule:

a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
c. Indicate complete designations of each item required for each opening, include:
   1) Door Index: door number, heading number, and Architect's hardware set number.
   2) Quantity, type, style, function, size, and finish of each hardware item.

3) Name and manufacturer of each item.
4) Fastenings and other pertinent information.
5) Location of each hardware set cross-referenced to indications on Drawings.
6) Explanation of all abbreviations, symbols, and codes contained in schedule.
7) Mounting locations for hardware.
8) Door and frame sizes and materials.
9) Degree of door swing and handing.

4. Key Schedule:

a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:

a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
b. Catalog pages for each product.
c. Final approved hardware schedule edited to reflect conditions as installed.
d. Final keying schedule
e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:

a. Fire door assemblies, in compliance with NFPA 80.
b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: 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 meets these requirements:

   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:

   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:

   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Accessibility Requirements:

a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
   1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
   2) Preliminary key system schematic diagram.
   3) Requirements for key control system.
   4) Address for delivery of keys.

2. Pre-installation Conference

a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
b. Inspect and discuss preparatory work performed by other trades.
c. Review required testing, inspecting, and certifying procedures.
d. Review questions or concerns related to proper installation and adjustment of door hardware.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.
B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.
C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.

a. Mechanical Warranty
1) Locks: 3 Years
2) Closers: 30 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.
B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.
D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.03 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:

a. Select
b. Pemko

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.04 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:

a. Rockwood
b. Trimco

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.05 MORTISE LOCKS AND DEADBOLTS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

a. Best 40H/48H Series

2. Acceptable Manufacturers and Products:

a. No Substitute

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
3. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
4. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
5. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
6. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide a request to exit (RX) switch that is actuated with rotation of inside lever.
7. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.

a. Lever Design: Best 14H.

2.06 PERMANENT CORES, KEYING, AND KEYS

A. Manufacturers:

1. Scheduled Manufacturer: Best
2. Acceptable Manufacturers: No Substitute

B. Core Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.

    a. Match owner's existing system.
    b. Cylinder/Core Type: Small Format Interchangeable Core (SFIC)

3. Nickel silver bottom pins.

C. Keying Requirements:

1. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
2. Provide keying system capable of multiplex masterkeying.
3. Permanent keyed by the manufacturer according to the following key system.

    a. Keying system as directed by the Owner.
    b. Match Owner's existing system.
    c. (Great)Grand Master Key System: Cylinders/cores operated by change (day) keys and subsequent masters (including grand/great grand) keys.

4. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
5. Provide keys with the following features:

    a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm).

6. Identification:

    a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Blind code marks shall not include actual key cuts.
    b. Identification stamping provisions must be approved by the Architect and Owner.
    c. Stamp keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE".
    d. Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.

7. Quantity: Furnish in the following quantities.

    a. Change (Day) Keys: 3 per cylinder/core.
    b. Permanent Control Keys: 3 (if required).

c. Master Keys: 6 per master.
d. Unused balance of key blanks shall be furnished to Owner with the cut keys.

D. Verify with owner where permanent cores and keys are to be shipped to.

2.07 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

a. LCN 4040XP series

2. Acceptable Manufacturers and Products:

a. Sargent 281 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.08 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:

a. Trimco
b. Rockwood

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.09 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:

a. Trimco
b. Rockwood

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.10 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:

a. Glynn-Johnson

2. Acceptable Manufacturers:

a. Rixson

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2. Provide friction type at doors without closer and positive type at doors with closer.

2.11 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:

a. Trimco
b. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.12 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:

a. Zero International

2. Acceptable Manufacturers:

a. National Guard
b. Reese
c. Pemko

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.13 FINISHES

A. Provide hardware with finishes as shown in the hardware sets

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.
B. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights 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. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.
C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.
I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

K. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
L. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
M. 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 may impede traffic or present tripping hazard.
N. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
O. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
P. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 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.

    1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.
B. Clean operating items per manufacturer's instructions to restore proper function and finish.
C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.
C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.
D. Hardware Sets:

74749 OPT0286059 Version 1

HARDWARE GROUP NO. 01

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	DEADLOCK, CLASSROOM	48H-7-R	626	BES
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	WS20/WS20X	626	IVE
1	EA	RAIN DRIP	11A (BOTTOM EXTERIOR FACE OF DOOR)	A	ZER
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	DOOR BOTTOM, INSWING HMD	381A	A	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 02

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	ENTRANCE LOCK (W/ OUTSIDE INDICATOR)	45H-7-T-14H-VIN	626	BES
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	WS20/WS20X	626	IVE
1	EA	RAIN DRIP	11A (BOTTOM EXTERIOR FACE OF DOOR)	A	ZER
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	DOOR BOTTOM, INSWING HMD	381A	A	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 03

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	ENTRANCE LOCK	45H-7-T-14H	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER (W/ DEAD STOP & HO)	4040XP HCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 04

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	ENTRANCE LOCK	45H-7-T-14H	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER (W/ SPRING STOP & HO)	4040XP SHCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 05

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	45H-7-TD-14H	626	BES
2	EA	OH STOP & HOLDER	90H	630	GLY
2	EA	ARMOR PLATE	8400 35" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	SECURITY ASTRAGAL	43STST	STST	ZER
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 06

For use on Door #(s):

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	STOREROOM LOCK	45H-7-TD-14H	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER (W/ SPRING STOP & HO)	4040XP SHCUSH	689	LCN
1	EA	ARMOR PLATE	8400 35" X 1 1/2" LDW B-CS	630	IVE
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

HARDWARE GROUP NO. 07

For use on Door #(s):

Provide each OPENING with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR

ALL HARDWARE BY DOOR MANUFACTURER/SUPPLIER.

END OF SECTION

SECTION 101426 - POST AND PANEL SIGNAGE

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 SUMMARY

A. This Section includes the following:

1. Nonilluminated Internally illuminated post and panel signs.

B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for temporary Project identification signs and for temporary informational and directional signs.
2. Division 03 Section "Cast-in-Place Concrete" for concrete foundations and concrete fill.
3. Division 10 Section "Signage" for wall-mounted signs and dimensional characters.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide post and panel signs capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Wind Loads: Determine loads based on the following minimum design wind pressures:

a. Uniform pressure of 50 lbf/sq. ft., acting in any direction.

B. Seismic Performance: Provide post and panel signs capable of withstanding the effects of earthquake motions determined according to SEI/ASCE 7, "Minimum Design Loads for Buildings and Other Structures."

C. Thermal Movements: Provide post and panel signs that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 DEFINITIONS

A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication and installation details for post and panel/pylon signage.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Provide message list, typestyles, graphic elements, and layout for each sign at least half size and full-size details of graphics.

a. Include full-size templates for cutout characters and graphic symbols.

3. Show locations of electrical service connections.
4. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples for Initial Selection: Manufacturer's color charts consisting of actual units or sections of units showing the full range of colors available for the following:

1. Aluminum.
2. Acrylic sheet.
3. Polycarbonate sheet.
4. Fiberglass sheet.
5. Die-cut vinyl characters and graphic symbols. Include representative samples of available typestyles and graphic symbols.

D. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:

1. Aluminum: For each form, finish, and color, on 6-inch- long sections of extrusions and squares of sheet at least 4 by 4 inches.
2. Acrylic Sheet: 8 by 10 inches for each color required.
3. Polycarbonate Sheet: 8 by 10 inches for each color required.
4. Fiberglass Sheet: 8 by 10 inches for each color required.
5. Include a full-size representative sample of cutout illuminated character required in each panel. Show graphic style, colors, finishes, typestyles, and graphic symbol.
6. Frame: 6-inch-- long sections of each profile.
7. Accessories: Manufacturer's full-size unit.

E. Sign Schedule: Use same designations indicated on Drawings.

F. Qualification Data: For fabricator.

G. Maintenance Data: For signs to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of products.

1. Installer shall be capable of providing replacement message bars within 10 working days of receipt of order.

B. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

C. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

D. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when[**existing and forecasted**] weather conditions permit installation of signs to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Indicate measurements on Shop Drawings.

1.8 COORDINATION

A. Coordinate installation of anchorages for post and panel/pylon signage. Furnish setting drawings, templates, and directions for installing anchorages and other items that are to be embedded in concrete.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of post and panel signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Deterioration of metal and polymer finishes beyond normal weathering.
    b. Deterioration of embedded graphic image colors and sign lamination.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.

B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.

C. Steel:

1. Galvanized Steel Sheet: ASTM A 653/A 653M, G90 coating, either commercial or forming steel.
2. Steel Sheet: Uncoated, cold-rolled, ASTM A 1008/A 1008M, commercial steel, Type B, exposed.
3. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type [**304**] [**316**], stretcher-leveled standard of flatness.
4. Hot-Rolled Structural-Steel Shapes: ASTM A 36/A 36M or ASTM A 529/A 529M.
5. Steel Tubing or Pipe: ASTM A 500, Grade B.
6. Steel Members Fabricated from Plate or Bar Stock: ASTM A 529/A 529M or ASTM A 572/A 572M, 42,000-psi minimum yield strength.
7. Bolts for Steel Framing: ASTM A 307 or ASTM A 325 as necessary for design loads and connection details.
8. For steel exposed to view on completion, provide materials having flat, smooth surfaces without blemishes. Do not use materials whose surfaces exhibit pitting, seam marks, roller marks, rolled trade names, or roughness.

D. Fiberglass Sheet: Molded, seamless, thermosetting, glass-fiber-reinforced polyester panels with a minimum tensile strength of 15,000 psi when tested according to ASTM D 638 and with a minimum flexural strength of 30,000 psi when tested according to ASTM D 790.

E. Copper: ASTM B 152/B 152M.

F. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

G. Polycarbonate Sheet: Of thickness indicated, manufactured by extrusion process, coated on both surfaces with abrasion-resistant coating:

1. Impact Resistance: 16 ft-lbf/in. per ASTM D 256, Method A.
2. Tensile Strength: 9000 lbf/sq. in. per ASTM D 638.
3. Flexural Modulus of Elasticity: 340,000 lbf/sq. in. per ASTM D 790.
4. Heat Deflection: 265 deg F at 264 lbf/sq. in. per ASTM D 648.
5. Abrasion Resistance: 1.5 percent maximum haze increase for 100 revolutions of a Taber abraser with a load of 500 g per ASTM D 1044.

H. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils with pressure-sensitive adhesive backing, suitable for exterior applications.

I. Colored Coatings for Acrylic Sheet: For copy and background and frame colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

1. Custom Paint Colors: Match Pantone color matching system.

J. Color: As selected by Architect from manufacturer's full range.

2.2 POST AND PANEL SIGNS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Allen Industries Architectural Signage.
2. APCO Graphics, Inc.
3. ASI-Modulex, Inc.
4. Best Sign Systems Inc.
5. Bunting Graphics, Inc.
6. Charleston Industries, Inc.
7. essential architectural signs
8. Nelson-Harkins Industries.
9. Signature Signs, Incorporated.
10. Supersine Company (The).
11. Vomar Products, Inc.
12. Insert manufacturer's name.

2.3 PANEL SIGNS

A. Sign Message Panels: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

2. Increase metal thickness or reinforce with concealed stiffeners or backing materials as needed to produce surfaces without distortion, buckles, warp, or other surface deformations.
3. Continuously weld joints and seams unless other methods are indicated; grind, fill, and dress welds to produce smooth, flush, exposed surfaces with welds invisible after final finishing.

B. Message Panel Materials:

1. Aluminum Sheet: 0.080 inch thick.

    a. Panel Finish: Baked enamel Class I, clear anodic finish Class I, color anodic finish Insert finish.
    b. Color: As selected by Architect from manufacturer's full range.

2. Composite Aluminum-Faced Sheet: 0.020-inch- thick, aluminum sheet facings laminated to each side of 0.197-inch- thick, phenolic core.

    a. Panel Finish: Baked enamel Class I, clear anodic finish Class I, color anodic finish Insert finish.
    b. Color: As selected by Architect from manufacturer's full range.

3. Acrylic Sheet: Clear Translucent Opaque thick.

    a. Color: As selected by Architect from manufacturer's full range.

4. Fiberglass Sheet: 0.125 inch thick.

    a. Color: As selected by Architect from manufacturer's full range.

5. Polycarbonate Sheet: Clear Translucent thick.

    a. Color: As selected by Architect from manufacturer's full range.

6. Edge Condition: Beveled.
7. Corner Condition: Square.
8. Custom Paint Colors: Match Pantone color matching system.
9. Color: As selected by Architect from manufacturer's full range.

C. Laminated Panel Signs: Solid phenolic panel core with graphic image covered with thermosetting resin face layer.

1. Surface Finish: UV resistant, outdoor.
2. Edge Condition: Beveled.
3. Corner Condition: Square.
4. Thickness: 1/8 inch.

D. Panel Sign Frames:

1. Extruded-Aluminum Frames: Mitered with concealed anchors.

2. Bronze Plate: Not less than 0.032 inch thick.
3. Brass Plate: Not less than 0.032 inch thick.
4. Copper Sheet: Not less than 0.048 inch thick.
5. Steel Sheet: Painted, not less than 0.050 inch thick for face and 0.031 inch thick for returns.

    a. Color: As selected by Architect from manufacturer's full range.

6. Stainless-Steel Sheet: Not less than 0.050 inch thick for face and 0.031 inch thick for returns.
7. Insert material and thickness.

    a. Depth: As indicated.
    b. Profile: Square.
    c. Corner Condition: Square.
    d. Frame Type: Mounted on posts.

        1) Message Panel Mounting: Flush in frame with concealed anchors.
        2) Manufacturer's standard noncorroding anchors for substrates encountered.

E. Hollow-Box-Type Panel Signs: Frame message panel with formed aluminum sheet or extruded hollow-box-type frame with ends flanged to engage slots in posts or attached to posts with extruded-aluminum fittings. Close top and bottom edges of panels with manufacturer's standard welded seams or extrusions.

1. Message Panel Materials:

    a. Aluminum Sheet: 0.125 inch thick.

        1) Panel Finish: Baked enamel Class I, clear anodic finish Class I, color anodic finish Insert finish.
        2) Color: As selected by Architect from manufacturer's full range.

    b. Composite Aluminum-Faced Panel: 0.020-inch- thick, aluminum sheet facings laminated to each side of 0.197-inch- thick, phenolic core.

        1) Panel Finish: Baked enamel Class I, clear anodic finish Class I, color anodic finish Insert finish.
        2) Color: As selected by Architect from manufacturer's full range.

    c. Acrylic Sheet: Opaque 0.125 inch thick.

        1) Color: As selected by Architect from manufacturer's full range.

    d. Fiberglass Sheet: 0.125 inch thick.

        1) Color: As selected by Architect from manufacturer's full range.

    e. Polycarbonate Sheet: Clear Translucent thick.

1) Color: As selected by Architect from manufacturer's full range.

2. Hollow-Box Depth: Provide panel same depth as posts.

a. Corner Condition: Square.
b. Finish: Match sign panel face.
c. Color: As selected by Architect from manufacturer's full range.

3. Mounting: Between posts.

a. Manufacturer's standard noncorroding anchors for substrates encountered.
b. Provide clips welded to back of panels for installation without visible fasteners.

4. Illuminated-Sign Units: Manufacturer's standard LED lighting including transformers, insulators, and other components. Make provisions for servicing and concealing connections to building electrical system.

F. Multiple-Message-Bar-Type Inserts: Fabricate signs to allow insertion of changeable messages in the form of slide-in aluminum changeable inserts for use in fixed frames.

G. Post and Panel Sign Schedule:

1. Sign Type: Post and panel sign.

a. Sign Size: As indicated.
b. Message Panel Material: As indicated.
c. Message Panel Finish/Color: I.
d. Panel Sign Frame Finish/Color: Insert finish/color.
e. Post Material: As indicated.
f. Post Finish/Color: <**Insert finish/color.**>
g. Pylon Finish/Color: <**Insert finish/color.**>
h. Character Size: As indicated.
i. Character Finish/Color: <**Insert finish/color.**>
j. Text/Message: As indicated.
k. Location: As indicated.

2.4 POSTS

A. General: Fabricate posts to lengths required for mounting method indicated.

1. Direct-Burial Method: Provide posts 36 inches longer than height of sign to permit direct embedment in concrete foundations.

B. Aluminum Posts: Manufacturer's standard 0.125-inch- thick, extruded-aluminum tubing, with vertical slots to engage sign panels. Provide stop blocks in slots to hold panels in position. Include post caps, fillers, spacers, junction boxes, access panels, and related accessories required for complete installation.

1. Square Posts: As Indicated.
2. Rectangular Posts: As indicated.
3. Post Finish: Baked enamel Class I, color anodic coating High-performance organic coating Match sign panel face.
4. Color: As selected by Architect from manufacturer's full range.

C. Steel Posts: Fabricate from 0.120-inch- thick, square steel tubing. Include post caps, fillers, spacers, junction boxes, access panels, and related accessories required for complete installation. Hot-dip galvanize post assemblies after fabrication to comply with ASTM A 123/A 123M.

1. Post Size: As Indicated.
2. Post Finish: Baked enamel matching sign panel face.
3. Color: As selected by Architect from manufacturer's full range.

2.5 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.6 FABRICATION

A. General: Provide manufacturer's standard post and panel signs of configurations indicated.

1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.
5. Provide inconspicuous draw holes and weeps to eliminate collection of water in and on signs.

2.7 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

A. Clear Anodic Finish: Manufacturer's standard Class 1 clear anodic coating, 0.018 mm or thicker, over a satin (directionally textured) mechanical finish, complying with AAMA 611.

B. Color Anodic Finish: Manufacturer's standard Class 1 integrally colored or electrolytically deposited color anodic coating, 0.018 mm or thicker, in black applied over a nonspecular as fabricated mechanical finish, complying with AAMA 611.

C. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Apply baked enamel complying with paint manufacturer's written instructions for cleaning, conversion coating, and painting.

1. Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603 except with a minimum dry film thickness of 1.5 mils, medium gloss.

D. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 and with coating and resin manufacturers' written instructions.

E. High-Performance Organic Finish (3-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coatings; Organic Coating: manufacturer's standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.

2.9 GALVANIZED STEEL FINISHES

A. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.

1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.

B. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply the air-dried primer specified below immediately after cleaning and pretreating.

1. Shop Primer: Zinc-dust, zinc-oxide primer formulated for priming zinc-coated steel and for compatibility with finish paint systems indicated; complying with SSPC-Paint .

C. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard 2-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil for topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

D. Color-Coated Finish: Apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

2.10 STEEL FINISHES

A. Surface Preparation: Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACENo. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."

B. Factory Priming for Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment.

1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, lead- and chromate-free, universal primer, selected for resistance to normal atmospheric corrosion, for compatibility with substrate and field-applied finish paint system indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

C. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

2.11 STAINLESS-STEEL FINISHES

A. Remove tool and die marks and stretch lines or blend into finish. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.

B. Directional Satin Finish: No. 4 finish.

C. Mirrorlike Reflective, Nondirectional Polish: No. 8 finish.

D. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

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 work.

B. Verify that itemsand electrical power are sized and located to accommodate signs.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Excavation: Excavate for sign foundation to elevations and dimensions indicated. Reconstruct subgrade that is not firm, undisturbed, or compacted soil, or that is damaged by freezing temperatures, frost, rain, accumulated water, or construction activities by excavating a further 12 inches <**Insert dimension**>, backfilling with satisfactory soil, and compacting to original subgrade elevation.

1. Excavate hole depths approximately 39 inches below finished grade.

B. Set anchor bolts and other embedded items required for installation of signs. Use templates furnished by suppliers of items to be attached.

1. Protect portion of posts above ground from concrete splatter.

C. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.

2. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 101426

SECTION 312319 - DEWATERING

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 SUMMARY

A. Section includes construction dewatering.

B. Related Sections:

1. Division 31 Section "Earth Moving" for excavating, backfilling, site grading, and for site utilities.
2. Division 33 Section "Subdrainage" for permanent foundation wall, underfloor, and footing drainage.

1.3 PERFORMANCE REQUIREMENTS

A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

1. Delegated Design: Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.
3. Prevent surface water from entering excavations by grading, dikes, or other means.
4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
5. Remove dewatering system when no longer required for construction.

1.4 INFORMATIONAL SUBMITTALS

A. Delegated-Design Submittal: For dewatering system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Construction Manager no fewer than [**two**] <**Insert number**> days in advance of proposed interruption of utility.
2. Do not proceed with interruption of utility without Construction Manager's written permission.

B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Owner will not be responsible for interpretations or conclusions drawn from this data.

1. Make additional test borings and conduct other exploratory operations necessary for dewatering.
2. The geotechnical report is included elsewhere in the Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.
2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

3.2 INSTALLATION

A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

1. Space well points or wells at intervals required to provide sufficient dewatering.
2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.

B. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.

C. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.

D. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.

1. Maintain piezometric water level a minimum of 24 inches below surface of excavation.

E. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.

F. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations.

END OF SECTION 312319

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

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 SUMMARY

A. Section includes temporary excavation support and protection systems.

B. Related Sections:

1. Division 31 Section "Dewatering" for dewatering system for excavations.

1.3 PERFORMANCE REQUIREMENTS

A. Design, furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.

1. Delegated Design: Design excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.
4. Monitor vibrations, settlements, and movements.

1.4 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Construction Manager no fewer than [**two**] <**Insert number**> days in advance of proposed interruption of utility.
2. Do not proceed with interruption of utility without Construction Manager's written permission.

B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Neither the Owner nor the Architect will be responsible for interpretations or conclusions drawn from the data.

1. The geotechnical report is included elsewhere in the Project Manual (Section 003100, Available Project Information).

C. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

1. During installation of excavation support and protection systems, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide materials that are either new or in serviceable condition.

B. Structural Steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.

C. Steel Sheet Piling: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks.

1. Corners: Roll-formed corner shape with continuous interlock.

D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of size and strength required for application.

E. Shotcrete: Comply with Division 03 Section "Shotcrete" for shotcrete materials and mixes, reinforcement, and shotcrete application.

F. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.

G. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

H. Tiebacks: Steel bars, ASTM A 722/A 722M.

I. Tiebacks: Steel strand, ASTM A 416/A 416M.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.

1. Shore, support, and protect utilities encountered.

B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.

D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.

E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.2 SOLDIER PILES AND LAGGING

A. Install steel soldier piles before starting excavation. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging. Accurately align exposed faces of flanges to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.

B. Install wood lagging within flanges of soldier piles as excavation proceeds. Trim excavation as required to install lagging. Fill voids behind lagging with soil, and compact.

C. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

3.3 SHEET PILING

A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Accurately place the piling, using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to 60 inches. Accurately align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment. Cut tops of sheet piling to uniform elevation at top of excavation.

3.4 TIEBACKS

A. Tiebacks: Drill, install, grout, and tension tiebacks. Test load-carrying capacity of each tieback and replace and retest deficient tiebacks.

1. Test loading shall be observed by a qualified professional engineer responsible for design of excavation support and protection system.
2. Maintain tiebacks in place until permanent construction is able to withstand lateral soil and hydrostatic pressures.

3.5 BRACING

A. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.
2. Install internal bracing, if required, to prevent spreading or distortion of braced frames.
3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.6 REMOVAL AND REPAIRS

A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Remove excavation support and protection systems to a minimum depth of 48 inches below overlaying construction and abandon remainder.
2. Fill voids immediately with approved backfill compacted to density specified in Division 31 Section "Earth Moving."
3. Repair or replace, as approved by Architect, adjacent work damaged or displaced by removing excavation support and protection systems.

B. Leave excavation support and protection systems permanently in place.

END OF SECTION 315000

SECTION 329300 - PLANTS

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 SUMMARY

A. Section Includes:

1. Trees.
2. Shrubs.

B. Related Sections:

1. Division 31 Section "Site Clearing" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
2. Division 31 Section "Earth Moving" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
3. Division 32 Section "Turf and Grasses" for lawn and meadow planting.

1.3 DEFINITIONS

A. Clump: Where three or more young trees were planted in a group and have grown together as a single tree having three or more main stems or trunks.

B. Finish Grade: Elevation of finished surface of planting soil.

C. Multi-Stem: Where three or more main stems arise from the ground from a single root crown or at a point right above the root crown.

D. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

E. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

F. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified landscape Installer.

B. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:

1. Manufacturer's certified analysis for standard products.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

C. Material Test Reports: For existing surface soil.

D. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year. Submit before expiration of required maintenance periods.

E. Warranty: Sample of special warranty.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; [**sodium absorption ratio;**]deleterious material; pH; and mineral and plant-nutrient content of topsoil.

1. Report suitability of topsoil for plant growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

D. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

E. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above the ground for trees up to 4-inch caliper size, and 12 inches above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Observation: Architect may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver exterior plants freshly dug.

B. Do not prune trees and shrubs before delivery except as approved by Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.

C. Handle planting stock by root ball.

D. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.

1. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.8 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

1. Spring Planting: April 1 to June 1.
2. Fall Planting: September 15 to November 15.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed according to manufacturer's written instructions and warranty requirements.

C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns unless otherwise acceptable to Architect.

1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.9 WARRANTY

A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, abuse by Owner, or incidents that are beyond Contractor's control.
b. Structural failures including plantings falling or blowing over.
c. Faulty operation of tree stabilization edgings.
d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Periods from Date of Substantial Completion:

a. Trees and Shrubs: One year.

3. Include the following remedial actions as a minimum:

a. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
b. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
c. A limit of one replacement of each exterior plant will be required except for losses or replacements due to failure to comply with requirements.
d. Provide extended warranty for replaced plant materials; warranty period equal to original warranty period.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Provide trees and shrubs of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.

~~2.~~ Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1.

C. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.

D. If formal arrangements or consecutive order of trees or shrubs is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

2.2 DECIDUOUS SHRUBS

A. Form and Size: Shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.

1. Shrub sizes indicated are sizes after pruning.

2.3 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.

a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs or marshes.

2.4 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Wood and bark chips.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before planting. Make minor adjustments as required.

D. Lay out exterior plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

E. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

3.3 PLANTING BED ESTABLISHMENT

A. Loosen subgrade of planting beds to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply fertilizer directly to subgrade before loosening.
2. spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

3. Spread planting soil mix to a depth of 6 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

    a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.

B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Before planting, restore planting beds if eroded or otherwise disturbed after finish grading.

3.4 EXCAVATION FOR TREES AND SHRUBS

A. Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped stock.
2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
3. If drain tile is shown or required under planted areas, excavate to top of porous backfill over tile.

B. Subsoil removed from excavations may not be used as backfill.

C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

1. Hardpan Layer: Drill 6-inch- diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.

D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.

E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE AND SHRUB PLANTING

A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.

B. Organic Mulching: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. Do not place mulch within 3 inches of trunks or stems.

3.6 TREE AND SHRUB PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

3.7 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated. Provide mulch ring around trees in lawn areas.

1. Organic Mulch: Apply 3-inch average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.8 PLANT MAINTENANCE

A. Tree and Shrub Maintenance: Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, adjusting and repairing , and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease. Restore or replace damaged tree wrappings.

3.9 CLEANUP AND PROTECTION

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.10 DISPOSAL

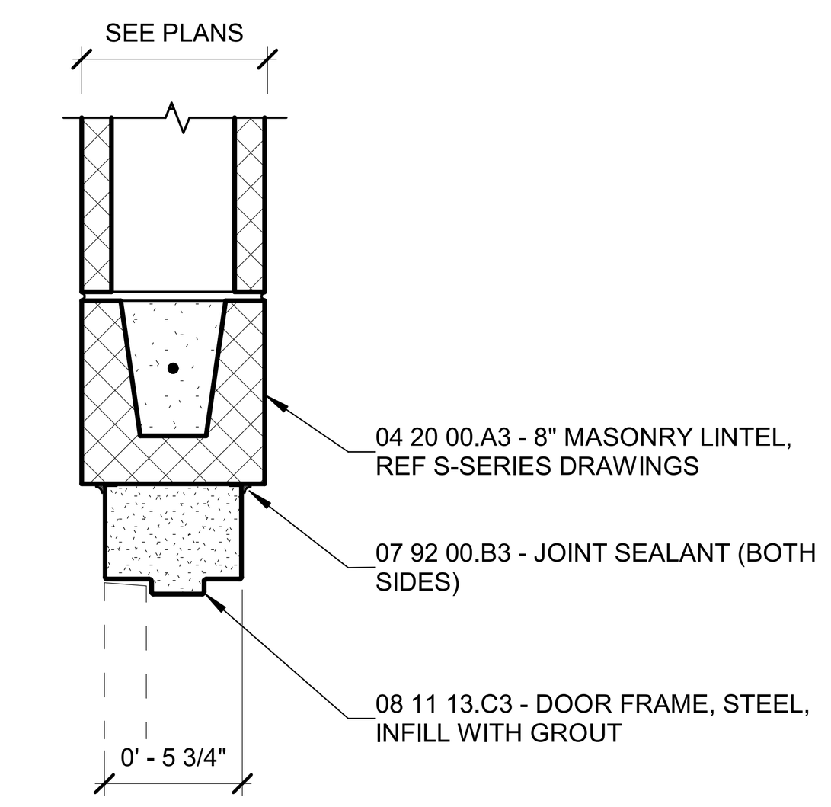
A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 329300

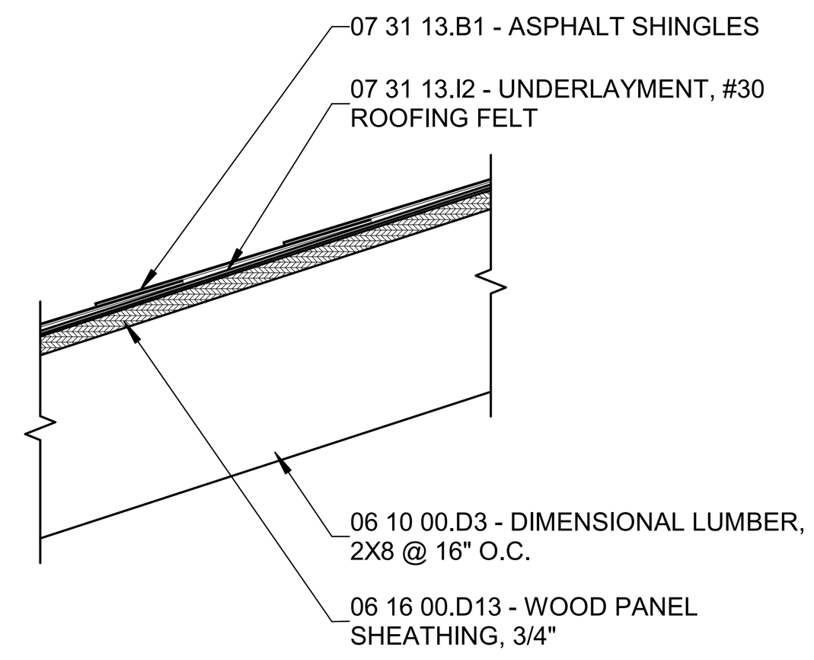
DOOR & FRAME SCHEDULE

MARK	DOOR PANEL						FRAME			LABEL	HDWR SET	NOTES	MARK
	TYPE	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	MARK	MATL	GLAZ				
W102B	OH	ST	--	6' - 8"	8' - 0"	0' - 3"			--		07		W102B
W102A	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"			--		05		W102A
W103B	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"			--		05		W103B
W103A	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"			--		05		W103A
U105	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		02		U105
U106	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		01		U106
U107	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		01		U107
U102	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		06		U102
U104B	OHC	ST	--	4' - 8"	8' - 0"	0' - 0 3/4"			--		07		U104B
U104A	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		03		U104A
U103	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		06		U103
U101B	OHC	ST	--	4' - 8"	4' - 0"	0' - 0 3/4"			--		07		U101B
U101A	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"			--		04		U101A

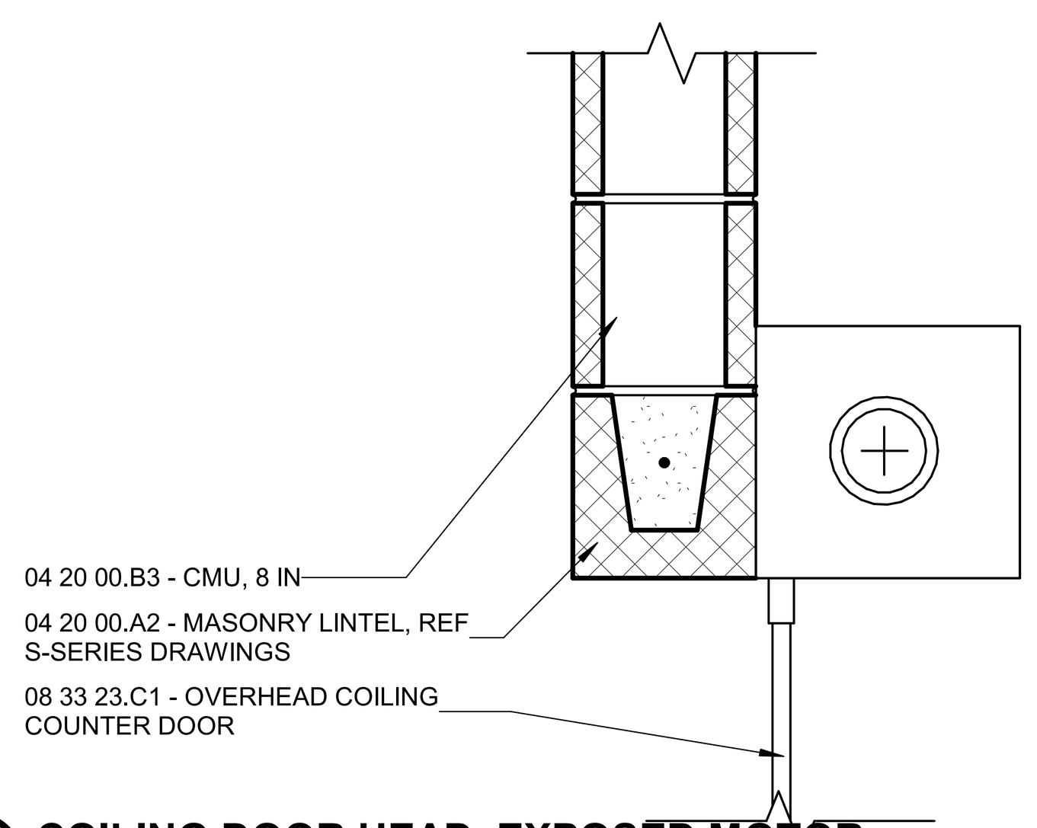
A2



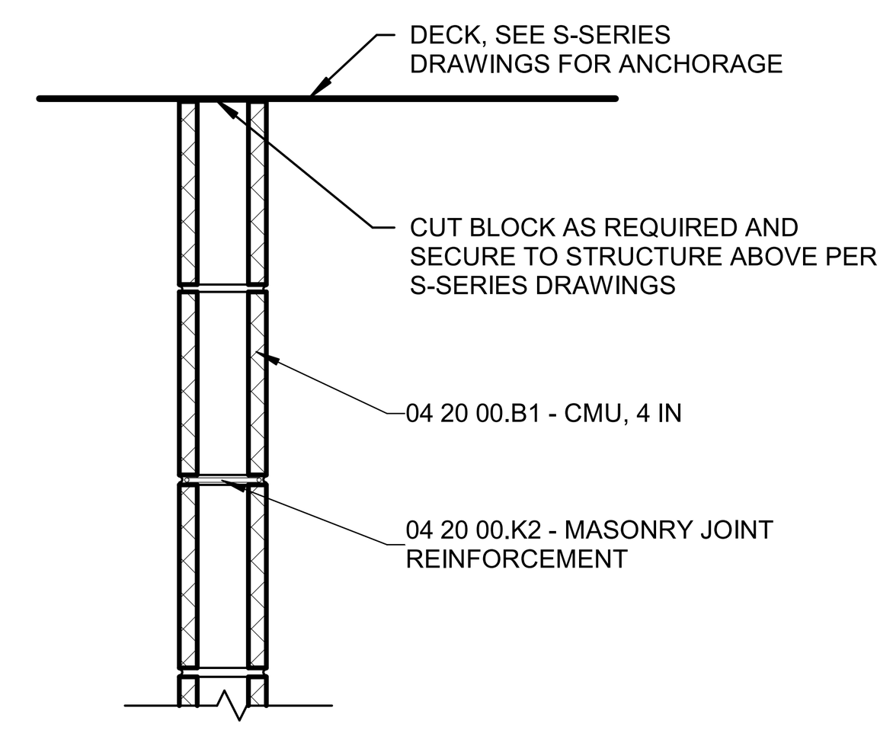
5E HEAD
1 1/2" = 1'-0"



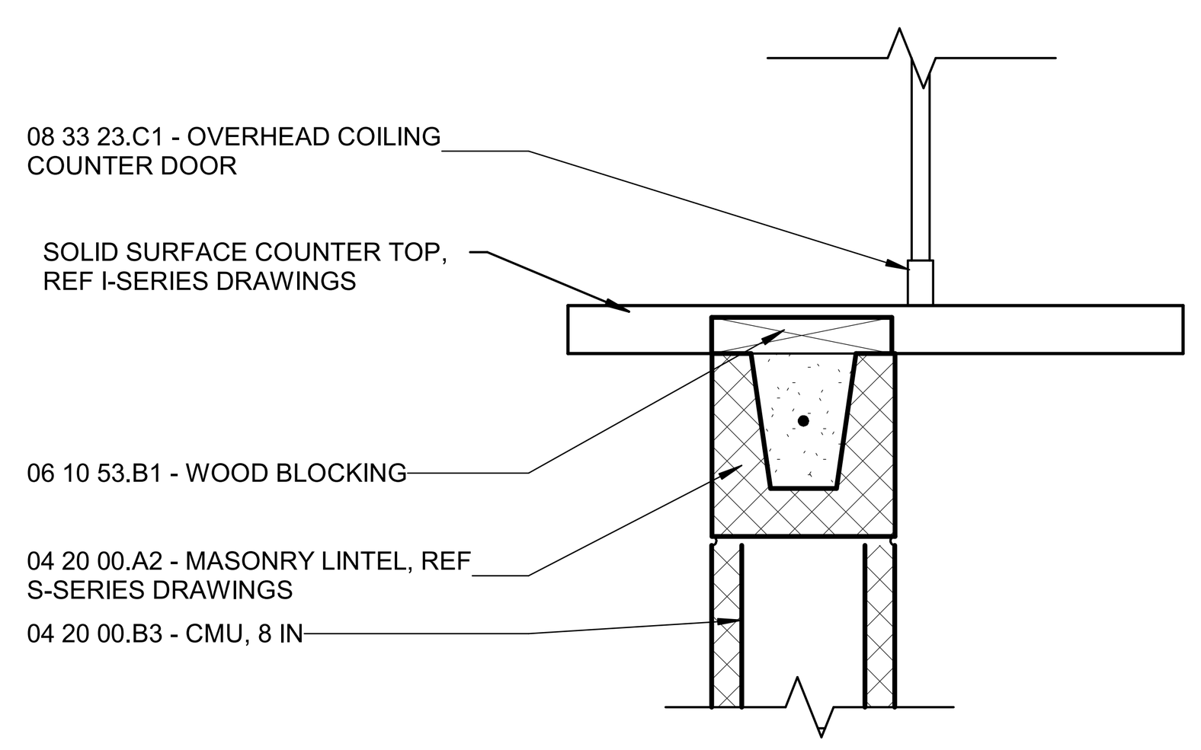
4E ROOF TYPE - SH-?
1 1/2" = 1'-0"



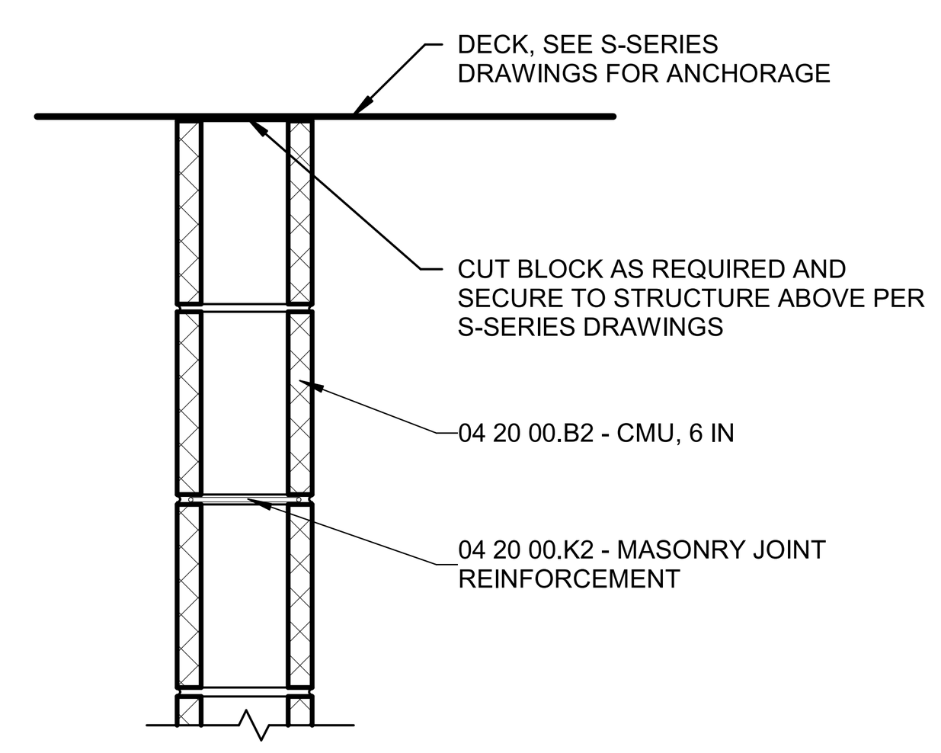
5D COILING DOOR HEAD_EXPOSED MOTOR
1 1/2" = 1'-0"



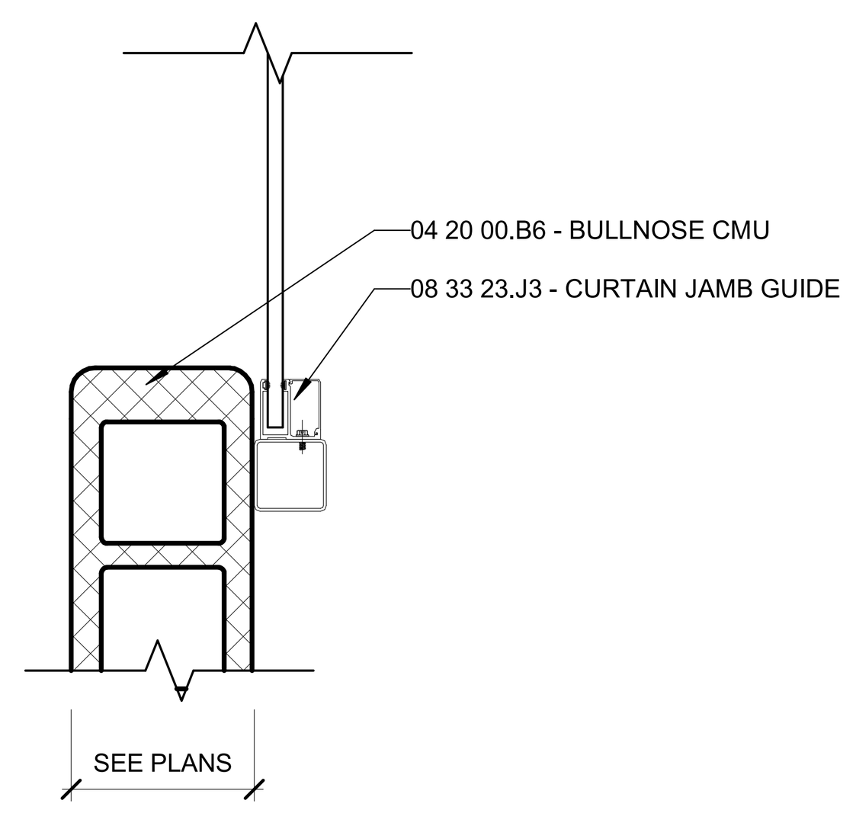
4D M4-D WALL TYPE
1 1/2" = 1'-0"



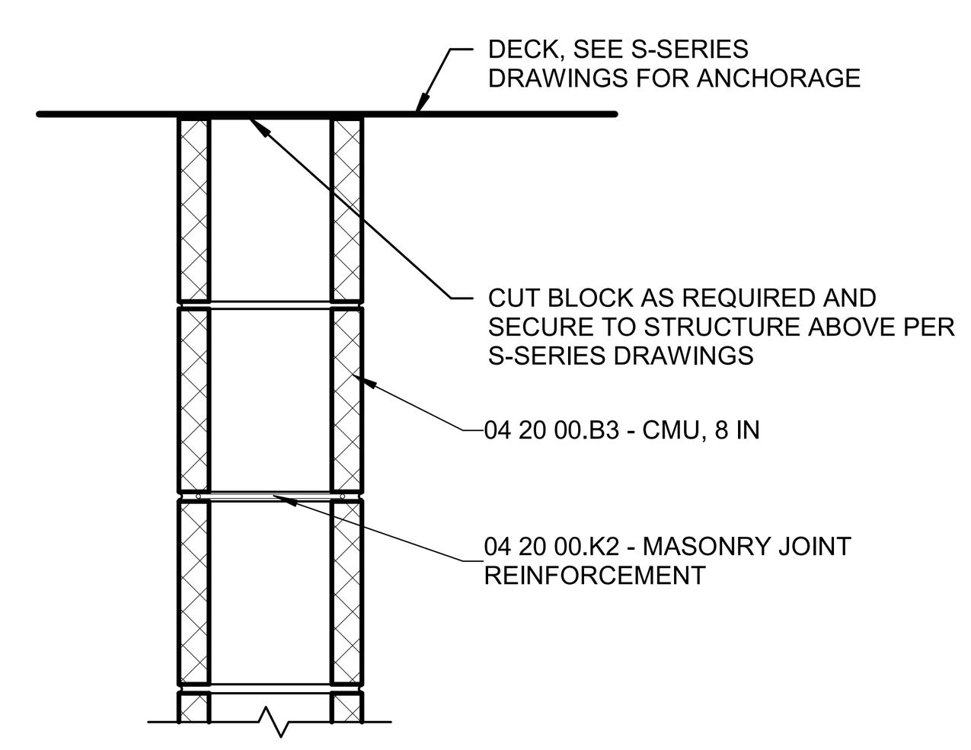
5C COUNTER COILING DOOR SILL
1 1/2" = 1'-0"



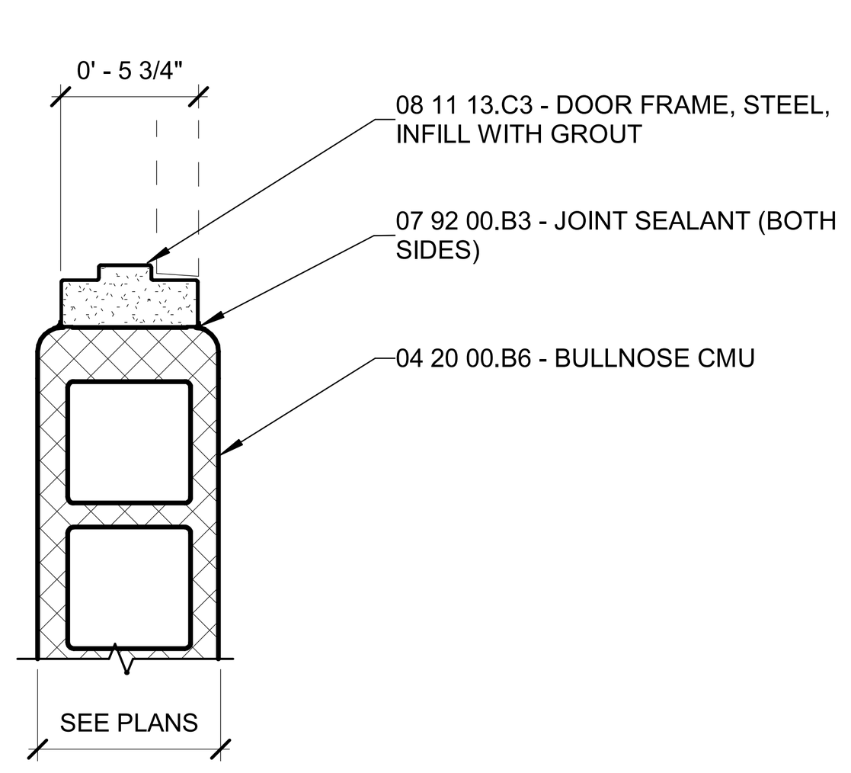
4C M6-D WALL TYPE
1 1/2" = 1'-0"



5B COILING DOOR JAMB
1 1/2" = 1'-0"



4B M8-D WALL TYPE
1 1/2" = 1'-0"



5A JAMB
1 1/2" = 1'-0"

GENERAL NOTES

A. This Door Schedule(s) is furnished for whatever assistance it may afford the Contractor. Do not consider it as entirely inclusive. Carefully examine the Drawings (especially the Floor Plans) and the Specifications to determine the extent of door and frame quantities required (including interior borrowed lite or sidelite openings). Should any particular door, frame, or interior borrowed lite or sidelite shown on the Drawings be inadvertently omitted from this Schedule, supply same as required for similar openings.

B. The "QTY" column designates the number of leaves in the opening. The "Door Width" column designates the total width of all leaves. In multiple leaf conditions, the leaves shall equally divide the "Door Width" unless noted otherwise; however, the active leaf shall not be less than 3'-0" wide.

C. Door Type "X" denotes a frame with no door such as a borrowed lite, reference Frame Elevations.

D. An asterisk (*) in a dimension denotes a width that varies, reference plans, elevations, details and schedules.

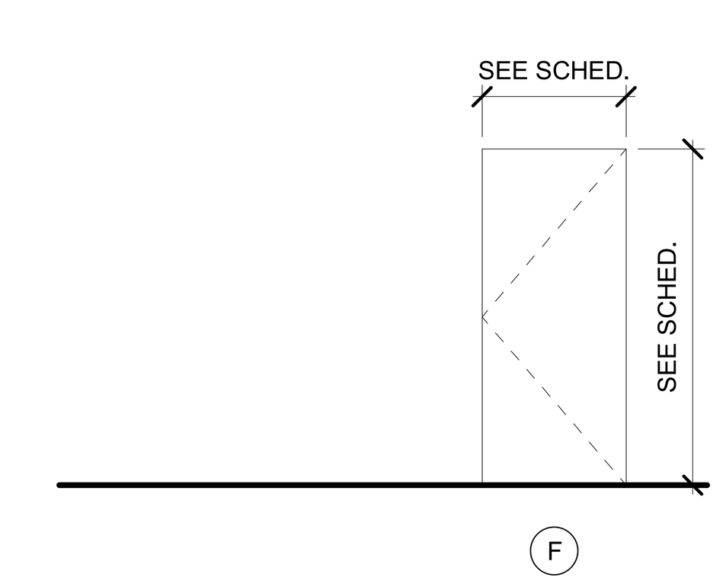
E. Verify locksets with the Owner during submittals.

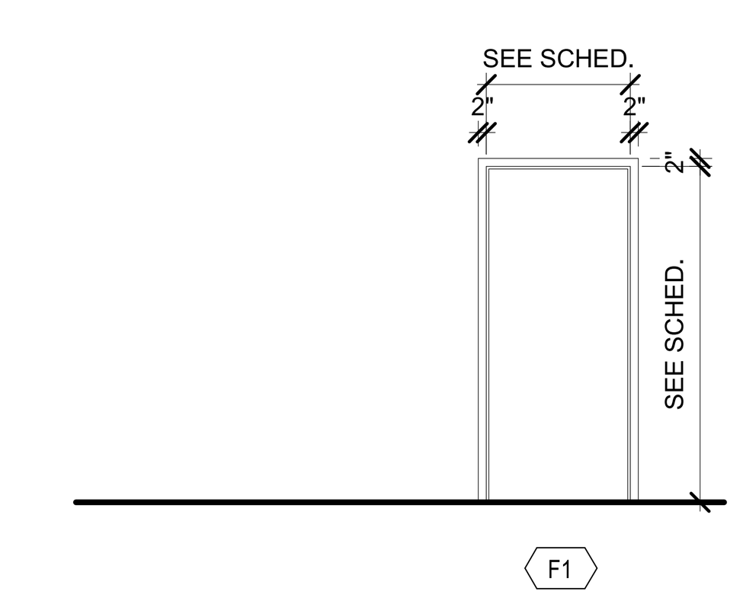
ABBREVIATIONS

AL Aluminum
HM Hollow Metal
ST Steel
WD Wood
TG Tempered Glazing
IG Insulated Glazing
LG Laminated Glazing
FG Frosted Glazing
SP Spandrel Panel

DOOR & FRAME SCHEDULE NOTES
See Door Schedule

1. Existing door and frame to remain. New hardware only. Field verify all existing door and frame information as required for installation of new hardware.
2. New door/frame in existing masonry wall. Tooth in new masonry into existing as required.
3. Set door in frame to allow for 180° door swing.
4. <NOTE TO EDITOR> Edit this list as required. </NOTE TO EDITOR>





SCHMIDT ASSOCIATES
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Project No. 2018-050.LNA
Project Date 06.22.2022
Produced RB/ SL

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A2	Addendum No. 2	7/21/2022

7802 Hague Road
Indianapolis, IN 46256

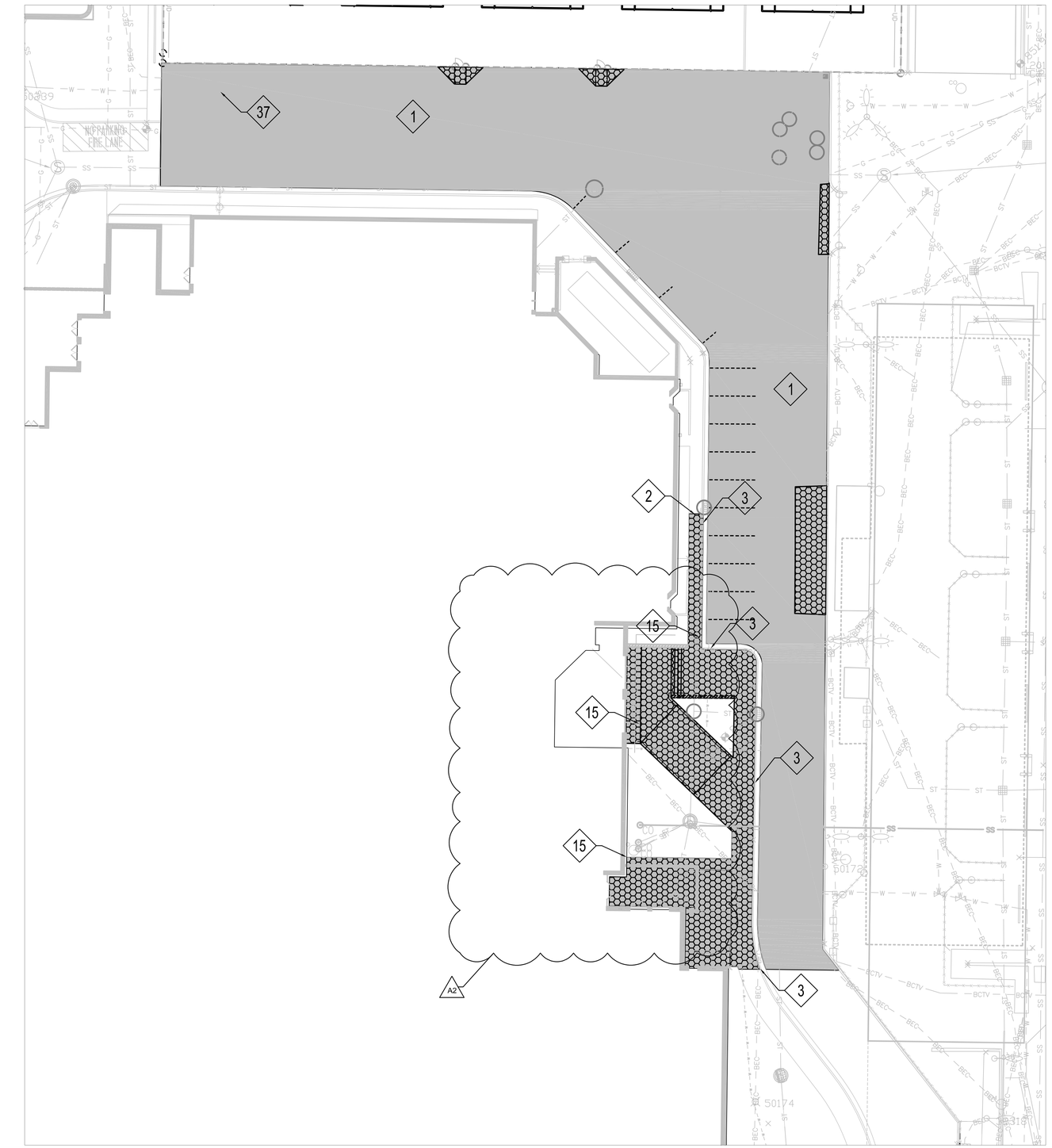
MSD of Lawrence Township

LAWRENCE NORTH HIGH SCHOOL

Lawrence North Athletic Fields

DOOR & FRAME SCHEDULE & TYPICAL DETAILS

A-600.N



1A DEMOLITION PLAN
1" = 20'

DEMOLITION LEGEND

- SAW CUT AND REMOVE ASPHALT PAVEMENT
- SAW CUT AND REMOVE CONCRETE CURB
- SAW CUT AND REMOVE CONCRETE PAVEMENT
- SAW CUT AND REMOVE CONCRETE CURB AND MEDIAN FOR NEW DRIVE.
- CONSTRUCTION LIMITS

DEMOLITION NOTES

1. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL MATERIALS INDICATED ON THE PLAN. GENERALLY, DEMOLITION AREAS AND FACILITIES ARE INDICATED WITH BOLD LINES, SHADED AREAS AND/OR KEY NOTES.
2. DISPOSAL OF ALL DEMOLITION MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL GUIDELINES AND PROCEDURES.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FEATURES ALONG THE PERIMETER OF THE SITE. THESE FEATURES INCLUDE, BUT ARE NOT LIMITED TO: BUILDINGS, PAVEMENTS, FENCES, VEGETATION, UNDERGROUND UTILITIES, ABOVE GROUND UTILITIES, PROPERTY MARKERS, ETC. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE WHICH OCCURS DURING OR AS A RESULT OF CONSTRUCTION ACTIVITY. REPLACEMENT OF DAMAGED PROPERTY OR FEATURES SHALL BE EQUAL TO EXISTING CONDITIONS.
4. FOLLOWING THE REMOVAL OF INDICATED NATURAL FEATURES AND SITE IMPROVEMENTS, AND FOLLOWING THE COMPLETION OF EARTHWORK AS INDICATED ON THE GRADING PLAN, CONTRACTOR SHALL SUPPLY AND INSTALL TOPSOIL FILL IN ALL PROPOSED PLANTING AREAS TO THE GRADES INDICATED ON THE GRADING PLAN, AND IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS.
5. ALL TREES, BRUSH, STUMPS, AND GRUBBING DEBRIS SCHEDULED FOR DEMOLITION SHALL BE REMOVED FROM THE SITE.
6. ALL TOPSOIL IN AREAS SUBJECT TO CONSTRUCTION SHALL BE STRIPPED AND STOCKPILED FOR REPLACEMENT DURING FINISH GRADING.
7. CURRENT FIELD CONDITIONS MAY VARY SOMEWHAT FROM THOSE INDICATED ON THIS PLAN. THE INFORMATION SHOULD NOT BE CONSIDERED AS EXACT OR COMPLETE.
   - 7.1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LINE LOCATIONS PRIOR TO CONSTRUCTION. CONTACT THE INDIANA UNDERGROUND UTILITY PLANT PROTECTION SERVICE AT 1-800-382-5540 OR DIAL 811 (INDIANA). A PRIVATE UTILITY LOCATION SERVICE MAY BE REQUIRED IN AREAS NOT COVERED BY IUPPS.
   - 7.2. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OR RESUMPTION OF WORK THAT COULD POTENTIALLY DISRUPT THE RESPECTIVE UTILITY SERVICE OF INFRASTRUCTURE.
   - 7.3. UNLESS NOTED OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION OF ALL EXISTING UTILITIES WHICH ARE IN CONFLICT WITH THE PROPOSED SITE IMPROVEMENTS.
   - 7.4. ANY DAMAGE TO EXISTING UTILITY LINES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

GENERAL NOTES

1. REFERENCE C-001 FOR GENERAL DEMOLITION PLAN NOTES.
2. WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ALL DEMOLITION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID TO FULLY UNDERSTAND WHAT ITEMS ARE IN THE WAY OF NEW CONSTRUCTION. ONLY THOSE ITEMS UNDERGROUND AND NOT INDICATED ANYWHERE IN CONTRACT DOCUMENTS WILL BE CONSIDERED UNFORESEEN CONDITIONS. CHANGE ORDERS WILL NOT BE ISSUED FOR VISIBLE ITEMS.
3. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL MATERIALS INDICATED ON THE PLAN. DISPOSAL OF ALL DEMOLITION MATERIALS SHALL BE IN ACCORDANCE WITH APPLICANT STATE AND FEDERAL GUIDELINES AND PROCEDURES.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FEATURES, PLANTS AND STRUCTURES ON AND AROUND THE SITE.
5. ALL TOPSOIL IN AREAS SUBJECT TO CONSTRUCTION SHALL BE STRIPPED AND STOCKPILED FOR REPLACEMENT DURING FINISH GRADING.

DEMOLITION KEY NOTES

1. REMOVE ASPHALT PAVEMENT.
2. REMOVE CONCRETE PAVEMENT.
3. REMOVE CONCRETE CURB.
4. REMOVE SIGN AND POST.
5. REMOVE TREES, SHRUBS, STUMPS, & ROOT SYSTEM.
6. TREES TO REMAIN. PROTECT DURING CONSTRUCTION.
7. REMOVE STORM SEWER STRUCTURE.
8. REMOVE STORM SEWER PIPE.
9. REMOVE ELECTRICAL EQUIPMENT. SEE ELECTRICAL PLANS.
10. REMOVE FENCE.
11. REMOVE WELL HEAD AND CONCRETE.
12. REMOVE BUILDING.
13. REMOVE BLEACHERS
14. DEMO BUILDING AND FENCE. SEE LAYOUT PLAN TO MATCH. FIELD VERIFY EXISTING AREA, AS SOME WORK MAY BE REMOVED AS PART OF EARLY PACKAGE.
15. REMOVE EVERYTHING REQUIRED TO INSTALL NEW WORK SHOWN ON THESE DRAWINGS.

A2

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Project No. 2018-050.LCA
Project Date 06.22.2022
Produced KL, RR

AXEL E. JACOBSEN
REGISTERED
NO.
19900466
STATE OF
INDIANA
PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM 2	07.21.2022

7300 E 56th St,
Indianapolis, IN 46226

KEY PLAN

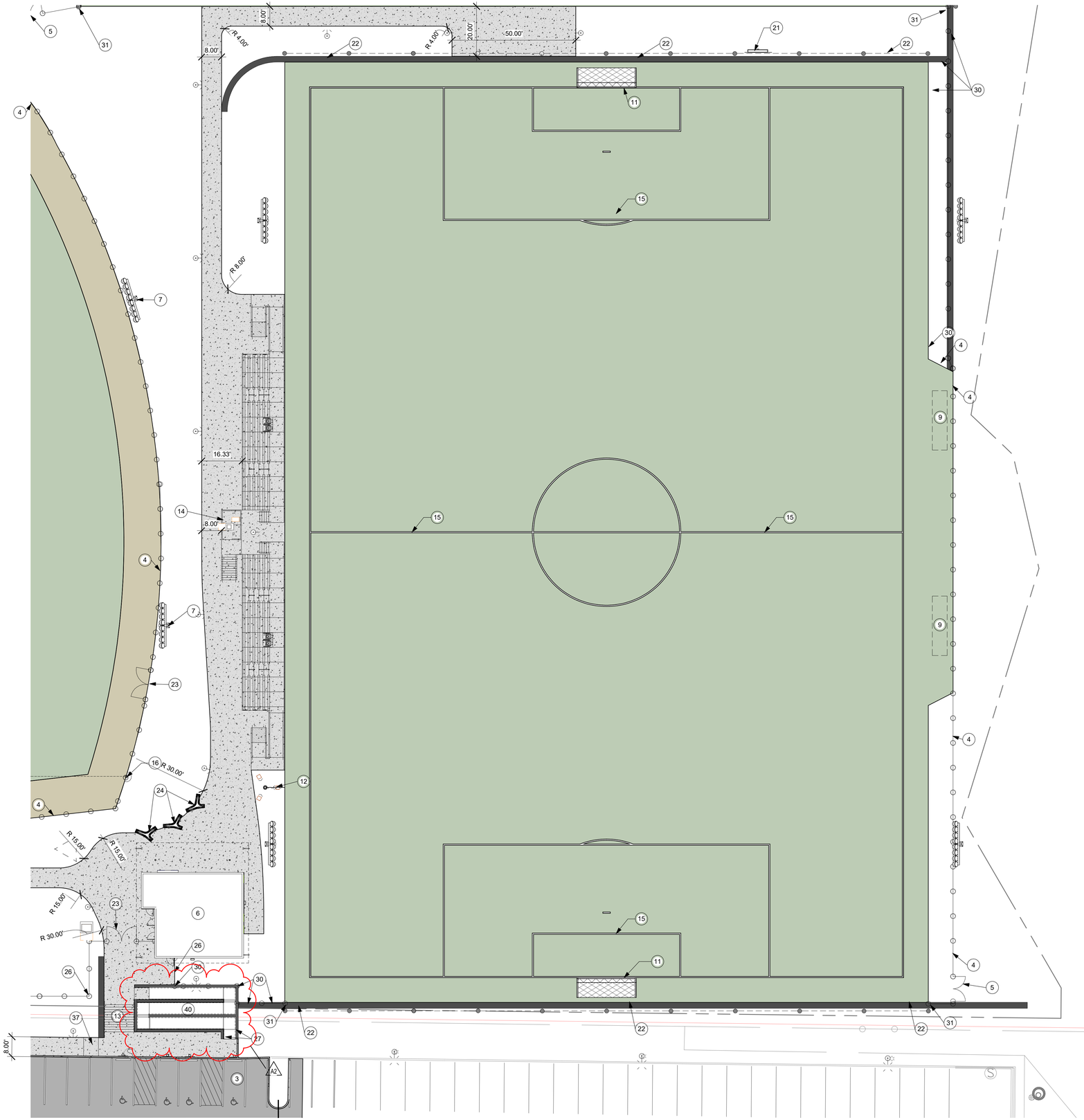
N

M.S.D. of Lawrence Township

LAWRENCE CENTRAL ATHLETIC FIELDS

DEMOLITION PLAN

CD102.C



GENERAL LAYOUT NOTES

1. REFERENCE C-001 FOR GENERAL LAYOUT PLAN NOTES.
2. NORTHING AND EASTING COORDINATES ARE STATE PLANE COORDINATES BASED ON A TOPOGRAPHIC SURVEY. REFER TO SURVEY DRAWINGS FOR HORIZONTAL CONTROL POINT DATA.
3. ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS.

SITE LAYOUT LEGEND

	STANDARD ASPHALT PAVING, SEE DETAIL SHEET
	BLOCK RETAINING WALL. SEE DETAIL SHEET
	STANDARD CONCRETE PAVING, SEE DETAIL SHEET
	CONCRETE CURB, SEE DETAIL SHEET
	BASEBALL INFIELD MIX. SEE SPECS (BASE BID). FIELD SHALL BE ALL SYNTHETIC TURF. SEE SPECS. (ALTERNATE BID).
	ATHLETIC SEEDING. SEE SPECS. (BASE BID). FIELD SHALL BE ALL SYNTHETIC TURF. SEE SPECS (ALTERNATE BID).

SITE LAYOUT NOTES Copy 1

Key	Note
1	WHITE PARKING STRIPES(TYP.). SEE SPECS
2	NEW ELEVATED BLEACHERS WITH A MINIMUM OF 500 SEATS AND PRESSBOX - SEE DETAILS AND SPECS.
3	ADA PARKING SEE DETAIL SHEET.
4	6' H BLACK VINYL CHAINLINK FENCE, SEE SPECS
5	6'H 10' W BLACK VINYL CHAINLINK SWING GATE, SEE DETAIL SHEET.
6	BASEBALL/ SOCCER CONCESSION/RESTROOM BLDG. SEE A-SERIES DRAWINGS
7	NEW SPORTS LIGHITNG (ALTERNATE). SEE E-SERIES DRAWINGS
8	NEW HOME PLATE, BASES AND PITCHING MOUND. ALL SHALL BE INSTALLED PER IHSSA REQUIREMENTS. SEE SPEC.
9	NEW SOCCER SHELTER WITH BENCH. SEE SPECS
10	NEW DUGOUT. SEE A-SERIES DRAWINGS
11	NEW SOCCER GOAL. SEE SPECS
12	30' FLAG POLE. SEE SPECS
13	CONCRETE STAIRS WITH HANDRAINL. SEE DETAIL AND SPECS
14	NEW ELEVATED BLEACHERS WITH MINIMUM OF 412 SEATS AND A PRESSBOX. SEE DETAILS AND SPECS
15	WHITE FIELD STRIPING. ADD A CAPPED REBAR, AT EVERY CORNER, INTERSECTION AND MIDPOINT. (TYP)
16	NEW FOUL FOUL POLE, SEE SPECS. INSTALL PER MANUFACTURER RECOMMENDATIONS
17	NEW BACKSTOP WALL (SEE A-SERIES DRAWINGS FOR DETAIL)WITH HIGH TENSION NETTING TO CONNECT TO BACKSTOP WALL. NETTING TO EXTEND 40' TALL ABOVE PAVEMENT ELEVATION. WALL AND NETTING TO EXTEND FROM DUGOUT TO DUGOUT
18	NEW BULLPEN WITH TWO PITCHING RUBBERS AND HOME PLATE. SEE DETAIL SHEET. INSTALL PER ISHAA REQUIREMENTS.
19	NEW HIGH TENSION POLE FOR BACKSTOP NETTING - LOCATION AND INSTALL PER MANUFACTURER RECOMMENDATIONS
20	NEW BASEBALL SCOREBOARD, SEE SPECS. SIZE AND INSTALL COLUMNS PER MANUFACTURER RECOMMENDATIONS.
21	NEW SOCCER SCOREBOARD, SEE SPECS.SIZE AND INSTALL COLUMNS PER MANUFACTURER RECOMMENDATIONS.
22	NEW SOCCER POLE TO POLE HIGH TENSION NETTING WITH 6' BLACK VINYL CHAINLINK FENCE. NETTING TO EXTEND 14' ABOVE CHAINLINK FENCE. INSTALL PER MANUFACTURER RECOMMENDATIONS. SEE SPECS
23	6' H 12' W CHAINLINK DOUBLE SWING GATE. SEE SPECS
24	PLANTER SEAT WALL, SEE DETAIL SHEET.
25	REMOVABLE BOLLARD, SEE SPECS
26	6'H BLACK VINYL CHAINLINK FENCE WITH PRIVACY SLATS
27	HANDRAIL. SEE DETAIL SHEET AND SPECS
28	NEW CONCRETE CURB. EXISTING SOFTBALL PERIMETER FENCE TO REMAIN. CURB TO BE POUR NEXT/UNDER FENCE POST TO CREATE THE LEAST AMOUNT OF CURB INTO THE FIELD.
29	6' H BLACK VINYL CHAINLINK FENCE. FENCE TO BE INSTALLED ON RETAINING WALL WITH PRIVACY SLATS
30	6'H BLACK VINYL CHAINLINK FENC. FENCE TO BE INSTALLED ON RETAINING WALL.
31	CONNECT CHAINLINK FENCE TO SOCCER BARRIER.
32	6' H 5' W CHAINLINK SINGLE SWING GATE. SEE SPECS
33	4' H BLACK VINYL CHAINLINK FENCE, SEE SPECS
35	5' W OPENING INTO DUGOUT
36	VEHICLE ACCESS CONTROL GATE. SEE DETAIL SHEET.
37	ADA RAMP. NO DETECTABLE WARNING. SEE DETAIL SHEET.
38	ALTERNATE BID. CONCRETE CURB AROUND FIELD.
39	REPLACE RAILING.
40	RAMP WALLS TO BE CONCRETE, SEE DETAIL SHEET.

1 **SITE PLAN - V Soccer**
1" = 20'-0"

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Project No. 2018-050.LCA
Project Date 06.22.2022
Produced KL

KLEE E. MILLER
REGISTERED
NO.
19900465
STATE OF
INDIANA
PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM	7.21.22

7300 E 56th St,
Indianapolis, IN 46226

N

M.S.D. of Lawrence Township

Lawrence Central Athletic Fields

SITE LAYOUT PLAN - V Soccer

CL104.C

1 **SITE PLAN - Parking**
1" = 20'-0"

GENERAL LAYOUT NOTES

1. REFERENCE C-001 FOR GENERAL LAYOUT PLAN NOTES.
2. NORTHING AND EASTING COORDINATES ARE STATE PLANE COORDINATES BASED ON A TOPOGRAPHIC SURVEY. REFER TO SURVEY DRAWINGS FOR HORIZONTAL CONTROL POINT DATA.
3. ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS.

SITE LAYOUT LEGEND

	STANDARD ASPHALT PAVING, SEE DETAIL SHEET
	BLOCK RETAINING WALL. SEE DETAIL SHEET
	STANDARD CONCRETE PAVING, SEE DETAIL SHEET
	CONCRETE CURB, SEE DETAIL SHEET
	BASEBALL INFIELD MIX. SEE SPECS (BASE BID). FIELD SHALL BE ALL SYNTHETIC TURF. SEE SPECS. (ALTERNATE BID).
	ATHLETIC SEEDING. SEE SPECS. (BASE BID). FIELD SHALL BE ALL SYNTHETIC TURF. SEE SPECS (ALTERNATE BID).

SITE LAYOUT NOTES Copy 1

Key	Note
1	WHITE PARKING STRIPES(TYP.). SEE SPECS
2	NEW ELEVATED BLEACHERS WITH A MINIMUM OF 500 SEATS AND PRESSBOX - SEE DETAILS AND SPECS.
3	ADA PARKING SEE DETAIL SHEET.
4	6' H BLACK VINYL CHAINLINK FENCE, SEE SPECS
5	6'H 10' W BLACK VINYL CHAINLINK SWING GATE, SEE DETAIL SHEET.
6	BASEBALL/ SOCCER CONCESSION/RESTROOM BLDG. SEE A-SERIES DRAWINGS
7	NEW SPORTS LIGHTNG (ALTERNATE), SEE E-SERIES DRAWINGS
8	NEW HOME PLATE, BASES AND PITCHING MOUND. ALL SHALL BE INSTALLED PER IHSSA REQUIREMENTS. SEE SPEC.
9	NEW SOCCER SHELTER WITH BENCH. SEE SPECS
10	NEW DUGOUT. SEE A-SERIES DRAWINGS
11	NEW SOCCER GOAL. SEE SPECS
12	30' FLAG POLE. SEE SPECS
13	CONCRETE STAIRS WITH HANDRAINL. SEE DETAIL AND SPECS
14	NEW ELEVATED BLEACHERS WITH MINIMUM OF 412 SEATS AND A PRESSBOX. SEE DETAILS AND SPECS
15	WHITE FIELD STRIPING. ADD A CAPPED REBAR, AT EVERY CORNER, INTERSECTION AND MIDPOINT. (TYP)
16	NEW FOUL FOUL POLE, SEE SPECS. INSTALL PER MANUFACTURER RECOMMENDATIONS
17	NEW BACKSTOP WALL (SEE A-SERIES DRAWINGS FOR DETAIL)WITH HIGH TENSION NETTING TO CONNECT TO BACKSTOP WALL. NETTING TO EXTEND 40' TALL ABOVE PAVEMENT ELEVATION. WALL AND NETTING TO EXTEND FROM DUGOUT TO DUGOUT.
18	NEW BULLPEN WITH TWO PITCHING RUBBERS AND HOME PLATE. SEE DETAIL SHEET. INSTALL PER ISHAA REQUIREMENTS.
19	NEW HIGH TENSION POLE FOR BACKSTOP NETTING - LOCATION AND INSTALL PER MANUFACTURER RECOMMENDATIONS
20	NEW BASEBALL SCOREBOARD, SEE SPECS. SIZE AND INSTALL COLUMNS PER MANUFACTURER RECOMMENDATIONS.
21	NEW SOCCER SCOREBOARD, SEE SPECS. SIZE AND INSTALL COLUMNS PER MANUFACTURER RECOMMENDATIONS.
22	NEW SOCCER POLE TO POLE HIGH TENSION NETTING WITH 6' BLACK VINYL CHAINLINK FENCE. NETTING TO EXTEND 14' ABOVE CHAINLINK FENCE. INSTALL PER MANUFACTURER RECOMMENDATIONS. SEE SPECS
23	6' H 12' W CHAINLINK DOUBLE SWING GATE. SEE SPECS
24	PLANTER SEAT WALL, SEE DETAIL SHEET.
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33	4' H BLACK VINYL CHAINLINK FENCE, SEE SPECS
35	5' W OPENING INTO DUGOUT
36	VEHICLE ACCESS CONTROL GATE. SEE DETAIL SHEET.
37	ADA RAMP. NO DETECTABLE WARNING. SEE DETAIL SHEET.
38	ALTERNATE BID. CONCRETE CURB AROUND FIELD.
39	REPLACE RAILING.

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A2	ADDENDUM	7.21.22

7300 E 56th St,
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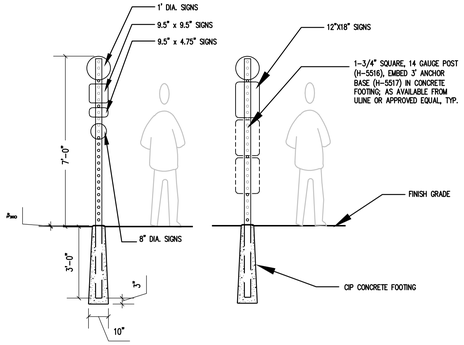
N

M.S.D. of Lawrence Township

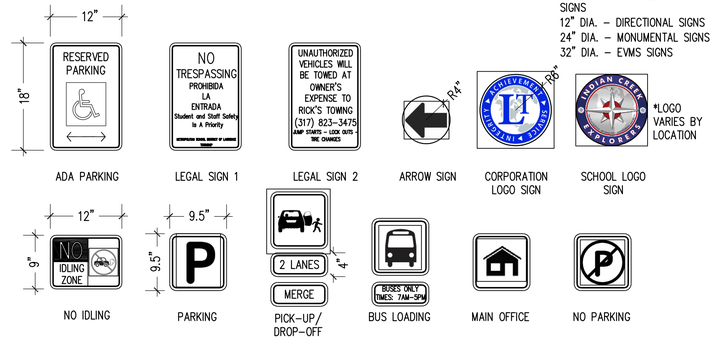
Lawrence Central Athletic Fields

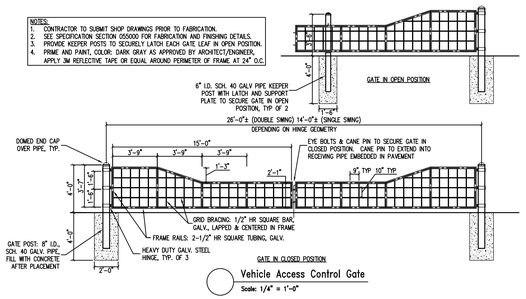
SITE LAYOUT PLAN - Parking

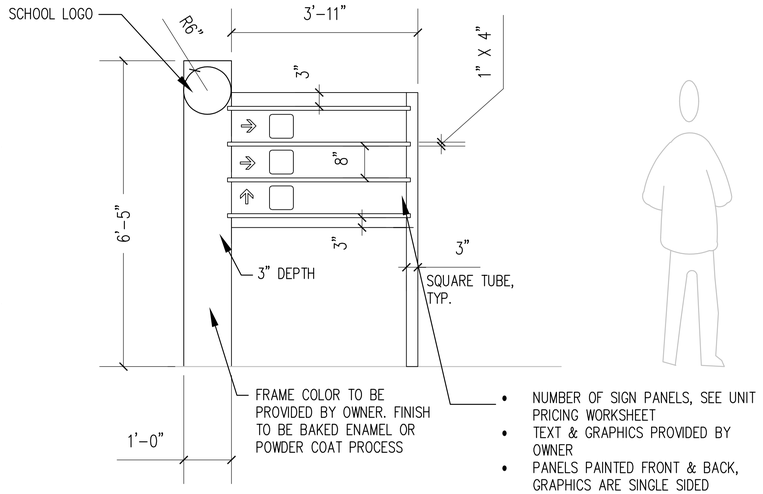
CL105.C

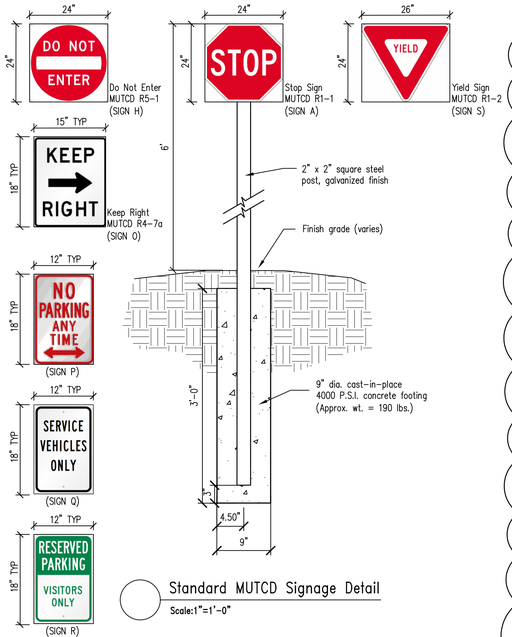


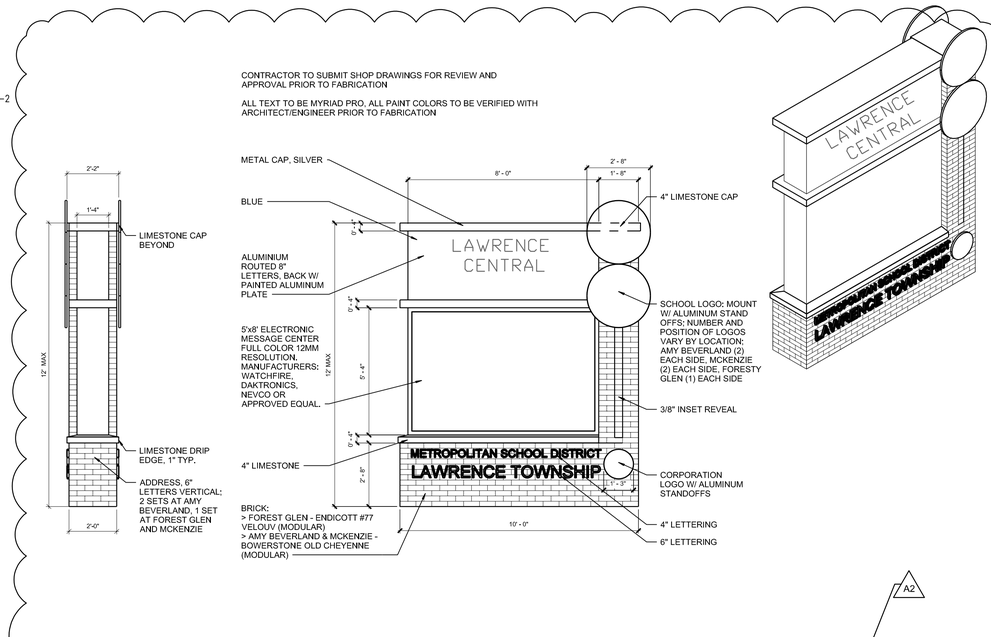
12" DIA. – STACKED POST SIGNS
12" DIA. – DIRECTIONAL SIGNS
24" DIA. – MONUMENTAL SIGNS
32" DIA. – EVMS SIGNS











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#	Revision	Date
A2	ADDENDUM 2	07.21.2022

7300 E 56th St.
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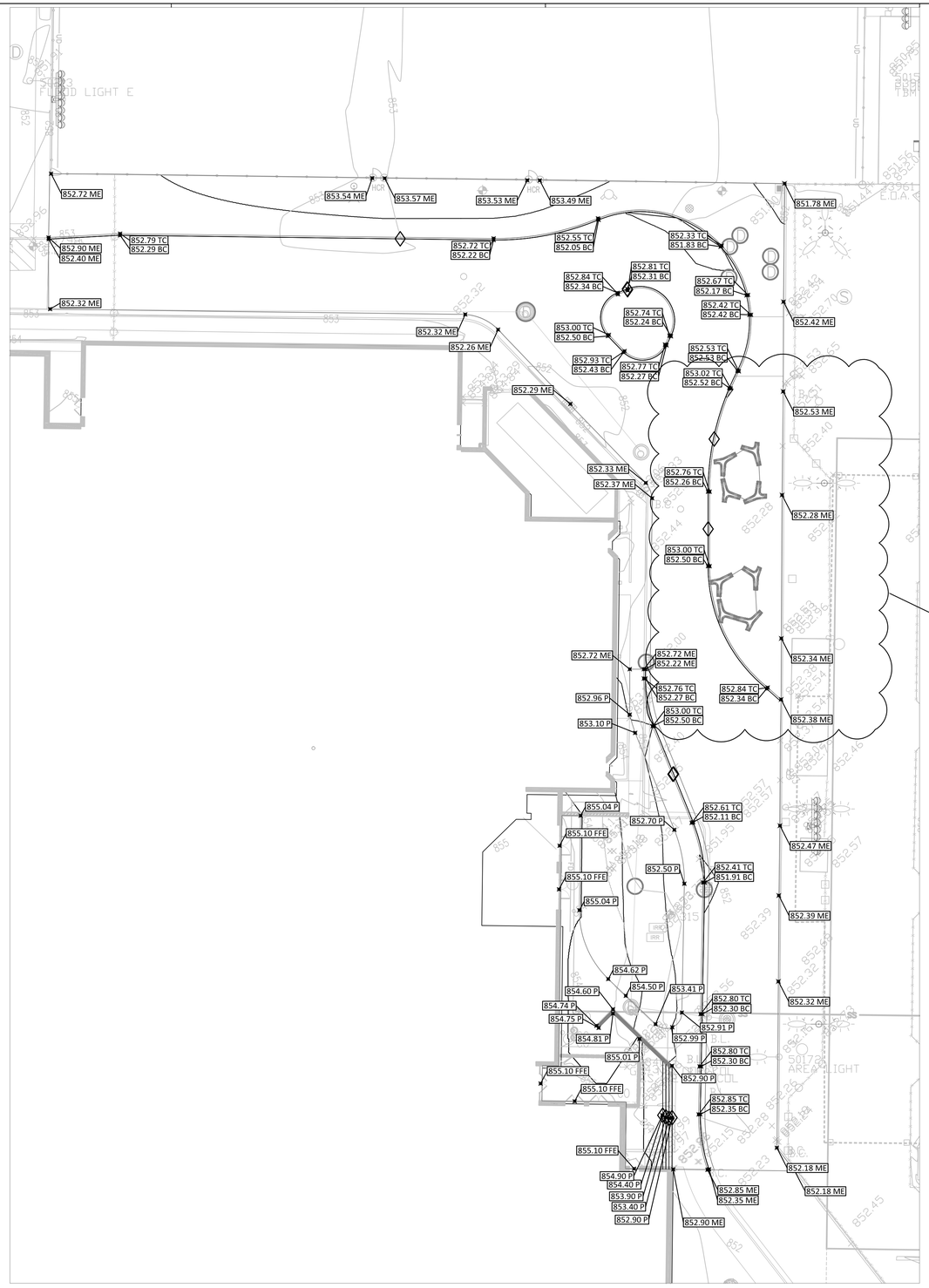
KEY PLAN

M.S.D. of Lawrence Township

LAWRENCE CENTRAL ATHLETIC FIELDS

SITE LAYOUT DETAILS

CL502.C



GENERAL GRADING NOTES

1. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF SITE CONDITIONS AT THE TIME THIS PROJECT IS BID.
3. ALL TRANSITIONS IN CURB HEIGHTS SHALL BE SMOOTH WITH A CONSISTENT SLOPE.

GRADING LEGEND

828	EXISTING CONTOUR LINE
828	PROPOSED CONTOUR LINE
1000.00	PROPOSED ELEVATION
1000.00 EX	EXISTING ELEVATION
1000.00 ME	MATCH EXISTING ELEVATION
1000.00 TC	TOP OF CURB ELEVATION
1000.00 TW	TOP OF WALL ELEVATION
1000.00 TR	TOP OF RIM ELEVATION
1000.00 P	PAVEMENT ELEVATION
1000.00 GU	GUTTER ELEVATION
1000.00 G	GROUND ELEVATION
1000.00 FL	FLOWLINE ELEVATION
1000.00 BC	BOTTOM OF CURB ELEVATION
1000.00 BW	BOTTOM OF WALL ELEVATION
1004.50 FFE	FINISH FLOOR ELEVATION

1A GRADING PLAN
1" = 20'

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#	Revision	Date
A1	Addendum 1	07.14.2022
A2	ADDENDUM 2	07.21.2022

7300 E 56th St,
Indianapolis, IN 46226

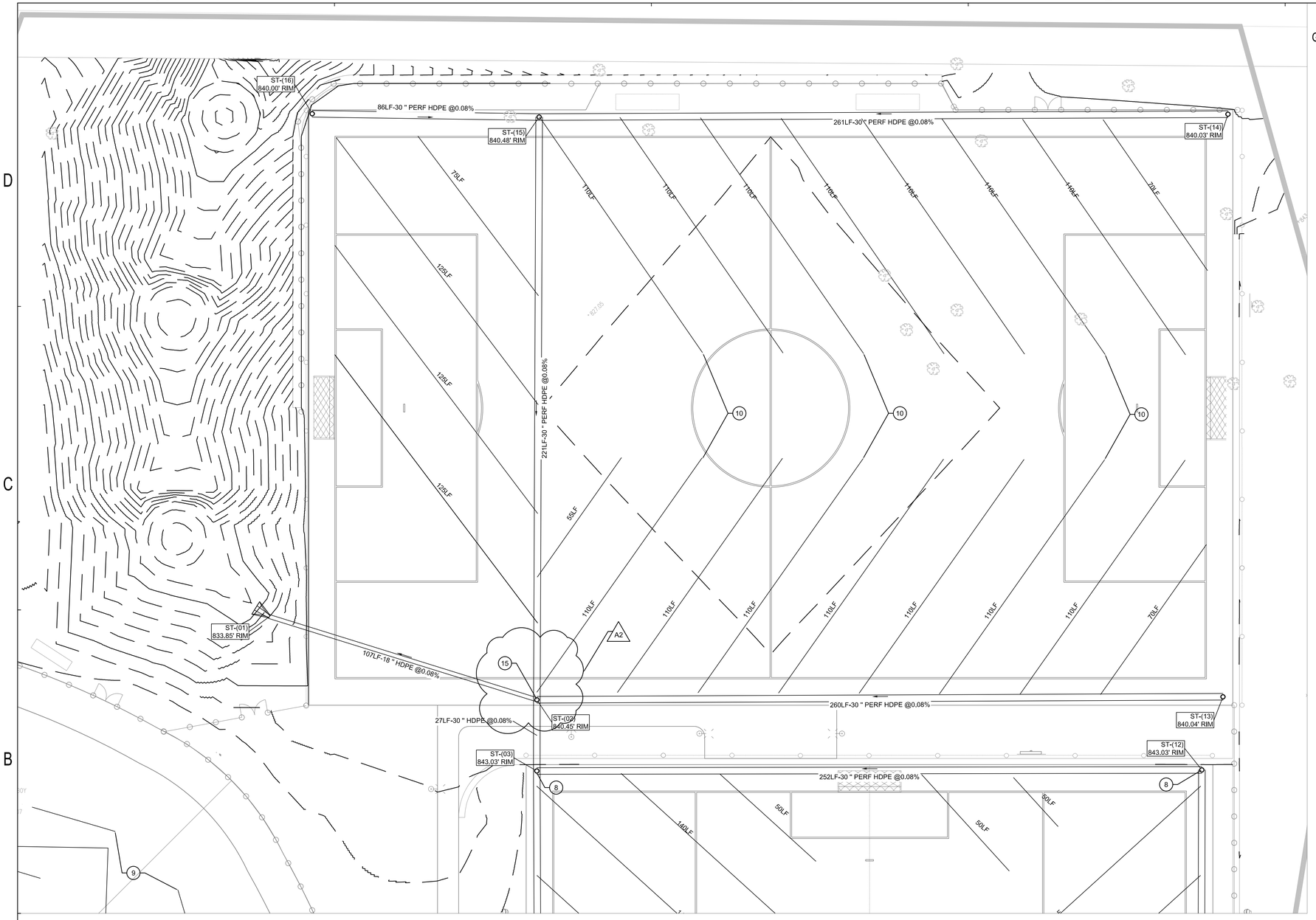
KEY PLAN

M.S.D. of Lawrence Township

LAWRENCE CENTRAL ATHLETIC FIELDS

GRADING PLAN

CG110.C



GENERAL UTILITIES NOTES

1. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
2. ALL LIDS, CASTINGS, GRATES, BOXES, AND HATCHES ASSOCIATED WITH EXISTING UTILITY STRUCTURES THAT ARE NOT INDICATED FOR MODIFICATION SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION.
3. COMPACTED GRANULAR BACKFILL IS REQUIRED FOR ALL UTILITY TRENCHES LOCATED UNDER PAVED AREAS. SEE SPECIFICATIONS.
4. PIPE LENGTHS INDICATED ON THE DRAWINGS ARE FOR HYDRAULIC CALCULATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING THE AMOUNT OF PIPE MATERIALS NECESSARY FOR A COMPLETE INSTALLATION.
5. ALL EXISTING PIPES INVERTS ARE APPROXIMATE. VERIFY ALL INVERTS IN FIELD. IF INVERTS DO NOT MATCH THE PLAN,. CONTACT THE ARCHITECT.

UTILITY LEGEND

- 54LF-8 " HDPE @0.50% — PIPE
- WV — WATER VALVE
- FIRE HYDRANT
- MANHOLE
- END SECTION
- BOX STRUCTURE
- DOWNSPOUT BOOT
- CLEAN OUT
- ST-XXX / XXX.XX' RIM / INV. N XXX.XX — STORM NETWORK
- SS-XXX / XXX.XX' RIM / INV. N XXX.XX — SANITARY NETWORK

UTILITIES KEY NOTES

1. WET TAP EXISTING WATER LINE FOR NEW CONNECTION
2. NEW BLOWDOWN PIT. SEE DETAIL SHEET.
3. SEE P-SERIES DRAWINGS FOR CONNECTION
4. CONNECT NEW LATERAL TO EXISTING SANITARY STRUCTURE
5. DOWNSPOUT LINES SHOULD BE 6" PVC. CONNECT DOWNSPOUT LINES TOGETHER BEFORE CONNECTING TO CLEAN/NYLOPLAST
6. CURB CASTING SHALL BE INSTALLED INTO RETAINING WALL
7. NEW STORM LINES TO BE 6" PVC.
8. BASE BID CASTING: SEE STRUCTURE TABLE.
   SYNTHETIC TURF BID CASTING: SOLID GRATE
9. BASE BID UNDERDRAIN: 6" PERF HDPE PIPE. SEE DETAIL SHEET.
   ALTERNATE BID UNDERDRAIN: 12"X1" PERF PANEL. SEE DETAIL SHEET
10. NEW 6" PERF PIPE UNDERDRAIN. SEE DETAIL SHEET.
11. ADJUST CASTING TO GRADE, PER GRADING PLAN
12. WHEN LAYING NEW ASPHALT, CREATE POSITIVE DRAINAGE FLOW TO INLETS.
13. CONNECT NEW NYLOPLAST TO EXISTING STORM LINE.
14. ~~CLEANOUT R-1976~~
15. INSTALL 11INCH ORIFICE ON DOWNSTREAM SIDE OF STRUCTURE

A2

1A UTILITY PLAN
1" = 20'

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KEY PLAN

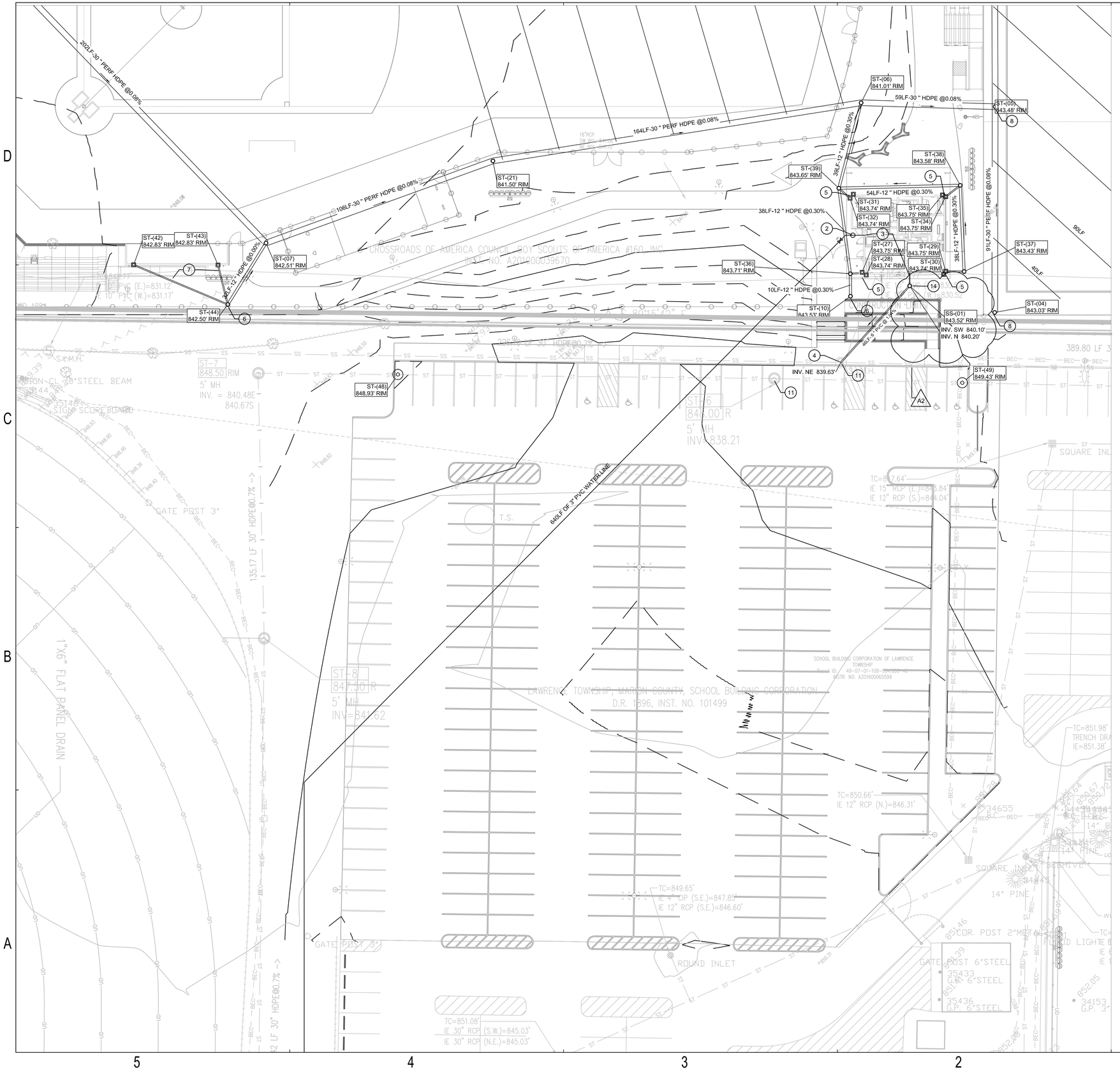
N

M.S.D. of Lawrence Township

LAWRENCE CENTRAL ATHLETIC FIELDS

UTILITY PLAN

CU102.C



GENERAL UTILITIES NOTES

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UTILITY LEGEND

- 54LF-8 " HDPE @0.50% — PIPE
- WV — WATER VALVE
- FH — FIRE HYDRANT
- MH — MANHOLE
- END SECTION
- BOX STRUCTURE
- DOWNSPOUT BOOT
- CLEAN OUT
- ST-XXX XXX.XX' RIM / INV. N XXX.XX — STORM NETWORK
- SS-XXX XXX.XX' RIM / INV. N XXX.XX — SANITARY NETWORK

UTILITIES KEY NOTES

1. WET TAP EXISTING WATER LINE FOR NEW CONNECTION
2. NEW BLOWDOWN PIT. SEE DETAIL SHEET.
3. SEE P-SERIES DRAWINGS FOR CONNECTION
4. CONNECT NEW LATERAL TO EXISTING SANITARY STRUCTURE
5. DOWNSPOUT LINES SHOULD BE 6" PVC. CONNECT DOWNSPOUT LINES TOGETHER BEFORE CONNECTING TO CLEAN/NYLOPLAST
6. CURB CASTING SHALL BE INSTALLED INTO RETAINING WALL
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8. BASE BID CASTING: SEE STRUCTURE TABLE.
   SYNTHETIC TURF BID CASTING: SOLID GRATE
9. BASE BID UNDERDRAIN: 6" PERF HDPE PIPE. SEE DETAIL SHEET.
   ALTERNATE BID UNDERDRAIN: 12"X1" PERF PANEL. SEE DETAIL SHEET
10. NEW 6" PERF PIPE UNDERDRAIN. SEE DETAIL SHEET.
11. ADJUST CASTING TO GRADE, PER GRADING PLAN
12. WHEN LAYING NEW ASPHALT, CREATE POSITIVE DRAINAGE FLOW TO INLETS.
13. CONNECT NEW NYLOPLAST TO EXISTING STORM LINE.
14. CLEANOUT R-1976

1A UTILITY PLAN
1" = 20'

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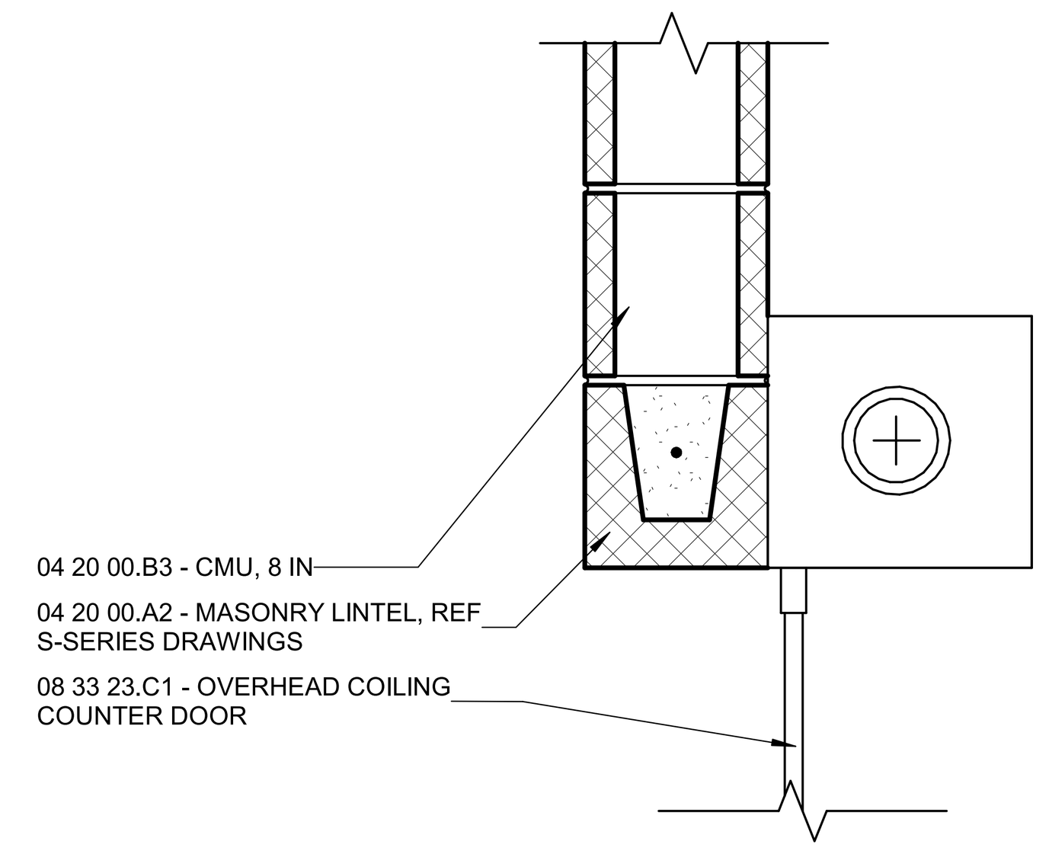
KEY PLAN

M.S.D. of Lawrence Township

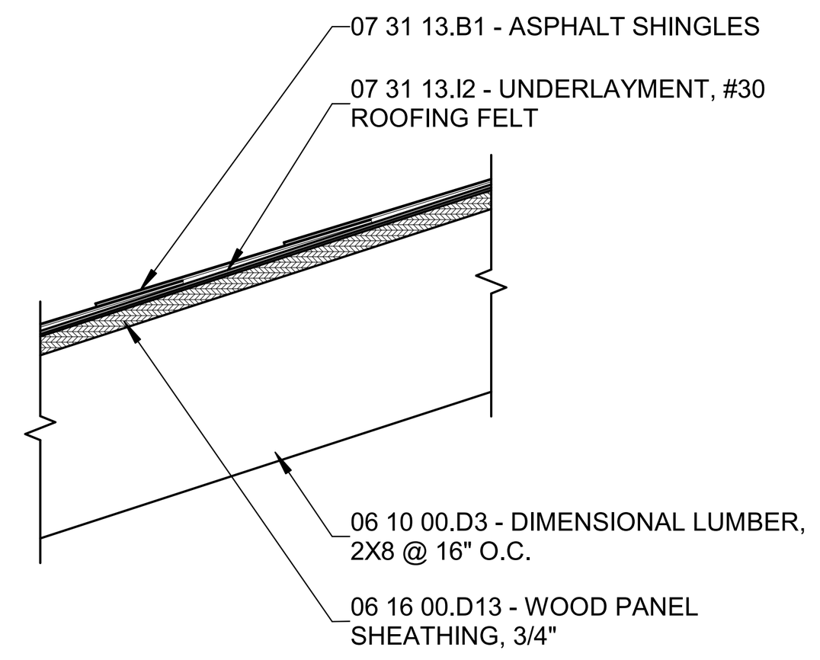
LAWRENCE CENTRAL ATHLETIC FIELDS

UTILITY PLAN

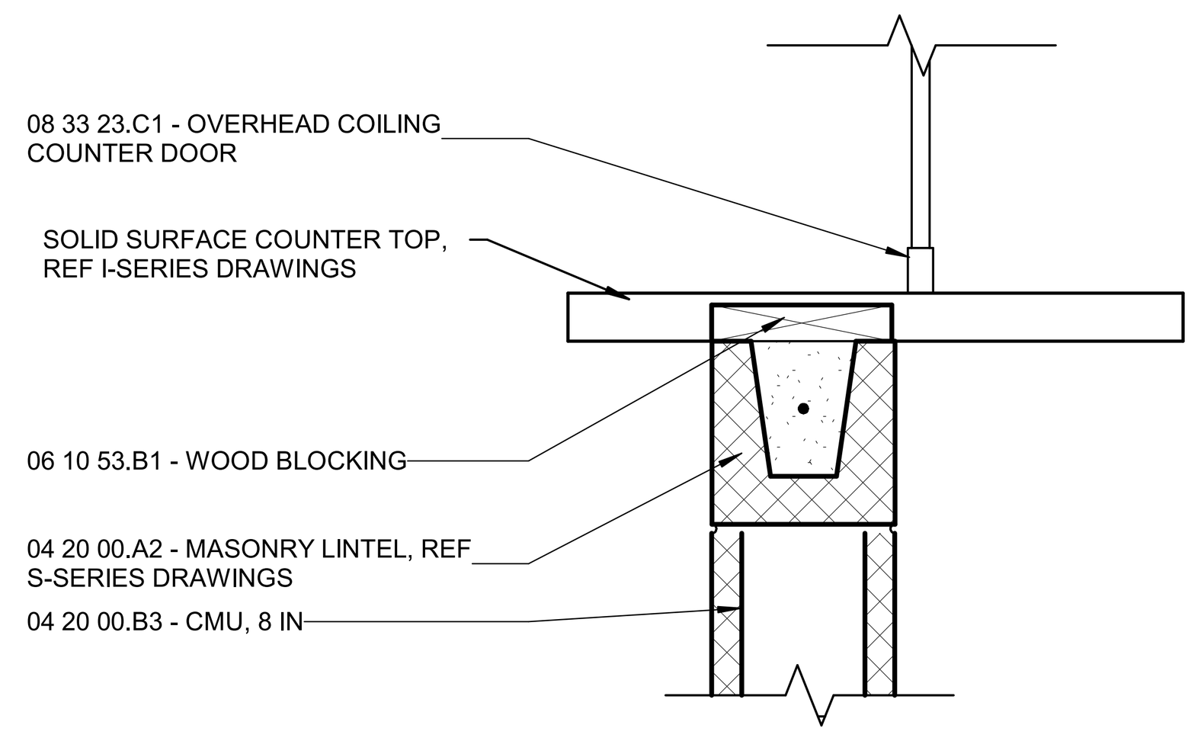
CU105.C



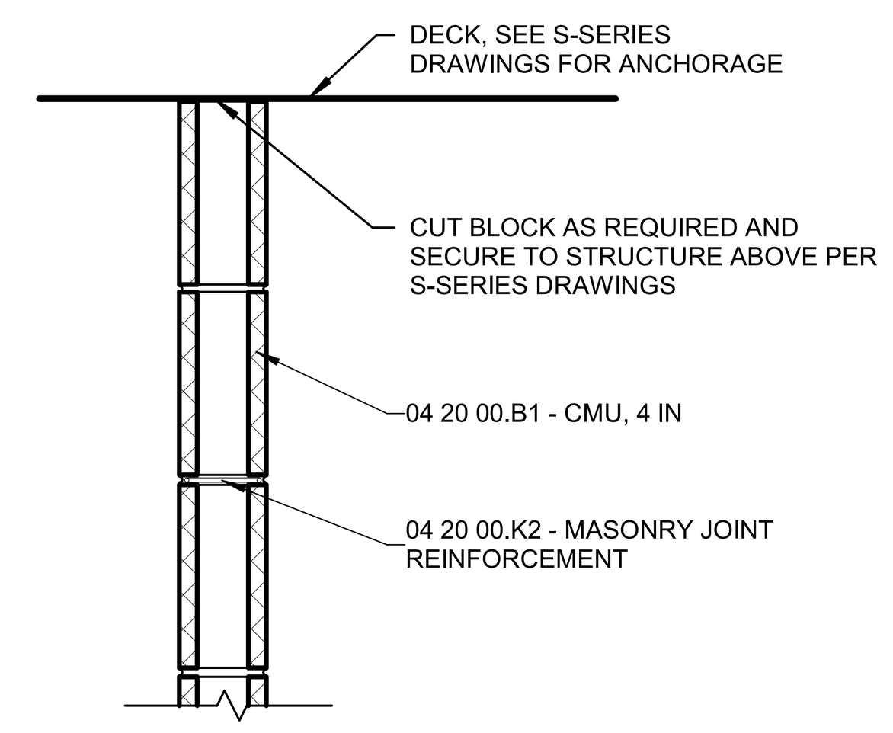
5E COILING DOOR HEAD_EXPOSED MOTOR
1 1/2" = 1'-0"



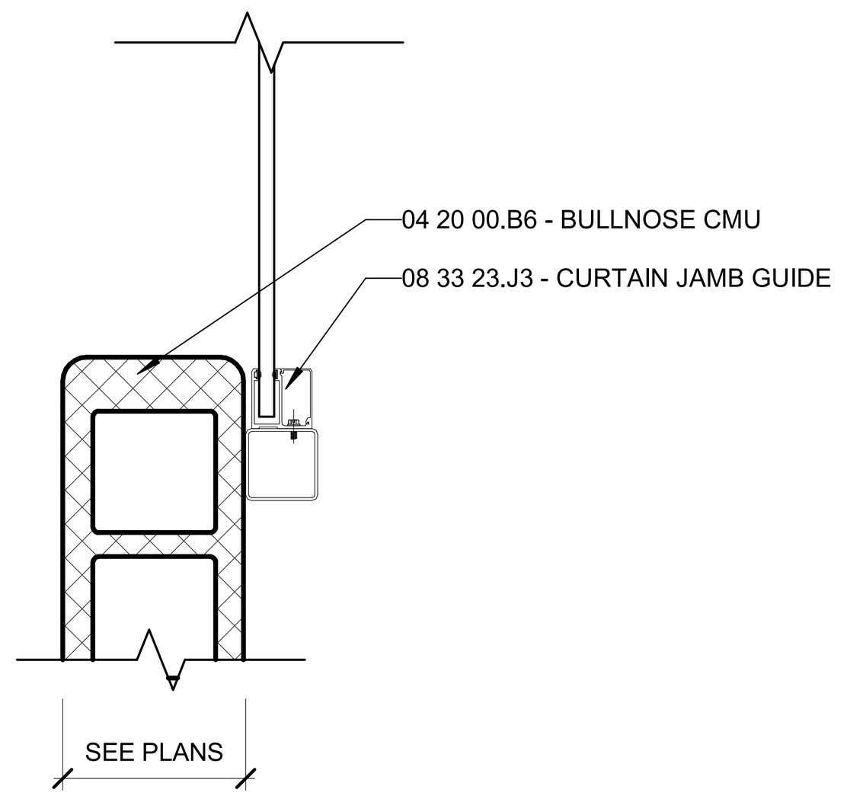
4E ROOF TYPE - SH-?
1 1/2" = 1'-0"



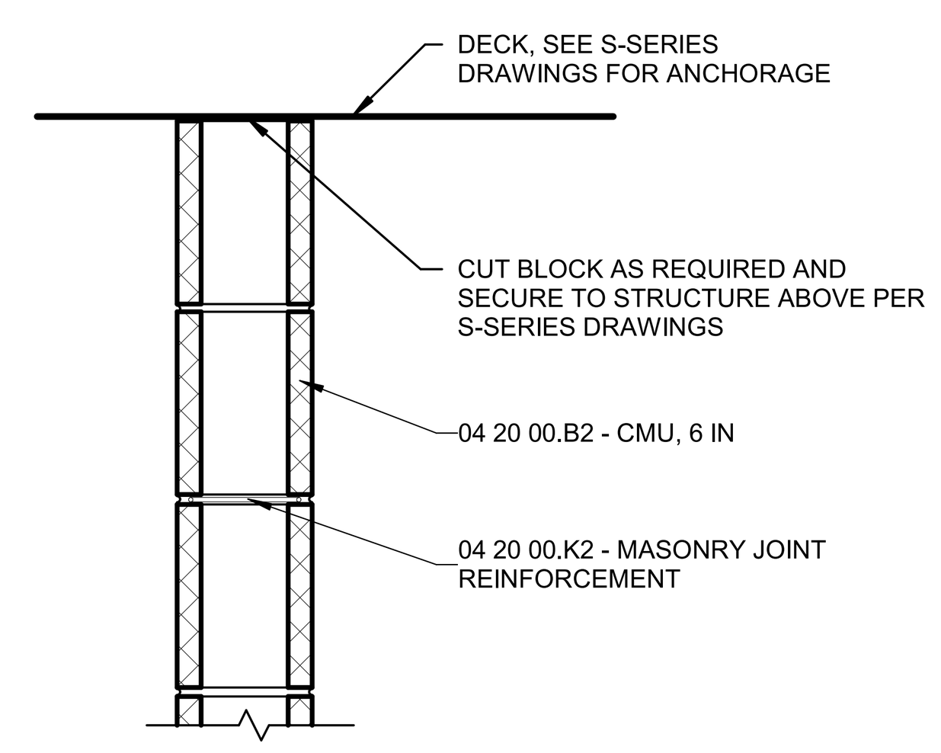
5D COUNTER COILING DOOR SILL
1 1/2" = 1'-0"



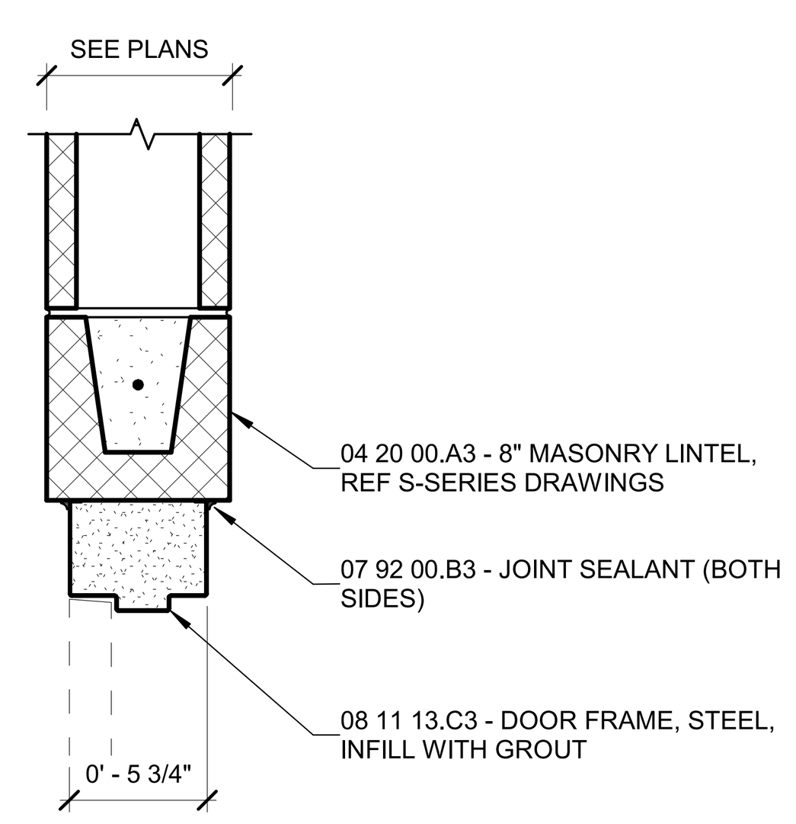
4D M4-D WALL TYPE
1 1/2" = 1'-0"



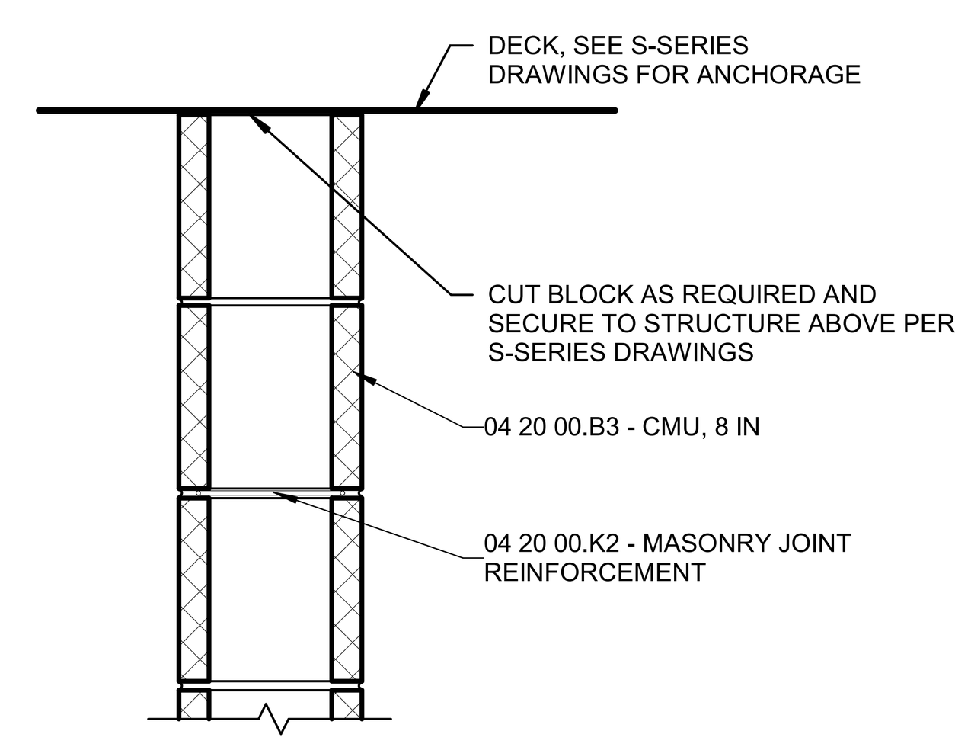
5C COILING DOOR JAMB
1 1/2" = 1'-0"



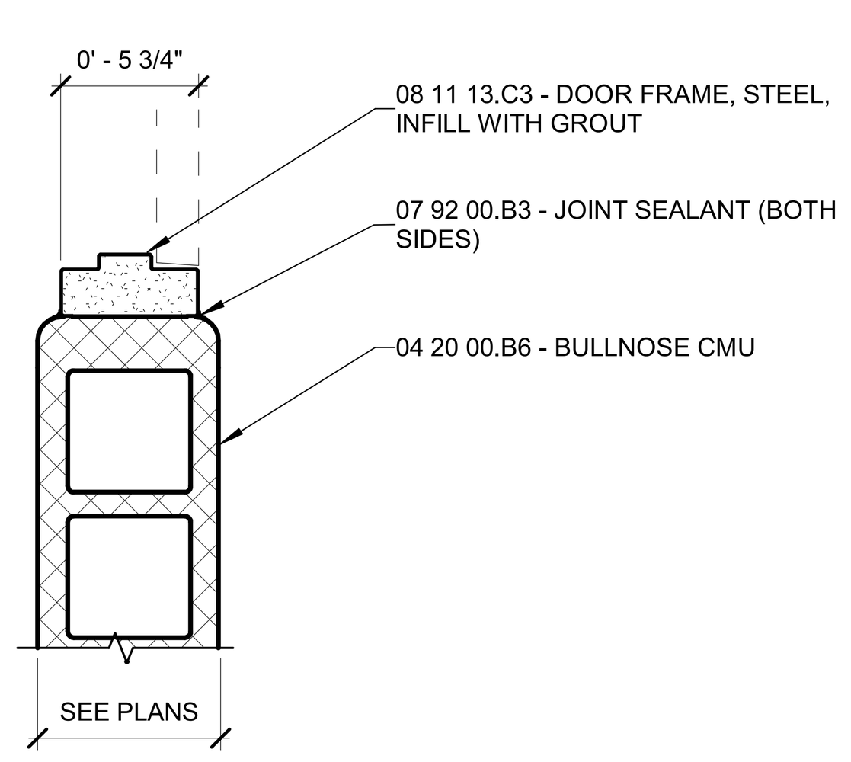
4C M6-D WALL TYPE
1 1/2" = 1'-0"



5B HEAD
1 1/2" = 1'-0"



4B M8-D WALL TYPE
1 1/2" = 1'-0"



5A JAMB
1 1/2" = 1'-0"

DOOR & FRAME SCHEDULE

MARK	DOOR PANEL						FRAME			LABEL	HDWR SET	NOTES	MARK
	TYPE	MATL	GLAZ	SIZE			MARK	MATL	GLAZ				
				H	W	TH							
U101A	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		04		U101A
U101B	OHC	ST	--	4' - 8"	4' - 0"	0' - 0 3/4"		--	--		07		U101B
U102	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		U102
U103	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		U103
U104A	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		03		U104A
U104B	OHC	ST	--	4' - 8"	8' - 0"	0' - 0 3/4"		--	--		07		U104B
U105	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		02		U105
U106	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		01		U106
U107	F	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		01		U107
W102A	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		05		W102A
W102B	OH	ST	--	6' - 8"	8' - 0"	0' - 3"		--	--		07		W102B
W103A	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		05		W103A
W103B	F	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		05		W103B

A2

GENERAL NOTES

A. This Door Schedule(s) is furnished for whatever assistance it may afford the Contractor. Do not consider it as entirely inclusive. Carefully examine the Drawings (especially the Floor Plans) and the Specifications to determine the extent of door and frame quantities required (including interior borrowed lite or sidelite openings). Should any particular door, frame, or interior borrowed lite or sidelite shown on the Drawings be inadvertently omitted from this Schedule, supply same as required for similar openings.

B. The "QTY" column designates the number of leaves in the opening. The "Door Width" column designates the total width of all leaves. In multiple leaf conditions, the leaves shall equally divide the "Door Width" unless noted otherwise; however, the active leaf shall not be less than 3'-0" wide.

C. Door Type "X" denotes a frame with no door such as a borrowed lite, reference Frame Elevations.

D. An asterisk (*) in a dimension denotes a width that varies, reference plans, elevations, details and schedules.

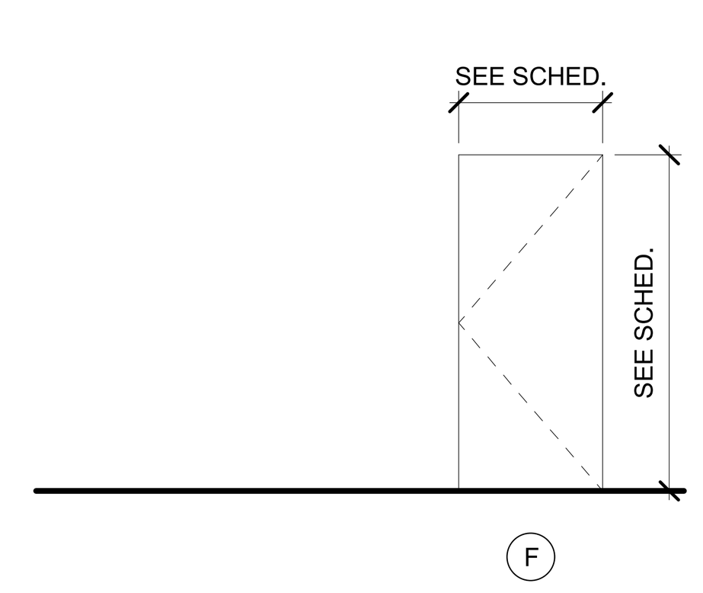
E. Verify locksets with the Owner during submittals.

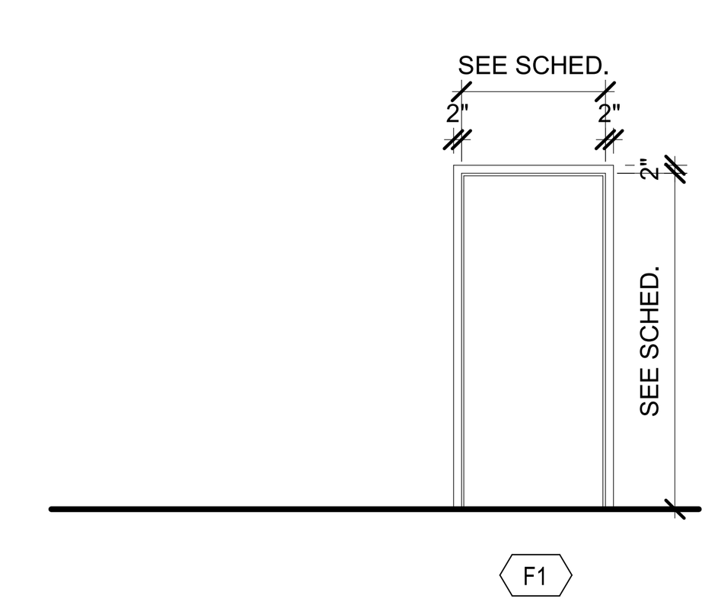
ABBREVIATIONS

AL Aluminum
HM Hollow Metal
ST Steel
WD Wood
TG Tempered Glazing
IG Insulated Glazing
LG Laminated Glazing
FG Frosted Glazing
SP Spandrel Panel

DOOR & FRAME SCHEDULE NOTES
See Door Schedule

1. Existing door and frame to remain. New hardware only. Field verify all existing door and frame information as required for installation of new hardware.
2. New door/frame in existing masonry wall. Tooth in new masonry into existing as required.
3. Set door in frame to allow for 180° door swing.
4. <NOTE TO EDITOR> Edit this list as required. </NOTE TO EDITOR>





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Project No. 2018-050.LCA
Project Date 06.22.2022
Produced Designer Author

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A2	Addendum No. 2	7/21/2022

7300 E. 56th Street
Indianapolis, IN 46226

MSD of Lawrence Township

Lawrence Central Athletic Fields

DOOR & FRAME SCHEDULE

A-600.C

Contractor Questions

1) CD102.C – Revise to reflect work already in current building package (Ex: some demo).
    a. Please see Addendum 2.

2) CL100.C – Existing dugouts to be Prepared?
    a. See A-series drawings for more information about these dugouts.

3) CL108.C – Need LOGO
    a. Logo will be provided during submittal process.

4) CL501.C – Need synthetic curb detail.
    a. See Sheet CU501 for Synthetic Turf Detail.

5) CL502.C – Change sign name?
    a. Please see Addendum 2.

6) No Sheet CU101.C?
    a. There is no CU101.C

7) CU104.C – Information/detail on SS-01?
    a. Please see Addendum 2.

8) -CL105.C Eastern most ADA spot does not have an adjacent access aisle.
    a. Please see Addendum 2.

9) -CL102.C East end of field, should the block retaining wall be outside of fence?
    a. Yes

10) -CL102.C No spectator bleachers for JV soccer?
    a. No

11) -CL104.C Should the block retaining wall be on the side of playing field?
    a. Not sure what this question is

12) -CL104.C Check Ramp and handrail details. (Incorporated retaining block instead of concrete curbs/walls?)
    a. Please see Addendum 2.

13) -CG110.C Eastern curb: Top of Curb and Bottom of Curb are the same elevation?
    a. Please see Addendum 2.

14) -CD101.N Note 8 -don't we demo existing building at JV field?
    a. The press box/storage building at the current varsity baseball field (future JV baseball field) is to remain.

15) The turf specification is based on each turf company providing their own product specification, which in my opinion does not put everyone on an equal playing field. We most typically see a performance specification that each turf company is to bid based on the stated parameters. For example, the soccer field alternate turf bid has varying face weights from a low of 30 oz to 50 oz, along with different infill weights. Right from the start there is not a level playing field, and the bids will not be as competitive as would be provided by a performance spec. Can a performance spec be considered?
    a. The specs are staying as is

16) The same is true with the shock pad being either included or not included in our bid. Does the school have a preference?
    a. The specs are staying as is.

17) Are we to provide any attic stock for each of the fields?
    a. The specs are staying as is.

18) We are seeing more specifications that require a statement of origin for the yarn fibers, which prohibits the use of Chinese manufactured yarns. Will Chinese yarns be allowed for this project?
    a. The specs are staying as is.

19) The spec calls for a field groomer. There is a wide variance in groomers, both in performance and price. Does the owner have a preference in the groomer that we can all bid?
    a. The specs are staying as is.

20) How many groomers are to be provided in our bid for each school?
    a. Please see Addendum 2.

21) Is the turf warranty to be supported by an Independent 3rd Party Insured Warranty? Is the warranty to be extended to the base construction as well as the turf? Will we be required to submit a copy of our 3rd Party Warranty so it can be reviewed by the owner?
    a. Please see spec section 321823.99 1.7 for Warranties.

22) How many years will the maintenance package be required? I am assuming that GMax testing is to be completed by an independent 3rd party?
    a. Please see spec section 321823.99 1.8.A