ADDENDUM NO. 1

November 11, 2022

Three Rivers Community Schools – New Transportation Facility
58420 Haines Road
Three Rivers, MI 49093

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated October 13, 2022, by GMB Architecture and Engineering. 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 Page ADD 1-1 and GMB Architecture and Engineering Addendum No. 1, dated November 10, 2022, consisting of 6 pages, Reissued Specification Section 27 10 00 – Structured Communications Cabling System, and Reissued Drawings: A4.01, A7.01, E2.10, and ES2.01.

ADDENDUM

OWNER	**THREE RIVERS COMMUNITY SCHOOLS**
PROJECT	NEW TRANSPORTATION FACILITY A/E Project 5-5138
PURPOSE	**ADDENDUM 001** THIS ADDENDUM SHALL FORM PART OF THE BIDDING DOCUMENTS. CHANGES, ADDITIONS, CLARIFICATIONS OR DELETIONS HEREIN SUPERSEDE THE DRAWINGS AND SPECIFICATIONS. BIDDERS SHALL INCLUDE ON THE PROPOSAL FORM ACKNOWLEDGEMENT OF THE RECEIPT OF THIS ADDENDUM.
ATTACHMENTS	**New Specifications: None** **Reissued Specifications: 27 10 00** **New Sheets: None** **Reissued Sheets: A4.01, A7.01, E2.10, ES2.01**
ARCHITECT-ENGINEER	**GMB** www.gmb.com 616.796.0200
CONSTRUCTION MANAGER	The Skillman Corporation www.skillman.com 269.350.5757

SPECIFICATION CLARIFICATIONS / REVISIONS

ITEM NO. 1 SECTION 27 10 00 STRUCTURED COMMUNICATIONS CABLING SYSTEMS (**REISSUED**)

Refer to Section 2.1.B.1 and 2 for revisions.

SHEET CLARIFICATIONS / REVISIONS

ITEM NO. 2 SHEET A4.01 – EXTERIOR ELEVATIONS (**REISSUED**)

Added louver detail callouts to East Exterior Elevation.

ITEM NO. 3 SHEET A7.01 – DETAILS (**REISSUED**)

A. Added Aluminum Louver Sill Detail 21/A7.01 to the sheet.
B. Added Aluminum Louver Jamb Detail 22/A7.01 to the sheet.
C. Added Aluminum Louver Head Detail 23/A7.01 to the sheet.
D. Added CMU Base of Wall Detail 24/A7.01 to the sheet.
E. Added Masonry Control Joint Detail 25/A7.01 to the sheet.
F. Added Block Control Joint Detail 26/A7.01 to the sheet.
G. Added Concrete Equipment Pad Detail 27/A7.01 to the sheet.

ITEM NO. 4 SHEET E2.10 – FIRST FLOOR POWER & COMMUNICATIONS PLAN (**REISSUED**)

Refer to the plan for structured communication cabling changes, sump pump relocation and underground conduit removal from plan.

ITEM NO. 5 SHEET ES2.01 – SITE ELECTRICAL PLAN (**REISSUED**)

Refer to plan for changes to the well location and the removal of underground conduit.

SECTION 27 10 00 - STRUCTURED COMMUNICATIONS CABLING SYSTEM
(ADDENDUM 001)

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. General requirements for a premises structured cabling distribution system including labeling, terminating, testing, and as-built and cable plant administration documentation.

B. Related Sections

1. Section 27 05 00: Common Work Results for Communications
2. Section 27 05 26: Grounding and Bonding for Communication Systems

1.3 DEFINITIONS

A. Telecommunications Spaces and Locations

1. ER: Equipment Room (see Telecomm Equipment Room)
2. TEF: Telecomm Entrance Facility – houses the point of connection between outside-plant (private and/or access provider) cabling and inside-building cabling
3. TER: Telecomm Equipment Room – dedicated space that houses top-level telecommunications networking equipment within the facility, may also provide the functions of a TR or TE
4. TR: Telecomm Room – dedicated space that houses sub-level telecommunications cross-connect equipment
5. TE: Telecomm Enclosure – houses telecommunications cross-connect equipment, not within a dedicated space

B. Cross-Connection and Termination Items

1. HC: Horizontal Cross-Connect – patching facilities for horizontal distribution cables, located in a TER, TR, and/or TE
2. MC: Main Cross-Connect – patching facilities for backbone distribution cables, located in a TER

1.4 REFERENCE STANDARDS

A. American National Standard Institute (ANSI).
B. Building Industry Consulting Service International (BICSI).
C. Building Officials and Code Administrators International, Inc. (BOCA).
D. Institute of Electrical and Electronics Engineers, Inc. (IEEE).
E. National Fire Protection Association (NFPA).
F. National Electrical Code (NEC).
G. Telecommunications Industries Association (TIA).
H. Underwriters Laboratories (UL).

1.5 COORDINATION

A. Coordinate all work with job site superintendent and all applicable trades.

1.6 ACTION SUBMITTALS

A. Solution Overview

1. Manufacturer's literature identifying the proposed Cabling System Solution(s) as specified herein and the series of catalog numbers that apply to the specified Solution(s).

B. Product Data

1. Manufacturer's data sheets with descriptive information for all specified system components, including cable, termination equipment, connectors, frames, faceplates, electronics, and other material and connective hardware
2. Each page of literature submitted shall be clearly marked to identify the specific catalog number of proposed material or equipment, particularly for pages that reference multiple catalog numbers.
3. Equipment and materials descriptive literature and drawings shall show the specification paragraph for which the equipment applies. Literature not readily cross-referenced with the drawings or specifications shall be identified by a suitable notation.

C. Submittals shall be complete to receive consideration. Items judged by the Architect/Engineer to be non-conforming with this Specification will be rejected.

1.7 INFORMATIONAL SUBMITTALS

A. Contractor authorization / certification on system manufacturer's letterhead indicating that the installation shall be tested and warranted per the requirements herein. Contractor shall provide proof of manufacturer support by photocopy of certification and letter of support from major component manufacturers for this specific project.

B. Certifications of industry organization and proposed manufacturer's training programs for all Project Managers, Engineers, and Installation Technicians that will be assigned to the project.

1.8 CLOSEOUT SUBMITTALS

A. Contractor shall record and tabulate test results and submit copy of results to Engineer. Results shall be submitted in electronic (PDF) format and in hardcopy format (8.5"x11" paper, bound, indexed, and sorted in ascending order).

B. Contractor shall include all optical fiber loss budgets and loss budget calculations with test results.

C. Certificate of Warranty as may be applicable from the manufacturer prior to project closeout.

D. As-built drawings shall be provided to show equipment locations, cable routing, any changes relative to the bid drawings, and labeling that corresponds with actual installation. Furnish drawings on durable electronic media in the form of:

1. Printable PDF files
2. Editable CAD (AutoCAD or compatible) files. To assist in this documentation, CAD versions of the Bid Drawings shall be obtained from GMB Architecture + Engineering. Refer to Section 01 00 01, "Electronic Model / Drawing File Exchange Agreement". The Contractor shall include costs to obtain these proprietary drawings from GMB Architecture + Engineering in the base bid.

1.9 QUALITY ASSURANCE

A. The Contractor shall accept complete responsibility for the installation, certification, and support of the system.

B. Approval of equipment, features, terminations, methods, etc. proposed as alternates to those called for in the drawings and specifications may be obtained per Section 01 25 00, Substitution Procedures. Consideration of alternate equipment shall be solely at the discretion of the Engineer. No alternates to the drawings and specifications will be accepted except those given prior approval.

C. All work shall be performed and supervised by Project Managers, Engineers and/or Technicians who are qualified to install system and perform related tests as recommended by the manufacturer and in accordance with the manufacturer's best practices and methods.

D. The Contractor shall have a proven track record in voice communications systems configuration and installation.

E. Contractor shall be authorized and certified to supply and install the specified systems per the terms of the manufacturer's warranty agreement.

1.10 WARRANTY

A. Original completed installation shall be free from defect and/or failure for a period of twenty-five (25) years. Any replacement, upgrade, or fix, including labor, for any non-conforming or non-operational part of the system shall be repaired and/or replaced at no cost to the Owner.

B. Manufacturer's warranty shall be provided for all components of the system.

1. Contractor shall be authorized and certified to supply and install the specified systems per the terms of the manufacturer's warranty agreement.
2. Any documentation and/or submittals required by individual manufacturers for compliance with the standard and/or applicable extended warranty programs shall be prepared and submitted for approval by the Contractor.
3. Contractor shall submit all documentation of installation and testing, apply for warranty certification, and provide a Certificate of Warranty as may be applicable from the manufacturer prior to project closeout.

C. On-site services provided under the warranty shall be performed by personnel or representatives of Contractor as herein defined and located within physical proximity to provide response levels deemed acceptable to Owner.

1. Contractor shall provide response times for all malfunctioning equipment of two (2) business days or less.
2. Response time shall be measured from the time Contractor is notified by Owner to the time work is begun to resolve the matter.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SYSTEM SOLUTIONS

A. The following system solutions are Owner's standards and no other systems will be accepted as Base Bid. Proposals for solutions from other manufacturers shall be considered Voluntary Alternates.

B. Copper Systems Solutions

1. Category 6 UTP – (Building data drops)
   a. Belden 3600 System
   b. Berk-Tek Leviton Technologies CX6150 CAT 6 Enhanced UTP (Berk-Tek and Leviton)
   c. Hubbell Premise Wiring NEXTSPEED Category 6 UTP
   d. nCompass CAT 6+ U/UTP (Superior Essex and Legrand/Ortronics)
   e. PanGen 6 Enhanced (General Cable and Panduit Mini-Com)
   f. Siemon System 6
2. Category 6A UTP (10Gbps) – (Cameras, access points and drops in bus parking)
   a. Belden 10GX System
   b. Berk-Tek Leviton Technologies CX6850 CAT 6 Enhanced UTP (Berk-Tek and Leviton)
   c. Hubbell Premise Wiring NEXTSPEED Ascent Category 6A UTP
   d. nCompass CAT 6A+ U/UTP (Superior Essex and Legrand/Ortronics)
   e. PanGen 6A Premium System (General Cable and Panduit Mini-Com)
   f. Siemon Z-MAX 6A UTP

2.2 TELECOMMUNICATIONS SPACES AND LOCATIONS

A. Designated Spaces and Locations (refer to Drawings)

1. TER **Records/Tech A105 (only tech closet for bldg.)**

B. All telecommunications spaces and locations may receive cables from work area outlets within the distance limitations of TIA standards.

C. Data connections shall be linked back to the TER with fiber-optic media. Network data electronics will be installed by Owner in all telecom facilities.

2.3 CABINETS, RACKS, FRAMES, AND ENCLOSURES

A. Floor mounted Enclosed Cabinet

1. **48U**Finish: Powder-coat paint, black color.
2. Adjustable Rails from front to rear
3. Hinged center section for access to rear of cabinet
4. 26” depth, 63” tall
5. UL listed for 400 lbs. load rating
6. Lockable door with acrylic window and vented sides
7. Provide with grounding kit for connection to Telecommunications Grounding System
8. Product: **Panduit, Hoffman, Vertiv, Legrand**
9. Provide with rack bonding conductor (RBC) kit for connection to Telecommunications Bonding and Grounding System; refer to Section 27 05 26.
10. Quantity
    a. TER **Records/Tech a105 MDF**: one

2.4 DATA COPPER HORIZONTAL CABLES

A. Solid copper conductors, 4-pair, plenum rated UTP compliant per TIA TSB-36.

B. Cables shall have singular and independent jacketing and insulation. Hybrid, siamese, and other similar bonded or bundled type cables are not acceptable.

C. Limited-Power (LP) Listing:

D. Jacket Color Identification Scheme

1. Data: white
2. Wireless Access Point: blue
3. Surveillance Camera: purple

2.5 COPPER PATCH PANELS

A. Two (2) rack unit high, 48 port, modular, TIA 19” rack mountable.

B. Each port shall be provided with an identification area marked with the incoming cable number.

C. Provide fully loaded with solution-compliant connectors as specified herein.

D. Application

1. Termination of horizontal copper workstation cables in TRs and TER.
2. Termination voice backbone cables in TRs and TER to allow for cross-connection to horizontal station cables via patch cables.

E. Quantity

1. In each TER, TR, and TE, provide quantity of patch panels sufficient to terminate all horizontal cables as indicated on the Drawings, plus an additional 20% ports for future

terminations. Cables intended for each identified class of use shall be terminated on separate patch panels and factored separately in quantity calculations (in blocks of 24 ports or 1 row on patch panel):

a. Data

b. Wireless Access Point

c. Surveillance Camera

2. In each TER, TR, and TE, provide quantity of patch panels sufficient to terminate all voice backbone cables (2 pairs per port) as indicated herein. Patch panel(s) shall be separate from the other patch panels outlined above.

2.6 WORK AREA OUTLET FACEPLATES, FRAMES, AND SURFACE BOXES

A. Flush-Mount Outlet Faceplates

1. Stainless steel, screw-mount outlet faceplate designed to accept termination modules

a. Single gang size, 4 or 6 port capacity as required by design and/or details on Drawings

b. Double gang size, 8 or 12 port capacity as required by design and/or details on Drawings

2. Integral port identification labels

B. Outlet Frames (use only where not possible to install a full gang-size faceplate)

1. Plastic, screw-mount outlet frame designed to accept termination modules, compatible with standard NEMA outlet boxes and rectangular decorator-style faceplates

2. Faceplate for surface raceways shall be provided by the Electrical Contractor, unless otherwise stated or assigned. This contract shall provide the appropriate outlet frames, connectors, and blanks.

C. Floor Boxes: Refer to Section 26 05 33.16 for floor box specification. Provide faceplates and frames compatible with the specified floor boxes where indicated.

D. Wall Phone Jacks:

1. Stainless steel, designed to accept a single RJ45 connector module

2. Standard spaced studs for wall phone mounting

3. Submit sample before installation to verify compatibility with Owner supplied handsets.

E. Surface-Mount Boxes

1. Plastic enclosure designed to accept a minimum of two termination modules

2. Provide where indicated by details on Drawings, where station cable is terminated above accessible suspended ceilings, or where box is attached to cable tray.

3. Color shall be chosen from manufacturer’s standard options; verify with Architect prior to preparation of submittals.

2.7 WORK AREA OUTLET CONNECTORS

A. RJ-45

1. Eight position, eight wire, keystone snap-in module with Insulation Displacement Connection (IDC) type termination, solution-compliant, terminated per T568B standard.

2. Identification Color Scheme

a. Data: white

b. Wireless Access Point: blue

c. Surveillance Camera: purple

2.8 PATCH CORDS AND STATION CORDS

A. Copper Patch Cords:

1. Factory manufactured, 4-pair insulated stranded conductors, UTP, solution-compliant per TIA TSB-36, plenum rated jacket, terminated per T568B standard.
2. Shall be provided to connect all installed work area outlet cables at the patch panel and station end.
3. Identification Color Scheme
   a. Data: white
   b. Wireless Access Point: blue
   c. Surveillance Camera: purple
4. Quantities shall be relative to the installed work area outlet cables and are reflective of requirements for the outlet end and patch panel (MC and/or HC) end.
   a. Data
      1) Patch panel (MC and/or HC) end: 1’ for 33%, 2’ for 34%, and 3’ for 33% of installed cables
      2) Outlet end: 10’ for 33% and 14’ for 33% of installed cables
   b. Wireless Access Point
      1) Patch panel (MC and/or HC) end: 1’ for 33%, 2’ for 34%, and 3’ for 33% of installed cables
      2) Outlet end: 20’ for 100% of installed cables
   c. Surveillance Camera
      1) Patch panel (MC and/or HC) end: 1’ for 33%, 2’ for 34%, and 3’ for 33% of installed cables
      2) Outlet end: 20’ for 100% of installed cables
   d. Local Video Interconnect
      1) Input location end: 20’ for 100% of installed cables
      2) Display device end: 5’ for 75% and 7’ for 25% of installed cables

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers recommendations and applicable codes and standards.

B. Refer to Section 27 05 00, “Common Work Results for Communications” for cable service loop and supporting requirements.

C. All equipment shall be securely fastened in place, including securing of racks to floor with proper expansion bolt hardware.

D. Securely fasten innnerducts and/or cable armors to termination equipment.

E. Bond all metallic cable armors to a suitable grounding system per NEC requirements.

F. Identify all installed cables at each termination point, on patch panels, and at each outlet location.

1. Where cables pass through more than one room (such as with data, voice, etc.), all cable identifiers shall be unique with respect to the entire building.
2. Where cables are used for local interconnect and do not pass through more than one room (identified as local audio/video, controls, etc.), all cable identifiers shall be clearly and concisely labeled with respect to the signal source and destination, and with a consecutive

alpha-numeric designation as used within the room. It shall be clear for untrained end users to understand the function and destination of each connection being made.

3. Contractor shall collaborate with Owner and Architect/Engineer to propose and formalize a labeling convention prior to submittal approval and start of construction.
4. Labeling shall be per Section 27 05 00, part 3.2.

G. Labeling shall be smear-resistant, machine-imprinted polyester or similar material to identify each port of all patch panels (optical fiber and copper), cables, and work area outlets in compliance with TIA 606 standards or Owner required scheme. Labels shall be permanently affixed to patch panels. Handwritten labels are not acceptable.

H. In the event of discrepancy, immediately notify the Architect/ Engineer. Do not proceed with the installation in areas of discrepancies until all such discrepancies have been fully resolved.

3.2 FIELD QUALITY CONTROL

A. All installed cabling and patch cables shall be certified to meet the requirements of the applicable standards. Any out of specification condition shall be remedied at no cost to the Owner at any time during the term of the Warranty.

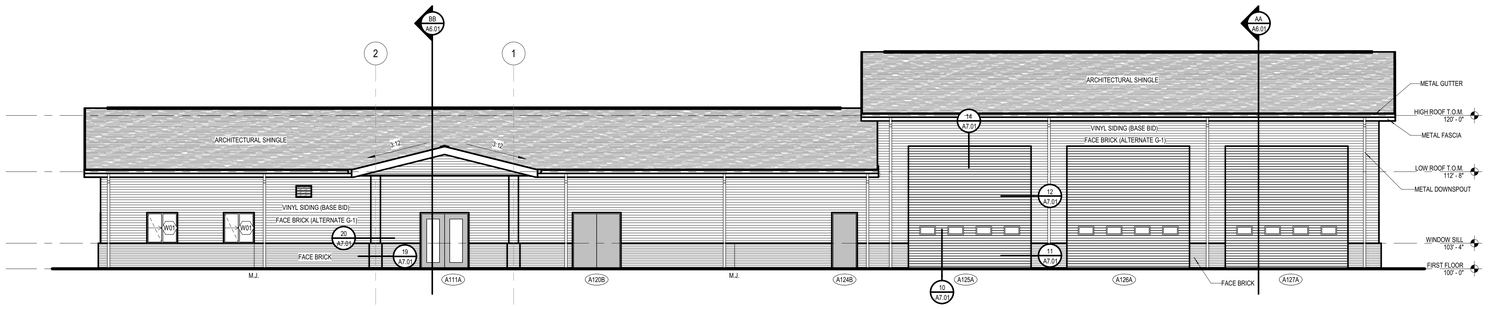
B. Field Tests and Inspections

1. Copper Twisted Pair Tests
   a. Test shall be performed with calibrated equipment certified to comply with standard. Include copy of calibration certification for each tester used.
   b. Complete cable test results for each jack location after terminations are complete. Contractor shall test for opens, shorts, crosses, splits, and reversed polarity.
   c. Permanent link test results including all parameters listed for the specified solution in applicable TIA TSB-67 standards. Test results shall include, but not limited to the following parameters:
      1) Attenuation.
      2) Near End Cross Talk (NEXT)
      3) PSACR
      4) Signal to noise ratio
      5) Continuity
      6) Pair integrity
      7) EMI interference
      8) Cable length
      9) Successful sustained transmission of 10Gb/s data bandwidth without errors or packet loss
   d. Contractor shall guarantee 100 percent good pairs on all cables and shall perform all necessary repairs, adjustments, repair, or replacement of faulty and/or damaged cables or components at no additional cost to the Owner.
2. Optical Fiber Tests
   a. Perform testing per TIA 526-14 Method B (*Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant*), bi-directionally. Tests shall be at 850nm and 1310nm for multimode and at 1310nm and 1550nm for singlemode.
      1) OTDR signature traces, showing a complete graphic representation of the cable as well as associated losses
      2) End-to-end insertion loss
      3) Cable length

b. An optical fiber loss budget shall be computed using manufacturer's advertised loss for cable, connectors, and all other components. No result of any strand shall be higher than the computed loss budget.

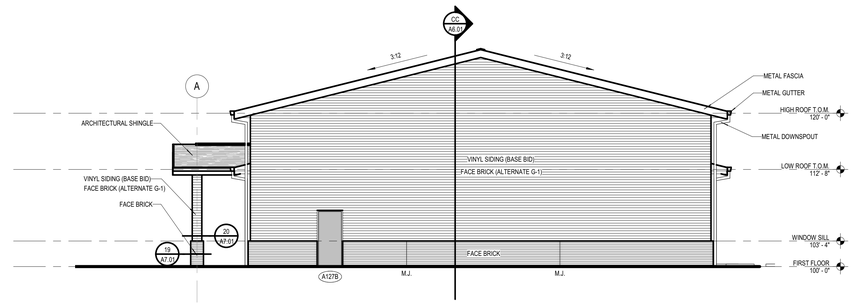
c. Contractor shall guarantee 100 percent good strands on all cables and shall perform all necessary repairs, adjustments, repair, or replacement of faulty and/or damaged cables or components at no additional cost to the Owner.

END OF SECTION



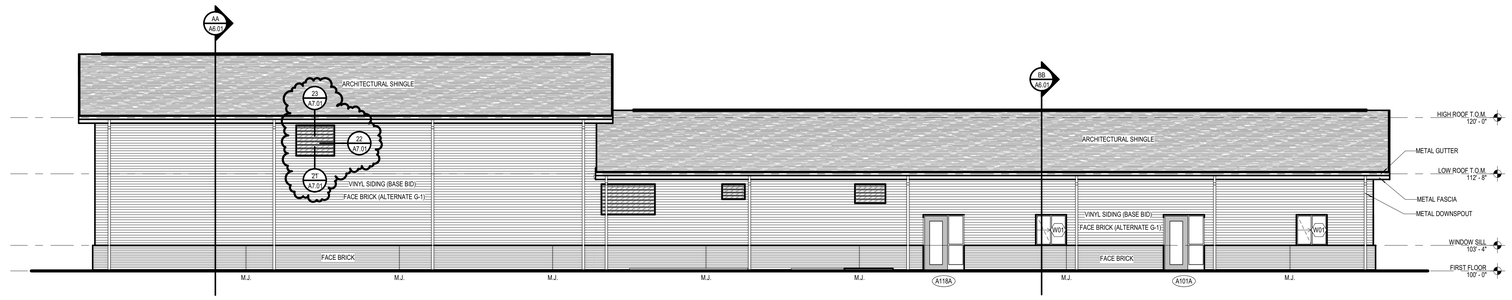
4 A4.01 WEST EXTERIOR ELEVATION

1/8" = 1'-0"



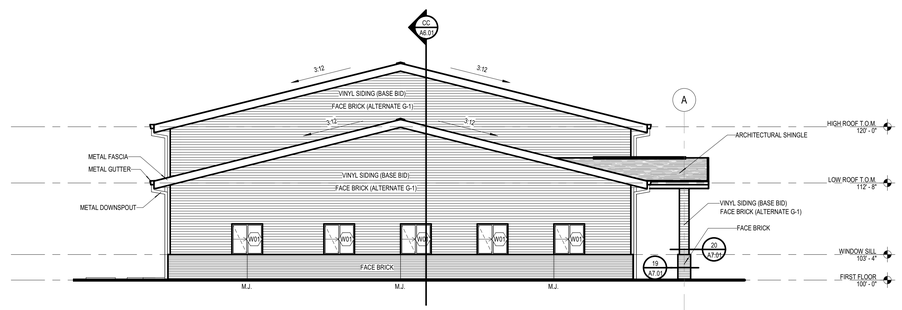
3 A4.01 SOUTH EXTERIOR ELEVATION

1/8" = 1'-0"



2 A4.01 EAST EXTERIOR ELEVATION

1/8" = 1'-0"



1 A4.01 NORTH EXTERIOR ELEVATION

1/8" = 1'-0"

GMB
616.796.0200
WWW.GMB.COM

NEW TRANSPORTATION FACILITY

THREE RIVERS COMMUNITY SCHOOLS

THREE RIVERS, MICHIGAN

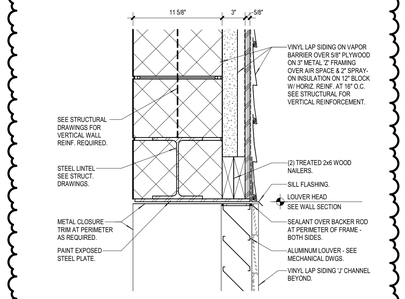
ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.10.2022	ADDENDUM 001

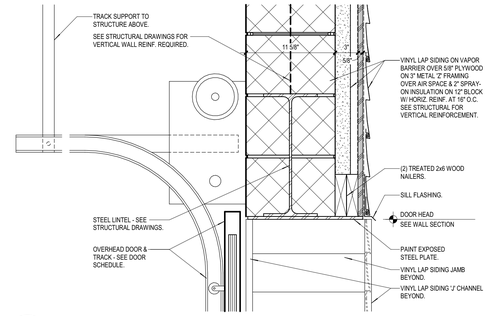
DRAWN	BSE
REVIEWED	CMA
PROJECT NO.	5-5138

EXTERIOR ELEVATIONS

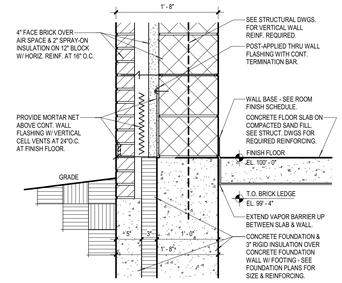
A4.01



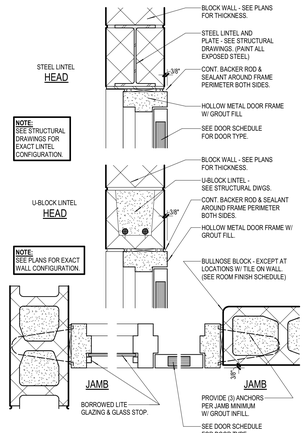
23 A7.01 ALUMINUM LOUVER HEAD DETAIL
1 1/2" = 1'-0"



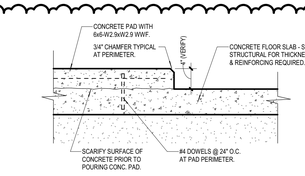
14 A7.01 OVERHEAD DOOR HEAD DETAIL
1 1/2" = 1'-0"



9 A7.01 BASE OF WALL DETAIL
1" = 1'-0"

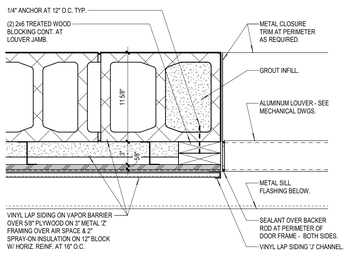


4 A7.01 HOLLOW METAL DOOR DETAIL
1 1/2" = 1'-0"

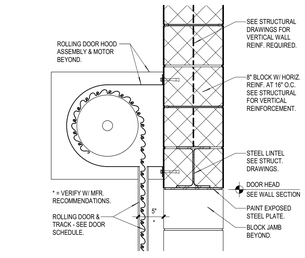


FLOOR SLAB ON GRADE EQUIPMENT PAD

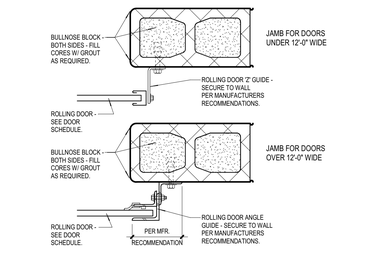
27 A7.01 CONCRETE EQUIPMENT PAD DETAIL
1" = 1'-0"



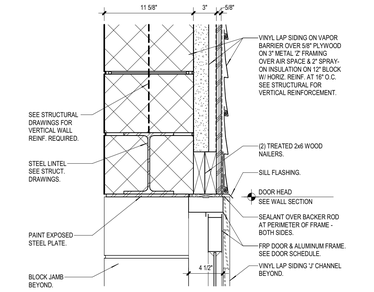
22 A7.01 ALUMINUM LOUVER JAMB DETAIL
1 1/2" = 1'-0"



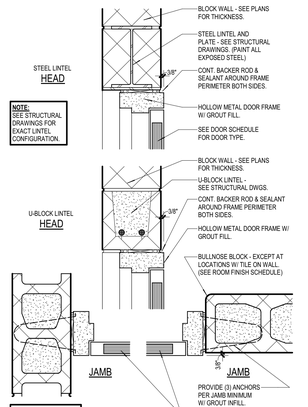
18 A7.01 ROLLING DOOR HEAD DETAIL
1" = 1'-0"



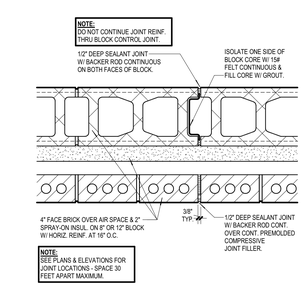
13 A7.01 ROLLING DOOR JAMB DETAIL
1 1/2" = 1'-0"



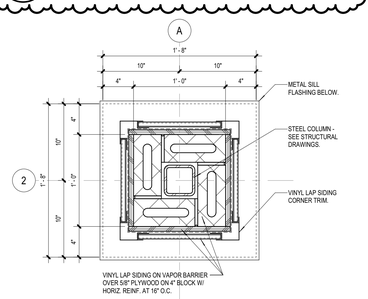
8 A7.01 FRP DOOR HEAD DETAIL
1 1/2" = 1'-0"



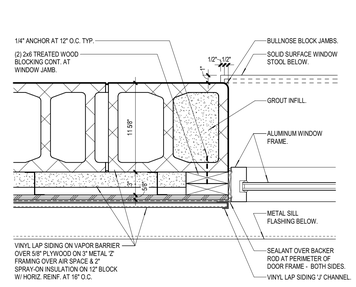
3 A7.01 HOLLOW METAL DOOR DETAIL
1 1/2" = 1'-0"



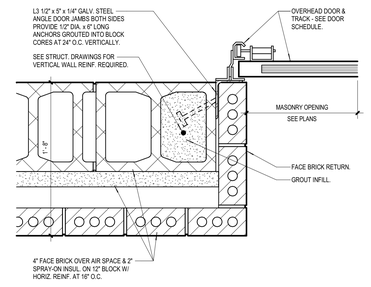
25 A7.01 MASONRY CONTROL JOINT DETAIL
1 1/2" = 1'-0"



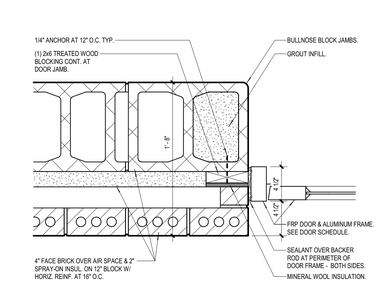
20 A7.01 CANOPY COLUMN PLAN DETAIL
1 1/2" = 1'-0"



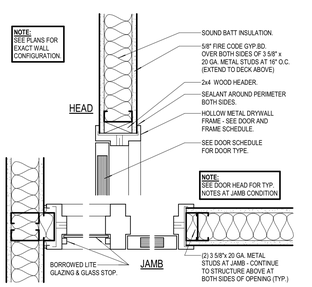
16 A7.01 ALUMINUM WINDOW JAMB DETAIL
1 1/2" = 1'-0"



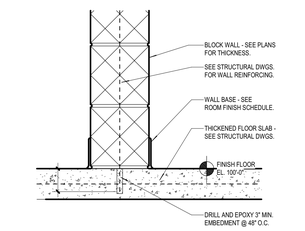
11 A7.01 OVERHEAD DOOR JAMB DETAIL
1 1/2" = 1'-0"



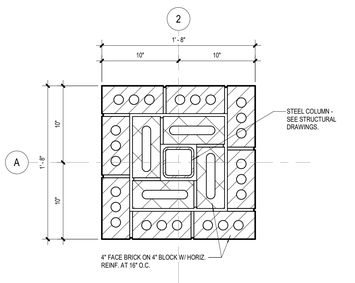
6 A7.01 FRP DOOR JAMB DETAIL
1 1/2" = 1'-0"



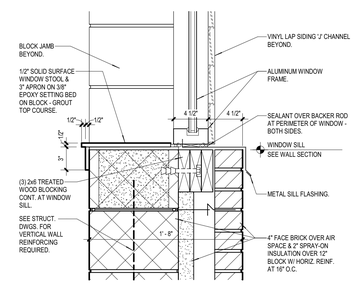
2 A7.01 HOLLOW METAL DOOR DETAIL
1 1/2" = 1'-0"



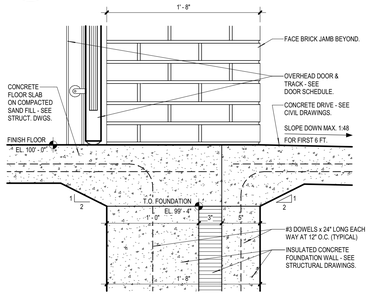
24 A7.01 CMU BASE OF WALL DETAIL
1 1/2" = 1'-0"



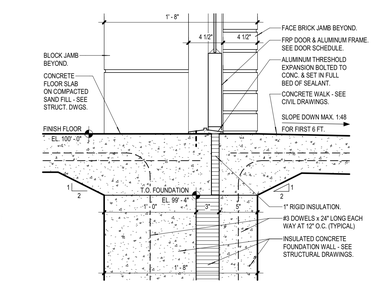
19 A7.01 CANOPY COLUMN PLAN DETAIL
1 1/2" = 1'-0"



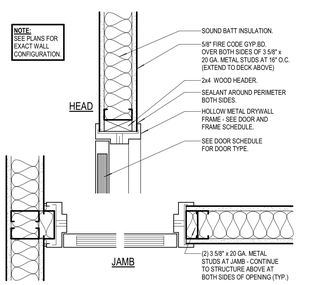
15 A7.01 ALUMINUM WINDOW SILL DETAIL
1 1/2" = 1'-0"



10 A7.01 OVERHEAD DOOR SILL DETAIL
1 1/2" = 1'-0"



5 A7.01 FRP DOOR SILL DETAIL
1 1/2" = 1'-0"



1 A7.01 HOLLOW METAL DOOR DETAIL
1 1/2" = 1'-0"

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NEW TRANSPORTATION FACILITY

THREE RIVERS COMMUNITY SCHOOLS

THREE RIVERS, MICHIGAN

ISSUANCES	
10.13.2022	BIDS & CONSTRUCTION
11.10.2022	ADDENDUM 001

DRAWN	BSE
REVIEWED	CMA
PROJECT NO.	5-5138

DETAILS

A7.01

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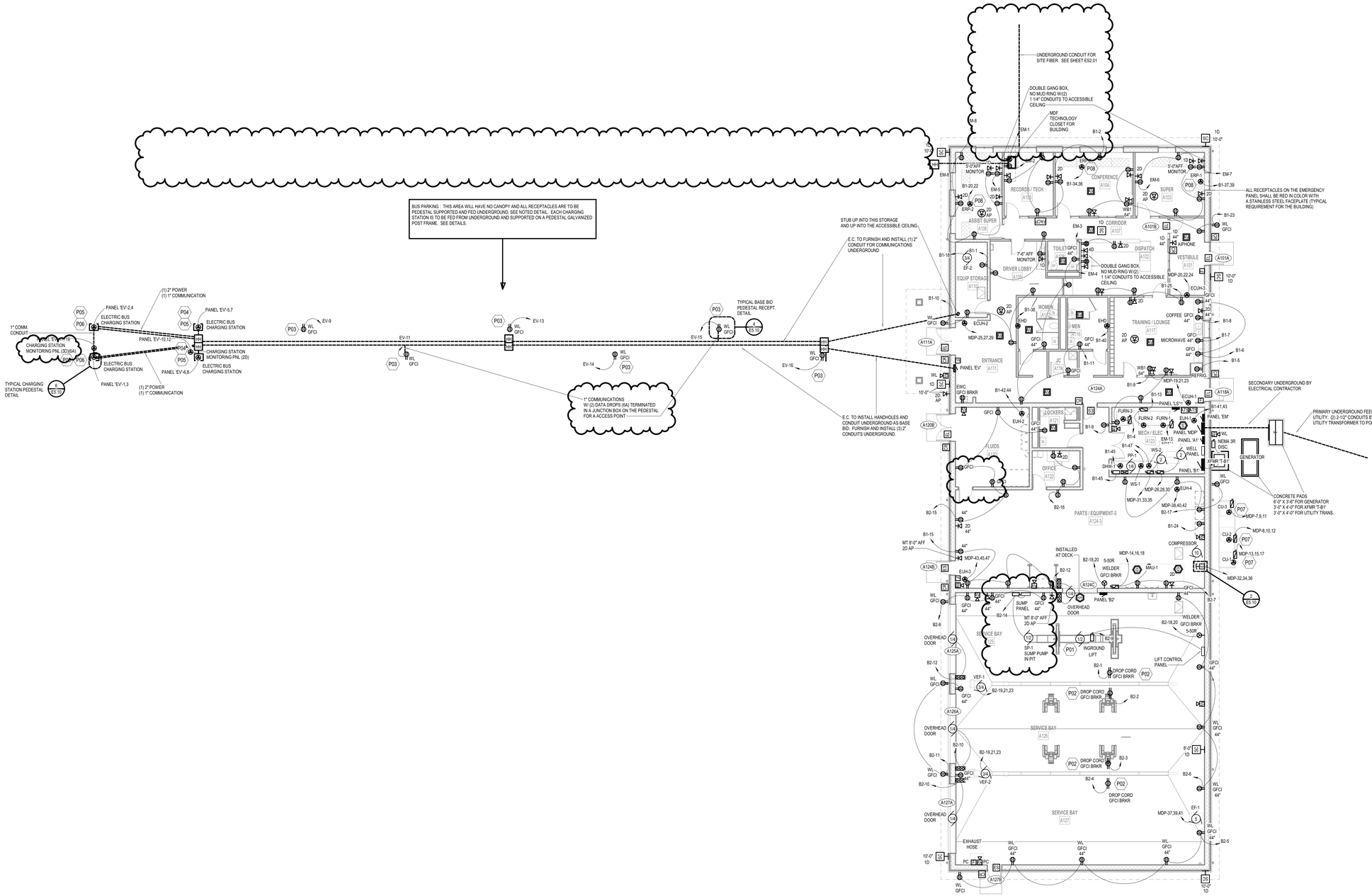

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. ALL 15- AND 20-AMPERE, 125- AND 250-VOLT NON-LOCKING RECEPTACLES SHALL BE TAMPER-RESISTANT TYPE; REFER TO NEC 406.12 AND SPECIFICATION SECTION 26 27 26.
4. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. [REFER TO MECHANICAL/HVAC DRAWINGS FOR LOCATIONS AND QUANTITIES OF DAMPERS.]
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT (WITH BREAKER LOCK-ON ACCESSORY) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT).
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT(S) PER CODE REQUIREMENTS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
6. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS DIV. 23 CONTROLS, DIV. 26 CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING SHALL BE SUPPORTED AND SLEEVED BY OTHER INDEPENDENT PATHWAYS, HANGERS, AND SUPPORTS.

ELECTRICAL KEYNOTES

P01	ALL CONDUIT ASSOCIATED WITH THE UNDERGROUND LIFT SHALL BE EXPLOSION PROOF.
P02	CONTRACTOR SHALL INCLUDE IN THEIR BID A METAL STRUT STRUCTURAL SUPPORT FROM THE GARAGE CEILING DOWN TO 7'-0" AFF FOR EACH DROP CORD. MOUNT THE DROP ON THE BOTTOM OF THE STRUT WITH A 25'-0" LONG CORD REEL.
P03	BUS PARKING AREA PEDESTAL RECEPTACLE FED FROM UNDERGROUND WITH A HEIGHT OF 4'-0". SEE DETAIL 4/E5.10.
P07	NEMA 3R DISCONNECT
P08	E.C. TO INSTALL (5) ELECTRIC HEAT CEILING PANELS ON (1) 20A/208V/1PH CKT.

NORTH

FIRST FLOOR POWER & COMMUNICATIONS PLAN

1" = 10'-0"

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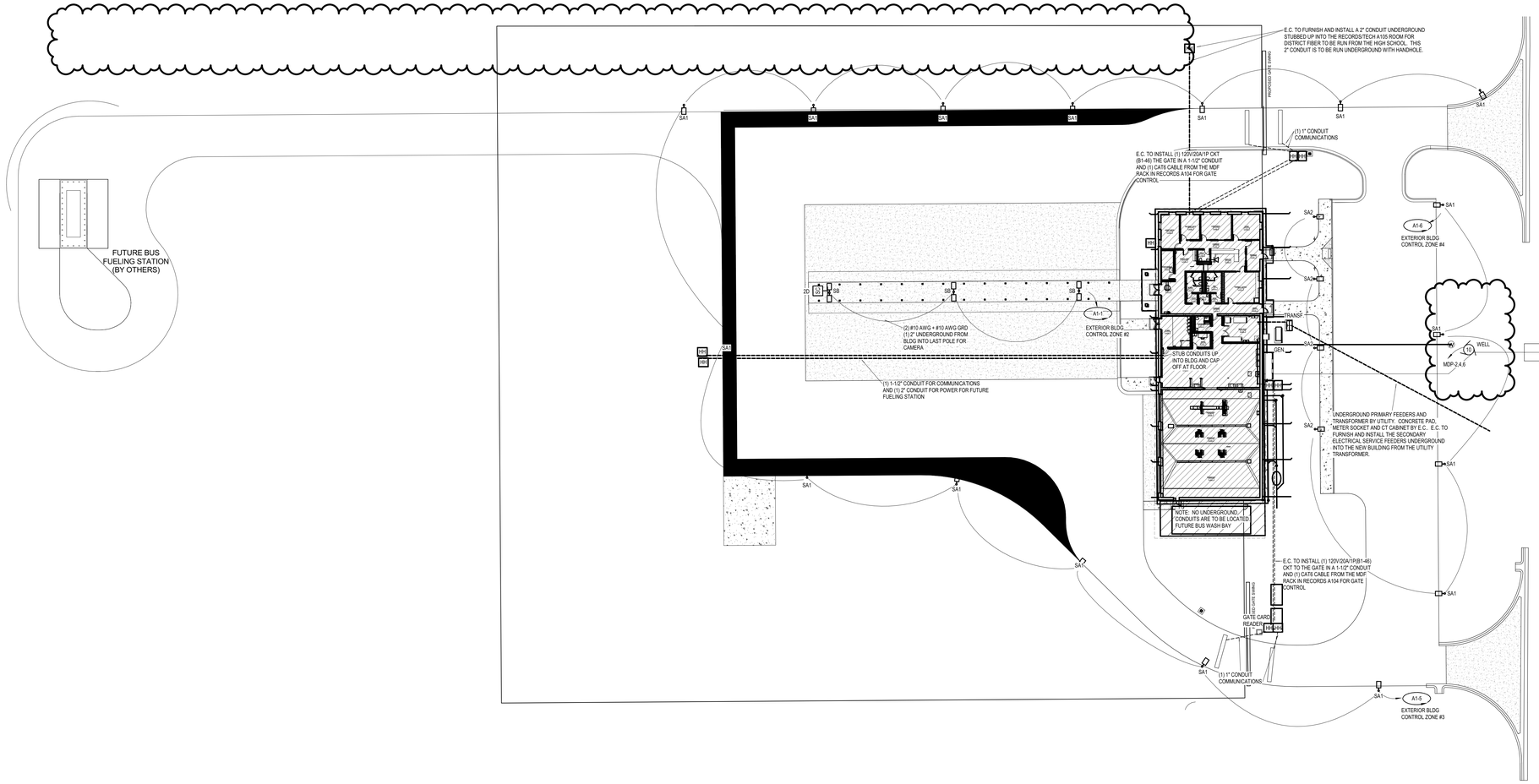
FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.10



SITE ELECTRICAL PLAN

1" = 30'-0"

ELECTRICAL SITE GENERAL NOTES

1. REFER TO SITE/CIVIL PLANS FOR ADDITIONAL INFORMATION.
2. LOCATIONS SHOWN FOR EXISTING UTILITIES (IF ANY) ARE APPROXIMATE AND DERIVED FROM GENERAL OBSERVATION AND/OR AVAILABLE RECORDS. THIS PLAN SHALL NOT BE INTERPRETED AS SHOWING EXACT LOCATIONS OR SHOWING ALL UTILITIES IN THE AREA.
3. CONTRACTOR SHALL FIELD-VERIFY LOCATIONS, SIZES, AND TYPES OF ALL EXISTING UNDERGROUND UTILITIES, CONDUITS, AND CABLES PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES TO IDENTIFY PUBLIC UTILITIES. VERIFY ALL PRIVATE UTILITIES WITH OWNER RECORDS AND MAINTENANCE PERSONNEL.
4. PROTECT THE SITE, ADJACENT PROPERTY, AND UTILITY SERVICES FROM DAMAGE OR DISRUPTION OF SERVICE/ACCESS. DAMAGE TO EXISTING STRUCTURES, SITE, OR UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. ALL UNDERGROUND CONDUIT SHALL BE RIGID NONMETALLIC (RNC) TYPE. ALL UNDERGROUND BENDS/ELBOWS SHALL BE GALVANIZED RIGID METALLIC (RMC) TYPE, PROTECTED FROM CORROSION PER CONDUIT SPECIFICATION REQUIREMENTS.
6. INSTALL DETECTABLE UNDERGROUND WARNING TAPE ABOVE ALL UNDERGROUND CONDUITS AND CABLES, COLOR PER APWA UNIFORM COLOR CODE (RED FOR ELECTRIC POWER/LIGHTING, ORANGE FOR COMMUNICATIONS/ALARM/SIGNAL). REFER TO SPECIFICATIONS.
7. ALL EXISTING TREES TO REMAIN SHALL BE CAREFULLY PROTECTED. DO NOT DRIVE HEAVY EQUIPMENT WITHIN 12 FEET OF TREE TRUNKS. BRANCHES WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE CUT OUT AS DIRECTED BY THE ARCHITECT/ENGINEER. ANY ROOTS OF EXISTING TREES TO REMAIN WHICH ARE EXPOSED DUE TO DEMOLITION SHALL BE COVERED WITHIN 6 HOURS WITH SOIL. DAMAGED TREES SHALL BE REPLACED AT THE DISCRETION OF THE ARCHITECT/ENGINEER AT THE EXPENSE OF THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.
8. PATCH AND REPAIR GRASS AND/OR OTHER IMPROVED PLANTINGS AS REQUIRED WHERE NEW UNDERGROUND CONDUITS, CABLES, AND/OR DUCTBANKS ARE INSTALLED. CONTRACTOR SHALL BACKFILL TRENCHES, LEVEL OUT SOIL, FLUSH WITH GRADE, AND REMOVE ANY EXCESS MATERIAL PRIOR TO SEEDING REPAIR.
9. CONTRACTOR SHALL BE RESPONSIBLE TO PATCH AND REPAIR ANY EXISTING SURFACE FINISHES AND OTHER ITEMS THAT ARE DISTURBED DURING THE COURSE OF DEMOLITION AND CONSTRUCTION, INCLUDING GRASS, CONCRETE, ASPHALT, LANDSCAPING, FENCING, STRUCTURES, IRRIGATION, UNDERGROUND UTILITIES, ETC.

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SITE ELECTRICAL PLAN

ES2.01

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