ADDENDUM NO. 2

Date: November 23, 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 Pages ADD 2-1 through ADD 2-5, Reissued Section 00 31 00 Bid Form, RFI Log, Pre-Award Schedule, and GMB Architecture and Engineering Addendum No. 2 dated November 22, 2022, consisting of 17 pages, Reissued Specification Section 23 54 16.13 Gas-Fired Furnaces, and Reissued Drawings: G0.00, C2.01, C4.01, C4.10, A9.10, E2.10, E4.01, E5.01, E5.10, ES2.01.

A. SPECIFCATION SECTION 00 31 00 BID FORM (RE-ISSUED)

Reissued bid form to include Alternate No. 3 "Furnish and Install the Fire Alarm System".

B. SPECIFICATION SECTION 01 12 00 – MULTIPLE CONTRACT SUMMARY

1. Paragraph 3.03 Bid Categories

A. BID CATEGORY NO. 1 – SITEWORK

1. Add the following clarifications:

Clarification No. 5
Bid Category No. 1 - Sitework is to provide Galvanized Chain link Fencing. Contractor is to exclude provisions in Specification Section 32 31 14 "Galvanized

Chain link Fencing" which call for barb wire as applied to gate in section 2.5 and the fence as found in section 2.6.A.5 and 2.6.A.6. No barbwire shall be provided.

Clarification No. 6
Bid Category No. 1 – Sitework is to include removal of all spoils from site. Location identified on C2.01 as "Proposed Area to Stockpile Extra Soil" is intended as communication and potential of temporary storage location for coordination only. All Spoils are to be removed from site.

Clarification No. 7
Bid Category No. 1 - Sitework and **Bid Category No. 3 – Concrete** Contractors shall exclude any work associated with the "Proposed Outdoor Trailer Storage" Pad as shown on sheet C2.01. This is not part of the project scope.

Clarification No. 8
Bid Category No. 1 – Sitework to Provide Domestic Water Service to within 5' of final penetration into the building. **Bid Category No. 8 – Mechanical** to provide connection at this point and tie in for systems entering the building.

Clarification No. 9
Bid Category No. 8 – Mechanical to provide all GSAN and Sanitary Piping at exterior of building including Oil Separator, Excavation, and associated Concrete Pad as shown on sheet P2.10 and detailed in 1/P7.01 to clean out/Wye tie in at 6" Sanitary. **Bid Category No. 1 – Sitework** to provide connection point for 6" Sanitary and continue through Sanitary Tank A, Sanitary Tank B, and Sanitary Drain field as detailed.

C. BID CATEGORY NO. 3 – CONCRETE

2. Add the following clarifications:

Clarification No. 9
Bid Category No. 1 – Sitework and **Bid Category No. 3 – Concrete** Contractors shall exclude any work associated with the "Proposed Outdoor Trailer Storage" Pad as shown on sheet C2.01. This is not part of the project scope.

Clarification No. 10
Bid Category No. 3 – Concrete is to Provide all Concrete Equipment Pads as shown on Plans. **Bid Category No. 8 – Mechanical** and **Bid Category No. 9 Electrical and Low – Voltage** are to provide all concrete equipment pads required for installation that are not indicated on plans.

Clarification No. 11
Bid Category No. 3 – Concrete is to Provide Utility Pad associated with Oil Dirt Separator at Grade as detailed in 1/P7.01. Pad shall be figured as 8" Thick 5'-6" Wide and 10' Long. **Bid Category No. 8 – Mechanical** is to provide equipment

pad below grade that the oil separator sits on.

D. BID CATEGORY NO. 4 – MASONRY

3. Add the following clarification:

Clarification No. 4
Bid Category No. 4 Masonry is to Provide all Masonry and Spray Applied Insulation for Masonry Wall Assembly. **Bid No. 5 – General Trades** is to provide metal "Z" Framing, 5/8" Plywood, Vapor Barrier, and Vinyl Lap Siding. **Bid Category No. 5 – General Trades** is to install all 3" Z Framing prior to **Bid Category No. 4 – Masonry** applying spray-on insulation.

E. BID CATEGORY NO. 5 – GENERAL TRADES

4. Add the following clarifications:

Clarification No. 8
Bid Category No. 4 Masonry is to Provide all Masonry and Spray Applied Insulation for Masonry Wall Assembly. **Bid No. 5 – General Trades** is to provide metal "Z" Framing, 5/8" Plywood, Vapor Barrier, and Vinyl Lap Siding. **Bid Category No. 5 – General Trades** is to install all 3" Z Framing prior to **Bid Category No. 4 – Masonry.**

Clarification No. 9
Bid Category No. 5 – General Trades is to Provide all Steel Lintels.

Clarification No. 10
Bid Category No. 5 – General Trades is to furnish 4"X4"X1/4" Tube Steel Columns as detailed in 4/E5.10 and 6/E5.10. Tube Steel shall be Hot-Dip Galvanized in addition to identified prime and two coats of epoxy paint. **Bid Category No. 9 – Electrical and Low Voltage** is to install all tube steel and is responsible to Provide all other components for installation as detailed. See Plan E2.10 for locations.

G. BID CATEGORY NO. 7 – PAINTING

5. Add the following clarification:

Clarification No. 1
Bid Category No. 7 – Painting is to provide paint at all exposed lintels.

H. BID CATEGORY NO. 8 – MECHANICAL

6. Add the following clarifications:

Clarification No. 5
Bid Category No. 1 – Sitework to Provide Domestic Water Service to within 5' of final penetration into the building. **Bid Category No. 8 – Mechanical** to provide connection at this point and tie in for systems entering the building.

Clarification No. 6
Bid Category No. 8 – Mechanical to provide all GSAN and Sanitary Piping at exterior of building including Oil Separator, Excavation, and associated Concrete Pad as shown on sheet P2.10 and detailed in 1/P7.01 to clean out/Wye tie in at 6" Sanitary. **Bid Category No. 1 – Sitework** to provide connection point for 6" Sanitary and continue through Sanitary Tank A, Sanitary Tank B, and Sanitary Drain field as detailed.

Clarification No. 7
Bid Category No. 3 – Concrete is to Provide all Concrete Equipment Pads as shown on Plans. **Bid Category No. 8 – Mechanical** and **Bid Category No. 9 Electrical and Low – Voltage** are to provide all concrete equipment pads required for installation that are not indicated on plans

Clarification No. 8
Bid Category No. 3 – Concrete is to Provide Utility Pad associated with Oil Dirt Separator at Grade as detailed in 1/P7.01. Pad shall be figured as 8" Thick 5'-6" Wide and 10' Long. **Bid Category No. 8 – Mechanical** is to provide equipment pad below grade that the oil separator sits on.

Clarification No. 9
Bid Category No. 8 – Mechanical is to provide all gas piping after the meter. Utility will provide meter and connection to existing adjacent utility.

I. BID CATEGORY NO. 9 – ELECTRICAL AND LOW-VOLTAGE

7. Add the following clarifications:

Clarification No. 6
Bid Category No. 3 – Concrete is to Provide all Concrete Equipment Pads as shown on Plans. **Bid Category No. 8 – Mechanical** and **Bid Category No. 9 Electrical and Low – Voltage** are to provide all concrete equipment pads required for installation that are not indicated on plans.

Clarification No. 7
Bid Category No. 5 – General Trades is to furnish 4"X4"X1/4" Tube Steel Columns as detailed in 4/E5.10 and 6/E5.10. Tube Steel shall be Hot-Dip

Galvanized in addition to identified prime and two coats of epoxy paint. **Bid Category No. 9 – Electrical and Low Voltage** is to Install all tube steel and is responsible to Provide all other components for installation as detailed. See Plan E2.10 for locations.

C. SPECIFCIATION SECTION 01 23 00 ALTERNATES

1. Paragraph 1.04 Schedule of Alternates

A. ADD THE FOLLOWING ALTERNATE:

Alternate No. 3 – Furnish and Install Fire Alarm System.

Amended for TRCS

CONTRACTOR'S BID FOR PUBLIC WORKS

New Transportation Facility

Three Rivers Community Schools

St. Joseph County

PART I

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

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 materials necessary to complete the construction work for:

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

of public works project, **New Transportation Facility** in accordance with Plans and Specifications prepared by **GMB Architecture + Engineering, 85 E. 8th Street, Suite 200, Holland, MI 49423**, 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 must attach to this bid, the sworn and notarized affidavit (attached at the end of this Bid Form) disclosing any familial relationship between the Owner or an employee of the bidder and any member of the District's Board or the Superintendent of the District.

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

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 – Provide Face Brick Veneer for the Entire Building Façade.

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

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

Alternate Bid No. 2 – Provide Emergency Back-Up Generator.

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

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

Alternate Bid No. 3 – Furnish and Install Fire Alarm.

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

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

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 sale.

OATH AND AFFIRMATION

I affirm under the penalties of perjury that the foregoing facts and information are true and correct to the best of my knowledge and belief.

Dated at _____this _____ day of _____, 20___.

_____
(Name of Organization)

By _____
(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF_____)
) SS:
COUNTY OF _____)

_____ being duly sworn, deposes and says that

he is _____of the above _____
(Title) (Name of Organization)

and that the statements contained in the foregoing Bid, certification and Affidavit are true and correct.

Subscribed and sworn to before me this _____ day of _____ , 20 ___ .

_____
Notary Public

My Commission Expires:_____

County of Residence: _____

PART II

(Complete sections I, II, and III for all state and local public works projects)

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?

Contract Amount	Class of Work	When Completed	Name and Address of Owner

2. What public works projects has your organization now in process of construction:

Contract Amount	Class of Work	When Completed	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.

2. If you intend to sublet any portion of the Work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you expect to require a bond.

3. What equipment do you intend to use for the proposed Project?

4. Have you made contracts or received offers for all materials within prices used in preparing your proposal? _____ yes _____ no.

SECTION III 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 to the best of my knowledge and belief.

IN TESTIMONY WHEREOF, The Bidder has hereunto set his hand this

_____ day of _____ , 20 _____ .

Bidder:_____

IN TESTIMONY WHEREOF, The Bidder (a firm) have hereunto set their hands this

_____ day of _____, 20_____.

Firm Name: _____

By:_____

Individual names:_____

IN TESTIMONY WHEREOF, The Bidder (a corporation) has caused this proposal to be signed by its President and Secretary and affixed its corporate seal this_____ day of _____ , 20 _____.
Name of Corporation:

President: _____
Secretary:_____

ACKNOWLEDGEMENT

STATE OF_____)
) SS:
COUNTY OF_____)

_____ being duly sworn, deposes and says that

he is _____ of the above _____
(Title) (Name of Organization)

and that the answers to the questions in the foregoing questionnaires and all statements therein contained are true and correct.

Subscribed and sworn to before me this_____ day of _____, 20 ___.

_____
Notary Public

My Commission Expires: _____
County of Residence: _____

AFFIDAVIT OF BIDDER - FAMILIAL DISCLOSURE

The undersigned, the Owner or authorized officer of _____ (the 'Bidder'), pursuant to the familial disclosure requirement provided in the _____ (the 'School District') advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the Owner(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

_____

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 20__, by _____.

_____
, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT
Michigan Public Act No. 517 of 2012

The undersigned, the owner, or authorized officer of the below-named company (the "Company"), pursuant to the compliance certification requirement provided in the **Three Rivers Community School's** Request For Proposal (the "RFP"), hereby certifies, represents, and warrants that the Company (which includes its officers, directors and employees) is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event the Company is awarded a contract by the **Three Rivers Community Schools** as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the **Three Rivers Community School's** investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date that it is determined that the person has submitted the false certification.

BIDDER:

_____

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 20__, by _____.

_____
, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

END OF SECTION 00 31 00

TRCS-New Transportation Facility RFI Log 11.19

RFI #	Company Submitting RFI	Date Submitted	Date Responded	RFI Description	RFI Response
1	Rieth-Riley	11/16/2022	11/22/2022	On Page C8.01 of the drawings Section Lists 4E3 13A for wearing and 3E3 13A for Leveling. Please specify what mixes you want for each course. Recommended 3E3 Leveling and 4E3 for wearing, recommend 2" minimum thickness for 13A due to larger aggregates.	Use 3E3 for leveling and 4E3 for wearing
2	Jergens	11/17/2022	11/22/2022	Please clarify if the (Grease, Oil Suction, Oil 2, Oil and Other) Piping is part of the mechanical/plumbing package. What materials are used for each system? Are the Tanks/Pumps Owner Provided, would we be responsible for the final connection to each piece of equipment	1. Air, Grese, Oil Suction , OIl2, Oil and Other is down wall and stopped at valve. Anything below valves is supplied and installed by others (See Detail 7 on sheet P7.01) 2. Grease, Oil Suction, OIl2, Oil, and Other Piping. Please use spec. 22 15 00 General - Service Compressed-Air Systems and 22 15 13 General - Service Compressed - Air Piping 3. Final Connection to each piece of equipment is by others.
3	Gibson Lewis	11/17/2022	11/22/2022	The Scope for Bid Package #6 Metal Studs and Drywall calls out the batt and blown batt. Is the 2" spray applied insulation at exterior walls part of bid category no. 5?	See Addendum No. 2 and Clarifications. Masonry is to Provide Spray On Insulation as applied to Masonry Bearing Walls.
4	Lounsbury	11/18/2022	11/22/2022	Sheet C4.01 Utility Plan sheet shows two Sanitary tanks, A and B. However, there are no details for these tanks. Please provide detail drawings for these tanks.	See Reissued Sheet 4.10 for details
5	Lounsbury	11/18/2022	11/22/2022	Sheet C 8.02 detail 6 show underdrain and also called out in asphalt cross section detail. But this is not called out where to place the underdrain on the drawings. The geo report calls for around the perimeter of the asphalt and around the outer foundation of the building as a perimeter drain. Please clarify where the underdrain is supposed to be installed.	Underdrain shown on plans as issued in addendum No. 2
6	Lounsbury	11/18/2022	11/22/2022	Sheet C 2.01 Site Layout shows aggregate around the north, west and south of the asphalt perimeter. What material should this be? And what is the cross section of this material?	Updated Per Addendum No. 2
7	TSC	11/18/2022	11/22/2022	Detail 2/C4.10 shows section through drain field and identifies Clean Coarse 2NS sand fill no compaction required. What is the dimension of this fill?	3 Feet
8	Lounsbury	11/18/2022	11/22/2022	Sheet C 4.01 Utility Plan sheet shows sanitary and then in the plumbing drawing show the connection and material to the building. Can you clarify where plumbing contractor stops and site work pick up sanitary work	Please see Clarifications as issued in Addendum No. 2
9	Crips Fontaine	11/22/2022	11/22/2022	The fencing spec calls for barbed wire on the new gates. Its does not clearly state if barbed wire is supposed to be installed above all the remaining fence. Does the new fence get barbed wire on it also?	Please see Clarification as issued in Addendum No. 2
10	Crips Fontaine	11/22/2022	11/22/2022	Sheet C4.01 does not indicate the size of pipe required for the downspout connections. The details references plans for size of pipe. What is the actual pipe diameter of the downspout laterals?	Downspouts are 4"X4" use 6" PVC Pipe
11	Crips Fontaine	11/22/2022	11/22/2022	Section 33 31 00 references the septic tank size to be 2000 Gallon. It also calls out a 1000 Gallon dosing tank. The drawings do not indicate a dosing tank. There is an oval drawn near the building on the utility plan which I assume is another tank of some sort. Please clarify what this tank is. If a dosing tank is required for this project, we also need pump information.	The second is a dosing tank. The dosing tank is gravity flowed no pump is required
12	Crips Fontaine	11/22/2022	11/22/2022	There is an area shown on sheet C2.01 that is called the “proposed area to stockpile additional soil”. Is the intent to stockpile ALL the additional soil from this project and leave it onsite as base bid? Or is that to be utilized as a temporary stockpile until we haul it offsite?	Please see Clarification as issued in Addendum No. 2

Pre-Award Schedule				
Bid Category	Description	Date	Time	Type
1	Sitework	12/5/2022	8:00 - 9:00	Teleconference
4	Masonry	12/5/2022	9:30 - 10:30	Teleconference
6	Metal Stud and Drywall	12/5/2022	1:00 - 2:00	Teleconference
5	General Trades	12/6/2022	1:00 -2:30	Teleconference
3	Concrete	12/6/2022	2:30 - 3:30	Teleconference
10	Commissioning	12/6/2022	3:30 - 4:00	Teleconference
2	Asphalt Paving	12/7/2022	8:00 - 9:00	Teleconference
7	Paint	12/7/2022	9:30 - 10:30	Teleconference
8	Mechanical	12/8/2022	8:00 - 9:00	Teleconference
9	Electrical	12/8/2022	9:30 - 10:30	Teleconference

ADDENDUM

OWNER	**THREE RIVERS COMMUNITY SCHOOLS**
PROJECT	NEW TRANSPORTATION FACILITY A/E Project 5-5138
PURPOSE	**ADDENDUM 002** 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: 01 23 00, 23 54 16.13** **New Sheets: None** **Reissued Sheets: G0.00, C2.01, C4.01, C4.10, A9.10, E2.10, E4.01, E5.01, E5.10, 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 01 23 00 ALTERNATES (**REISSUED**)

Add Alternate E-2.

ITEM NO. 2 SECTION 23 54 16.13 GAS-FIRED FURNACES (**REISSUED**)

Refer to Section 2.5 for revisions.

SHEET CLARIFICATIONS / REVISIONS

ITEM NO. 3 SHEET G0.00 – COVER SHEET (**REISSUED**)

Added Alternate E-2 to the Alternate List.

ITEM NO. 4 SHEET C2.01 – SITE PLAN (**REISSUED**)

Added notation for gravel.

ITEM NO. 5 SHEET C4.01 – UTILITY PLAN (**REISSUED**)

Added 6" underdrain around gravel.

ITEM NO. 6 SHEET C4.10 – SANITARY DRAINFIELD PLAN (**REISSUED**)

Refer to plan for revised Detail 2 and new Details 3 and 4 to answer RFIs 4, 7, and 11.

ITEM NO. 7 SHEET A9.10 – FINISH PLAN AND INTERIOR ELEVATIONS (**REISSUED**)

A. Refer to the plan/section for changes to Dispatch Desk dimensions.
B. Finish information was added to the finish legend.

ITEM NO. 8 SHEET P2.10 PLUMBING PLANS **(NOT REISSUED)**

A. Air, Grease, Oil Suction, Oil2, Oil and Other is down wall and stopped at valve. Anything below valves is supplied and installed by others. (See Detail 7 on Sheet P7.01.)
B. Grease, Oil Suction, Oil2, Oil, and other piping: Please use Specification Sections 22 05 17, 22 05 18, 22 15 10, 22 15 13, 22 05 29, and 22 05 53. Work to be performed by Plumbing Contractor.
C. Final connection to each piece of equipment is by others.

ITEM NO. 9 SHEET E2.10 – FIRST FLOOR POWER & COMMUNICATIONS PLAN (**REISSUED**)

A. Refer to the plan for the removal of the underground conduit and handhole running west out of the building from Records/Tech A105.
B. Refer to the plan for an added camera and access point in Service Bays.

C. Refer to the plan for an added camera outside of Parts/Equipment and added access points for Parts/Equipment and office.
D. Refer to the plan for all exterior doors to have door contacts. E.C. required to furnish and install raceways into the door frame and building access system wiring.
E. Refer to the plan for a security camera relocation outside and two security cameras added inside of the office area.
F. Refer to the plan for the circuit to be added to the EWC.
G. Refer to the plan for the typical note for all cameras to have a 25'-0" service loop.
H. Refer to the plan for the updated note for the bus parking area and parking coordination with pedestals and bus parking.
I. Refer to plan for data drops for access points to be removed from pedestals.

ITEM NO. 10 SHEET E4.01 POWER DISTRIBUTION ONE-LINE DIAGRAM & ELECTRICAL DETAILS (**REISSUED**)

A. Refer to the plan for the complete removal of Panel 'A'.
B. Refer to the plan for the 'MDP' to have a main breaker of 600A, GFCI rated and 100% rated.

ITEM NO. 11 SHEET E5.01 POWER DISTRIBUTION EQUIPMENT SCHEDULES (**REISSUED**)

A. Refer to the plan for the change of Panel 'B2' from a 54 space to a 42 space panel.
B. Refer to the plan for Panel 'B1' to change from a 72 space panel to a double tub '84' space panel and circuits from Panel 'A' to be moved to Panel 'B1'.
C. Refer to the plan for the complete removal of Panel 'A'.
D. Refer to the plan for the change for Panel 'EV' from a 30 space to a 42 space panel.

ITEM NO. 12 SHEET E5.10 LIGHTING FIXTURE SCHEDULE & ELECTRICAL DETAILS (**REISSUED**)

A. Refer to the plan for the additional note on site lighting pole 'SB' for access points and cameras and height changes on fixtures type 'SB' and 'SA2'.
B. Refer to the plan for updated notes on the steel supports on the bus charging station and pedestal receptacle details.

ITEM NO. 13 SHEET ES2.01 SITE ELECTRICAL PLAN (**REISSUED**)

A. Refer to the plan for the addition of a category 6 cable out to both drives for the gate control.
B. Refer to the plan for the addition of access points with underground conduit to the site lights in the bus parking area.
C. Refer to the plan for new layout of site lighting poles.

SECTION 23 54 16.13 - GAS-FIRED FURNACES
(ADDENDUM 002)

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. Gas-fired, condensing furnaces and accessories complete with controls.
2. Air filters.
3. Ventilation heat exchangers.
4. Refrigeration components.

1.3 COORDINATION

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

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, operating characteristics, furnished specialties, and accessories.

B. Shop Drawings:

1. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Include diagrams for power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For each furnace to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
   a. Furnace and accessories complete with controls.
   b. Air filter.
   c. Ventilation heat exchanger.
   d. Refrigeration components.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Disposable Air Filters: Furnish three complete sets.

1.8 QUALITY ASSURANCE

A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

B. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

C. Comply with NFPA 70.

1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace the following components of furnaces that fail in materials or workmanship within specified warranty period:

1. Warranty Period, Commencing on Date of Substantial Completion:

a. Furnace Heat Exchanger: 10 years.

b. Integrated Ignition and Blower Control Circuit Board: Five years.

c. Draft-Inducer Motor: Five years.

d. Refrigeration Compressors: 10 years.

e. Evaporator and Condenser Coils: Five years.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a qualified testing agency, and marked for intended location and application.

B. General Requirements for Noncondensing Gas-Fired Furnaces: Factory assembled, piped, wired, and tested; complying with ANSI Z21.47/CSA 2.3 and NFPA 54.

2.2 GAS-FIRED FURNACES, CONDENSING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Bryant; Carrier Global Corporation.
2. Carrier Global Corporation.
3. Daikin
4. Trane.
5. YORK; brand of Johnson Controls International plc, Building Solutions North America.

B. Cabinet: Steel.

1. Cabinet interior around heat exchanger shall be factory-installed insulation.
2. Lift-out panels shall expose burners and all other items requiring access for maintenance.
3. Factory paint external cabinets in manufacturer's standard color.
4. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

C. Configuration: Up flow.

D. Fan: Centrifugal, factory balanced, resilient mounted, direct drive.

1. Fan Motors: Comply with requirements in Section 23 05 13 "Common Motor Requirements for HVAC Equipment."
2. Special Motor Features, Multispeed: Multi-tapped, multispeed with internal thermal protection and permanent lubrication.

E. Type of Gas: Natural.

F. Heat Exchanger:

1. Primary: Aluminized steel.
2. Secondary: Stainless steel.

G. Burner:

1. Gas Valve: 100 percent safety modulating main gas valve, main shutoff valve, pressure regulator, safety pilot with electronic flame sensor, limit control, transformer, and combination ignition/fan timer control board.

2. Ignition: Electric pilot ignition, with hot-surface igniter or electric spark ignition.

H. Gas-Burner Safety Controls:

1. Electronic Flame Sensor: Prevents gas valve from opening until pilot flame is proven; stops gas flow on ignition failure.
2. Flame Rollout Switch: Installed on burner box; prevents burner operation.
3. Limit Control: Fixed stop at maximum permissible setting; de-energizes burner on excessive bonnet temperature; automatic reset.

I. Combustion-Air Inducer: Centrifugal fan with thermally protected motor and sleeve bearings prepurges heat exchanger and vents combustion products; pressure switch prevents furnace operation if combustion-air inlet or flue outlet is blocked.

J. Furnace Controls: Solid-state board integrates ignition, heat, cooling, and fan speeds; adjustable fan-on and fan-off timing; terminals for connection to accessories; diagnostic light with viewport.

K. Vent Materials: Comply with requirements in Section 23 51 23 "Gas Vents" for vent material type.

1. Termination Kit: Concentric Vent/Combustion-Air Intake

L. Accessories

1. Condensate Neutralization Kit: Factory-fabricated and -assembled condensate-neutralizing tank assembly of corrosion-resistant plastic material with threaded or flanged inlet and outlet pipe connections. Device functions to prevent acidic condensate from damaging grain system. It is to be piped to receive acidic condensate discharged from condensing boiler and neutralize it by chemical reaction with replaceable neutralizing agent. Neutralized condensate is then piped to suitable drain.
    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
        1) Neutra-Safe Corporation.
        2) SFA Saniflo USA.
        3) Wessels Company.
2. Drain Hose: For condensate.

2.3 CONTROL DEVICES

A. Controls shall comply with requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air Conditioning."

B. Provide BACnet interface for connection to DDC control system. Control equipment and sequence of operation are specified in Section 23 09 23 "Direct Digital Control (DDC) System for HVAC" and Section 23 09 23.12 "Control Dampers."

2.4 AIR FILTERS

A. Particulate air filtration is specified in Section 23 40 00 Particulate Air Filtration.

2.5 VENTILATION AIR HEAT EXCHANGERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AIRotor, LLC.
2. Airxchange Inc.
3. Desiccant Rotors International, Inc.
4. Heatex, Inc.
5. Klingenburg.

6. Novelaire Technologies.
7. SEMCO, LLC; part of FlaktGroup.
8. RenewAire

~~B. Source Limitations: Obtain from single source from single manufacturer.~~

~~C. Cabinet: Steel, with factory-installed interior insulation and manufacturer's standard factory finish. Fabricate with space for piping and electrical conduits.~~

~~D. Heat-Recovery Device: Fixed-plate, polypropylene copolymer (high-density plastic) heat-exchanger plates evenly spaced and sealed and arranged for counter airflow.~~

~~E. Supply and Exhaust Fans: Forward curved centrifugal with direct drive. Motors comply with requirements in Section 23 05 13 "Common Motor Requirements for HVAC Equipment."~~

~~F. Filters: 1-inch-thick disposable type with ASHRAE 52.2 MERV rating of 6 or higher, in galvanized-steel frame, mounted upstream of unit in both supply and exhaust airstreams.~~

~~G. Wiring: Wire motors and controls so only external connections are required during installation.~~

H. Air-to-Air Energy Recovery Ventilators shall be fully assembled at the factory and consist of a fixed-plate cross-flow heat exchanger with no moving parts, an insulated single wall G90 galvanized 20-gauge steel cabinet, motorized outside air intake damper, filter assemblies for both intake and exhaust air, enthalpy core, supply air blower assembly, motorized return air damper, exhaust air blower assembly and electrical control box with all specified components and internal accessories factory installed and tested and prepared for single-point high voltage connection. Entire unit with the exception of field-installed components shall be assembled and test operated at the factory.

I. Cabinet:

1. Materials: Formed single wall insulated metal cabinet, fabricated to permit access to internal components for maintenance.
2. Outside casing: 20 gauge, galvanized (G90) steel meeting ASTM A653 for components that do not receive a painted finish.
3. Access doors shall be hinged with airtight closed cell foam gaskets. Door pressure taps, with captive plugs, shall be provided for cross-core pressure measurement allowing for accurate airflow measurement.
4. Unit shall have factory-installed duct flanges on all duct openings.
5. Cabinet Insulation: Unit walls and doors shall be insulated with 1 inch, 4 pound density, foil/scrim faced, high density fiberglass board insulation, providing a cleanable surface and eliminating the possibility of exposing the fresh air to glass fibers, and with a minimum R-value of 4.3 (hr-ft2-°F/BTU).
6. Enthalpy core: Energy recovery core shall be of the total enthalpy type, capable of transferring both sensible and latent energy between airstreams. Latent energy transfer shall be accomplished by direct water vapor transfer from one airstream to the other, without exposing transfer media in succeeding cycles directly to the exhaust air and then to the fresh air. No condensate drains shall be allowed. The energy recovery core shall be designed and constructed to permit cleaning and removal for servicing. The energy recovery core shall have a ten year warranty. Performance criteria are to be as specified in AHRI Standard 1060.
7. Control center/connections: Energy Recovery Ventilator shall have an electrical control center where all high and low voltage connections are made. Control center shall be constructed to permit single-point high voltage power supply connections to the non-fused disconnect.
8. Passive Frost Control: The ERV core shall perform without condensing or frosting under normal operating conditions (defined as outside temperatures above -10ºF and inside

relative humidity below 40%). Occasional more extreme conditions shall not affect the usual function, performance or durability of the core. No condensate drains will be allowed.

9. Motorized Isolation Damper(s): Return Air and Outside Air motorized damper(s) of an AMCA Class I low leakage type shall be factory installed.

J. Blower Section:

1. Blower section construction, Supply Air and Exhaust Air: Blower assemblies consist of a 460V/3 Phase/60 HZ, TEFC motor and a belt driven forward-curved blower.
2. Blower assemblies: Shall be statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and horsepower.

K. Motors:

1. Blower motors shall be Premium Efficiency, EISA compliant for energy efficiency. The blower motors shall be totally enclosed (TEFC) and shall be supplied with factory installed motor starters.
2. Belt drive motors shall be provided with adjustable pulleys and motor mounts allowing for blower speed adjustment, proper motor shaft orientation and proper belt tensioning.

L. Unit Controls:

1. BMS/ATC contractor shall provide and install unit DDC controller. All end devices shall be furnished and field installed by the BMS/ATC contractor and wired back to the DDC controller.
2. Fan control includes factory mounted motor starter and contactors for both airstreams.
3. Bypass economizer control includes factory installed dry bulb control, 2 position motorized dampers on all air streams with 100% airflow through the core and 100% airflow bypassing the core.
4. Transformer with isolation relay control.

2.6 REFRIGERATION COMPONENTS

A. General Refrigeration Component Requirements:

1. Refrigeration compressor, coils, and specialties shall be designed to operate with CFC-free refrigerants.
2. Energy Efficiency: Equal to or greater than prescribed by ASHRAE/IES 90.1.

B. Refrigerant Coil: Copper tubes mechanically expanded into aluminum fins. Comply with AHRI 210/240. Match size with furnace. Include condensate drain pan with accessible drain outlet complying with ASHRAE 62.1.

1. Refrigerant Coil Enclosure: Steel, matching furnace and evaporator coil, with access panel and flanges for integral mounting at or on furnace cabinet and stainless steel drain pan.

C. Refrigerant Piping: Comply with requirements in Section 23 23 00 "Refrigerant Piping and Accessories."

D. Air-Cooled Condenser Unit:

1. Comply with requirements in Section 23 62 00 "Air-Cooled Condensing Units."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine factory-installed insulation before furnace installation. Reject units that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for gas and refrigerant piping systems to verify actual locations of piping connections before equipment installation.

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

3.2 INSTALLATION

A. Install equipment in accordance with the manufacturer's written installation instructions.

B. Install gas-fired furnaces and associated fuel and vent features and systems according to NFPA 54.

C. Base-Mounted Units: Secure units to substrate. Provide optional bottom closure base if required by installation conditions.

3.3 PIPING CONNECTIONS

A. Gas piping installation requirements are specified in Section 23 11 23 "Natural-Gas Piping." Drawings indicate general arrangement of piping, fittings, and specialties. Connect gas piping with union or flange and appliance connector valve.

B. Install piping adjacent to equipment to allow service and maintenance.

C. Vent and Outside-Air Connection, Condensing, Gas-Fired Furnaces: Connect plastic piping vent material to furnace connections and extend outdoors. Terminate vent outdoors with a cap and in an arrangement that will protect against entry of birds, insects, and dirt.

1. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
2. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
3. Plastic Piping Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
    a. Comply with ASTM F402 for safe-handling practice of cleaners, primers, and solvent cements.
    b. CPVC Piping: Join according to ASTM D2846/D2846M, Appendix.
    c. PVC Pressure Piping: Join schedule number ASTM D1785 PVC pipe and PVC socket fittings according to ASTM D2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D2855.
4. Slope pipe vent back to furnace or to outside terminal.

D. Comply with requirements in Section 23 23 00 "Refrigerant Piping" for installation and joint construction of refrigerant piping.

3.4 DUCTWORK CONNECTIONS

A. Connect ducts to furnace with flexible connector. Comply with requirements in Section 23 33 00 "Air Duct Accessories."

3.5 ELECTRICAL CONNECTIONS

A. Connect wiring according to Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 26 05 26 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."

3.6 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring according to Section 26 05 23 "Control-Voltage Electrical Power Cables."

3.7 STARTUP SERVICE

A. Complete installation and startup checks according to manufacturer's written instructions and perform the following:
   1. Inspect for physical damage to unit casings.
   2. Verify that access doors move freely and are weathertight.
   3. Clean units and inspect for construction debris.
   4. Verify that all bolts and screws are tight.
   5. Adjust flexible connections.
   6. Verify that controls are connected and operational.

B. Start unit according to manufacturer's written instructions and complete manufacturer's operational checklist.

C. Measure and record airflows.

D. Verify proper operation of capacity control device.

E. After startup and performance test, lubricate bearings.

3.8 ADJUSTING

A. Adjust initial temperature and humidity set points.

B. Set controls, burner, and other adjustments for optimum heating performance and efficiency. Adjust heat-distribution features, including shutters, dampers, and relays, to provide optimum heating performance and system efficiency.

3.9 CLEANING

A. After completing installation, clean furnaces internally according to manufacturer's written instructions.

B. Install new filters in each furnace within 14 days after Substantial Completion.

3.10 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:
   1. Perform electrical test and visual and mechanical inspection.
   2. Leak Test: After installation, charge systems with refrigerant and test for leaks. Repair leaks, replace lost refrigerant, and retest until no leaks exist.
   3. Operational Test: After electrical circuitry has been energized, start units to confirm proper operation, product capability, and compliance with requirements.
   4. Verify that fan wheel is rotating in the correct direction and is not vibrating or binding.
   5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Verify that flexible connections properly dampen vibration transmission to structure.

3.11 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain furnaces. Refer to Section 01 79 00 "Demonstration and Training."

END OF SECTION

NEW TRANSPORTATION FACILITY

THREE RIVERS COMMUNITY SCHOOLS

58420 HAINES ROAD
THREE RIVERS, MICHIGAN

BIDS & CONSTRUCTION
10.13.2022
GMB PROJECT # 5-5138

GENERAL INFORMATION
G0.01 GENERAL NOTES DIMENSIONS AND LEGENDS
G1.01 CODE COMPLIANCE PLAN

CIVIL
C0.00 OVERALL EXISTING SITE SURVEY
C1.01 DEMOLITION PLAN
C2.01 SITE PLAN
C3.01 GRADING PLAN
C4.01 UTILITY PLAN
C4.10 SANITARY DRAINFIELD PLAN
C7.01 S.E.S.C. PLAN
C8.01 SITE DETAILS
C8.02 SITE DETAILS

STRUCTURAL
S0.01 STRUCTURAL GENERAL INFORMATION
S0.02 STRUCTURAL SCHEDULES
S0.03 MASONRY REINFORCING PLAN
S2.01 FOUNDATION PLAN
S3.01 ROOF FRAMING PLAN
S7.01 FOUNDATION WALL DETAILS
S7.02 ROOF FRAMING DETAILS

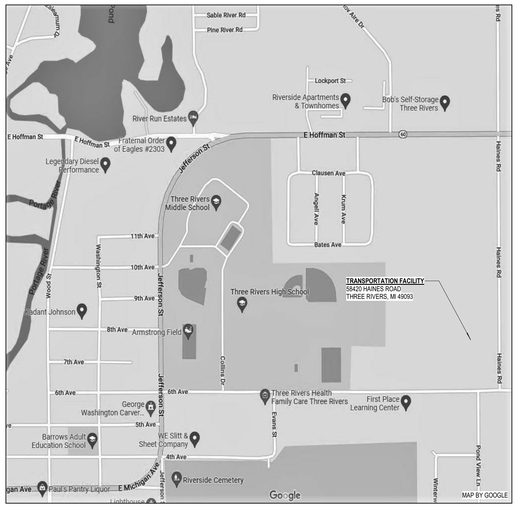
ARCHITECTURAL
A2.10 FLOOR PLAN
A2.30 ROOF PLAN
A2.80 ENLARGED PLANS
A3.10 REFLECTED CEILING PLAN
A4.01 EXTERIOR ELEVATIONS
A5.01 DOOR & FRAME SCHEDULE
A6.01 BUILDING SECTIONS
A6.10 WALL SECTIONS
A7.01 DETAILS
A9.10 FINISH PLAN AND INTERIOR ELEVATIONS

PLUMBING
P0.01 PLUMBING GENERAL INFORMATION
P2.10 PLUMBING PLANS
P7.01 PLUMBING DETAILS

MECHANICAL
M0.01 MECHANICAL GENERAL INFORMATION
M2.01 MECHANICAL PLAN
M4.01 MECHANICAL PIPING PLAN
M7.01 MECHANICAL DETAILS
M8.01 MECHANICAL CONTROL DIAGRAMS
M9.01 MECHANICAL SCHEDULES

ELECTRICAL
E0.01 ELECTRICAL SYMBOL LEGENDS & GENERAL NOTES
E2.10 FIRST FLOOR POWER & COMMUNICATIONS PLAN
E3.10 FIRST FLOOR LIGHTING PLAN
E4.01 POWER DISTRIBUTION ONE-LINE DIAGRAM & ELECTRICAL DETAILS
E5.01 POWER DISTRIBUTION EQUIPMENT SCHEDULES
E5.10 LIGHTING FIXTURE SCHEDULE & ELECTRICAL DETAILS
ES2.01 SITE ELECTRICAL PLAN

VICINITY MAP



ALTERNATES

G-1: ADD ALTERNATE TO PROVIDE FACE BRICK VENEER FOR THE ENTIRE BUILDING FACADE.

E-1: ADD ALTERNATE FOR THE EMERGENCY BACK-UP GENERATOR.

E-2: ADD ALTERNATE TO FURNISH AND INSTALL THE FIRE ALARM SYSTEM.

ALTERNATE SUMMARY, SEE SPECIFICATION SECTION 01 23 00 FOR FULL DESCRIPTIONS

CONSTRUCTION MANAGER
THE SKILLMAN CORPORATION
8120 MOORSBRIDGE ROAD
PORTAGE, MI 49024
P. 269.350.5757
WWW.SKILLMAN.COM

OWNER
THREE RIVERS COMMUNITY SCHOOLS
851 SIXTH AVENUE
THREE RIVERS, MI 49093
P. 269.279.1100
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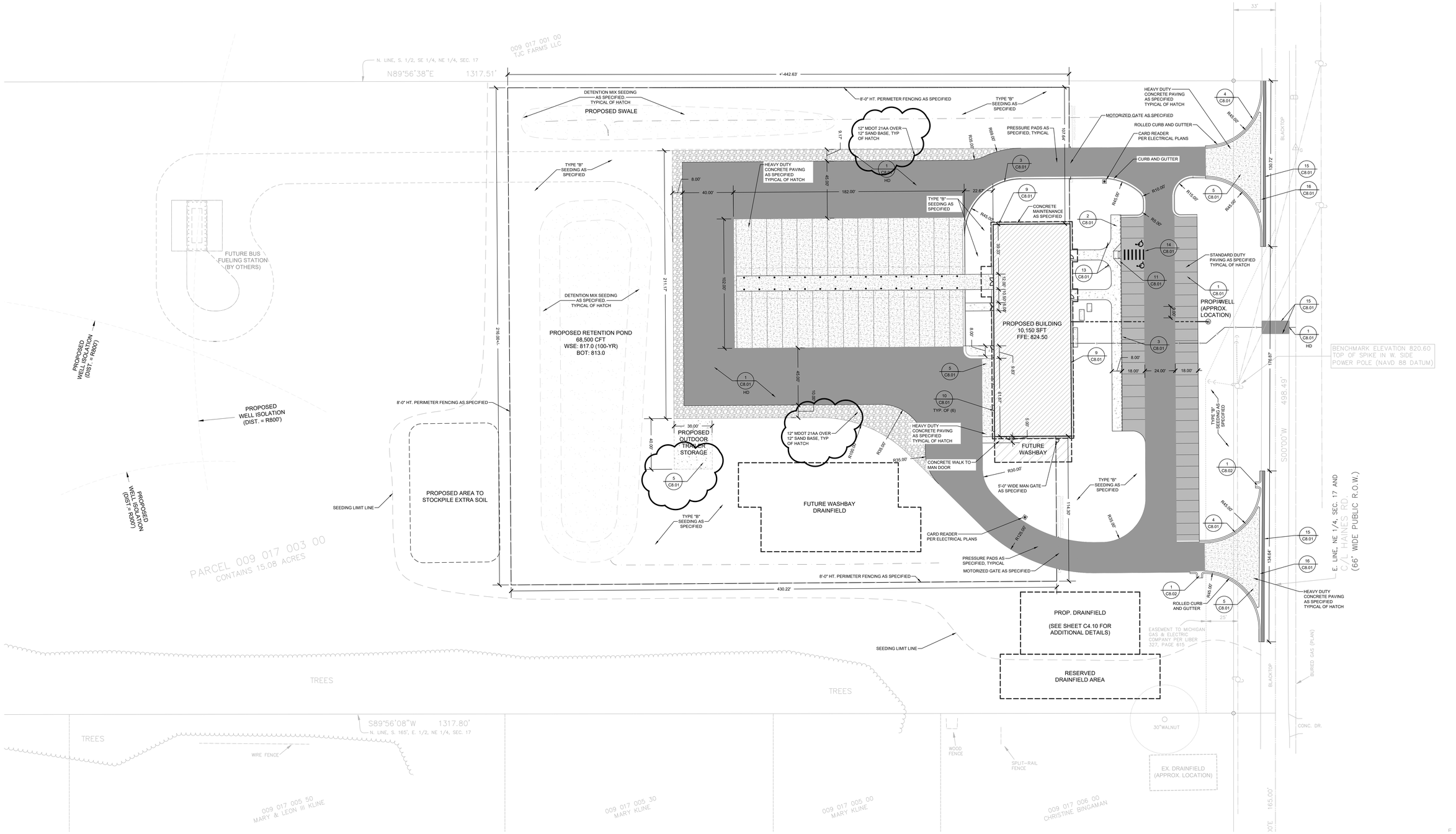
ARCHITECT + ENGINEER
GMB ARCHITECTURE + ENGINEERING
85 EAST EIGHTH STREET, SUITE 200
HOLLAND, MI 49423
P. 616.796.0200
WWW.GMB.COM



LAYOUT LEGEND

SYMBOL	DESCRIPTION
	STANDARD CURB & GUTTER
	ROLLED CURB & GUTTER
	CONCRETE SIDEWALK
	CONCRETE PAVEMENT
	HEAVY DUTY PAVEMENT
	STANDARD DUTY PAVEMENT
	SIGN & POST
	FENCING

TRAFFIC MARKING AND SIGNAGE NOTES:

1. CONTRACTOR TO PROVIDE TRAFFIC MARKINGS AS SHOWN ON THIS PLAN. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING MARKINGS.
2. ALL SIGNAGE AND MARKINGS MUST MEET MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES STANDARD SHAPES AND SIZES.
3. ALL BARRIER FREE PARKING SPACES SHALL BE PER MOST VERSION OF MICHIGAN BARRIER FREE CODE.

GENERAL NOTES:

1. DO NOT BURY ANY DEBRIS, ROOTS, TOPSOIL OR OTHER MATERIALS.
2. ALL WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS OR THE LOCAL CODE, ORDINANCES AND ACCIDENT/FIRE PREVENTION REGULATIONS.
3. PROTECT THE SITE, ADJACENT PROPERTY AND UTILITY SERVICES FROM DAMAGE OR DISRUPTION OF SERVICE/ACCESS. DAMAGE TO EXISTING STRUCTURE, SITE OR UTILITIES SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
4. ALL TREES TO REMAIN SHALL BE CAREFULLY PROTECTED. DO NOT DRIVE HEAVY EQUIPMENT WITHIN 12 FT OF TREE TRUNKS. BRANCHES WHICH ARE DAMAGED DURING DEMOLITION OF STRUCTURES AND/OR SURFACES SHALL BE CUT OUT AS DIRECTED BY THE ARCHITECT/ENGINEER. ANY ROOTS OF TREES BEING SAVED WHICH ARE EXPOSED DUE TO DEMOLITION/REMOVAL SHALL BE COVERED WITHIN 6 HOURS WITH SOIL. DAMAGED TREES MAY BE REPLACED AT THE DISCRETION OF THE ARCHITECT/ENGINEER AT THE EXPENSE OF THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FOR WORK IN ROW AND ON ANY UTILITY CONNECTIONS OR ABANDONMENT PRIOR TO THE START OF CONSTRUCTION.
6. CONTRACTORS TO REVIEW ALL SHEETS FOR RELATED INFORMATION.
7. LIST OF STANDARD ABBREVIATIONS -

"A.F.F."	=	ABOVE FINISHED FLOOR
"C/L"	=	CENTER LINE
"F.F.E"	=	FINISH FLOOR ELEVATION
"U.N.O"	=	UNLESS NOTED OTHERWISE

NORTH

SITE PLAN
1" = 30'-0"

SCALE IN FEET
0 30 60

Know what's below. Call before you dig.

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NEW TRANSPORTATION FACILITY
THREE RIVERS COMMUNITY SCHOOLS
THREE RIVERS, MICHIGAN

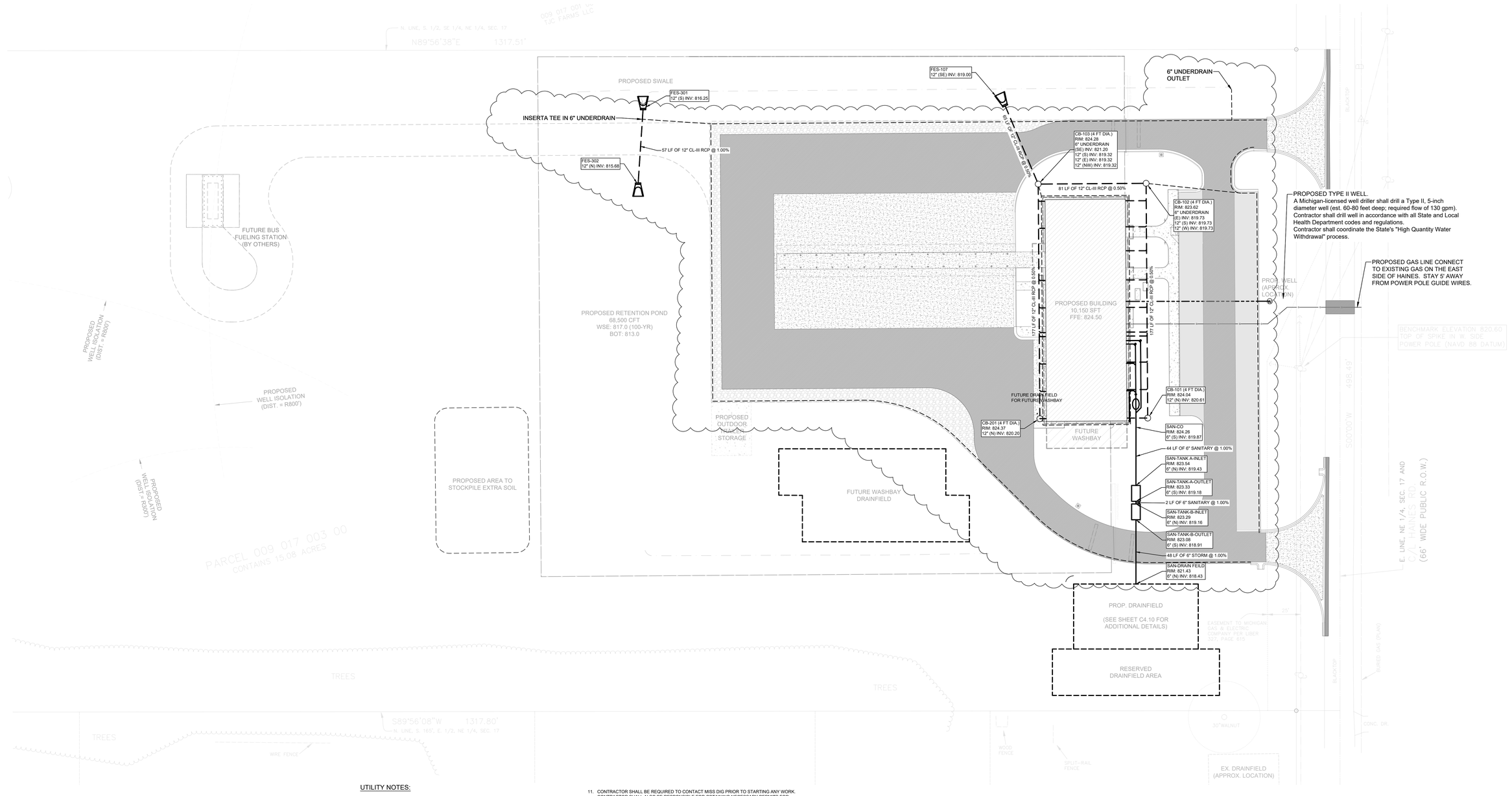
ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.22.2022	ADDENDUM 002

DRAWN	ACB
REVIEWED	NTB
PROJECT NO.	5-5138

SITE PLAN

C2.01



UTILITY NOTES:

1. ALL WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS OR THE LOCAL CODE, ORDINANCES AND ACCIDENT/FIRE PREVENTION REGULATIONS.
2. 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 CONTRACTORS EXPENSE.
3. UTILITIES SHOWN (IF ANY) ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THIS MAP IS NOT TO BE INTERPRETED AS SHOWING EXACT LOCATIONS OR SHOWING ALL UTILITIES IN THE AREA. SIZE AND INVERTS OF EXISTING PIPE TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO COMMENCING WORK ON NEW UTILITY CONNECTIONS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FOR WORK IN ROW AND ON ANY UTILITY CONNECTIONS OR ABANDONMENT PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL COORDINATE ANY UTILITY/SERVICE INTERRUPTIONS WITH OWNER AT LEAST ONE WEEK IN ADVANCE. CONTRACTOR SHALL ALSO NOTIFY LOCAL UTILITY PROVIDER WHERE APPLICABLE FOR OPERATION/DISCONNECTION OF PUBLIC OWNED EQUIPMENT.
6. CONTRACTOR SHALL ADEQUATELY PROTECT/SHORE ALL OPEN TRENCHES AS REQUIRED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
7. EXISTING SEWER AND WATERMAIN LINES SHALL BE PROTECTED FROM DEBRIS AND CONSTRUCTION.
8. WATERMAIN CONSTRUCTION IS TO BE INSPECTED BY UTILITY OWNER. PRESSURE TESTING AND CHLORINATION OF THE WATERMAIN TO BE PERFORMED BY THE CONTRACTOR, WITNESSING OF INSTALLATION, PRESSURIZATION, CHLORINATION AND GATHERING OF WATER SAMPLES WILL BE PERFORMED BY THE UTILITY OWNER.
9. MAINTAIN A MINIMUM OF 5'-9" FROM FINISH GRADE TO CENTERLINE OF WATERMAIN PIPE. MAINTAIN A MINIMUM OF 10'-0" CLEARANCE OF SANITARY SEWER MAIN.
10. HYDRANTS AND FITTINGS SHALL BE TIED AND BLOCKED. HYDRANTS AND VALVES SHALL BE COORDINATED WITH UTILITY OWNER TO OPEN PER UTILITY OWNERS DEVELOPMENT STANDARDS.
11. CONTRACTOR SHALL BE REQUIRED TO CONTACT MISS DIG PRIOR TO STARTING ANY WORK. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FOR WORK IN ROW AS WELL AS NOTIFYING LOCAL UTILITY OWNERS OF WORK IF PERMITS ARE NOT REQUIRED.
12. LOCATION OF LATERALS TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER. AVOID CONFLICT WITH PROPOSED AND/OR EXISTING FACILITIES.
13. QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL LINES, LEVELS AND DIMENSIONS.
14. CONTRACTOR IS TO VERIFY EXISTING UTILITY ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
15. CONTRACTORS TO REVIEW ALL SHEETS FOR RELATED INFORMATION.
16. LIST OF STANDARD ABBREVIATIONS -

"A.F.F"	=	ABOVE FINISHED FLOOR
"CB"	=	CATCH BASIN
"C/L"	=	CENTER LINE
"C.O."	=	CLEAN OUT (INCL. FROST SLEEVE)
"CY"	=	CUBIC YARDS
"D.I.W.M"	=	DUCTILE IRON WATER MAIN
"F.E.S"	=	FLARED END SECTION (CONC. ONLY)
"FFE/F.F.E"	=	FINISHED FLOOR ELEVATION
"F.V."	=	FIELD VERIFY
"INV."	=	INVERT
"LB"	=	LEACHING BASIN
"LF"	=	LINEAL FEET
"RCP"	=	REINFORCED CONCRETE PIPE
"SAN"	=	SANITARY
"SAN. MH"	=	SANITARY SEWER MANHOLE
"SF"	=	SQUARE FEET
"ST. MH"	=	STORM MANHOLE
"STM"	=	STORM
"SY"	=	SQUARE YARDS
"U.N.O"	=	UNLESS NOTED OTHERWISE
"YD"	=	YARD DRAIN

UTILITY SYMBOL LEGEND

SYMBOL	DESCRIPTION
	CATCH BASIN OR STORM MANHOLE- REFER TO UTILITY TAG FOR ADDITIONAL INFO
	SANITARY MANHOLE - REFER TO UTILITY TAG FOR ADDITIONAL INFORMATION
C.O.	SANITARY OR STORM CLEANOUT W/ FROST SLEEVE
	WATERMAIN FITTINGS & APPURTENANCES - REFER TO PLAN FOR SIZE
	FLARED END SECTION - STORM - REFER TO UTILITY TAG FOR ADDITIONAL INFORMATION
05	UTILITY CROSSING - REFER TO UTILITY CROSSING SCHEDULE FOR CROSSING ELEVATIONS
M	GAS METER LOCATION
	LIGHT POLE - REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION

UTILITY LINETYPE LEGEND

SYMBOL	DESCRIPTION
	SANITARY SEWER
	STORM SEWER
	WATERMAIN
	UNDERDRAIN
G G	GAS SERVICE
E E	ELECTRIC SERVICE
G G	EX. GAS SERVICE
E E	EX. ELECTRICAL

NORTH

UTILITY PLAN
SCALE:1" = 30'-0"

SCALE IN FEET
0 30 60

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NEW TRANSPORTATION FACILITY
THREE RIVERS COMMUNITY SCHOOLS
THREE RIVERS, MICHIGAN

AGENCY REVIEWS

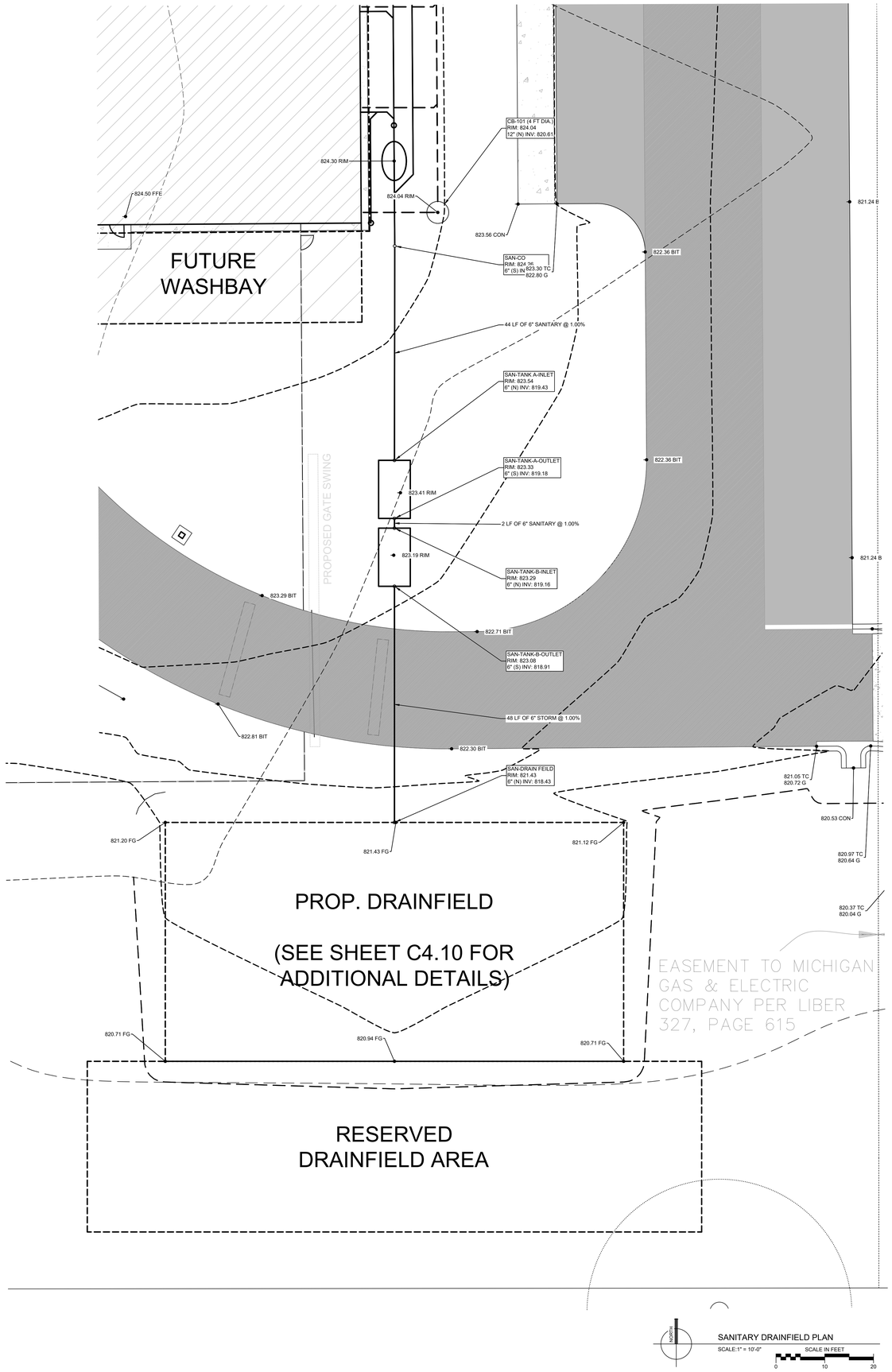
ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.22.2022	ADDENDUM 002

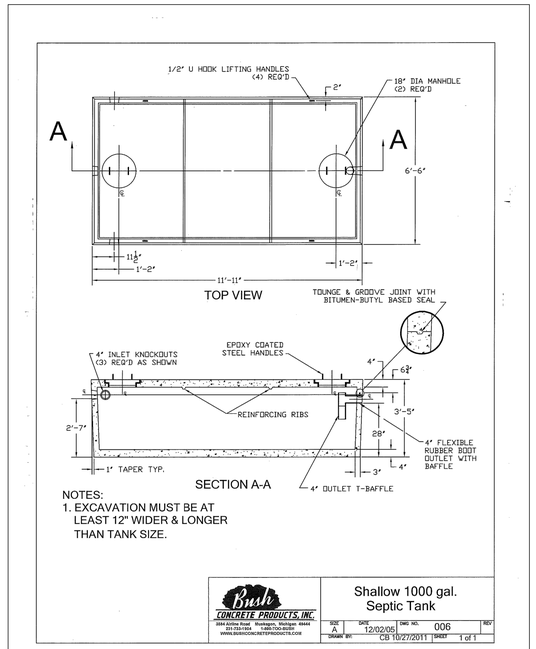
DRAWN	HAK
REVIEWED	KAB
PROJECT NO.	5-5138

UTILITY PLAN

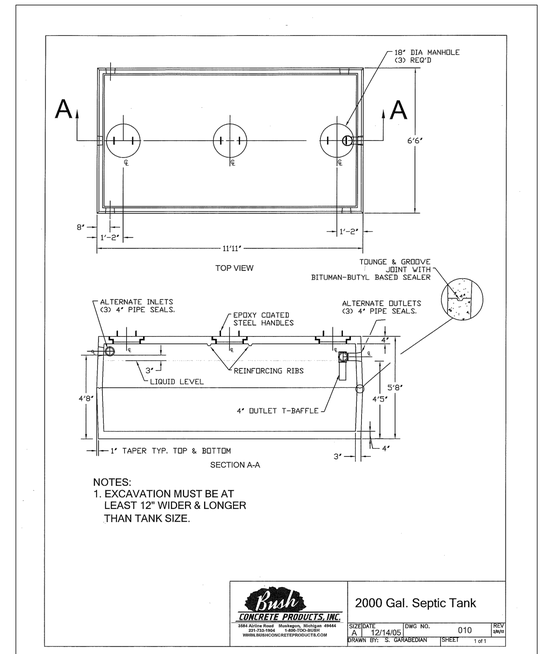
C4.01



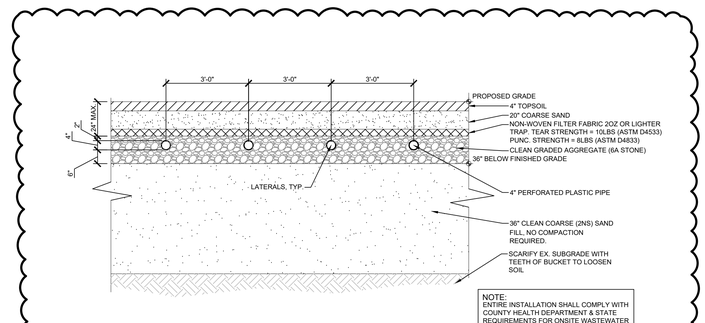
SANITARY DRAINFIELD PLAN
SCALE:1" = 10'-0"



4 C4.10 SEPTIC TANK B - DOSING TANK
NOT TO SCALE

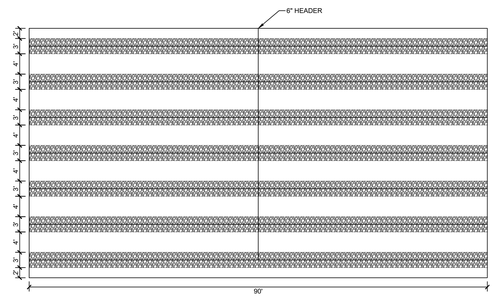


3 C4.10 SEPTIC TANK A
NOT TO SCALE



2 C4.10 DRAINFIELD SECTION
NOT TO SCALE

LOCATION OF SANITARY DRAINFIELD PLAN



1 C4.10 DRAINFIELD LAYOUT
NOT TO SCALE

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ISSUANCES
10.13.2022 BIDS & CONSTRUCTION
11.23.2022 ADDENDUM 002

DRAWN HAK
REVIEWED KAB

PROJECT NO. 5-5138

SANITARY DRAINFIELD PLAN

C4.10

P:\5-5138\CAD\5-5138 C4.10.dwg
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GENERAL FINISH NOTES :

1. ALL AREAS OF CARPET, LVT, SEALED CONCRETE, OR OTHER RESILIENT FLOORING TO RECEIVE RUBBER BASE: U.N.O. ON FINISH PLANS.
2. IT IS THE RESPONSIBILITY OF ALL TRADES TO COORDINATE PREPARATION OF SURFACES TO RECEIVE FINISH PRODUCT. CONSULT WITH MANUFACTURERS RECOMMENDED PRACTICES.
3. ALL REDUCERS TO COORDINATE APPROPRIATELY WITH ABUTTING MATERIAL HEIGHT.
4. INSTALL 4" H. RUBBER BASE (RB) AT CASEWORK TOE KICKS, INSIDE OF FLOORLESS CASEWORK, AND VERTICAL SUPPORTS.
5. SEE SPECIFICATIONS FOR RESILIENT ACCESSORY INFORMATION.
6. PAINT ALL EXPOSED MECHANICAL AND ELECTRICAL ITEMS INTENDED TO RECEIVE FIELD PAINT TO MATCH ADJACENT SURFACES, U.N.O.
7. DOOR AND WINDOW FRAMES TO BE PAINTED P2; U.N.O.
8. FACE & UNDERSIDE OF BULKHEADS TO BE PAINTED P1; U.N.O. ON FINISH PLANS OR NOTED ON INTERIOR ELEVATIONS.
9. REFER TO CEILING PLANS & CEILING SPECIFICATIONS FOR SPECIAL CEILING DESIGNATIONS AND ACT TYPES.
10. REFER TO INTERIOR ELEVATION SHEETS FOR MORE DETAILED PAINT AND INTERIOR FINISH INFORMATION.
11. WHERE PORCELAIN/CERAMIC TILE IS APPLIED ON THE WALL BASE, PROVIDE COVED BULLNOSE TILE: REFER TO SPECIFICATIONS AND/OR ELEVATIONS FOR TYPE, FINISH AND LOCATION INFORMATION.
12. WHERE PORCELAIN/CERAMIC TILE IS APPLIED ON THE WALL SURFACE, PROVIDE METAL TRANSITION STRIP AT EXPOSED TILE EDGES INCLUDING EXTERIOR CORNERS; REFER TO SPECIFICATIONS AND/OR ELEVATIONS FOR TYPE, FINISH AND LOCATION INFORMATION.
13. ALL WALL TILE INSTALLATIONS SHOULD BE FULL HEIGHT; UNLESS NOTED OR SHOWN OTHERWISE ON INTERIOR ELEVATIONS.
14. WHERE WALL TILE IS SPECIFIED TO BE FULL HEIGHT THAT SHALL INCLUDE THE TOP OF ANY WALLS THAT DO NOT EXTEND TO THE CEILING PLANE. U.N.O.
15. WHERE MATERIALS TRANSITION AT DOOR THRESHOLD, TRANSITION SHOULD OCCUR AT THE CENTER OF THE DOOR IN THE CLOSE POSITION.
16. FOR ALL TILE INSTALLATIONS; REFER TO SPECIFICATIONS FOR TRIM FINISH INFORMATION
17. MECHANICAL & ELECTRICAL ROOM FINISHES: AS A TYPICAL; PAINT WALLS, DO NOT PAINT EXPOSED STRUCTURE, DO NOT PROVIDE WALL BASE. TYPICAL UNLESS NOTED OTHERWISE ON FINISH PLANS.
18. WHERE SEALED CONCRETE (SC) IS SPECIFIED, REFER TO SPECIFICATION SECTION 09 90 00 PAINTING, FOR SYSTEM TYPE.
19. REFER TO SPECIFICATIONS FOR ALL PAINT TYPES.
20. ALL PAINTED WALLS IN TOILET ROOMS SHALL RECEIVE EPOXY PAINT.
21. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF OWNER FURNISHED EQUIPMENT, INCLUDED DIMENSIONS OF SUCH AS THEY RELATE TO THEIR OWN WORK.
22. PROTECT ALL FINISHES DURING CONSTRUCTION.

FINISH LEGEND :

ACT1	ACOUSTICAL CEILING TILE MFR: ARMSTRONG STYLE: 2' X 2' ULTIMA TEGULAR W/ PRELUDE XL GRID SYSTEM
FRP1	FIBERGLASS REINFORCED PLASTIC MFR: TO BE SELECTED
P1	PAINT (GENERAL) MFR: SHERWIN WILLIAMS COLOR: PEDIMENT
P2	PAINT (TRIM) MFR: SHERWIN WILLIAMS COLOR: TO MATCH RB1
P3	PAINT (ACCENT) MFR: BENJAMIN MOORE COLOR: QUEENS WREATH
P4	PAINT (ACCENT) MFR: SHERWIN WILLIAMS COLOR: GRAY CLOUDS
PL1	PLASTIC LAMINATE MFR: FORMICA STYLE: AZUL ARAN
PL2	PLASTIC LAMINATE MFR: WILSONART STYLE: ACORN VELVET ELM 15602-31
RB1	RUBBER BASE MFR: TARKETT STYLE: 4" COVE BASE COLOR: BURNT UMBER
SC1	SEALED CONCRETE MFR: SEE SPEC 09 90 00
SSM1	SOLID SURFACE MATERIAL MFR: WILSONART COLOR: AVALANCHE MELANGE 9175ML
TS1	TRANSITION STRIP MFR: JOHNSONITE STYLE: SLIM LINE COLOR: TO BE SELECTED
VCT1	VINYL COMPOSITE TILE MFR: TARKETT STYLE: VCT II COLOR:STONE GREY WG 602

FINISH SYMBOLS :

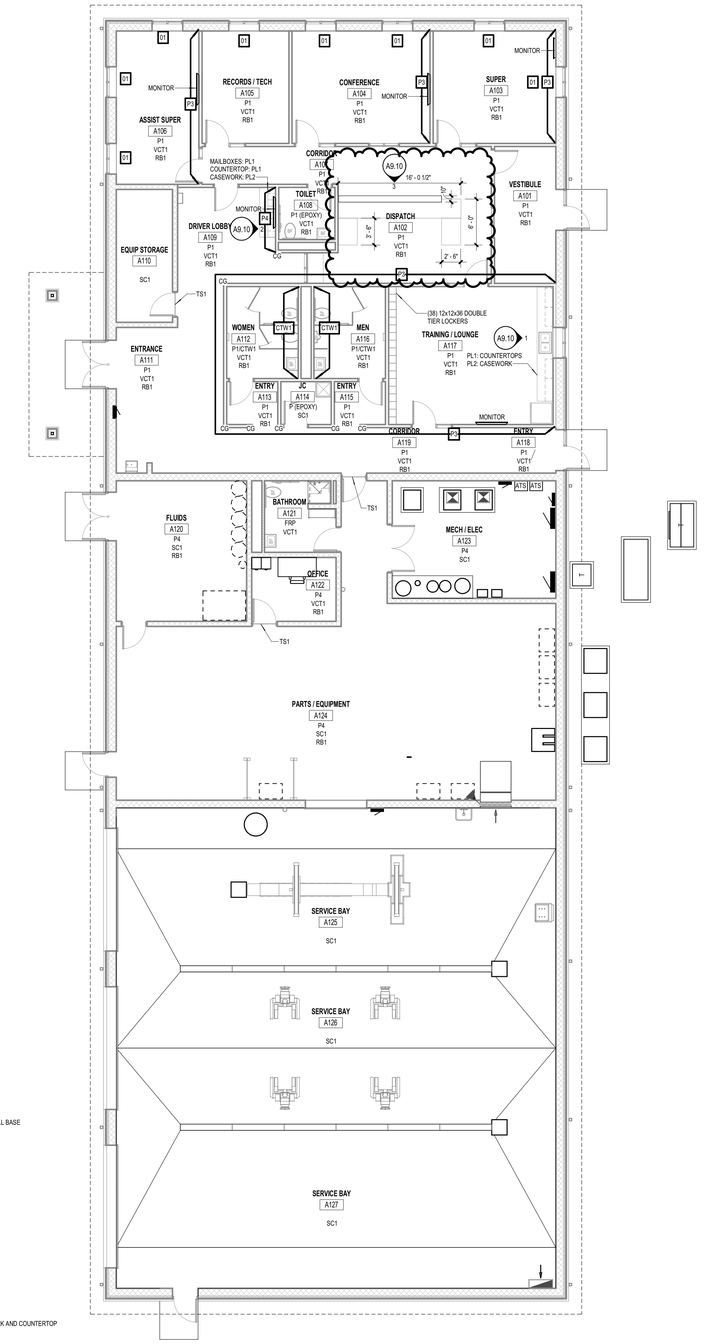
ROOM NAME
WALL FINISH
FLOOR FINISH
BASE FINISH

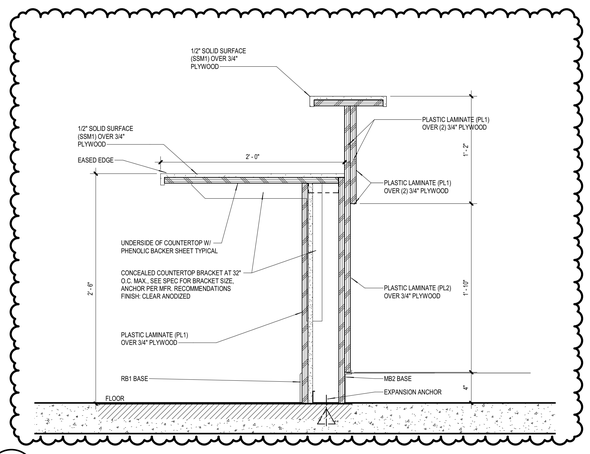
CPT1 / VCT1 — FLOORING TRANSITION

W.P.1 — WORK POINT

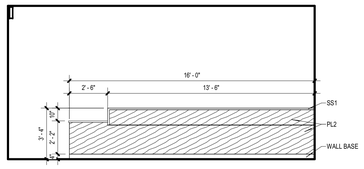
FINISH KEYNOTES :

01 MANUAL ROLLER SHADE LOCATION. PROVIDE FULL WIDTH OF WINDOW ASSEMBLY AT EACH LOCATION REFER TO SPECIFICATION

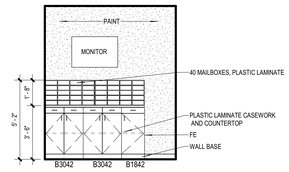




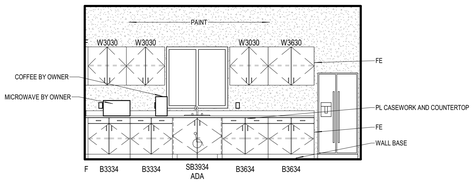
4 A9.10 DISPATCH DESK DETAIL
1 1/2" = 1'-0"



3 A9.10 CORRIDOR A107 - SOUTH
1/4" = 1'-0"



2 A9.10 DRIVER LOBBY A109 - EAST
1/4" = 1'-0"



1 A9.10 TRAINING A118 - EAST
1/4" = 1'-0"

NORTH

FINISH PLAN
1/8" = 1'-0"

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ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.22.2022	ADDENDUM 002

DRAWN MJO
REVIEWED CMA

PROJECT NO. 5-5138

FINISH PLAN AND INTERIOR ELEVATIONS

A9.10

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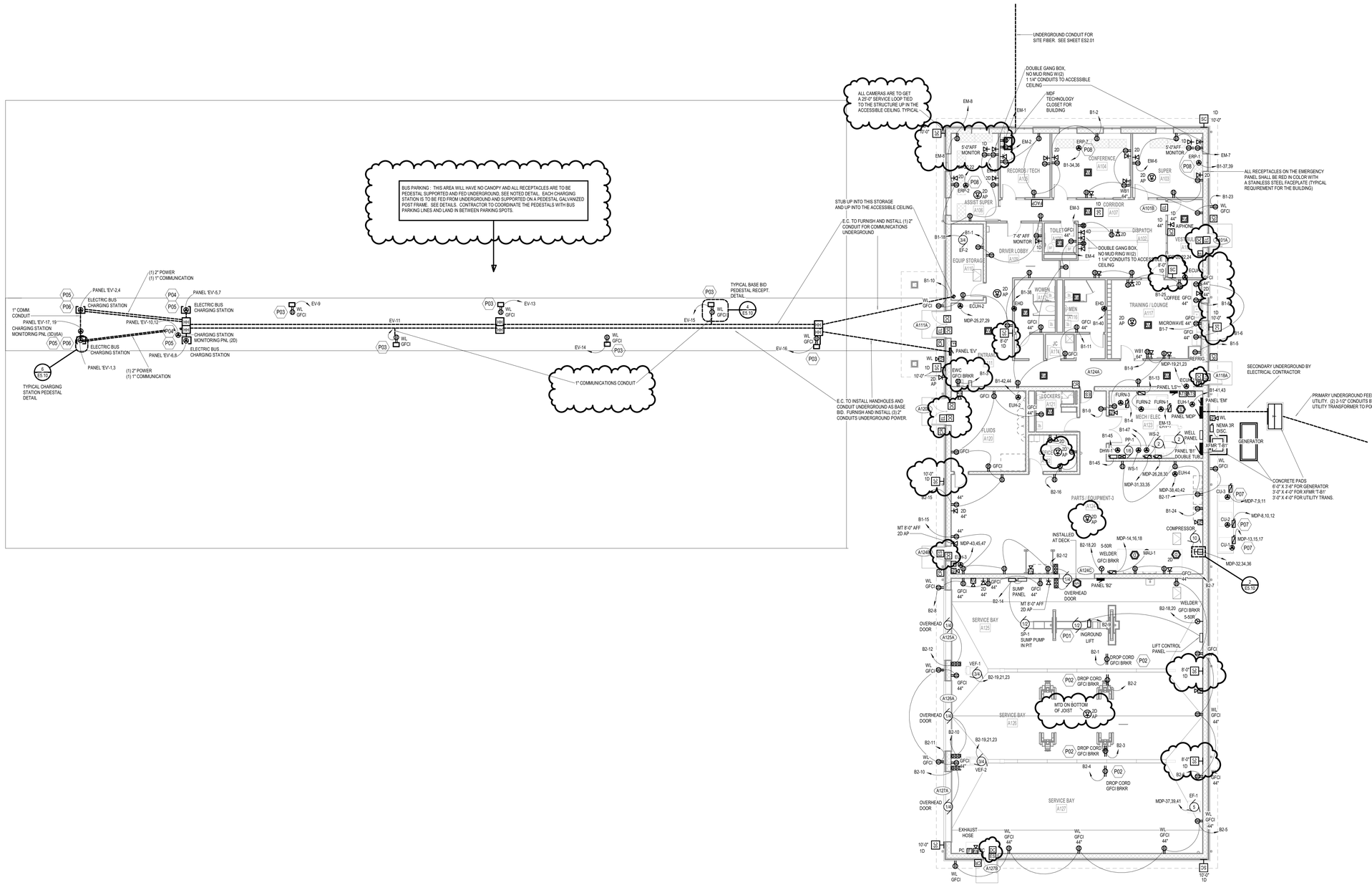

POWER & COMMUNICATION GENERAL NOTES

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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10.13.2022	BIDS & CONSTRUCTION
11.10.2022	ADDENDUM 001
11.22.2022	ADDENDUM 002

DRAWN	TJO
REVIEWED	AAM
PROJECT NO.	5-5138

FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.10

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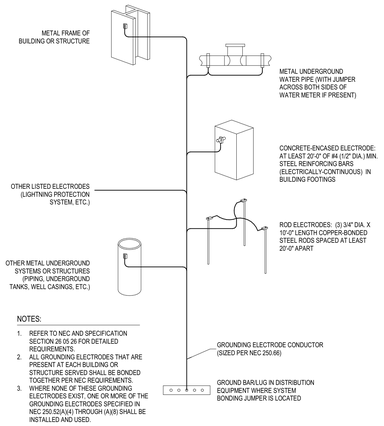
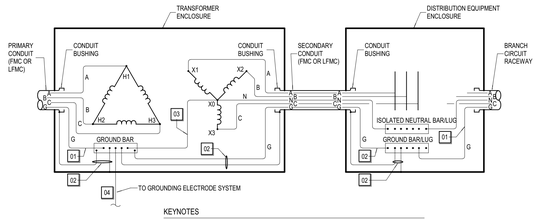


3 E4.01 GROUNDING ELECTRODE SYSTEM DETAIL

1/8" = 1'-0"



2 E4.01 SEPARATELY DERIVED SYSTEM GROUNDING/BONDING SCHEMATIC (SYSTEM BONDING AT SOURCE)

NOT TO SCALE

LOW-VOLTAGE FEEDER SCHEDULE

BASED ON NEC TABLE 310.15(B)(16) FOR COMPACT ALUMINUM CONDUCTORS APPLIED AT 75°C RATING

1 PHASE, 3 WIRE WITH GROUND -OR- 3 PHASE, 3 WIRE WITH GROUND		3 PHASE, 4 WIRE WITH GROUND	
TAG	FILL	TAG	FILL
A100G	(3) #1 AWG + (1) #6 AWG GRD IN 1 1/4" CONDUIT	A100NG	(4) #1 AWG + (1) #6 AWG GRD IN 1 1/4" CONDUIT
A120G	(3) #1/0 AWG + (1) #4 AWG GRD IN 1 1/4" CONDUIT	A120NG	(4) #1/0 AWG + (1) #4 AWG GRD IN 1 1/2" CONDUIT
A135G	(3) #2/0 AWG + (1) #4 AWG GRD IN 1 1/2" CONDUIT	A135NG	(4) #2/0 AWG + (1) #4 AWG GRD IN 2" CONDUIT
A155G	(3) #3/0 AWG + (1) #4 AWG GRD IN 1 1/2" CONDUIT	A155NG	(4) #3/0 AWG + (1) #4 AWG GRD IN 2" CONDUIT
A180G	(3) #4/0 AWG + (1) #4 AWG GRD IN 2" CONDUIT	A180NG	(4) #4/0 AWG + (1) #4 AWG GRD IN 2" CONDUIT
A205G	(3) 250 KCMIL + (1) #2 AWG GRD IN 2" CONDUIT	A205NG	(4) 250 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT
A230G	(3) 300 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT	A230NG	(4) 300 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT
A250G	(3) 350 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT	A250NG	(4) 350 KCMIL + (1) #2 AWG GRD IN 3" CONDUIT
A270G	(3) 400 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT	A270NG	(4) 400 KCMIL + (1) #2 AWG GRD IN 3" CONDUIT
A310G	(3) 500 KCMIL + (1) #1 AWG GRD IN 3" CONDUIT	A310NG	(4) 500 KCMIL + (1) #1 AWG GRD IN 3" CONDUIT
A340G	(3) 600 KCMIL + (1) #1 AWG GRD IN 3" CONDUIT	A340NG	(4) 600 KCMIL + (1) #1 AWG GRD IN 3 1/2" CONDUIT
A400G	TWO PARALLEL [(3) 250 KCMIL + (1) #1 AWG GRD IN 2" CONDUIT]	A400NG	TWO PARALLEL [(4) 250 KCMIL + (1) #1 AWG GRD IN 2 1/2" CONDUIT]
A500G	TWO PARALLEL [(3) 350 KCMIL + (1) #1/0 AWG GRD IN2 1/2" CONDUIT]	A500NG	TWO PARALLEL [(4) 350 KCMIL + (1) #1/0 AWG GRD IN 3" CONDUIT]
A600G	TWO PARALLEL [(3) 500 KCMIL + (1) #2/0 AWG GRD IN 3" CONDUIT]	A600NG	TWO PARALLEL [(4) 500 KCMIL + (1) #2/0 AWG GRD IN 3" CONDUIT]
A800G	THREE PARALLEL [(3) 500 KCMIL + (1) #3/0 AWG GRD IN 3" CONDUIT]	A800NG	THREE PARALLEL [(4) 500 KCMIL + (1) #3/0 AWG GRD IN 3" CONDUIT]
A1000G	FOUR PARALLEL [(3) 350 KCMIL + (1) #4/0 AWG GRD IN 2 1/2" CONDUIT]	A1000NG	FOUR PARALLEL [(4) 350 KCMIL + (1) #4/0 AWG GRD IN 3" CONDUIT]
A1200G	FOUR PARALLEL [(3) 500 KCMIL + (1) 250 KCMIL GRD IN 3" CONDUIT]	A1200NG	FOUR PARALLEL [(4) 500 KCMIL + (1) 250 KCMIL GRD IN 3" CONDUIT]
A1600G	SIX PARALLEL [(3) 500 KCMIL + (1) 350 KCMIL GRD IN 3" CONDUIT]	A1600NG	SIX PARALLEL [(4) 500 KCMIL + (1) 350 KCMIL GRD IN 3 1/2" CONDUIT]
A2000G	SEVEN PARALLEL [(3) 500 KCMIL + (1) 500 KCMIL GRD IN 3 1/2" CONDUIT]	A2000NG	SEVEN PARALLEL [(4) 500 KCMIL + (1) 500 KCMIL GRD IN 3 1/2" CONDUIT]
A2500G	EIGHT PARALLEL [(3) 600 KCMIL + (1) 600 KCMIL GRD IN 3 1/2" CONDUIT]	A2500NG	EIGHT PARALLEL [(4) 600 KCMIL + (1) 600 KCMIL GRD IN 3 1/2" CONDUIT]
A3000G	NINE PARALLEL [(3) 600 KCMIL + (1) 600 KCMIL GRD IN 3 1/2" CONDUIT]	A3000NG	NINE PARALLEL [(4) 600 KCMIL + (1) 600 KCMIL GRD IN 3 1/2" CONDUIT]

NOTE: DESIGNATIONS WITH "NN" (E.G. "A230NG") SHALL BE SIMILAR TO THE REQUIRED "N" FEEDER EXCEPT WITH DOUBLE (200%) NEUTRAL CONDUCTOR.

LOW-VOLTAGE FEEDER SCHEDULE

BASED ON NEC TABLE 310.15(B)(16) FOR COPPER CONDUCTORS APPLIED AT 75°C RATING

1 PHASE, 3 WIRE WITH GROUND -OR- 3 PHASE, 3 WIRE WITH GROUND		3 PHASE, 4 WIRE WITH GROUND	
TAG	FILL	TAG	FILL
20G	(3) #12 AWG + (1) #12 AWG GRD IN 3/4" CONDUIT	20NG	(4) #12 AWG + (1) #12 AWG GRD IN 3/4" CONDUIT
30G	(3) #10 AWG + (1) #10 AWG GRD IN 3/4" CONDUIT	30NG	(4) #10 AWG + (1) #10 AWG GRD IN 3/4" CONDUIT
50G	(3) #8 AWG + (1) #10 AWG GRD IN 3/4" CONDUIT	50NG	(4) #8 AWG + (1) #10 AWG GRD IN 1" CONDUIT
65G	(3) #6 AWG + (1) #8 AWG GRD IN 1" CONDUIT	65NG	(4) #6 AWG + (1) #8 AWG GRD IN 1" CONDUIT
85G	(3) #4 AWG + (1) #8 AWG GRD IN 1" CONDUIT	85NG	(4) #4 AWG + (1) #8 AWG GRD IN 1 1/4" CONDUIT
100G	(3) #3 AWG + (1) #8 AWG GRD IN 1 1/4" CONDUIT	100NG	(4) #3 AWG + (1) #8 AWG GRD IN 1 1/4" CONDUIT
115G	(3) #2 AWG + (1) #6 AWG GRD IN 1 1/4" CONDUIT	115NG	(4) #2 AWG + (1) #6 AWG GRD IN 1 1/2" CONDUIT
130G	(3) #1 AWG + (1) #6 AWG GRD IN 1 1/2" CONDUIT	130NG	(4) #1 AWG + (1) #6 AWG GRD IN 2" CONDUIT
150G	(3) #1/0 AWG + (1) #6 AWG GRD IN 1 1/2" CONDUIT	150NG	(4) #1/0 AWG + (1) #6 AWG GRD IN 2" CONDUIT
175G	(3) #2/0 AWG + (1) #6 AWG GRD IN 2" CONDUIT	175NG	(4) #2/0 AWG + (1) #6 AWG GRD IN 2" CONDUIT
200G	(3) #3/0 AWG + (1) #6 AWG GRD IN 2" CONDUIT	200NG	(4) #3/0 AWG + (1) #6 AWG GRD IN 2 1/2" CONDUIT
230G	(3) #4/0 AWG + (1) #4 AWG GRD IN 2 1/2" CONDUIT	230NG	(4) #4/0 AWG + (1) #4 AWG GRD IN 2 1/2" CONDUIT
255G	(3) 250 KCMIL + (1) #4 AWG GRD IN 2 1/2" CONDUIT	255NG	(4) 250 KCMIL + (1) #4 AWG GRD IN 3" CONDUIT
285G	(3) 300 KCMIL + (1) #4 AWG GRD IN 2 1/2" CONDUIT	285NG	(4) 300 KCMIL + (1) #4 AWG GRD IN 3" CONDUIT
310G	(3) 350 KCMIL + (1) #3 AWG GRD IN 3" CONDUIT	310NG	(4) 350 KCMIL + (1) #3 AWG GRD IN 3" CONDUIT
335G	(3) 400 KCMIL + (1) #3 AWG GRD IN 3" CONDUIT	335NG	(4) 400 KCMIL + (1) #3 AWG GRD IN 3 1/2" CONDUIT
380G	(3) 500 KCMIL + (1) #3 AWG GRD IN 3" CONDUIT	380NG	(4) 500 KCMIL + (1) #3 AWG GRD IN 3 1/2" CONDUIT
420G	(3) 600 KCMIL + (1) #2 AWG GRD IN 3 1/2" CONDUIT	420NG	(4) 600 KCMIL + (1) #2 AWG GRD IN 3 1/2" CONDUIT
500G	TWO PARALLEL [(3) 250 KCMIL + (1) #2 AWG GRD IN 2 1/2" CONDUIT]	500NG	TWO PARALLEL [(4) 250 KCMIL + (1) #2 AWG GRD IN 3" CONDUIT]
600G	TWO PARALLEL [(3) 350 KCMIL + (1) #1 AWG GRD IN 3" CONDUIT]	600NG	TWO PARALLEL [(4) 350 KCMIL + (1) #1 AWG GRD IN 3" CONDUIT]
800G	TWO PARALLEL [(3) 500 KCMIL + (1) #1/0 AWG GRD IN 3 1/2" CONDUIT]	800NG	TWO PARALLEL [(4) 600 KCMIL + (1) #1/0 AWG GRD IN 3 1/2" CONDUIT]
1000G	THREE PARALLEL [(3) 500 KCMIL + (1) #2/0 AWG GRD IN 3" CONDUIT]	1000NG	THREE PARALLEL [(4) 500 KCMIL + (1) #2/0 AWG GRD IN 3 1/2" CONDUIT]
1200G	FOUR PARALLEL [(3) 350 KCMIL + (1)#3/0 AWG GRD IN 3" CONDUIT]	1200NG	FOUR PARALLEL [(4) 350 KCMIL + (1) #3/0 AWG GRD IN 3" CONDUIT]
1600G	FIVE PARALLEL [(3) 500 KCMIL + (1) #4/0 AWG GRD IN 3" CONDUIT]	1600NG	FIVE PARALLEL [(4) 500 KCMIL + (1) #4/0 AWG GRD IN 3 1/2" CONDUIT]
2000G	SIX PARALLEL [(3) 500 KCMIL + (1) 250 KCMIL GRD IN 3 1/2" CONDUIT]	2000NG	SIX PARALLEL [(4) 500 KCMIL + (1) 250 KCMIL GRD IN 3 1/2" CONDUIT]
2500G	SEVEN PARALLEL [(3) 500 KCMIL + (1) 350 KCMIL GRD IN 3 1/2" CONDUIT]	2500NG	SEVEN PARALLEL [(4) 500 KCMIL + (1) 350 KCMIL GRD IN 3 1/2" CONDUIT]
3000G	EIGHT PARALLEL [(3) 500 KCMIL + (1) 500 KCMIL GRD IN 3 1/2" CONDUIT]	3000NG	EIGHT PARALLEL [(4) 500 KCMIL + (1) 500 KCMIL GRD IN 3 1/2" CONDUIT]

NOTE: DESIGNATIONS WITH "NN" (E.G. "230NNG") SHALL BE SIMILAR TO THE REQUIRED "N" FEEDER EXCEPT WITH DOUBLE (200%) NEUTRAL CONDUCTOR.

NOTE #1
REFER TO PANELBOARD AND SWITCHBOARD SCHEDULES FOR ADDITIONAL BRANCH CIRCUIT BREAKERS, SPARE CIRCUIT BREAKERS, AND PREPARED SPACES REQUIRED.

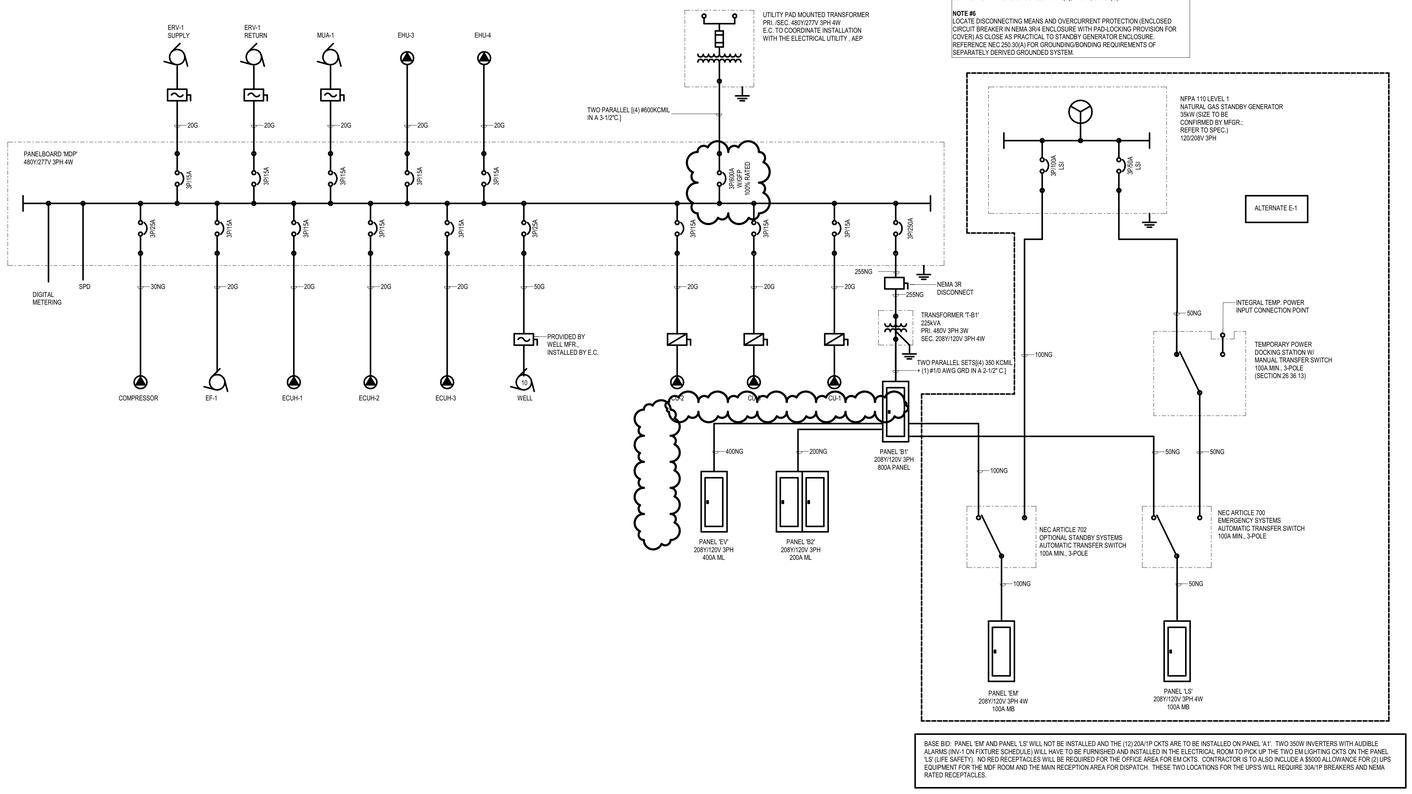
NOTE #2
EMERGENCY POWER SYSTEM OVERCURRENT DEVICES SHALL BE SELECTIVELY COORDINATED PER NEC 700.32 REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION FROM A SINGLE MANUFACTURER PROVING THAT THE INDICATED FEEDER BREAKERS HAVE BEEN TESTED TO PROVIDE TOTAL SELECTIVE COORDINATION WITH ALL BRANCH CIRCUIT BREAKERS IN THE EMERGENCY PANELBOARD(S) AT THE AVAILABLE FAULT CURRENT LEVELS INDICATED. DOCUMENTATION SHALL BE FURNISHED WITH REQUIRED DISTRIBUTION / GENERATION EQUIPMENT SUBMITTALS.

NOTE #3
ARTICLE 700 EMERGENCY POWER SYSTEM FEEDERS SHALL MEET FIRE PROTECTION REQUIREMENT OF NEC 700.10(D) REQUIREMENTS. WHERE FEEDERS ARE NOT INSTALLED IN AN AREA PROTECTED BY AUTOMATIC FIRE SUPPRESSION SYSTEM, OUTSIDE/UNDER THE BUILDING, OR WITHIN TWO-HOUR MIN. LISTED ASSEMBLY, THEN PROVIDE A LISTED ELECTRICAL CIRCUIT PROTECTIVE SYSTEM OR FIRE-RESISTIVE CABLE SYSTEM. REFER TO SECTION 26 05 19 FOR APPROVED WIRE/CABLE PRODUCTS.

NOTE #4
INTERLOCK MAIN TRANSFER SWITCH AUXILIARY CONTACTS WITH GENERATOR SYSTEM AUXILIARY USER INPUT TO PROVIDE INDICATION AT THE GENERATOR SYSTEM REMOTE ANNUNCIATOR WHEN PERMANENT POWER SOURCE IS NOT CONNECTED; REF. NEC 700.3(F)(5).

NOTE #5
GENERATOR CONTROLLER SHALL PROVIDE INHERENT OVERLOAD AND SHORT CIRCUIT PROTECTION FOR ALTERNATOR AND CONDUCTORS EXTENDING FROM ALTERNATOR OUTPUT TERMINALS TO FIRST OVERCURRENT PROTECTION DEVICE(S) DOWNSTREAM. REFERENCE NEC 445.12(A), 445.13, 240.21(5).

NOTE #6
LOCATE DISCONNECTING MEANS AND OVERCURRENT PROTECTION (ENCLOSED CIRCUIT BREAKER IN NEMA 3R/4 ENCLOSURE WITH PAD-LOCKING PROVISION FOR COVER) AS CLOSE AS PRACTICAL TO STANDBY GENERATOR ENCLOSURE. REFERENCE NEC 250.30(A) FOR GROUNDING/BONDING REQUIREMENTS OF SEPARATELY DERIVED GROUNDED SYSTEM.



BASE BID: PANEL 'EM' AND PANEL 'LS' WILL NOT BE INSTALLED AND THE (12) 20A/1P CKTS ARE TO BE INSTALLED ON PANEL 'A1'. TWO 350W INVERTERS WITH AUDIBLE ALARMS (INV-1 ON FIXTURE SCHEDULE) WILL HAVE TO BE FURNISHED AND INSTALLED IN THE ELECTRICAL ROOM TO PICK UP THE TWO EM LIGHTING CKTS ON THE PANEL 'LS' (LIFE SAFETY). NO RECEPTACLES WILL BE REQUIRED FOR THE OFFICE AREA FOR EM CKTS. CONTRACTOR IS TO ALSO INCLUDE A $5000 ALLOWANCE FOR (2) UPS EQUIPMENT FOR THE MDF ROOM AND THE MAIN RECEPTION AREA FOR DISPATCH. THESE TWO LOCATIONS FOR THE UPS'S WILL REQUIRE 30A/1P BREAKERS AND NEMA RATED RECEPTACLES.

1 E4.01 POWER DISTRIBUTION ONE-LINE DIAGRAM

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10.13.2022	BIDS & CONSTRUCTION
11.22.2022	ADDENDUM 002

DRAWN	TJO
REVIEWED	AAM
PROJECT NO.	5-5138

POWER DISTRIBUTION ONE-LINE DIAGRAM & ELECTRICAL DETAILS

E4.01

BIM 360://5-5138 Three Rivers New Transportation Facility/5-5138E 2019.rvt
11/21/2022 10:52:36 AM

PANELBOARD: PANEL 'MDP'

LOCATION: MECH / ELEC A123 | **DISTRIBUTION SYSTEM:** 480Y/277V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 18KA | **MAINS RATING:** 600 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: | **MCB RATING:** 600 A

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
MDP-1				43,467	3,880								MDP-2
MDP-3	XFMR 'T-B1'	250 A	3			37,292	3,880			3	25 A	WELL	MDP-4
MDP-5								59,063	3,880				MDP-6
MDP-7				1,600	1,600								MDP-8
MDP-9	CU-3	15 A	3			1,600	1,600			3	15 A	CU-2	MDP-10
MDP-11								1,600	1,600				MDP-12
MDP-13				1,280	960								MDP-14
MDP-15	CU-1	15 A	3			1,280	960			3	15 A	MUA-1	MDP-16
MDP-17								1,280	960				MDP-18
MDP-19				2,000	2,000								MDP-20
MDP-21	ECUH-1	15 A	3			2,000	2,000			3	15 A	ECUH-3	MDP-22
MDP-23								2,000	2,000				MDP-24
MDP-25				3,333	942								MDP-26
MDP-27	ECUH-2	15 A	3			3,333	942			3	15 A	ERV-1 SUPPLY	MDP-28
MDP-29								3,333	942				MDP-30
MDP-31				942	3,880								MDP-32
MDP-33	ERV-1 RETURN	15 A	3			942	3,880			3	25 A	COMPRESSOR	MDP-34
MDP-35								942	3,880				MDP-36
MDP-37				2,106	1,667								MDP-38
MDP-39	EF-1	15 A	3			2,106	1,667			3	15 A	EUH-4	MDP-40
MDP-41								2,106	1,667				MDP-42
MDP-43				1,667	0								MDP-44
MDP-45	EUH-3	15 A	3			1,667	0			3	20 A	DIGITAL METERING	MDP-46
MDP-47								1,667	0				MDP-48
MDP-49				0									MDP-50
MDP-51	SPD	20 A	3			0							MDP-52
MDP-53								0					MDP-54
MDP-55	PREPARED SPACE	--	--	0	0					--	--	PREPARED SPACE	MDP-56
MDP-57	PREPARED SPACE	--	--			0	0			--	--	PREPARED SPACE	MDP-58
MDP-59	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	MDP-60
		PHASE LOAD:		71,324 VA		65,149 VA		86,920 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Equipment	70,620 VA	100.00%	70,620 VA		
Lighting - Exterior	1,792 VA	100.00%	1,792 VA	TOTAL CONNECTED LOAD:	223.4 kVA
Lighting - General	6,235 VA	100.00%	6,235 VA	TOTAL ESTIMATED LOAD:	216.4 kVA
Motor	45,237 VA	106.43%	48,147 VA	TOTAL CONNECTED CURRENT:	269 A
Receptacle	29,748 VA	66.81%	19,874 VA	TOTAL EST. DEMAND CURRENT:	260 A
Spare	69,760 VA	100.00%	69,760 VA		

NOTES:

PANELBOARD: PANEL 'B2'

LOCATION: SERVICE BAY A125 | **DISTRIBUTION SYSTEM:** 208Y/120V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 18KA | **MAINS RATING:** 200 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: PANEL 'B1'...

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
B2-1	SERVICE BAY DROP CORD (GFCI BRKR)	20 A	1	180	180					1	20 A	SERVICE BAY DROP CORD (GFCI BRKR)	B2-2
B2-3	SERVICE BAY DROP CORD (GFCI BRKR)	20 A	1			180	180			1	20 A	SERVICE BAY DROP CORD (GFCI BRKR)	B2-4
B2-5	RECEPTACLE	20 A	1					900	720	1	20 A	RECEPTACLE SERVICE BAY A127	B2-6
B2-7	RECEPT PARTS / EQUIPMENT-1 A124-1	20 A	1	360	720					1	20 A	RECEPTACLE SERVICE BAY A125	B2-8
B2-9	INGROUND LIFT	20 A	1			1,176	1,392			1	20 A	OVERHEAD DOORS	B2-10
B2-11	RECEPTACLE	20 A	1					720	1,392	1	20 A	OVERHEAD DOORS	B2-12
B2-13					1,176					1	20 A	SP-1	B2-14
B2-15	RECEPT PARTS / EQUIPMENT-1 A124-1	20 A	1			1,080	720			1	20 A	RECEPTACLE	B2-16
B2-17	RECEPT PARTS / EQUIPMENT-1 A124-1	20 A	1					720	104	2	50 A	WELDER (GFCI BRKR)	B2-18
B2-19				889	104								B2-20
B2-21	VEF-1,2	15 A	3			889							B2-22
B2-23								889					B2-24
B2-25													B2-26
B2-27													B2-28
B2-29													B2-30
B2-31													B2-32
B2-33													B2-34
B2-35													B2-36
B2-37	SPARE	20 A	1	0	0					1	20 A	SPARE	B2-38
B2-39	SPARE	20 A	1			0	0			1	20 A	SPARE	B2-40
B2-41	SPARE	20 A	1					0	0	1	20 A	SPARE	B2-42
		PHASE LOAD:		3,609 VA		5,617 VA		5,445 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Equipment	0 VA	0.00%	0 VA		
Motor	7,802 VA	104.27%	8,135 VA	TOTAL CONNECTED LOAD:	14.7 kVA
Receptacle	6,868 VA	100.00%	6,868 VA	TOTAL ESTIMATED LOAD:	15.0 kVA
				TOTAL CONNECTED CURRENT:	41 A
				TOTAL EST. DEMAND CURRENT:	42 A

NOTES:

PANELBOARD: PANEL 'B1'...

LOCATION: MECH / ELEC A123 | **DISTRIBUTION SYSTEM:** 208Y/120V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 24KA | **MAINS RATING:** 600 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: XFMR 'T-B1' | **MCB RATING:** 600 A

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
B1-1	RECEPTACLE DRIVER LOBBY A109	20 A	1	720	900					1	20 A	RECEPTACLE RECORDS / TECH A105	B1-2
B1-3	EWC (GFCI BRKR)	20 A	1			180	1,500			1	20 A	FURN-3	B1-4
B1-5	REFRIGERATOR (GFCI BRKR)	20 A	1					900	360	1	20 A	RECEPTACLE TRAINING / LOUNGE A113	B1-6
B1-7	MICROWAVE	20 A	1	1,000	1,000					1	20 A	COFFEE MACHINE	B1-8
B1-9	RECEPTACLE TRAINING / LOUNGE A117	20 A	1			900	720			1	20 A	RECEPTACLE EQUIP STORAGE A110	B1-10
B1-11	RECEPTACLE	20 A	1					1,080	3,120				B1-12
B1-13	FURN-2	20 A	1	1,500	900					3	100 A	PANEL 'EM'	B1-14
B1-15	RECEPT PARTS / EQUIPMENT-1 A124-1	20 A	1			720	1,080						B1-16
B1-17								36,880	1,656	1	25 A	EF-2	B1-18
B1-19	PANEL 'EV'	400 A	3	21,640	900					2	20 A	ERP-1 (5 PANELS)	B1-20
B1-21						19,240	900						B1-22
B1-23	RECEPTACLE CONFERENCE A104	20 A	1					900	180	1	20 A	SAW	B1-24
B1-25	RECEPTACLE TRAINING / LOUNGE A117	20 A	1	720	76					1	20 A	LIGHTING - GENERAL	B1-26
B1-27	SPARE	20 A	1			0	3,609						B1-28
B1-29	SPARE	20 A	1					0	5,617	3	200 A	PANEL 'B2'	B1-30
B1-31				1,350	5,445								B1-32
B1-33	PANEL 'LS'	50 A	3			155	900			2	20 A	ERP-1 (5 PANELS)	B1-34
B1-35								0	900				B1-36
B1-37	ERP-1 (5 PANELS)	20 A	2	900	1,000					1	20 A	ELECTRIC HAND DRYER	B1-38
B1-39						900	1,000			1	20 A	ELECTRIC HAND DRYER	B1-40
B1-41	EUH-1	20 A	2					1,850	1,850	2	20 A	EUH-2	B1-42
B1-43				1,850	1,850								B1-44
B1-45	DHW-1, PP-1	20 A	1			1,528	1,000			1	20 A	BUS GATES	B1-46
B1-47	WS-1, WS-2	20 A	1					2,000	0	1	20 A	SPARE	B1-48
B1-49					0					1	20 A	SPARE	B1-50
B1-51							0			1	20 A	SPARE	B1-52
B1-53									0	1	20 A	SPARE	B1-54
B1-55	LIGHTING - EXTERIOR	20 A	1	381	1,335					1	30 A	LIGHTING - EXTERIOR-ZONE #3	B1-56
B1-57	LIGHTING - EXTERIOR-ZONE #5	20 A	1			430	2,530			1	20 A	LIGHTING - GENERAL	B1-58
B1-59	LIGHTING - GENERAL	20 A	1					1,770					B1-60
B1-61													B1-62
B1-63													B1-64
B1-65													B1-66
B1-67													B1-68
B1-69													B1-70
B1-71													B1-72
B1-73													B1-74
B1-75													B1-76
B1-77													B1-78
B1-79													B1-80
B1-81													B1-82
B1-83													B1-84
		PHASE LOAD:		43,467 VA		37,292 VA		59,063 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Equipment	22,300 VA	100.00%	22,300 VA		
Lighting - Exterior	1,792 VA	100.00%	1,792 VA	TOTAL CONNECTED LOAD:	139.8 kVA
Lighting - General	6,235 VA	100.00%	6,235 VA	TOTAL ESTIMATED LOAD:	130.4 kVA
Motor	9,986 VA	104.15%	10,400 VA	TOTAL CONNECTED CURRENT:	388 A
Receptacle	29,748 VA	66.81%	19,874 VA	TOTAL EST. DEMAND CURRENT:	362 A
Spare	69,760 VA	100.00%	69,760 VA		

NOTES: DOUBLE TUB

PANELBOARD: PANEL 'EV'

LOCATION: ENTRANCE-1 A111-1 | **DISTRIBUTION SYSTEM:** 208Y/120V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 18KA | **MAINS RATING:** 400 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: PANEL 'B1'...

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
EV-1				8,320	8,320					2	100 A	ELECTRIC CHARGING UNIT	EV-2
EV-3	ELECTRIC CHARGING UNIT	100 A	2			8,320	8,320						EV-4
EV-5	ELECTRIC CHARGING UNIT	100 A	2					8,320	8,320	2	100 A	ELECTRIC CHARGING UNIT	EV-6
EV-7				8,320	8,320								EV-8
EV-9	BUS BLOCK CHARGE	20 A	1			1,500	500			2	15 A	BATTERY CHARGER MONITORING PANEL	EV-10
EV-11	BUS BLOCK CHARGE	20 A	1					1,500	500				EV-12
EV-13	BUS BLOCK CHARGE	20 A	1	1,500	1,500					1	20 A	BUS BLOCK CHARGE	EV-14
EV-15	BUS BLOCK CHARGE	20 A	1			1,500	1,500			1	20 A	BUS BLOCK CHARGE	EV-16
EV-17	BATTERY CHARGER MONITORING PANEL	15 A	2					600					EV-18
EV-19				600									EV-20
EV-21													EV-22
EV-23													EV-24
EV-25					0					1	20 A	SPARE	EV-26
EV-27							0			1	20 A	SPARE	EV-28
EV-29									0	1	20 A	SPARE	EV-30
EV-31													EV-32
EV-33													EV-34
EV-35													EV-36
EV-37													EV-38
EV-39													EV-40
EV-41													EV-42
		PHASE LOAD:		36,880 VA		21,640 VA		19,240 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Receptacle	9,000 VA	100.00%	9,000 VA		
Spare	68,760 VA	100.00%	68,760 VA	TOTAL CONNECTED LOAD:	77.8 kVA
				TOTAL ESTIMATED LOAD:	77.8 kVA
				TOTAL CONNECTED CURRENT:	216 A
				TOTAL EST. DEMAND CURRENT:	216 A

NOTES: INSTALLED INSIDE OF A NEMA 3R BOX.

PANELBOARD: PANEL 'EM'

LOCATION: MECH / ELEC A123 | **DISTRIBUTION SYSTEM:** 208Y/120V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 10KA | **MAINS RATING:** 100 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: PANEL 'B1'... | **MCB RATING:** 100 A

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
EM-1	MDF	20 A	1	360	180					1	20 A	MDF	EM-2
EM-3	RECEPTACLE DISPATCH A102	20 A	1			540	360			1	20 A	RECEPTACLE DISPATCH A102	EM-4
EM-5	RECEPTACLE ASSIST SUPER A106	20 A	1					180	900	1	20 A	RECEPTACLE CONFERENCE A104	EM-6
EM-7	RECEPTACLE SUPER A103	20 A	1	180	900					1	20 A	RECEPTACLE ASSIST SUPER A106	EM-8
EM-9													EM-10
EM-11													EM-12
EM-13	FURN-1	20 A	1	1,500									EM-14
EM-15													EM-16
EM-17													EM-18
EM-19													EM-20
EM-21													EM-22
EM-23													EM-24
EM-25					0					1	20 A	SPARE	EM-26
EM-27							0			1	20 A	SPARE	EM-28
EM-29									0	1	20 A	SPARE	EM-30
		PHASE LOAD:		3,120 VA		900 VA		1,080 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Equipment	1,500 VA	100.00%	1,500 VA		
Receptacle	3,600 VA	100.00%	3,600 VA	TOTAL CONNECTED LOAD:	5.1 kVA
				TOTAL ESTIMATED LOAD:	5.1 kVA
				TOTAL CONNECTED CURRENT:	14 A
				TOTAL EST. DEMAND CURRENT:	14 A

NOTES:

PANELBOARD: PANEL 'LS'

LOCATION: MECH / ELEC A123 | **DISTRIBUTION SYSTEM:** 208Y/120V 3PH 4W | **MAINS TYPE:** MAIN CIRCUIT BREAKER
MOUNTING: SURFACE | **SCCR:** 10KA | **MAINS RATING:** 100 A
ENCLOSURE: TYPE 1 | SUPPLY FROM: PANEL 'B1'... | **MCB RATING:** 50 A

PROVIDE WITH THE FOLLOWING:

CIRCUIT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CIRCUIT
LS-1	FIRE ALARM PANEL (LOCKABLE BRKR)	20 A	1	0	1,350					1	20 A	LIGHTING - GENERAL	LS-2
LS-3	LIGHTING - GENERAL	20 A	1			155							LS-4
LS-5													LS-6
LS-7													LS-8
LS-9													LS-10
LS-11													LS-12
LS-13													LS-14
LS-15													LS-16
LS-17													LS-18
LS-19													LS-20
LS-21													LS-22
LS-23													LS-24
LS-25					0					1	20 A	SPARE	LS-26
LS-27							0			1	20 A	SPARE	LS-28
LS-29									0	1	20 A	SPARE	LS-30
		PHASE LOAD:		1,350 VA		155 VA		0 VA					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Lighting - General	1,505 VA	100.00%	1,505 VA		
				TOTAL CONNECTED LOAD:	1.5 kVA
				TOTAL ESTIMATED LOAD:	1.5 kVA
				TOTAL CONNECTED CURRENT:	4 A
				TOTAL EST. DEMAND CURRENT:	4 A

NOTES:

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ISSUANCES
10.13.2022 BIDS & CONSTRUCTION
11.22.2022 ADDENDUM 002

DRAWN TJO
REVIEWED AAM

PROJECT NO. 5-5138

POWER DISTRIBUTION EQUIPMENT SCHEDULES

E5.01

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LIGHTING FIXTURE SCHEDULE

TAG	FIXTURE DESCRIPTION	FIXTURE MANUFACTURER/CATALOG NUMBER	VOLTAGE	DRIVER	LED	MIN. LUMEN	LENS	FINISH	MOUNTING	POWER INPUT (VA)	LINE ITEM NOTES
A1	2'x2' RECESSED EDGE-LIT FLAT PANEL, ALUMINUM FRAME, ACRYLIC LENS, DAMP LOCATION LISTED	LITHONIA: EPANL-2X2-3400LM-80CRI-35K-MIN10-ZT-MVOLT METALUX: 2ZFP-32-35-C LITELINE: LEDP-22-WH-35-30-2 COLUMBIA: SRP22-35-HL-G-ED-U DAYBRITE: 2-FPZ-38B-835-2-DS-UNV-DIM	UNIVERSAL (120-277V)	0-10V DIMMING (MIN. RANGE 10-100%)	3,500K CCT 80+CRI	3,300	DIFFUSE	WHITE	RECESSED IN 2'x2' SUSPENDED CEILING (15/16" T-BAR)	30	
B1	SAME AS 'A1', EXCEPT 1'x4' AND LUMENS					3,900				40	
INV-1	EMERGENCY LIGHTING INVERTER SYSTEM, INTERRUPTIBLE, SINGLE PHASE, TRUE SINE-WAVE OUTPUT, MIN 350VA RATING, MIN 2.5 CREST WAVE FACTOR, INRUSH CAPABILITY FOR COMPATIBILITY WITH LED LOADS, 90 MIN. BATTERY CAPACITY, UL924 LISTED, MIN 3 YEAR WARRANTY WITH AN AUDIBLE ALARM	EVENLITE: PW-35-LC SERIES DUAL LITE: LG-350-S-I SERIES ISOLITE: IMI-35-LC SERIES	120V (UNIVERSAL IF AVAILABLE)						INSTALL IN MECH/ELECTRICAL RM, WALL MTD	350	
J1	4' LENGTH LED STRIPLIGHT, WALL/SURFACE MOUNT BRACKET, ROUND ACRYLIC LENS, DAMP LOCATION LISTING	LITHONIA: CLX-L48-5000LM-SEF-RDL-MVOLT-GZ10-35K-80CRI-WH METALUX: 4SNLED-LD5-50SL-LW-UNV-L835-CD-1 COLUMBIA: MPS-4-35-ML-C-W-ED-U DAYBRITE: FSS-4-55L-835-UNV-DIM	UNIVERSAL (120-277V)	0-10V DIMMING (MIN. RANGE 10-100%)	3,500K CCT ≥80 CRI	4,700	DIFFUSE	WHITE	IN SERVICE BAYS & PARTS CONTRACTOR TO FURNISH A WALL MOUNTED METAL 'L' BRACKET. THIS 'L' BRACKET IS TO BE MOUNTED AT 10'-0" AFF AND SUPPORT CHAIN HUNG FIXTURES 24" OFF OF THE WALL FOR OVER TOOL BOXES. CONTRACTOR TO PROVIDE SINGLE GANG JB ON WALL AND WHIP FIXTURES UP TO 6'-0" FOR THIS INSTALLATION.	50	3
J2	4' LENGTH LED STRIPLIGHT, SUSPENDED, WRAPAROUND LENS, IP6X RATED, DAMP LOCATION LISTED	LITHONIA: FEM COLUMBIA: LXEM4-35ML-RFA-EDU	UNIVERSAL (120-277V)	0-10V DIMMING (MIN. RANGE 10-100%)	3,500K CCT ≥80 CRI	4,700	DIFFUSE	WHITE	SURFACE MTD TO DRYWALL LID	50	
J3	8' LENGTH LED STRIPLIGHT, SUSPENDED, WRAPAROUND LENS, IP6X RATED, DAMP LOCATION LISTED	LITHONIA: FEM-L96-12000LM-LPAFL-MD-MVOLT-GZ10-35K-80CRI HOLOPHANE: EMS-L96-12000LM-LPAFL-MD-MVOLT-GZ10-35K-80CRI FAILSAFE: 8VRVT2-LDS-12-FR50-UNV-L835-CD1-WL COLUMBIA: LXEM-8-35-HL-RFA-ED-U DAYBRITE: V2-W-L-T-70L-835-8-UNV	UNIVERSAL (120-277V)	0-10V DIMMING (MIN. RANGE 10-100%)	3,500K CCT ≥80 CRI	11,500	DIFFUSE	WHITE	SUSPENDED FROM EXPOSED CEILING STRUCTURE	80	
SD1	6" ROUND DOWNLIGHT, IMPACT RESISTANT FLUSH OR REGRESSED LENS, IP65 RATED OR BETTER, WET LOCATION LISTED	KENALL: HADL6-FF-5BR-12L-40K8-W-CSS-G-RIG6-DV-DIM1 FAILSAFE: FLD68X-10-D010 + FEU6B-1/2-80-35 + F6LBXV-M-1-H NEW STAR: DLM6-6-D-L2-40-B-A-C-3-UN-TH	(120-277V)	FIXED / STANDARD	≥70 CRI	1,400	DIFFUSE	CLEAR SEMI-SPECULAR	RECESSED IN EXTERIOR CANOPY	15	
SW1	WALL MOUNT LED AREA LIGHT, DIE-CAST ALUMINUM HOUSING, TRAPEZOIDAL, ZERO UPLIGHT, TYPE IV DISTRIBUTION, WET LOCATION LISTED	LITHONIA: WDGE2-P3-40K-80CRI-VW-MVOLT-SRM-DBLXD MCGRAW-EDISON: IST-SAI-A-T4D-U-T4W-BK HUBBELL: TRP2-24L-30-4K7-4-UNV-BLT GARDCO: 111L-16L-550-NW-G2-4-UNV-F1-BK	UNIVERSAL (120-277V)	FIXED / STANDARD	4,000K CCT ≥70 CRI	2,900	CLEAR	BLACK	SURFACE MOUNTED TO WALL	25	
SW2	SAME AS 'SW1', EXCEPT MINIM LUMENS					4,900				50	
SA1	ARCHITECTURAL AREA LED FIXTURE, SINGLE HEAD, FORWARD THROW DISTRIBUTION, HOUSE SHIELD, DIE CAST ALUMINUM HOUSING, OUTDOOR WET LOCATION LISTING	LITHONIA: DSX0 LED P5 40K TFTM MVOLT SPA HS D MCGRAW-EDISON: GLEON- HUBBELL: RAR1-160L-70-4K7-4F-A	120V (UNIVERSAL IF AVAILABLE)	FIXED/STANDARD	4000K CCT	9,120	DIFFUSE	BRONZE	SITE LIGHTING POLE: 25'-0" HIGH U.N.O. ROUND STRAIGHT ALUMINUM POLE WITH ANCHOR BOLT BASE AND FULL BASE COVER. BASE PER DETAIL.	89	
SA2	ARCHITECTURAL AREA LED FIXTURE, SINGLE HEAD, TYPE V DISTRIBUTION, DIE CAST ALUMINUM HOUSING, OUTDOOR WET LOCATION LISTING	LITHONIA: DSX0-LED P1 40K T5M MVOLT SPA DD MCGRAW-EDISON: GLEON HUBBELL: RAR1-80L-39-4K7-5QW-UNV-A-DBT	120V (UNIVERSAL IF AVAILABLE)	FIXED/STANDARD	4000K CCT	4,891	DIFFUSE	BRONZE	SITE LIGHTING POLE: 15'-0" HIGH U.N.O. ROUND STRAIGHT ALUMINUM POLE WITH ANCHOR BOLT BASE AND FULL BASE COVER. BASE PER DETAIL.	38	
SB	ARCHITECTURAL AREA LED FIXTURE, DOUBLE HEAD, TYPE V DISTRIBUTION, DIE CAST ALUMINUM HOUSING, OUTDOOR WET LOCATION LISTING	LITHONIA: DSX0-LED-P21-40KT5M MVOLT SPA DDBXD MCGRAW-EDISON: GLEON HUBBELL: RAR1-160L-70-4K7-5QW-A-DBT	120V (UNIVERSAL IF AVAILABLE)	FIXED/STANDARD	4000K CCT	9,782	DIFFUSE	BRONZE	SITE LIGHTING POLE: 15'-0" HIGH U.N.O. ROUND STRAIGHT ALUMINUM POLE WITH ANCHOR BOLT BASE AND FULL BASE COVER. POLE IS TO HAVE A ACCESS HOLE AT 12'-0" FOR A CAMERA AND ACCESS POINT. BASE PER DETAIL.	76	
X1	EXIT SIGN, SINGLE FACE, DIE-CAST ALUMINUM HOUSING, RED LETTERING, UNIVERSAL MOUNTING, DAMP LOCATION LISTING	LITHONIA: LE-S-1-R-TP SURELITE: CX-6-1-R DUALITE: SE-S-R-BN CHLORIDE: 55L-3-R HOLOPHANE: MEX-S-1-R ISOLITE: LPDC-AC-R-1-BA-BK-MTEB-LD-TP BEGHELLI: LC1-E-HT-LR-1-B-AL-TPS	DUAL VOLTAGE (120V & 277V)	N/A	N/A	N/A	N/A	ALUMINUM FACE / BLACK HOUSING	UNIVERSAL SURFACE MOUNT (TOP, SIDE, BACK)	2	
X2	SAME AS 'X1' EXCEPT DOUBLE FACE										

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

A. MODEL NUMBERS GIVEN IN THIS SCHEDULE MAY NOT INCLUDE ALL OPTIONS AND ACCESSORIES AS NECESSARY TO MEET THE REQUIREMENTS OF THE DESCRIPTION AND SPECIFICATIONS.

B. CONTRACTOR SHALL PROVIDE ALL NECESSARY MOUNTING HARDWARE FOR EACH FIXTURE TYPE. COORDINATE WITH CEILING TYPES AND MOUNTING LOCATIONS.

C. ALL FINISHES SHALL BE CHOSEN FROM THE MANUFACTURER'S CATALOGED/STANDARD OPTIONS UNLESS OTHERWISE NOTED.

D. ALL LIGHT SOURCES SHALL BE 4,000K CORRELATED COLOR TEMPERATURE, UNLESS OTHERWISE NOTED. ALL INTERIOR LIGHT SOURCES SHALL HAVE COLOR RENDERING INDEX RATING OF 80 OR GREATER.

E. ALL FIXTURES SHALL BE SUPPLIED WITH UNIVERSAL VOLTAGE INPUT (120/277V) WHERE AVAILABLE FROM THE MANUFACTURER. VOLTAGE LISTED IN THE SCHEDULE IS INTENDED UTILIZATION VOLTAGE.

F. REFER TO THE PLAN DRAWINGS FOR LOCATIONS OF EMERGENCY-OUTY FIXTURES, INCLUDING FIXTURES WITH MULTIPLE CIRCUITS AND/OR EMERGENCY-OUITY SUBSECTIONS. ALL EMERGENCY-OUTY FIXTURES SHALL BE WIRED AND CIRCUITED PER NEC ARTICLE 700 RULES.

G. TO MAINTAIN A UNIFORM AND COORDINATED APPEARANCE ACROSS THE PROJECT, ONLY ONE APPROVED MANUFACTURER SHALL BE SELECTED FOR MULTIPLE FIXTURE TYPES AMONG WHICH A SIMILAR STYLE OR SERIES IS INTENDED. NON-CONFORMANCE SHALL BE JUDGED AT THE ENGINEER'S DISCRETION AND MAY REQUIRE CONTRACTOR'S RESELECTION OF SOME TYPES WITHIN THE LIST OF APPROVED MANUFACTURERS.

H. A BREAK-OUT COST SHALL BE MADE AVAILABLE TO THE BIDDING CONTRACTOR(S) FOR ANY FIXTURE TYPES WHICH LIST A SINGLE PRODUCT. THIS PRICING SHALL BE FURNISHED TO THE ARCHITECT/ENGINEER, CONSTRUCTION MANAGER, AND/OR OWNER UPON REQUEST.

LIGHTING FIXTURE SCHEDULE LINE ITEM NOTES:

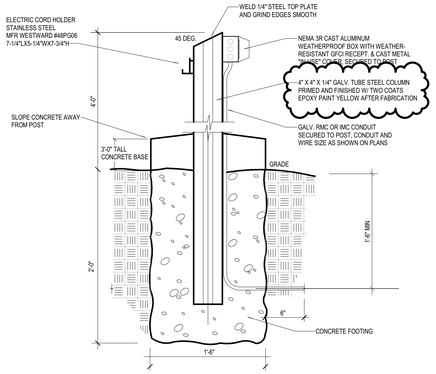
1. EMERGENCY LIGHTING CONTROL DEVICES SHALL BE WIRED WITH SUPPLY FROM EMERGENCY LIGHTING CIRCUIT, AND FROM NORMAL/UTILITY LIGHTING CIRCUIT, BOTH LINE AND LOAD SIDE OF RESPECTIVE CONTROL DEVICE(S) FOR THE LIGHTING CONTROL ZONE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2. EMERGENCY LIGHTING UNIT EQUIPMENT (INCLUDING BATTERY PACKS, EXIT SIGNS, INVERTERS, ETC.) SHALL HAVE 5-YEAR MANUFACTURER WARRANTY. TEST SWITCH AND CHARGE INDICATOR LIGHT. PROVIDE UNSWITCHED HOT CONDUCTOR FROM RESPECTIVE LOCAL LIGHTING CIRCUIT TO THE BATTERY.

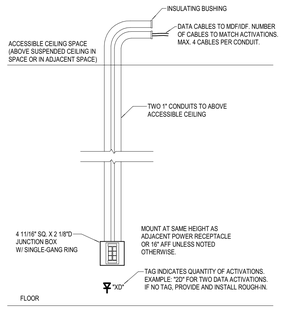
3. COORDINATE EXACT LOCATIONS OF FIXTURES IN UTILITY ROOMS WITH EQUIPMENT, DUCTWORK, PIPING, ETC. IN FIELD TO ACHIEVE UNIFORM ILLUMINATION.

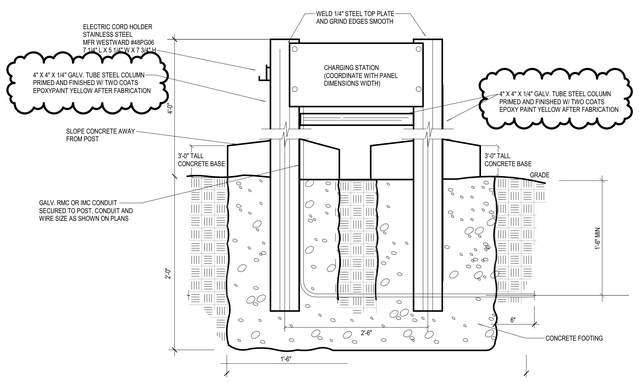
4. PROVIDE FEED POINT ON ENTIRE TRACK SYSTEM ARRANGEMENT WITH 3A CURRENT LIMITER DEVICE AS REQUIRED FOR NEC COMPLIANCE.

5. PROVIDE FEED POINT ON ENTIRE TRACK SYSTEM ARRANGEMENT WITH 12A CURRENT LIMITER DEVICE AS REQUIRED FOR NEC COMPLIANCE.



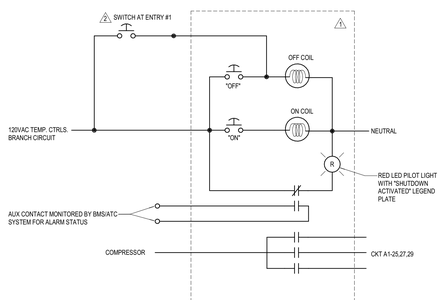
4 E5.10 BUS PARKING PEDESTAL POWER
1" = 1'-0"





6 E5.10 CHARGING STATION PEDESTAL
1" = 1'-0"

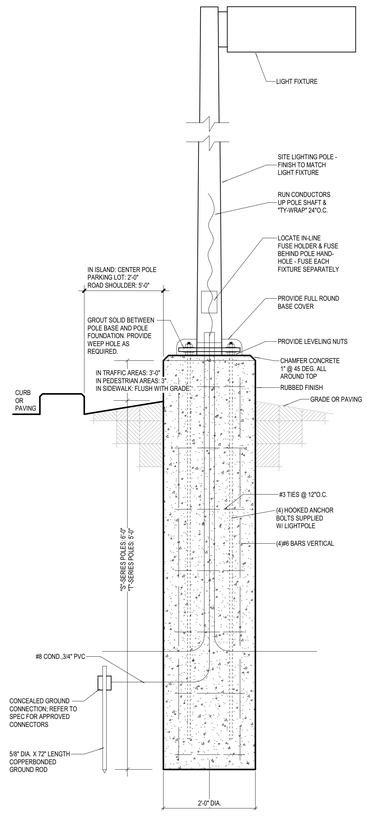
3 E5.10 TYPICAL COMMUNICATION OUTLET
1" = 1'-0"



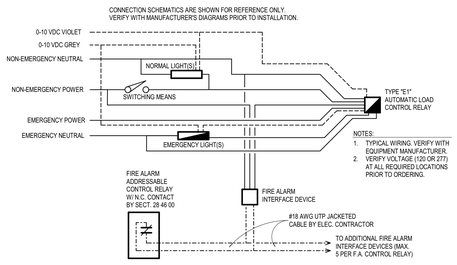
1. 30A, 4-POLE, MECHANICALLY-HELD CONTACTOR WITH 120VAC CONTROL COILS, MOMENTARY ON/OFF PUSH BUTTONS, ONE N.C. AND ONE N.O. AUX CONTACTS, RED LED PILOT LIGHT WIRED TO N.C. AUX CONTACT FOR "OFF" INDICATION. CUSTOM ENGRAVED DEVICE LABELS, NEMA 1 ENCLOSURE. PROVIDE ENGRAVED NAMEPLATE INDICATING "EMERGENCY BOILER SHUTDOWN".

2. RED MOMENTARY PUSHBUTTON SWITCH MOUNTED ON YELLOW POLYCARBONATE BODY, CLEAR POLYCARBONATE HINGED COVER, CUSTOM LABEL "BOILER SHUTDOWN". PROVIDE "STOPPER STATION" SERIES AS MFR'D BY SAFETY TECHNOLOGY INTL, INC., MODEL NO. SS2224ZA-EN OR APPROVED EQUIV. PROVIDE W/ MATCHING BACKBOX (MODEL NO. KIT-71101A-Y) FOR APPLICATIONS WITHOUT A RECESSED SWITCH BOX FOR MOUNTING

2 E5.10 COMPRESSOR SHUTDOWN CONTROL
1/8" = 1'-0"



1 E5.10 SITE LIGHTING POLE FOUNDATION
1/8" = 1'-0"



5 E5.10 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY WITH FIRE ALARM INTERFACE
1" = 1'-0"

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NEW TRANSPORTATION FACILITY
THREE RIVERS COMMUNITY SCHOOLS
THREE RIVERS, MICHIGAN

ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.22.2022	ADDENDUM 002

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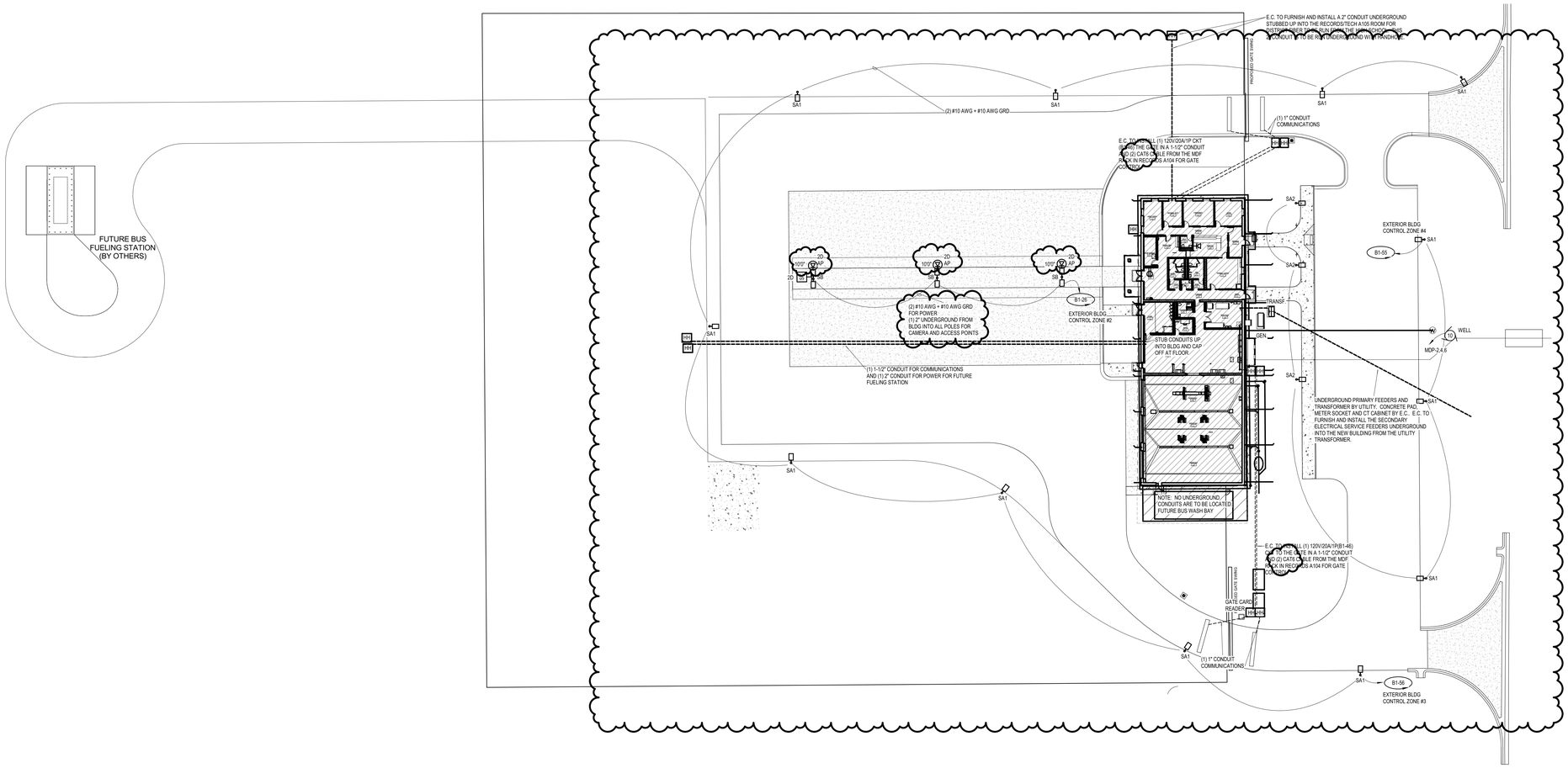
REVIEWED	AAM
PROJECT NO.	5-5138

LIGHTING FIXTURE SCHEDULE & ELECTRICAL DETAILS

E5.10



NORTH

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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THREE RIVERS, MICHIGAN

ISSUANCES

10.13.2022	BIDS & CONSTRUCTION
11.10.2022	ADDENDUM 001
11.22.2022	ADDENDUM 002

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PROJECT NO.	5-5138

SITE ELECTRICAL PLAN

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