



# **Troy Schools District**

# RFP #2425-09 - Addendum #2 BP#2B High School Athletics - Phase #2

**January 23rd, 2025** 

## **Content Included in this Addendum:**

Cover Page (1 Page) Barton Malow Write Up (1 Page) TMP Architecture Addendum #2 Write-Up (27 Pages)

**TOTAL PAGES: 29 Pages** 



January 23rd, 2025

Troy Schools District - BP#2B High School Athletics Renovations Phase #2

#### Addendum #2 Bidder Clarifications

## A. General Clarifications

• See TMP Architecture Addendum #2 Write-up.

## B. Clarifications and Additions to Work Scopes

- Site Work scope
  - o Added Alternate No 2 (Additional Clarification)
    - Base bid: 6 (20') poles and 100 LF of netting to be provided by the owner and contractor installed at the auxiliary field. Add alternate would be to provide poles and netting and install.

# C. RFI Responses

**Q:** Please clarify in Section 08 3613, if you want a 20G exterior skin and interior? If so, none of the approved manufacturers make that. If you want just exterior, the basis on design should be a 596 not a 591 (that is .015" steel). Please clarify.

A: Provide specified model 591.



# Addendum

Date January 23, 2025

Project Name Troy School District – Athens High School Athletics & Troy High School Athletics

**TMP Project No.** 22103D, 22104E

**Bid Package No.** 02B **Addendum No.** Two (2)

# ADDENDUM NO. 1 WAS PREVIOUSLY ISSUED ON JANUARY 14, 2025.

The Bidding Documents are modified, supplemented, or augmented as follows and the Addendum is hereby made a part of the proposed Contract Documents.

The following Drawing(s) and Attachment(s) are issued with this Addendum:

**Drawing No(s).:** Athens HS Athletics: C-2.0, C-3.0, L1.02, L1.05

Troy HS Athletics: A2.1

**Attachment(s):** Specification Section(s): 00 0110, 08 3613, 13 3400, 23 3433

| Item No. | Specification Changes  |
|----------|--|
| SC-1     | Refer to Section No. 00 0110 – TABLE OF CONTENTS (reissued):  A. Revised "Issued" columns of specs issued as part of this addendum as indicated. |
|          | <ul> <li>Added new specification sections issued as part of this addendum as<br/>indicated.</li> </ul>   |
| SC-2     | Refer to Section No. 08 3613 – SECTIONAL DOOR (reissued):  A. Revised paragraph 2.02.B as indicated.   |
| SC-3     | Refer to Section No. 13 3400 – PRE-CAST CONCRETE STRUCTURE (new):  A. Issued new specification section, complete.                                |
| SC-4     | Refer to Section No. 23 3433 – AIR CURTAINS AND DOOR HEATERS (new): A. Issued new specification section, complete.                               |

## TMP ARCHITECTURE INC

January 23, 2025 Troy School District – Athens High School Athletics and Troy High School Athletics TMP Project No(s). 22103D, 22104E Bid Package No. 02B Addendum No. Two (2)

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# 22103D - Athens High School Athletics

| Item No. | Civil Drawing Changes   |
|----------|---|
| CD-1     | Refer to Drawing No. C2.0 (reissued):  A. Added fence demolition between existing building and track as indicated.  |
| CD-2     | Refer to Drawing No. C3.0 (reissued):   |
|          | <ul> <li>A. Removed fence installation between existing building and track as indicated.</li> </ul>   |
|          | B. Added fence installation to corner of existing building as indicated.  |
| Item No. | Athletic Drawing Changes  |
| LD-1     | Refer to Drawing No. L1.02 (reissued):  |
|          | <ul> <li>A. Added additional fencing to close off access to the track near the existing<br/>maintenance building as indicated.</li> </ul>   |
| LD-2     | Refer to Drawing No. L1.05 (reissued):  |
|          | <ul> <li>A. Clarified point of connection and water source location for irrigation lines as indicated.</li> <li>B. Revised main line layout to irrigated fields as indicated.</li> <li>C. Adjusted Zone count on JV baseball and softball layout as indicated.</li> <li>D. Added additional quick coupler valves as indicated.</li> </ul> |

# 22104E - Troy High School Athletics

| Item No. | Architectural Drawing Changes                                |
|----------|--|
| AD-1     | Refer to Drawing No. A2.1 (reissued):                        |
|          | A. Added ceiling type ACT1 to Storage Room 102 as indicated. |

\*\*\*END OF ADDENDUM NO. 2 - BID PACKAGE NO. 02B\*\*\*

# **TABLE OF CONTENTS**

# PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

# **DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

| Section    | Title                                | Issued   |
|------------|--------------------------------------|----------|
| 00 0101    | Title Page                           | CD       |
| 00 0110    | Table of Contents                    | CD, ADD2 |
| 00 0115    | List of Drawings                     | CD       |
| 00 3100    | Available Project Information        | CD       |
| 00 4244    | Unit Prices                          | CD       |
| 00 8200    | Availability of Electronic Files     | CD       |
| 00 8200.02 | Electronic Files Release Form (Free) | CD       |
|            |                                      |          |

# **SPECIFICATIONS GROUP**

## **GENERAL REQUIREMENTS SUBGROUP**

# **DIVISION 01 - GENERAL REQUIREMENTS**

| Section  | Title  | Issued                     |
|--|--|----------------------------|
| 01 0005<br>01 2300<br>01 2500<br>01 2500.01<br>01 3000<br>01 3000.01 | Related Requirements Alternates Substitution Procedures TMP Substitution Request Form Administrative Requirements TMP Submittal and Sample Transmittal | CD<br>CD<br>CD<br>CD<br>CD |
| 01 4000<br>01 4100<br>01 4216<br>01 4219<br>01 4533                  | Form Quality Requirements Regulatory Requirements Definitions Reference Standards Code-Required Special Inspections and                                | CD<br>CD<br>CD<br>CD       |
| 01 6000<br>01 7000<br>01 7329<br>01 7800<br>01 7900                  | Procedures Product Requirements Execution and Closeout Requirements Cutting and Patching Closeout Submittals Demonstration and Training                | CD<br>CD<br>CD<br>CD       |

# **FACILITY CONSTRUCTION SUBGROUP**

## **DIVISION 02 - EXISTING CONDITIONS**

| Section            | Title  | Issued   |
|--------------------|--|----------|
| 02 4100<br>02 4110 | Demolition Salvage & Relocation of Field Items | CD<br>CD |

## **DIVISION 03 - CONCRETE**

| Section            | Title   | Issued   |
|--------------------|---|----------|
| 03 3000<br>03 3003 | Cast-in-Place Concrete                              | CD<br>CD |
| 03 3003            | Cast-in-Place Concrete Requirements for Floor Slabs | CD       |
| 03 3005            | Cast In Place Concrete- Athletics                   | CD       |
| 03 3053            | Concrete Turf Anchor                                | CD       |
| 03 3511            | Concrete Floor Finishes                             | CD       |
| 03 3800            | Post-Tensioned Concrete                             | CD       |
|                    |   |          |

## **DIVISION 04 - MASONRY**

| Section | Title        | Issued |
|---------|--------------|--------|
| 04 2000 | Unit Masonry | CD     |

## **DIVISION 05 - METALS**

| S | ection                               | Title  | Issued                  |
|---|--------------------------------------|--|-------------------------|
| 0 | 5 1200<br>5 3100<br>5 4400<br>5 5000 | Structural Steel Framing Steel Deck Cold Formed Metal Trusses Metal Fabrications | CD<br>CD<br>CD<br>CD,A1 |

# DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

| Section | Title                           | Issued |
|---------|---------------------------------|--------|
| 06 1000 | Rough Carpentry                 | CD     |
| 06 1050 | Turf Wood Nailer                | CD     |
| 06 4023 | Interior Architectural Woodwork | CD     |

# **DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

| Section   | Title   | Issued               |
|---|---|----------------------|
| 07 1113<br>07 2100<br>07 2119<br>07 2423            | Bituminous Dampproofing<br>Thermal Insulation<br>Foamed-In-Place Insulation<br>Direct-Applied Finish System | CD<br>CD<br>CD       |
| 07 2726<br>07 4113<br>07 4213.33                    | Fluid-Applied Membrane Air Barriers<br>Metal Roof Panels<br>Aluminum Composite Material (ACM)<br>System     | CD<br>CD<br>CD       |
| 07 5300<br>07 6200<br>07 7100<br>07 8400<br>07 9200 | Elastomeric Membrane Roofing Sheet Metal Flashing and Trim Roof Specialties Firestopping Joint Sealants     | CD<br>CD<br>CD<br>CD |

# **DIVISION 08 - OPENINGS**

| Section | Title                               | Issued   |
|---------|-------------------------------------|----------|
| 08 1612 | FRP-Faced Aluminum Doors and Frames | CD       |
| 08 3100 | Access Doors and Panels             | CD       |
| 08 3323 | Overhead Coiling Doors              | CD       |
| 08 3613 | Sectional Doors                     | CD, ADD2 |
| 08 4313 | Aluminum Framed Storefronts         | CD       |
| 08 5659 | Service and Teller Window Units     | CD       |
| 08 7100 | Door Hardware                       | CD       |
| 08 8800 | Glazing                             | CD       |
| 08 9100 | Louvers                             | CD       |

# **DIVISION 09 - FINISHES**

| Section   | Title   | Issued               |
|---|---|----------------------|
| 09 2216<br>09 2900<br>09 5100<br>09 6513<br>09 9123 | Non-Structural Metal Framing<br>Gypsum Board<br>Acoustic Ceilings<br>Resilient Bases and Accessories<br>Interior Painting | CD<br>CD<br>CD<br>CD |
| — •   | 5   |                      |

# **DIVISION 10 - SPECIALTIES**

| Section               | Title  | Issued   |
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| 10 1419               | Dimensional Letter Signage   | CD       |
| 10 1423               | Panel Signage  | CD       |
| 10 2113.15<br>10 2800 | FRP-Clad Toilet Compartments Toilet, Bath, and Laundry Accessories | CD<br>CD |
| 10 4400               | Fire Protection Specialties  | CD       |
| 10 5113               | Metal Lockers  | CD       |

| 10 7516 Flagpoles | CD |
|-------------------|----|
|-------------------|----|

## **DIVISION 11 - EQUIPMENT**

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| 11 6826 | Net Tension System               | CD     |
| 11 6833 | Athletic Field Equip & Backstops | CD     |
| 11 6837 | Shaded Dugout Structure          | CD     |
| 11 6838 | Baseball Equipment               | CD     |
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| 11 6843 | Scoreboard                       | CD     |

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| Section | Title                       | Issued |
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| 13 3400 | Pre-Cast Concrete Structure | ADD2   |

## **DIVISION 14 - CONVEYING EQUIPMENT**

Not Used

# **FACILITY SERVICES SUBGROUP**

# **DIVISION 20 - COMMON MECHANICAL REQUIREMENTS**

| Section   | Title   | Issued                                 |
|---|---|--|
| 20 0500<br>20 0510<br>20 0513<br>20 0519<br>20 0529<br>20 0533<br>20 0547<br>20 0553<br>20 0700 | Mechanical General Requirements Basic Mechanical Materials and Methods Motors Meters and Gages Hangers and Supports Electric Heat Tracing Mechanical Vibration Controls Mechanical Identification Mechanical Insulation | CD<br>CD<br>CD<br>CD<br>CD<br>CD<br>CD |
|   |   |  |

# **DIVISION 21 - FIRE SUPPRESSION**

Not Used

# **DIVISION 22 - PLUMBING**

| Section   | Title  | Issued                                 |
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| 22 1116<br>22 1119<br>22 1123<br>22 1316<br>22 1319<br>22 3300<br>22 4200<br>22 4600<br>22 4700 | Domestic Water Piping Domestic Water Piping Specialties Domestic Water Circulation Pumps Sanitary Waste and Vent Piping Drainage Piping Specialties Electric Domestic Water Heaters Plumbing Fixtures Security Plumbing Fixtures Drinking Fountains, Water Coolers and Cuspidors | CD<br>CD<br>CD<br>CD<br>CD<br>CD<br>CD |

# **DIVISION 23 – HEATING VENTILATING AND AIR CONDITIONING (HVAC)**

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| 23 0500 | Common Work Results for HVAC                    | CD     |
| 23 0593 | Testing, Adjusting, and Balancing               | CD     |
| 23 0933 | Temperature Controls                            | CD     |
| 23 3113 | Metal Ducts                                     | CD     |
| 23 3300 | Duct Accessories                                | CD     |
| 23 3423 | Power Ventilators                               | CD     |
| 23 3433 | Air Curtains and Door Heaters                   | ADD2   |
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| 23 3723 | Air Intake and Relief Hoods                     | CD     |
| 23 8239 | Electrical Wall and Ceiling Heaters             | CD     |
| 23 8241 | Propeller Fan Unit Heaters - Steam, Hot         | CD     |
|         | Water, Electric                                 |        |
| 23 8244 | Centrifugal Fan Cabinet Unit Heaters (Electric) | CD     |

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| 26 0010<br>26 0519<br>26 0526<br>26 0529<br>26 0533 | Electrical General Requirements Conductors and Cables Grounding and Bonding Hangers and Supports for Electrical Systems Raceways and Boxes | CD<br>CD<br>CD<br>CD |
| 26 0553   | Electrical Identification  | CD                   |

| Overcurrent Protective Device Coordination | CD  |
|--|---|
| and Arc-Flash Hazard Study                 |   |
| Lighting Control Devices                   | CD  |
| Dry-Type Transformers (600 V and less)     | CD  |
| Panelboards                                | CD  |
| Wiring Devices                             | CD  |
| Fuses                                      | CD  |
| Enclosed Switches and Circuit Breakers     | CD  |
| Enclosed Controllers                       | CD  |
| LED Interior Lighting                      | CD  |
| Exterior Lighting                          | CD  |
|  | and Arc-Flash Hazard Study Lighting Control Devices Dry-Type Transformers (600 V and less) Panelboards Wiring Devices Fuses Enclosed Switches and Circuit Breakers Enclosed Controllers LED Interior Lighting |

# **DIVISION 27 - COMMUNICATIONS**

Not Used

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Not Used

# SITE AND INFRASTRUCTURE SUBGROUP

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| 31 2010 | Earthwork         | CD     |
| 31 3219 | Geotextile Fabric | CD     |

# **DIVISION 32 - EXTERIOR IMPROVEMENTS**

| Section | Title                                   | Issued |
|---------|---|--------|
| 32 1123 | Aggregate Drainage Layer                | CD     |
| 32 1124 | Aggregate Base Course                   | CD     |
| 32 1217 | Hot Mix Asphalt Track                   | CD     |
| 32 1724 | Track Markings                          | CD     |
| 32 1822 | Infield Mix – Red Clay                  | CD     |
| 32 1826 | All-Weather Synthetic Track Surface     | CD     |
| 32 1831 | Shot Put Material                       | CD     |
| 32 1836 | Acrylic Tennis Court Surface - Concrete | CD     |
| 32 3100 | Chain Link Fence                        | CD     |
| 32 3119 | Decorative Metal Fences and Gates       | CD     |
| 32 8400 | Underground Irrigation System           | CD     |
| 32 9119 | Topsoil                                 | CD     |
| 32 9223 | Lawn – Athletic Sod                     | CD     |
| 32 9227 | General Lawn Restoration                | CD     |

# **DIVISION 33 - UTILITIES**

| Section | Title                                | Issued |
|---------|--------------------------------------|--------|
| 33 4125 | Utility Sleeves                      | CD     |
| 33 4416 | Utility Trough Drain (Athletic)      | CD,A1  |
| 33 4605 | Subdrainage Systems – Sand           | CD     |
| 33 4615 | Subdrainage Systems – Turf Draintile | CD     |

# **APPENDIXES**

# **APPENDIX 1**

Geotechnical Investigation – Dated November 18, 2024 CD

# **APPENDIX 2**

Geotechnical Investigation – Dated November 7, 2024 CD

# **APPENDIX 3**

Geotechnical Investigation – Dated November 26, 2024 CD

## **END OF SECTION**

#### **SECTION 08 3613 - SECTIONAL DOORS**

# PART 1 GENERAL 1.01SECTION INCLUDES

- A. Overhead sectional doors, manually operated.
- B. Operating hardware and supports.

#### 1.02 REFERENCE STANDARDS

- A. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- B. ASTM E330/E330M Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).
- C. DASMA 102 American National Standard Specifications for Sectional Doors; 2018.
- D. ITS (DIR) Directory of Listed Products; Current Edition.
- E. UL (DIR) Online Certifications Directory; Current Edition.

#### 1.03 SUBMITTALS

- A. See Section 01 3000 Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.
  - 1. Include plans, elevations, sections, and installation details.
  - 2. Include diagrams for power, signal, and control wiring.
- C. Product Data: Show component construction, anchorage method, and hardware.
- D. Verification Samples: Three actual pieces of products in each finish specified, not less than 6 inches square or 6 inches long for linear components.
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.
- G. Operation Data: Include normal operation, troubleshooting, and adjusting.
- H. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.
- I. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

#### 1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 5 years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least 5 years documented experience.
- C. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction, as suitable for purpose specified.

#### 1.05 WARRANTY

- A. See Section 01 7800 Closeout Submittals for warranty requirements.
- B. Provide two year manufacturer warranty for defects in workmanship and materials from date of Substantial Completion.
- C. Provide 3 year manufacturer warranty against excessive degradation of finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

#### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Basis of Design: Model 591 manufactured by Overhead Door Corp..
- B. Other Acceptable Manufacturers Sectional Doors:

SECTIONAL DOORS 08 3613-1

- 1. C.H.I. Overhead Doors: www.chiohd.com/#sle.
- 2. Clopay Building Products: www.clopaydoor.com/#sle.
- 3. Raynor Garage Doors: www.raynor.com/#sle.
- 4. Wayne-Dalton, a Division of Overhead Door Corporation: www.wayne-dalton.com/#sle.
- 5. Substitutions: See Section 01 6000 Product Requirements.

#### 2.02 STEEL DOORS

- A. Steel Doors: Flush steel, insulated; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
  - 1. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.
  - 2. Door Nominal Thickness: 2 inches thick.
  - 3. Exterior Finish: Factory finished with polyester baked enamel; color as selected from manufacturers standard line.
  - 4. Manual Operation: Chain hoist.
- B. Door Panels: Steel construction; outer steel sheet of 20 28 gauge, 0.0359 0.015 inch minimum thickness, flush profile; inner steel hot-dipped roll-formed, galvanized sheet of 20 gauge, 0.0359 inch minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation. \*\*ADD2\*\*

#### 2.03 COMPONENTS

- A. Track: Rolled galvanized steel, 0.090 inch minimum thickness; 2 inch wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick.
  - Track Configuration: As indicated on Drawings.
- B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of stainless steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.
- C. Lift Mechanism: Torsion spring on cross head shaft, with braided stainless steel lifting cables.
  - 1. For Manual Operation: Requiring maximum exertion of 25 lbs force to open.
- D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.
- E. Jamb Weatherstripping: Roll formed aluminum section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.
- F. Head Weatherstripping: EPDM rubber seal, one piece full length.
- G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.
- H. Lock: Inside side mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle. Finish to match aluminum door framing.

#### 2.04 MATERIALS

- A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.
- B. Insulation: Foamed-in-place polyurethane.

# **PART 3 EXECUTION**

#### 3.01 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

#### 3.02 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions.
- B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

- D. Fit and align door assembly including hardware.
- E. Install perimeter trim and closures.
- F. Test and adjust controls and safety devices

#### 3.03 TOLERANCES

- A. Maximum Variation from Plumb: 1/16 inch.
- B. Maximum Variation from Level: 1/16 inch.
- C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.
- D. Maintain dimensional tolerances and alignment with adjacent work.

#### 3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 Quality Requirements, for general requirements for field quality control and inspection.
- B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
  - 1. Operate doors to confirm proper operation and door performance.
  - 2. Test controls and safety devices.
  - 3. Prepare field inspection reports.
- C. Repair or replace installations where inspections indicate that they do not comply with specified requirements.
- D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

#### 3.05 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weatherstripping.

#### 3.06 CLEANING

- A. Clean doors and frames and glazing.
- B. Remove temporary labels and visible markings.

#### 3.07 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.
- B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

#### 3.08 DEMONSTRATION AND TRAINING

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.

#### **END OF SECTION**

SECTIONAL DOORS 08 3613-3

# SECTION 13 3400 – PRECAST CONCRETE STRUCTURE \*\*ADD2\*\*

#### **PART 1 – GENERAL**

#### 1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
  - 1. Section 31 2010 Earthwork Athletics

## 1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to install (2) 8' x 30' precast dugout units, (2) 8'x30' dugout units which include 8'x8' storage, and (2) 10' X 12" precast storage building units.
- B. Dugout and Building units shall be provided by manufacturer with all necessary openings as specified by contractor in conformance with manufacturer's structural requirements.

## 1.3 QUALITY ASSURANCE

- A. Comply with the provisions of the following codes, specifications, and standards except where more stringent requirements are shown on the drawings or specified herein.
  - 1. ACI-318-02, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
  - 2. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
  - 3. Michigan Building Code, current edition.
  - 4. Concrete Reinforcing Institute, "Manual of Standard Practice".
  - 5. Fabricator must be a producer/member of Precast/Prestressed Concrete Institute (PCI) and be certified in categories A1, B1, and C3.
  - 6. Building fabricator must have a minimum of 5 years experience manufacturing and setting transportable precast concrete buildings.
  - 7. American Society For Testing Materials (ASTM).

## 1.4 SUBMITTALS

- A. Submit manufacturer's literature including material description, installation instructions, and cleaning and maintenance instructions.
  - B. Submit shop drawings: Provide plans, elevations and sections of structure atscale of not less than 1/8 inches per 12 inches, indicating basic dimensions of structure, details of design, including details of any openings, cutouts and accessories required.
    - 1. Show details of interfaces with work of other trades, including electrical work.
  - C. Show dimensions, installation and erection details, including all points of connection.
  - D. Submit copy of standard warranty.
  - E. Delegated-Design Submittal: Submit engineering calculations for Architects review to comply with performance requirements and design criteria, including analysis data and shop drawings signed and sealed by the qualified professional engineer responsible for their preparation registered in the State of Michigan.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver product to the project site clearly marked for proper identification of components.
- B. Deliver hardware materials to the project site in manufacturer's unopened containers, fully identified with trade name, color, size and type.
- C. Store in accordance with manufacturer's instructions, above ground, and protected from weather, construction activities, and other possible causes of damage or loss.
- D. Materials shall be handled at the job site in such a manner so as to prevent damage. All damaged or otherwise unsuitable material, when so ascertained, shall be immediately removed from the job site.

#### 1.6 WARRANTY

A. The manufacturer shall warrant in writing, that the precast concrete structure shall be free of faults or defects in accordance with the general conditions; such warranty shall be for a period of five (5) years. All other appurtenances will carry a one year warranty.

#### **PART 2 - PRODUCTS**

#### 2.1 MANUFACTURERS

- A. Bids from manufacturers other than companies listed will not be considered unless written approval is obtained a minimum of 10 days prior to date of bid receipt.
- B. Easi-Set Buildings as manufactured by a licensed producer:

| Design Concrete, Inc. | Norwalk Concrete Industries |
|-----------------------|-----------------------------|
| Hamilton, ON          | Norwalk, OH 44857           |
| (585) 831-0885        | (800) 733-3624              |
|                       |                             |

#### 2.2 STANDARD DESIGN CRITERIA

- A. Standard Size:
  - 1. Dugouts: (2) 8' deep X 30' wide and (2) 8' deep x 30' wide, includes 8'x8' storage area.
  - 2. Storage Buildings: (2) 10' deep X 12' wide
- B. Design Loads:
  - 1. Seismic load performance category 'C', Exposure Group III
  - 2. Standard Live Roof Load: 60PSF
  - 3. Standard Floor Load: 250 PSF
  - 4. Standard Wind Load: 130 MPH
- C. Roof: Roof panel shall slope from front to back with a minimum of 6" fall. The roof shall extend a minimum of 12 inches beyond both side walls and back wall panel and have a turndown design which extends ½" below the top edge of the wall panels to prevent water migration into the building along top of wall panels. Roof shall have a Broom finish design, non-stained, owner to stain. Roof panel thickness shall have a minimum thickness of 4", steel reinforced and post-tensioned with a broom finish.
- D. Roof, floor, and wall panels shall each be produced as single component monolithic panels. Wall panels shall be set on top of floor panel.
- E. Precast concrete floor shall have ½" step-down around the entire perimeter to prevent water migration into the building along the bottom of the wall panels. Floor shall have a 5"minimum thickness, and be post-tensioned and steel reinforced.

#### 2.3 MATERIALS

- A. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength, air-entrained (ASTM C260).
- B. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified. Welded Wire Fabric: ASTM 185 Grade 65
- C. Post-tensioning Strand: 41K Polystrand CP50, 0.50, 270 KSI, 7-wire strand, enclosed within a greased plastic sheath, (ASTM A416). Roof and floor shall each be post-tensioned by a single, continuous tendon. Tendon shall form a substantially rectangular configuration having gently curving corners wherein the positioning of the cable member results in a pattern of one or more loops and a bisecting of the loop(s). The cable member shall start from one corner of the concrete building panel, forming a gentle perimeter loop(s) returning to a point where the cable member entered the concrete building panel. The tendon will then turn 90 degrees and follow the cable member(s) to a point midway along the "Y" axis of the concrete building panel and then turn 90 degrees along the "X" axis of the concrete building panel. This will bisects the concrete building panel and cross the opposite parallel portion of the cable member and exit from an adjacent side of the concrete building panel.

- 1. If post-tensioning is not used in the roof panel, the following guidelines must be followed to ensure a watertight roof design.
  - a. The entire precast concrete roof panel surface must be cleaned and primed with a material that prepares the concrete surface for proper adherence to the coating material.
  - b. The entire precast concrete roof panel surface shall be sealed with a 0.045 EPDM continuous membrane cemented to the concrete with a compound designed for this
- D. Caulking: All joints between panels shall be caulked on the exterior and interior surface of the joints. Caulking shall be DOW CORNING 790 silicone sealant or equal. Exterior caulk reveal to be 3/8" x 3/4" deep so that sides of joint are parallel for proper caulk adhesion. Back of the joint to be taped with bond breaking tape to ensure adhesion of caulk to parallel sides of joint and not the back.
- E. Panel Connections: All panels shall be securely fastened together with 3/8" thick steel brackets. Steel is to be of structural quality, hot-rolled carbon complying with ASTM A36 and hot dipped galvanized after fabrication. All fasteners to be ½" diameter bolts complying with ASTM A325 for carbon steel bolts. Cast-in anchors used for panel connections to be Dayton-Superior F-63 coil inserts, or equal. All inserts for corner connections must be secured directly to form before casting panels. No floating-in of connection inserts shall be allowed. Wall panels shall be connected to cast-in-place floor slab using expansion anchors providing adequate embedment by manufacturer.
- F. Vents: AS REQUIRED Screened aluminum vents to be cast in rear wall. Vents shall be SUNVENT INDUSTRIES Model FL-164 or equal. AS REQUESTED, provide drainage slots in the back wall for water to drain from building.

#### 2.4 ACCESSORIES

- A. Doors and Frames: Shall comply with Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" (SDI-100) and as herein specified. All door and frame galvanizing shall be in accordance with ASTM A924 and A653, A60 minimum coating thickness.
  - 1. The buildings shall be equipped with double 3'-0" x 6'-8" x 1-3/4" thick insulated, 18 gauge, metal doors with 16-gauge frames (to meet wall thickness). Doors to have flush top cap. 12 gauge flat astragals shall be applied to the active leaf to protect against the elements or forced opening. Doors and frames shall be factory bonderized and painted with one coat of rust inhibitive primer and one finish coat of enamel paint; color to be BOLT BROWN unless specified otherwise.
  - 2. Doors and frames shall meet SDI standard Level 2, 13/4" heavy duty. Approved manufacturers: Republic, Steelcraft, Ceco, Black Mountain, Pioneer, Curries, Mesker, MPI, Door components or equal Approved distributor: Integrated Entry Systems

#### B. Door Hardware:

- 1. Pull Handle: Shall meet requirements of ANSI A156.2. Shall be thru bolt attached and constructed of a minimum 3/4" diameter stainless pull handle sized 8" center to center with a stainless backer plate, minimum 0.053" on both sides. Approved manufacturers: Design Hardware, Don-Jo, or equal
- C. Hinges: Shall comply with ANSI A156.1 and be of the ball bearing, non-removable pin type (3 per door minimum). Hinges shall be 4 1/2" x 4 1/2" US26D (652) brushed chrome finish. Manufacturer shall provide a lifetime limited warranty. Approved manufacturers: Design Hardware, or equal
- D. Deadbolt: Commercial Grade Deadbolt conforming to ANSI 156.5 furnished with a 2 1/4" face plate and a 1" projecting deadbolt with hardened steel pins. Dead bolts shall be UL and ADA approved.

- Finish shall be US26D (626) brushed chrome finish. Manufacturer shall provide a lifetime limited warranty. Approved manufacturers: Design Hardware, Dorma, or equal
- E. Surface Bolt: 8" Surface bolt UL listed. Finish US26D (626) brushed chrome finish. (2 per inactive leaf). Approved manufacturers: Don-Jo, Design Hardware, or equal
- F. Threshold: Bumper Seal type threshold with a maximum 1" rise to prevent water intrusion.

  Thresholds shall be approved for UL 10B suitable for use with fire doors rated up to three hours.

  <u>Approved manufacturers: National Guard Products or equal</u>
- G. Overhead Door Holder: Heavy duty surface mounted hold open device with hold open/stop angle of 85 to 110 degrees. Construction shall be stainless steel. Finish US32D (630) satin stainless steel finish. Approved manufacturers: ABH, Rockwood, or equal
- H. Drip Cap: Aluminum drip cap with minimum projection of 2 ½" shall be furnished. Approved Manufacturers: Design Hardware, National Guard Products, or equal
- Door Stop: ANSI 156.16 approved wall mounted door stop with keeper constructed of a corrosion resistant cast brass material. Finish US26D (626) brushed chrome finish. <u>Approved</u> <u>manufacturers: Don-Jo, Rockwood, or equal</u>
- J. Support Posts: For dugout units, provide a minimum of (4) 4" x 4" steel roof support posts, factory primed and painted.

#### 2.5 FINISHES

- A. Interior of Building: Smooth form finish on all interior panel surfaces unless exterior finish is produced using a form liner, then smooth hand-troweled finish.
- B. Exterior of Building (Standard): Architectural precast concrete modular unit with split face style finish: Finish must be imprinted in top face of panel while in form using an open grid impression tool. Finished brick size shall be 7 5/8" x 15 5/8" with vertical steel float or light broom finish. Joints between each brick must be 3/8" wide x 3/8" deep. Back of joint shall be concave to simulate a hand-tooled joint. Each brick face shall be coated with the following water-based acrylic, water repellent penetrating concrete stain: 1) Canyon Tone stain by United Coatings, 2) Sherwin Williams (H&C concrete stain) or equal. Stain shall be applied per manufacturer's recommendation. Joints shall be kept substantially free of stain to maintain a gray concrete color.
  - 1. Stain color shall be selected from manufacturer's standard color options.
- C. Exterior of Roof: Flat, sloped style finish: Surfaces shall be coated with the following water-based acrylic, water repellent penetrating concrete stain: 1) Canyon Tone stain by United Coatings, 2) Sherwin Williams (H&C concrete stain) or equal. Stain shall be applied per manufacturer's recommendation.
  - 1. Stain color shall be selected from manufacturer's standard color options.

#### 2.5 ELECTRICAL

- 1. See electrical drawings for all service panels, lighting, receptacles and wiring.
- 2. All components shall be surface mounted unless noted otherwise.

# PART 3 - EXECUTION

#### 3.1 SITE PREPARATION

A. EASI-SET® building shall be field assembled on precast floor system and shall bear fully on a crushed stone base that is at least two feet larger than the length and width of building.

- B. Stone shall be a minimum of 4" thick and down to <u>firm subgrade</u>. The vertical soil capacity under stone shall be compacted to have minimum bearing of 1,500 pounds per square foot. Stone shall be 3/8" or smaller and must be screeded level within ½" in both directions. Stone shall be placed within a perimeter form with flat and level top edge for screeding. Forming material shall remain around stone until after the building is set.
- C. The crushed stone base shall be kept within the confines of the soil or perimeter form. Do not allow the base to become unconfined so that it may wash, erode, or otherwise be undermined.
- D. Provide positive drainage for the fill, pad or slab as required.

#### 3.2 INSPECTION

A. Prefabricated building contractor must examine the surrounding installation areas and the conditions under which the work is to be performed, and notify the general contractor, in writing, of any conditions detrimental to proper and timely completion of the work. Do not proceed with dugout installation until unsatisfactory conditions have been corrected in a manner acceptable to the prefabricated dugout contractor.

#### 3.3 SITE ACCESS

A. Contractor must provide a level, unobstructed area large enough for a crane and a tractor-trailer to park adjacent to the pad. Crane must be able to place outriggers within 5'-0" of edge of pad; truck and crane must be able to get side by side under their own power. No overhead lines may be within 75' radius of center of pad. Firm roadbed with turns that allow 65' lowbed tractor-trailer must be provided directly to site. No building shall be placed closer than 2'-0" to an existing structure unless specifically permitted.

#### 3.4 INSTALLATION

- A. Comply with the prefabricated dugout manufacturer's instructions and recommendations for proper installation procedure.
- B. Coordinate with work of stone base trade contractor to confirm correct location and size of building pad for each dugout prior to arrival of each unit on site.
- C. Set dugout units plumb, level, and square to prevent warp or rack.

#### 3.3 CLEAN UP AND DISPOSAL

A. The contractor shall remove from site all equipment, materials, and debris resulting from construction work, including this section. Restore area to a condition acceptable by the Landscape Architect. All work shall be complete and ready for use at the time of the final acceptance.

#### **END OF SECTION**

#### **SECTION 23 3433 - AIR CURTAINS AND DOOR HEATERS**

## \*\*ADD2\*\*

| PART 1 GENERAL  1.01 RELATED DOCUMENTS.  1.02 ACTION SUBMITTALS  1.03 INFORMATIONAL SUBMITTALS  1.04 CLOSEOUT SUBMITTALS  1.05 QUALITY ASSURANCE  1.06 COORDINATION | ′<br>′<br>′ |
|---|-------------|
| PART 2 PRODUCTS  2.01 AIR CURTAINS (UNHEATED)  2.02 FILTERS  2.03 ACCESSORIES   | 2           |
| PART 3 EXECUTION  3.01 EXAMINATION  3.02 INSTALLATION  3.03 CONNECTIONS  3.04 FIELD QUALITY CONTROL  3.05 ADJUSTING  3.06 DEMONSTRATION                             | 3           |

#### **PART 1 GENERAL**

#### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Sections include the following:
  - 1. Division 20 Section "Mechanical General Requirements."
  - 2. Division 20 Section "Basic Mechanical Materials and Methods."

#### 1.02 ACTION SUBMITTALS

A. Product Data: Include rated capacities, operating characteristics, furnished specialties, and accessories for each unit.

## 1.03 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans and details drawn to scale and coordinating penetrations of exterior walls.
- B. Samples for Initial Selection: For units with factory-applied color finishes.

#### 1.04 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air curtains to include in operation and maintenance manuals.
- B. Warranties: Special warranties specified in this Section.

## 1.05 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of air curtains and are based on the specific product indicated. Refer to Division 01 Section "Product Requirements."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a NRTL acceptable to authorities having jurisdiction, and marked for intended use.

- C. Comply with AMCA 220, "Test Methods for Air Curtain Units," for airflow, outlet velocity, and power consumption.
- D. Comply with AMCA 300, "Reverberant Room Method for Sound Testing of Fans."
- E. Comply with NSF 37, "Air Curtains for Entranceways in Food and Food Service Establishments."

#### 1.06 COORDINATION

- A. Coordinate layout and installation of air curtains and suspension system components with other construction, including light fixtures, fire-suppression-system components, and partition assemblies.
- B. Coordinate installation of wall penetrations and louvers. These items are specified in Division 08 Section "Louvers and Vents."

#### **PART 2 PRODUCTS**

# 2.01 AIR CURTAINS (UNHEATED)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Applied Air; a Mestek Company; King Air Curtains.
  - 2. Berner International Corp.
  - 3. Mars Air Systems.
- B. Housing Materials: Minimum 14-gage, electroplated-zinc steel with welded construction and polyester-coated finish.
- C. Mounting Brackets: Steel, for wall mounting.
- D. Intake Louvers: Integral part of the housing, mechanically field adjustable and capable of reducing air-outlet velocity by 60 percent with louver in totally closed position.
- E. Discharge Nozzle: Integral part of the housing, containing adjustable air-directional vanes with 20 -degree sweep front to back.
- F. Fans: Painted steel, centrifugal, forward curved, double width, double inlet; statically and dynamically balanced.
- G. Fan Drives: Belt, equipped with belt guards and adjustable sheaves and pulleys for adjusting airoutlet velocity.
- H. Motor Type: Resiliently mounted, continuous duty, totally enclosed, air over, with integral thermal-overload protection.
  - 1. Bearings: Permanently sealed, lifetime, prelubricated, ball bearings.
  - 2. Disconnect: Internal power cord with plug and receptacle.

#### 2.02 FILTERS

A. Washable Panel Filters: Removable, stainless-steel, baffle-type filters with spring-loaded fastening; with minimum 0.0781-inch- thick, stainless-steel filter frame.

#### 2.03 ACCESSORIES

- A. Start-Stop, Push-Button Switch: Manually activates and deactivates air curtain.
- B. Mounting Brackets: Adjustable mounting brackets for drum-type roll-up doors.

#### **PART 3 EXECUTION**

#### 3.01 EXAMINATION

A. Examine areas and conditions where air curtains will be installed for compliance with requirements for installation tolerances and other conditions affecting performance.

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

# 3.02 INSTALLATION

A. Install air curtains with clearance for equipment service and maintenance.

#### 3.03 CONNECTIONS

- A. Ground equipment according to Division 26 Section "Grounding and Bonding."
- B. Connect wiring according to Division 26 Section "Conductors and Cables."

## 3.04 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
  - 1. After installing air curtains completely, perform visual and mechanical check of individual components.
  - 2. After electrical circuitry has been energized, start unit to confirm motor rotation and unit operation. Certify compliance with test parameters.
  - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Repair or replace malfunctioning units and retest as specified above.

#### 3.05 ADJUSTING

- A. Adjust motor and fan speed to achieve specified airflow.
- B. Adjust discharge louver and dampers to regulate airflow.
- C. Adjust air-directional vanes.

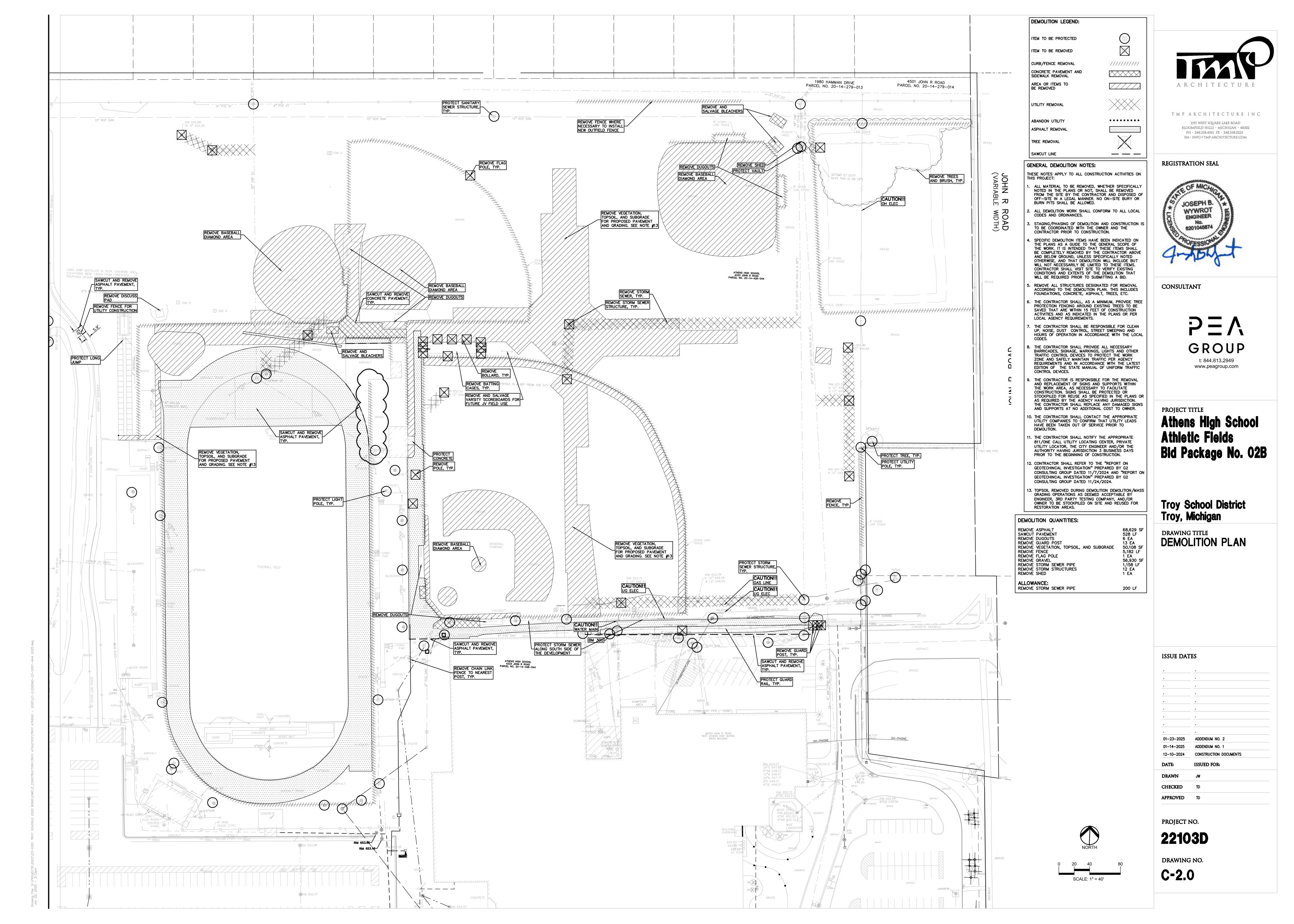
#### 3.06 DEMONSTRATION

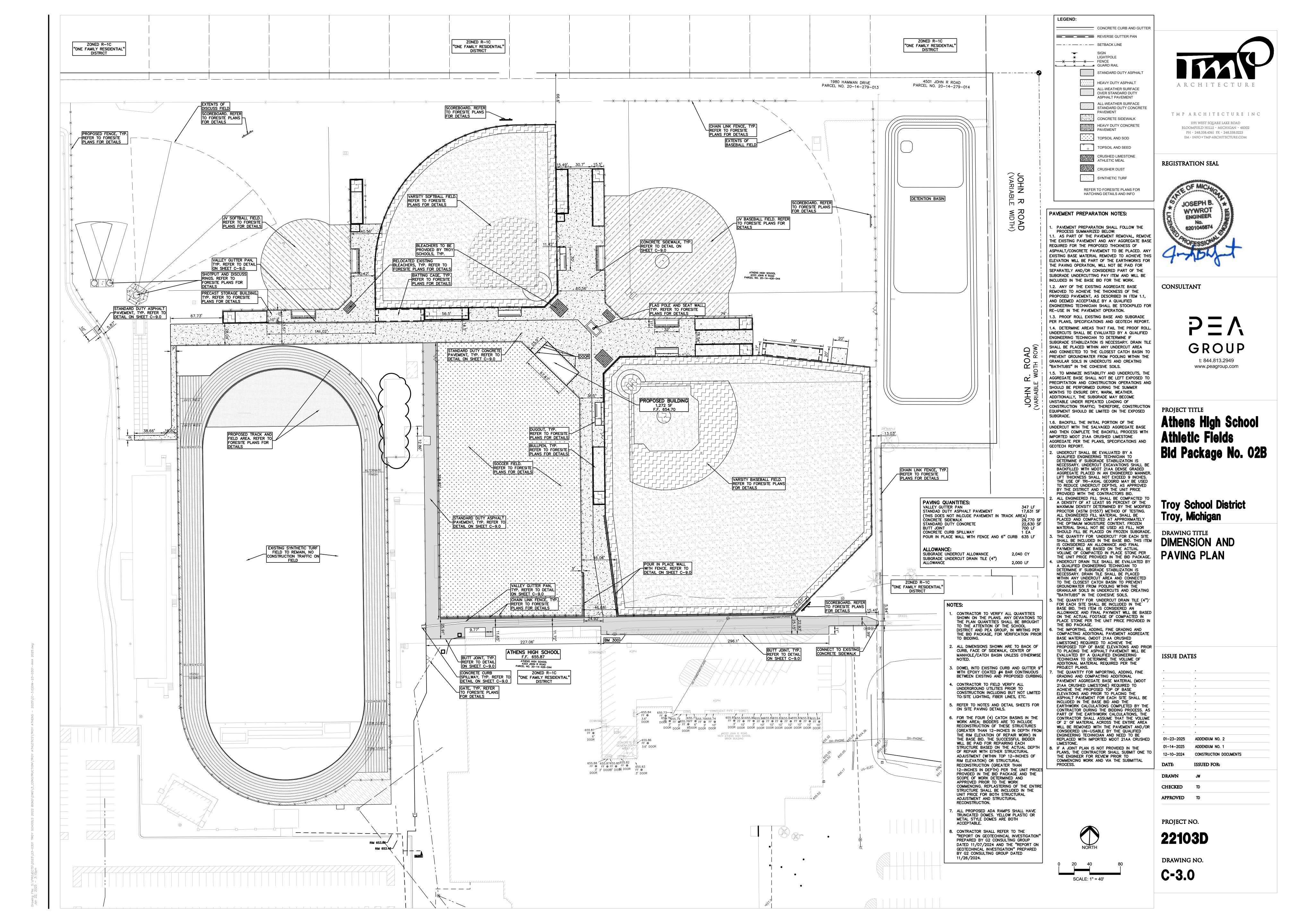
A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air curtains.

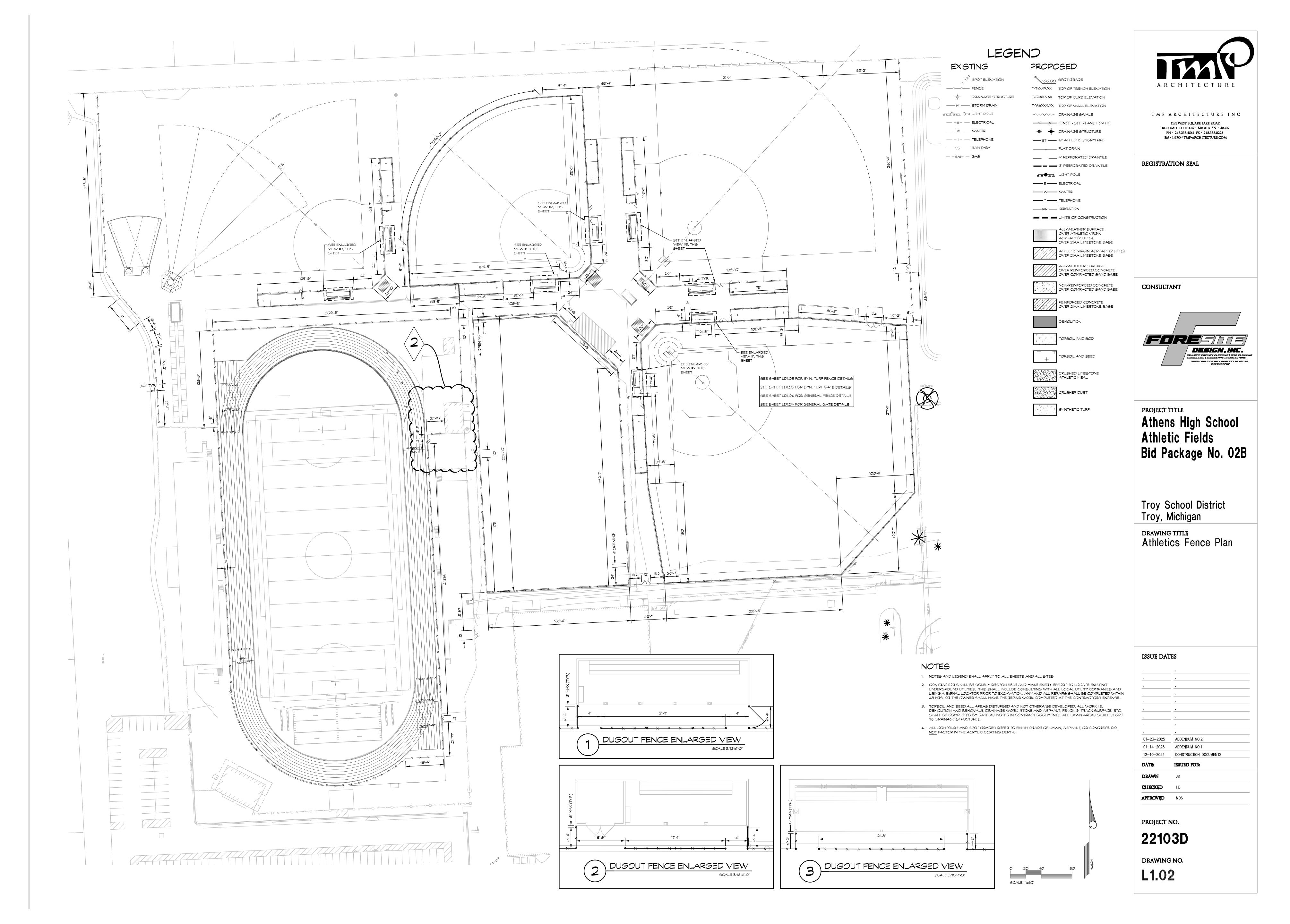
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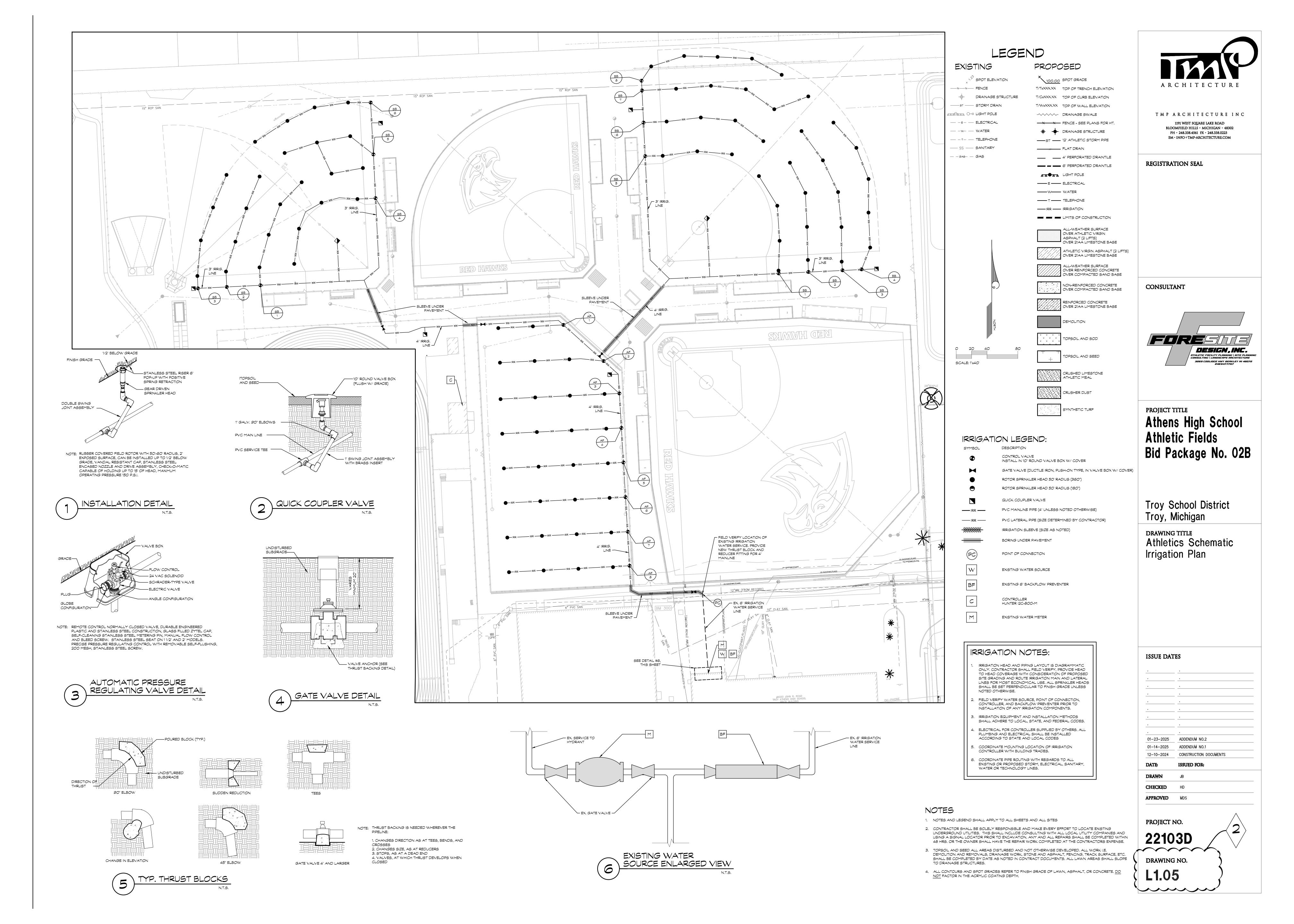
TMP Architecture, Inc. Peter Basso Associates, Inc.

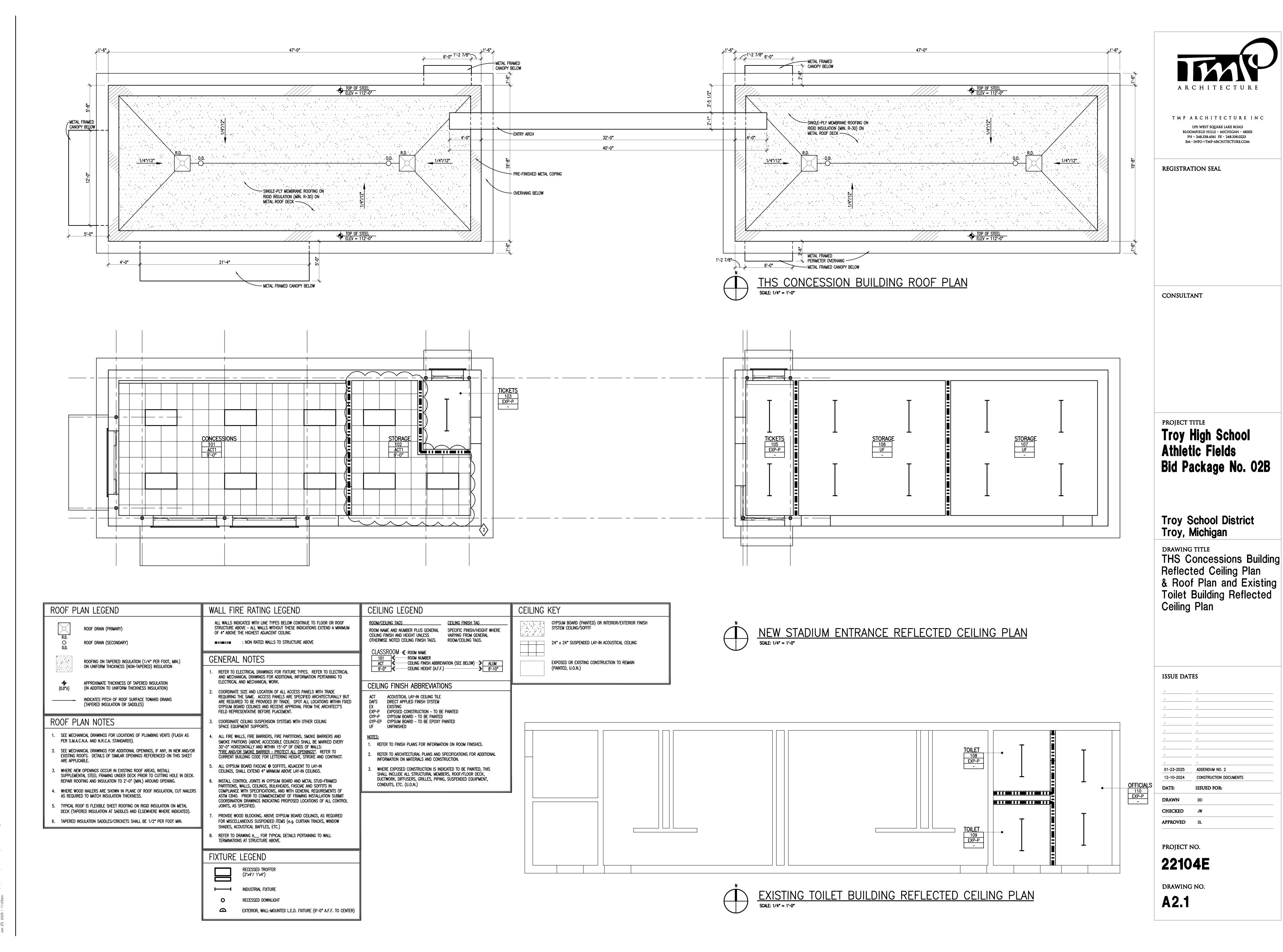
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