BALTIMORE COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF CONSTRUCTION CONTRACTS ADMINISTRATION
111 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND 21204

Contract No. 25010 PO0
Project No's. 107011861
Jacksonville Senior Center Expansion -
3605 Sweet Air Road, Phoenix, Maryland 21131
Phoenix – District 10c3

ADDENDUM NO. 1

DATE: 8/8/2025

Contact: Anthony Crews, 410-887-3531, tcrews@baltimorecountymd.gov

To All Bidders

This addendum is hereby made a part of the Proposal and the Special Provisions, and is hereby incorporated into the Contract. Should this addendum conflict with any portion of the Special Provisions, the Proposal, or any prior addenda, this addendum shall supersede and control.

Please note the attached changes, corrections, and/or information in connection with the contract and submit bids and be otherwise governed accordingly.

For Your Information

Attached are the pre-bid meeting minutes along with the list of attendees held on Wednesday, July 30, 2025 @ 10:00 A.M. EST. via WebEx. Also see the site visit minutes along with the list of attendees held on Friday, August 1, 2025 @ 1:00 P.M. EST. See attached questions and answers.

In the Specifications

Revised and attached to be inserted: Delete Page 49 Table of Contents and add revised page 49 referencing new section 28 31 00 – Intrusion Detection System. Delete pages 423-429 and replace with revised pages 423-429A. Delete pages 819-823 and replace with revised pages 819-823A. Add new pages 1228A-I, Section 28 31 00 – Intrusion Detection System. Delete pages 1449-1456 and replace with revised pages 1149-1456A-C.

In the Proposal

Revised and attached to be inserted: Page 1464 – Description of Work, changing the bid date **to** Thursday, August 21, 2025 @ 10:30 A.M. EST. via WebEx **from** Thursday, August 14, 2025 @ 10:30 A.M. EST. via WebEx.

In the Drawings

Revised and attached to be inserted: Drawing numbers 2025-0237, 0252, 0377, 0380, 0385, 0386, 0387, 0397, 0407 & 0408.

Attachments – 72 (10 Drawings)

Contract No. 25010 PO0
Addendum No.1

Please sign below acknowledging receipt of this addendum and return with your bid.

Company Name	**Signature**

PRE-BID MEETING

Project: Jacksonville Senior Center – New Facility
Contract #: 25010 PO0

July 30, 2025
WO#: 988369

Time: 10:00 am
Location: Virtual - Webex

1.0 Introductions and Agenda

- BCPM – David Earling, Louisa Rettew, Aaron Workman
- Grimm & Parker – Sue Hains and Blanca Flores
- PWLH – Shane Harbo, prevailingwage@baltimorecountymd.gov
- MWBE – Gary Brown, mwbe@baltimorecountymd.gov
- Where to send RFIs
- Schedule

2.0 RFIs

- All Correspondence in the form of an RFI to (Consultant) G&P (Sue Hains; shains@gparch.com, and Blanca Flores; bflores@pgarch.com.) and copy David Earling (dearling@baltimorecountymd.gov) and Aaron Workman, (aworkman@baltimorecountymd.gov).

3.0 Schedule

- Site Meeting: August 1, 2025 at 1:00 pm
- Deadline for RFIs: August 4, 2025
- Addendum Return: August 7, 2025
- Bid Due Date: August 14, 2025 @ 10:30 am, deliver per instructions shown in the solicitation.
- Start Construction: Target Date - December 2025
- Construction Complete: Target Date - June 2027

No proposal or project scope questions will be answered at this time. Please submit all questions as RFIs by August 4th, 2025.

Thank you for your time and interest on this Project

4.0 Attendees

- Charles Mason – JW Environmental
- Ryan Surasky – TMI General Contractors
- Jared Schmith – Nichols Contracting
- Nathan Matos – WM Schlosser
- Hunter Parrott – North Point Builders
- Chris Ritenour – P Flanigan
- Kian Mousapour – Doyle Construction
- Allie Melrath – Lewis Contractors
- Andrew Hooker – Wolhsen Construction
- Andrew Schmugge
- Bob – Manor Excavating
- Carolina Rivero
- Chike Okoro – Temporary Wall Systems
- Christian – Harvey Construction
- Courtney Manley – Townson Mechanical
- Curt Hollandsworth – Whiting Turner
- Curtis – Wolhsen Construction
- Doug Colonell
- Jack – Temporary Wall Systems
- Julie – Auer Electric
- Julie H – Whiting Turner
- Kayla Gerhart – Wagman Con.
- Mark Blanchard
- Matt Orendorf
- Michael – Oak Contract.
- Rick Tyler
- Robert Price
- Ronnie Logue
- Roofpro
- Sheena Posey – Manor Excavat.
- Tara Madison – Rich Moe Enterprises
- Timothy Ogunsola
- Tony Gebbia – BGC Contracting
- Whitney – Dual Con.
- David Earling – BCPM
- Louisa Rettew – BCPM
- Amy Horning - BCPM
- Aaron Workman – BCPM

- Gary Brown – BC
- Shane Harbo – BC
- Sue Hain – Grimm & Parker
- Blanca Flores – Grimm & Parker

PRE-BID SITE MEETING

Project: Jacksonville Senior Center – New Facility
Contract #: 25010 PO0

Aug. 1, 2025
WO#: 988369

Time: 1:00 pm.
Location: 3605 Sweet Air Rd, Phoenix, MD, 21131

1.0 Role of Baltimore County Property Management

Baltimore County Property Management will administer the contract, inspect the work and authorize payment with the Consultant's aid.

2.0 Project Team

2.1 Contact and address for Baltimore County Property Management:

Baltimore County Property Management (BCPM)
12200 Long Green Pike
Glen Arm, Maryland 21057

Senior Project Manager: David Earling
dearling@baltimorecountymd.gov
Office: 410-887-2964
Cell Phone: 443-901-6535

Project Manager: Aaron Workman
aworkman@baltimorecountymd.gov
Office: 410-887-6406
Cell Phone: 443-991-9372

2.2 Contact and address for Consultant:

Grimm & Parker
11720 Beltsville Dr, #600
Beltsville, MD 20705

Project Architect: Sue Hains, AIA, LEED AP, FITWEL
shains@gparch.com
Office: 301-595-1000

Project Associate: Blanca Flores
bflores@gparch.com
Office: 301-595-1000

3.0 Project Schedule

3.1

~~Pre-proposal virtual meeting (PWLH & MWBE):~~	~~July 30th, 2025 @ 10:00 am~~
Pre-proposal site walkthrough meeting:	August 1st, 2025 @ 1:00 pm
Due Date for RFIs from contractors:	August 4th, 2025 @ COB
Addendum 1 released:	August 7th, 2025 @ COB
Proposals due to BCPM:	August 14th, 2025 @ 10:30 am

- **Bids will be opened in public. Please refer to all instructions from the Department of Public Works and Transportation at https://www.baltimorecountymd.gov/departments/public-works/engineering/contracts/current-solicitations**
- **Late Proposal submissions will not be opened**.

Start of construction:	December, 2025
Full and final completion of contract:	June, 2027

3.2 Target dates are subject to the conditions encountered post bid. Period of Performance is 549 calendar days from NTP as noted in the bid documents. Liquidated Damages: $1,500.00 per Calendar Day as noted in the bid documents.

3.3 Period of performance is required and may necessitate additional work days and hours to ensure completion

4.0. Safety

4.1 It is the contractor's responsibility to comply with all State and Federal Safety requirements, and to provide a safe working place for their own personnel and those of all parties associated with this project.

4.2 Consultant, BCPM and BCPAI personnel are instructed not to enter any area where conditions are unsafe. Work not inspected, because of such conditions, will not be accepted and paid for until safe access is provided to inspection's personnel.

5.0. Discussion lead by BCPM

5.1 Using Agency will direct their questions and concerns to Property Management only. No correspondence between the Contractor, Consultant and the Using Agencies will not have any impact on the project's scope, terms or schedule without Baltimore County Property Management's knowledge and consent in writing.

5.2 Progress meetings will be held bi-weekly. The first meeting will be after the project starts. RFIs, submittals, and procurement logs to be updated for each progress meeting.

5.3 Contractor to submit CPM schedule within (30) days from award. Updated CPM schedules will be due with each pencil copy each month.

5.4 Contractor to submit schedule of values invoices for approval. Contractor is to be paid from End of Month Report. Retainage will be 5%. Invoices due by the 15th of the month. Invoices are subject to BCPM and Grimm & Parker review and approval.

5.5 Contractor is to have a ***full-time superintendent*** on the project when work is in progress.

5.6 The Contractor to submit a 24-hour/7 day emergency contact telephone numbers.

5.7 Smoking of tobacco or other products or vaping, as well as consumption of alcohol or other illicit materials are prohibited anywhere on site and on any Baltimore County property.

5.8 Refer to GC-21, Article 31 for information concerning permits and fees.

5.9 The Contractor is responsible to keep up to date as-built documents.

5.10 The Contractor is to notify the County no less than 14 days in advance of proposed utility or site access interruptions. Refer to the Contract Specifications.

5.11 Change orders must be approved before proceeding.

5.12 Contractor will provide construction set up as described in the specifications.

5.13 Contractor to submit daily activity reports.

5.14 Contractor to perform start-up, maintenance, and use and care demonstrations by manufacturers rep for all building systems, including video recording.

5.15 Contractor to submit O&M manuals, as-built drawings and documents, and all warranty information within 30 days of completion.

5.16 **ALL QUESTIONS should be submitted as RFIs via email** to Sue Hains and Blanca Flores, and copy David Earling and Aaron Workman.

5.17 Minutes and attendance sign-in sheet of this meeting will be included in an addendum as part of the contract.

5.18 Contractors must comply with Baltimore County Prevailing Wage and Local Hiring Laws.

5.19 Contractors must comply with a 30% MWBE participation goal.

5.20 Project will be seeking LEED Silver Certification. Coordination with third party commissioning agent is mandatory.

5.21 Proposals shall be submitted as per the bid document instructions.

No proposal or project scope questions will be answered at this time. Please submit all questions as RFIs by August 4th, 2025.

Thank you for your time and interest on this Project

Baltimor County Off of Budget & Finan e
P p rty M n g m n D i

				Kagerhart@cwagman
Julie Harvey				
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			LG	
Ryan Surasky	TMI General Contractor	443-686-0892	RS	RSurasky@towsonmechanical.com

Name (Please Print)	Company	Phone	Initials	Email Address
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DAVID Earling	BCPM	443-901-[illegible]	[illegible]	dearling@baltimorecountymd.gov
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Aaron Workman	BCPM	410-887-6406	AJW	aworkman@baltimorecountymd.gov

RFI QUESTIONS AND ANSWERS

ADDENDUM NUMBER 1

Project: Jacksonville Senior Center – New Facility
Contract Number: 25010 PO0

August 7, 2025
WO#: 988369

PROPOSALS ARE DUE ON AUGUST 21, 2025, by 10:30 am.

The following revisions are made to the original construction documents. This Addendum forms a part of the construction documents accordingly and as noted below.

RESPONSES TO PREPROPOSAL RFIS:

No.	RFI Question	Response
1	Can Trane be added as an acceptable provider of automatic temperature controls for specification section 230900? Trane offers enhanced integration with the VRF systems that provides more insight into the operation and performance	Trane is not an acceptable provider per the ATC controls. Acceptable companies are listed in the specifications
2	Detail 1 on A310 notes SF-28. SF-28 is not shown on any of the elevations. Please confirm SF-28 is not used on this project.	Confirmed, there is no SF 28 in this project
3	Is there any permanent site fencing to be provided outside of what is shown at the retaining walls?	Permanent site fencing is comprised of black vinyl coated chain link fencing on the south side of the parking lot, west of the building, and north of the building along retaining walls, decorative fall protection guardrail along the south terrace retaining walls, and a dumpster enclosure on the north side of the building. Please refer to sheet C131 for detail callouts and locations.
4	Please provide the full Geotech Report performed by Geotech Engineers, Inc. Dated 2/12/24 referenced in spec section 312000.	Geotechnical report can be found in the division 2 specs: 02 30 00.
5	Specification 061800 2.2.A. calls for NordicLam+ Spruce-Pine-Fir then 2.2.B. says to provide a single species. Please confirm a mix of Spruce-Pine-Fir is acceptable.	Provide spruce-pine-fir per specification section 06 18 00-2.2A/B. Coordinate with glulam truss manufacturer. 06 18 00 2.2B.2 “Provide structural glued-laminated timber made from single species” note will removed from spec section.

6	What material will be required for connection of the top and bottom chords of the glulam trusses? Steel gusset plate connectors or mortise and tenon joinery?	Provide concealed connections per specification section 06 18 00-2.3B.
7	In the bid documents it states that the 30% minority goal needs to be met by MWBE. Can you please clarify if this means we can reach the 30% goal with a combination on any MBE's i.e. African American, Women, Hispanic etc? Looking up the meaning for MWBE this is what it states: MWBE: When a business is certified as both an MBE and a WBE, it is considered an MWBE	The goal can be met with a combination of MBEs and/or WBEs accepted by Baltimore County. Baltimore County accepts certified MBEs or WBEs from both MDOT and Baltimore City.
8	Per specification B. Testing and Inspection (page 112), the GC is to engage qualified testing and inspections for building enclosure components; are remaining testing and inspections to be provided by owner (site, compaction, concrete, etc.)?	All testing and inspection are to be by independent, third-party testing and inspection agency hired by CONTRACTOR.
9	Per specification 2.17 Wiring, item B - MC cable is prohibited in all locations. Specification 3.33 Metal Clad Cl) Cable Installation, item A clarifies further stating "MC cable shall not be used within electrical rooms, mechanical rooms, janitor's closets, or in any exposed locations and item B states "MC cable shall not be used for feeders or branch circuit homeruns.". Please confirm whether or not MC cable is acceptable in concealed locations (such as above ACT) not excluded in 3.3.A, 3.3.B.	MC cable is acceptable above ATC so long that it is securely fastened and not laying on ATC grid.
10	Per sheet A701 ceiling fans are shown in rooms 105 and 107. But the ceiling fans are not listed on any of the fixture schedules. Please provide a fixture schedule and a manufacturer number for the ceiling fans or are these owner furnished?	Ceiling Fan: The Modern Fan Co. Model Flow. White, 52" span, Blade White, No Light, control wall/remote combo.
11	Can temporary power be established via existing power servicing the senior center or will the use of generators be required?	General contractor is required to provide temporary power until transformer is installed by BGE. At that time the general contractor is responsible for all BGE related service costs/fees until substantial completion.
12	Per Sheet A310 / Detail 1 SF 28 is listed. But on the actual detail there is no SF 28 . Please confirm the location of storefront 28.	Confirmed, there is no SF 28 in this project

13	On sheet SW202/Detail A, the finished floor elevation of the pump station is shown to be elev. 56 .00. The inlet is also shown as 56 .8. The third digit is missing in both elevations, please confirm correct elevation. Additionally, SW203 shows the finished floor elevation of the Pump Station to be at about 562.00 +/-. Please confirm finished floor elevation and inlet elevation of the pump station.	Pump Station Finished Floor Elevation = **563.00'** Inlet Elevation is **569.8'**
14	On the SW drawings, the invert elevation of the 4" gravity sewer coming into the pump station does not seem to match the elevations shown on the septic system profile. What is the correct invert elevation of the incoming gravity sewer into the pump station?	The correct inlet elevation should be 569.8'. See revised Sheet SW203 for additional elevations or schedule as shown on Sheet SW202
15	On sheet C151 there is what appears to be a manhole designated as M - 209 however M -209 is not listed on the Storm Drain Structure Table found on sheet C302. Please provide specifications for M - 209.	M-209 has been added to the structure schedule. See revised sheet C302.
16	The Septic Tank Schedule on sheet SW201 shows an inlet elevation of 570 and outlet elevation of 570.17 for septic tank #2. The septic system profile on SW203 represents a downward slope whereas the schedule's elevations are higher on the outlet than inlet, please confirm correct elevations for septic tank #2.	Follow the tank's schedule. Profile has been adjusted to reflect these changes and provide the appropriate callouts. See revised sheet SW203
17	We visited the site and observed 2, 3" Diameter Green pipes stubbing out of the ground that appear to be a septic vent or cleanout access. There is no representation of any Septic systems or piping of any kind in the wooded area to be cleared and developed. Is this a decommissioned septic system from the previous building (foundation ruins present). Please provide clarification/identification of any existing underground utilities present in areas to be developed/improved.	Green PVC pipes were installed by the geotechnical engineer for infiltration testing and may not have been removed. Please confirm if location of observed pipes corresponds with SWM test pits shown on the Boring Location Plan in the geotech report.
18	On sheet L101, the hatch pattern for proposed seed shows a cross pattern, not found in drawing itself. Diagonal line pattern on the drawing appears to be seed pattern instead, please confirm?	The diagonal line pattern indicates seeding. See revised Sheet L101.
19	Plan sheet C151 shows two 2" water service lines and are shown to be PVC. Specification section 33 14 17- Water Service Connections calls for the water services to be "K" Copper, not PVC. Are the two each 2" water service lines to be PVC or Copper. If they are to be PVC please specify the type of PVC.	Please refer to Sheets SW200 and SW300 for water service piping material on site.

20	In the General Conditions Article 9 Approval of Payments notes that 10% retainage will be withheld for the first 50% of the contract after which only 5%. Since a payment & performance bond is being provided for 100% of the contract value, will only 5% retainage be held from the beginning?	Yes, only 5% is acceptable to be held from the beginning.
21	Please confirm that only the general contractor needs to be prequalified with Baltimore County so that subcontractors to the GC do not need to be prequalified with Baltimore County.	Only general contractors need to prequalify for bidding. Trade contractor performing Work on septic system must be registered with the Maryland Board of Onsite Wastewater Professionals and licensed in Baltimore County as a Disposal System Contractor.
22	The grading and storm water permit is provided in the proposal book. When will the building permit be available? Can sitework begin prior to the building permit being issued with the required pre-construction meetings?	Sitework can begin prior to the building permit being issued with the required pre-construction meetings. See spec section 01 10 00 -1.3A.1 high visibility fence. 01 10 00 1.1C.3 septic contractor requirement.
23	The 548 days for completion is after notice to proceed. Please provide timeline for Baltimore County to issue notice to proceed & contract for signature. When after the bid date will the county issue the official NTP?	Approx. 90 days after bid open.
24	In the General Conditions Article 49 Holidays, lists Holidays that are recognized by Baltimore County. Can the project work some or all of these Holidays?	Yes. Only days not allowed to work are when county is closed due to weather or other emergencies. BCPM to be notified.
25	Sections (a) - (d) of the contract agreement discuss liquidated damages and actual damages. Please confirm that the County is including both liquidated damages at $1500 per day and actual damages in the contract agreement. Actual damages are unknown at this time and would be accessed in the future if project is not completed in the contract period.	GP 8.09 general provisions and terms and conditions will be followed.

26	I was hoping to receive some clarification on the electrical drawings for the Jacksonville Senior Center Bid. I noticed there is conflicting info. between the mech. equipment and disconnect schedule (E501), the mech. equipment schedules on M501 on M502, and symbols shown on the electrical power drawings: -Will ACCU-1 and 2 have integral disconnects or does Div. 26 need to supply them? -UH-1,2,and 3 are noted to have integral disconnect provided by manufacturer on E501, but E102 is showing motor start switches with thermal overloads for them, will those be required? -DHWR-1 is noted to have a 30 amp disconnect switch on E501, but E102 shows it having a motor start switch, this is also occurring for HR-1 and 2.	ACCU-1 and 2 disconnect provided by manufacturer. UH-1,2,3 disconnect by manufacturer. DHWR-1 is a motor starter/disc by div 26. HR-1 and 2 disconnect provided by manufacturer. See revised Sheet E501.
27	Note D-3 drawing C-111 states to remove, clear and grub trees, stumps, major roots, and landscaping material and replace with approved compacted fill. Since the majority of the area is under the proposed building and parking lot, shouldn't the topsoil be removed and the area graded to suitable subgrade and structural fill be used in lieu of compacted fill?	Approved compacted fill is the same as structural fill. Topsoil shall be removed and stockpiled in accordance with the approved ESC plans.
28	Note D-4 on drawing C-111 states to remove storm drain structure and pipe to limits shown. Please clarify if the limits at the end of the arrow shown on drawings, as the limits appear to stop in the middle of a run. The legend does exactly match what is on the drawing for pipe removal.	The limit is at the end of the arrow; the driveway is shifting, and a new inlet will be installed at the limit of removal indicated on C-111.
29	On drawing C-111 has the words DWS and an arrow on both sides of the words. We are not familiar with the abbreviation of DWS and it is not shown on the list of abbreviations. Please clarify.	DWS stands for Detectable Warning Strips, the callout is for the detectable warning pavers at the end of the sidewalks.
30	Has the grading and building permits been issued to date and if not, when are they expected to be in hand?	The grading permit has been issued. Building permit pending trade contractor performing Work on septic system being registered with the Maryland Board of Onsite Wastewater Professionals and licensed in Baltimore County as a Disposal System Contractor.

31	Drawing SW 202 shows cross section of wet well and valve vault. Please provide elevations or heights of the structure and wall thickness. The notes on the drawing for the valve vault shows dimensions 5 – 4 1/4W- 6 - 5”L-4-20”. Not clear of the meaning 4-20”.	Valve Vault Dimensions: Width = 5'-4 1/4" , Length = 6'-5", Height = 4'-9/20", and Wall Thickness = 6" See revised Sheet SW202
32	Drawing C 521 states typical section 1 concrete site wall “see structural plans.” We could not find it on structural plans. Please provide sizes of footings and wall thickness.	See structural sheet S101 and corresponding wall sections.
33	Please provide sizes for footing, wall thickness reinforcements for the weir walls in MB#2.	See structural sheet S101 and corresponding wall sections.
34	On the site drawing E003 drawing note #14 it indicates that 4 of the existing site lighting poles are to be reused with new fixture heads installed on them. I have looked at the civil drawings and I don't see any information regarding these existing light poles. My question is, are these 4 existing poles being reinstalled in the same location using the same pole bases? Or are these new locations requiring new bases and conduit?	Four existing light poles are to be salvaged - refer to sheet C111, Demolition Note D-7. The existing poles will be reinstalled in new locations shown on revised sheet E003.
35	Should this bid be postponed, can it be for 2 weeks as the week after this bids there is a large bid going in and a lot of the contractors and subs are working on it.	Bids will be postponed to 8/21/2025.
36	The above was the response from Cornell about Door #128B. Cornell has told me that the counter shutter #128B, show to be an integral shutter, but they do not make integral shutters in that size. Commercial Estimator The spec calls for an integral frame unit. Due to the size it cannot be an integral frame unit. We can quote this as a standard FOW motorized counter shutter if that is acceptable.	Eliminate Integral Frame and provide Stainless steel countertop
37	Also, we are requesting a 3-day extension to the RFI and bid-due dates. We were notified of the RFI deadline during the pre-bid meeting on 7/30 and are still reviewing the bid documents with our trade contractors. We would like to have through 8/7 to ask additional RFI’s. In addition, we are requesting that the bid due date be extended by 3 days to give ample time to our subcontractors to review the documents and any RFI responses/addendum.	No extension to RFI date.

38	Alternate #2 calls for standing seam on the sloped roofs in lieu of TPO. The plans show a 1/12 pitch roof at the areas for the standing seam. Only (2) of the (6) of the listed manufacturers in the specifications allow for a minimum slope of 1/12. Please advise.	Mechanically rolled seam panels will be added to specs. See revised spec 07 41 13.16
39	Are we to include furnishing & installing ceiling fans? If so please provide basis of design. Drawing E101 only shows junction boxes for ceiling fans.	Ceiling Fan: The Modern Fan Co. Model Flow. White, 52" span, Blade White, No Light, control wall/remote combo.
40	The specifications indicate an artwork (specifically, Nordic Park, Serene Coastline Canvas Art) is to be installed in the reception area – Specs 100005-2. However, the drawings do not indicate the exact location of this artwork. Could you please clarify where this artwork is intended to be located on the drawings?	Artwork was removed from the project.
41	Under Alternate No 9, the base bid is calling for "Abandoned Equipment in existing Senior/Rec center to be left as-is." Who is handling the scope associated with abandoning the existing equipment? Thinking there is a plumbing scope to disconnect existing treatment system, which is not shown on the plans, as the base scope is showing connecting the existing building to the new water treatment system in the new building.	See pictures on proceeding sheets, refer to sheet SW301
42	Please provide a plumbing pipe schedule. Each specification is listing multiple options for pipe material. For example, the Storm Water Pipe Specification 221413 states that the 6" above grade storm pipes leading from the roof drains could be copper, cast-iron or PVC.	All storm water and sanitary /vent piping shall be Sch 40 PVC. All other plumbing piping shall be as specified.
43	According to the project specifications: Section 122113 – Horizontal Louver Blinds, and Section 122413 – Window Shade Systems, both types of window treatments are specified as part of the project scope. However, there are no indications or references shown in the drawings. Please confirm the following: Are horizontal louver blinds and/or window shades required for this project? If so, please provide clarification or updated drawings indicating their exact locations.	Confirmed. Both Horizontal louver blinds and window shade systems are required. See frame elevations sheets A309 thru A311 and RCP A701 for details and locations
44	Alternate #9 includes removing abandoned in existing Water Room. This room was not accessible during the site visit. Please provide pictures/scope of work for this alternate.	See pictures on proceeding sheets

45	There are duplicate sheet names K-103x2	Kitchen electrical rough-in plan should be numbered K-104
46	Elevation 1/A601 identifies a SS-2 Countertop at the Coiling door in the Multipurpose Rooms, however, 2/A406 states the Sill is to be provided by Coiling Door Manufacturer. Is a Solid Surface Countertop needed at this location. If so what color is SS-2 since it is not on the Finish Schedule?	Eliminate Integral Frame and provide Stainless Steel countertop
47	Shelving is identified in the MP Storage Room. There are no additional details. What type of shelves are needed and can a detail be provided?	Provide ¾" solid lumber shelf, painted, 18" deep with heavy duty storage standards and flange brackets per spec section 06 40 23 2.7E.5
48	The elevations show a SF-28 on page 1-A310 however there is no SF-28 shown on elevation page or floor plan. Does this refer to the 4 lites above SF-19, which are just missing a label? Please clarify where SF-28 is located.	Confirmed, there is no SF 28 in this project.
49	096466 specs at 2.2 B lists the maple flooring as second & better grade, the Interior finish plan lists the maple flooring as first grade maple. Please advise which is to be used.	Provide second grade or better maple.
50	The full-length mirrors shown on 1 & 5, on sheet A605 are rather large, typically full size mirrors are around 4' wide x the required height. So, there will be more mirrors and mirror joints then shown. Roughly 6 mirrors required in each the Yoga/Dance Room & Fitness Room to make the mirrors more manageable for install.	Mirror joints can be reviewed during submittals. Goal is to minimize joints.
51	A decorative film is shown on the operable glass partition, G-3. But the 088700 Glazing Surface Films spec doesn't list a basis-of-design product, and it does not appear on the plans. What film product is desired here?	Refer to Material Schedule, Type GF for details, sheet A304.
52	089119 contains Louver specs, but there aren't any louvers shown on the exterior elevations. If they exist, please provide locations.	No exterior louvers in project.
53	Is a 6" depth storefront system acceptable at frames over 10' 0" in height? Frames over 10' 0" will require steel and may not meet design load requirements.	During the bid process, bid basis of design.
54	Is there a basis-of -design for the "Operable Glass Partition" shown on the floor plans at the Lounge/Game Room #106, Door#127/FG4? Reference A102 floor plan & A305 door schedule/door types.	Basis of Design is in spec section 10 22 19.

55	Are the aluminum letters non illuminated? The wall signs call for photopolymer which is kind of very old school. The material itself is soft so you can nick it with your finger nails. Its all we did in 90's but laser cut is almost universal since. Is it ok to substitute?	Letters are non-illuminated.
56	Hardware Set 1.0 lists door #106, but #106 is not shown on the door schedule or floor plan. Does it exist?	Door 106 does not exist in project
57	What is the anticipated construction start date?	Within 15 days of NTP.
58	Does specification section 074213.73 apply to this project?	Yes, concrete faced insulated wall panels applies to the project
59	Specification section 061800: are alternate manufactures acceptable at bid time?	No, please bid basis of design.
60	Please confirm there are no MBE subgoals, only a 30% overall goal.	There are no MWBE subgoals. The MWBE contract goal is 30% of the overall construction total.
61	Please provide details on transformer and generator pads.	Transformer pad is 78"x66"x6"D and should be coordinated with BGE. See revised sheet E003
62	Please provide fire pump control specifications for electric-drive, vertical turbine fire pump equipment in Section 213213.	21 32 13 specifications will be revised to include fire pump controller information.
63	Reference pump station: The pumps specified only have a 3 year published warranty, the job specifications call for a 5 year published warranty.	Provide warranty as required in specifications. See revised Spec 21 32 13.
64	The specifications call for the pump to have seal failure alert. The pumps specified and any sewage pump under 2 hp are not available with seal fail alert.	spec section 42 25 13.40 to be revised and called Submersible Effluent Pumps Remove spec section 40 90 00 instrumental and control entirely.
65	Will the Electrical Contractor be responsible for consumption charges or will the GC pay these?	That is between general contractor and electrical contractor. GC, will be billed for any consumption prior to substitutional completion.

66	Does the BUY AMERICAN ACT apply to commodity materials or just steel over 10K pounds?	The Buy American Act applies to all steel Per the county general provisions – GP-7.28 BUY AMERICAN STEEL ACT The provisions of COMAR 21.11.02 pertaining to implementation of the "Buy America Steel" act (Subtitle 3 of Title 17 of the State Finance and Procurement Article of the Annotated Code of Maryland), as amended from time to time, are incorporated in this Contract by reference. **This does not apply to steel that's incorporated in manufactured equipment/appliances.
67	Drawing E101 shows motor rate switches for disconnecting means for CH-1, CH-2, DHWH-1, UH-1 UH-2, UH-3. While the mechanical equipment connection schedule shows 30A disconnects. Please clarify which is correct.	CH-1 and 2 disconnect by manufacturer. DHWH-1 shall have disconnect provided by div 26. UH-1,2,3 disconnect by manufacturer. See revised Sheet E102, E501, and E502.
68	Is the electrical contractor responsible for furnishing the EV chargers or are they to be furnished by others?	Owner will provide charging stations only. Installation and related components by general contractor.
69	Feed for Panel RP is shown with a feeder tag F400. F400 does not appear on the feeder schedule. Please provide feeder information for feeder tag F400.	2 sets of 4#3/0, #3G, in 2" C. See revised sheet E401.
70	Should the electrical contractor carry the Division 27 number for the call for aid system or is the GC carrying this number direct?	See Sheet T001 for information
71	Should the electrical contractor carry Division 28 number for the intrusion detection system or is the GC carrying this number direct?	See Sheet T001 for information
72	Please confirm Owner is furnishing and installing AV, security, IT, telecommunications and GC is only responsible for ring and string and raceway.	Confirmed. GC is only responsible for ring and string and raceway. See Responsibility scope on sheet T001

73	On the site drawing E003 drawing note #14 it indicates that 4 of the existing site lighting poles are to be reused with new fixture heads installed on them. I have looked at the civil drawings and I don't see any information regarding these existing light poles. My question is, are these 4 existing poles being reinstalled in the same location using the same pole bases? Or are these new locations requiring new bases and conduit?	Four existing light poles are to be salvaged - refer to sheet C111, Demolition Note D-7. The existing poles will be reinstalled in new locations with new bases and conduit as shown on sheet E003.
74	For the building I noticed that the architectural and the structural foundation walls show different depths for example on the structural foundation plan at the south west corner of the building it calls out the top of the footer being (-12.00') below the slab on the architectural plans I never saw a wall section or a building section showing a wall anywhere close to this depth. Which set of plans are accurate?	Follow structural plan for foundation depth.
75	For the waterproofing at the poured concrete retaining walls at the micro-bioretention #2 and #3 details A/S204 and B/S204 show the waterproofing at one side of the wall. Following those details waterproofing will end up being on both sides of the same wall at some areas. Is this the intent or should the waterproofing only be at one side of all the perimeter walls?	Referring details are on sheets S402. Waterproofing should be on one side of the wall.
76	It looks as if the waterproofing at the micro-bioretention #3 should not be inside any of the three "stalls" for micro-bioretention #3, is this correct?	Correct.
77	Section 08 33 13 defines motor operated overhead coiling counter door with integral frame and sill; however, Cornell/Cookson/Clopay reports material limitations exceed what can be provided for the 13" thick wall thickness. Additionally, Overhead Door cannot provide a motor operated unit; only a manual crank operated unit. Please confirm if miscellaneous metals can provide stainless steel jambs/header to wrap the wall opening. Coiling door manufacturer can provide the stainless-steel sill despite not being able to provide the integral frame.	Eliminate Integral Frame and provide Stainless Steel countertop
78	The wall base in the fitness room indicates on the finish schedule to be RES. The elevations A605/1&2 show wood base. Please confirm the correct wall base for the fitness room.	Fitness room base is wood base
79	The wall base in arts & craft indicates on the finish schedule to be RST. The elevations (A605/7) show wood base. Please confirm the correct wall base for the arts & craft room.	Arts and craft room base is wood

80	On A701 it indicates mini blinds at the windows. On A309, note 3 states to provide electric translucent roller shades. Please confirm the window treatment type needed.	See spec section 12 24 13 Window Shade Systems for products
81	On sheet A310, detail1 the storefront systems show SF-28. Please confirm where SF-28 is located.	Confirmed, there is no SF 28 in this project.
82	Please provide fire pump control specifications for electric-drive, vertical turbine fire pump equipment in Section 213213.	See revised specs section 21 32 13 to include fire pump controller information.
83	Please advise if electronic/digital signatures are an acceptable means of authentication and intent to be bound by/obligated to a submitted proposal.	See Page 3 of the Contract Proposal book for instructions on completing the bid process
84	Drawing T001 indicates that the contractor is responsible to furnish and install the Call-For-Aid system. Please provide a specification for this system.	See Sheet T001 and Revised sheet T302 for information
85	For the Aid to Call system will it be acceptable to propose TekTone or Cornell peripheral devices using modules or hard zones tied to a simple security panel, like DMP, Ademco, or Bosch? https://www.tektone.com/products/nurse-call-systems/ https://www.cornell.com/C/5/4000SeriesVisualNurseCall System	See revised notes on sheet T302
86	Drawing T001 indicates that the contractor is responsible to furnish and install the Security Intrusion Detection systems. Please provide a specification section for this system.	Refer to New Spec section 28 31 00 Intrusion detection.
87	Drawing E003, Note 10 indicates that the primary electrical service conduits shall be direct buried 36" BFG. There is an additional note showing a new primary electrical ductbank from the existing utility transformer at the primary electrical service line. Please confirm all ductbanks shown are direct buried and not concrete encased.	Service conduits are direct buried and not concrete encased.
88	Please confirm that Building Information Modeling (BIM) is not a requirement for this project.	BIM not required for GC
89	Please clarify whether the contractor or the owner will be responsible for the fees associated with the LEED certification	Fees for GBCI registration and design reviews are by the architect. See Spec Section 01 81 13
90	Due to the number of subcontractors required for this project and the volume of MBE sub pricing expected to be received on the day of the bid, please consider allowing the MBE Form C to be turned in within 10 days after the bid opening.	MBE documents are due at time of bid.

91	Please define what subsurface drilling is needed for this project.	See section 02 30 00
92	Please provide Men's vanity section detail.	Vanity Section 7/A502 same for both Men and Women restroom
93	Please provide specifications for the flagpole.	See detail 3/C202
94	Will the contractor be required to provide a separate trailer/sanitary facility for Baltimore County personnel?	No.
95	Are there minimum qualifications for the contractors key personnel?	Refer to BC general provisions terms and conditions and Division 1
96	Is there a basis of design for the roof hatches?	No basis of design.
97	Please provide the prevailing wage rates for skilled laborer and roofer.	Rates are in the solicitation package, see pg. 1480
98	Please confirm if the backside (under the desk) of the waterfall edge is to be quartz.	Confirmed provide finish quartz on side of waterfall
99	Please confirm if millwork contractor requires AWI certification or just be in compliance with AWI standards.	Confirmed. AWI certification is required.
100	Please confirm if this project is funded by Federal, State, or County funds.	Partial State / County funded.
101	Finish schedule states see specs for exterior patio finish. Please clarify patio finish.	Please refer to Detail 7 on Sheet C201.
102	Please confirm contractor will not be permitted to use the adjacent buildings power	Confirmed, all contractors will not be able to use adjacent building power.
103	Will the County want to salvage the mock ups upon project completion?	No.
104	Please clarify where the location of SF-28	Confirmed, there is no SF 28 in this project
105	Please provide anticipated start of construction or NTP date?	Approx. 90 days post bid open, within 15 days of NTP.
106	Please confirm that GC is responsible for all cost associated with third party testing and inspections.	Confirmed.

107	Confirm if one dedicated QC/QA manager/coordinator is required? If yes, what are the qualifications? Can this QC person oversee all activities or there will need to be separate QC staff for each division (ex. Building envelope, MEP at etc.)	There is no required personnel position, but the entire project quality, craftsmanship, and accuracy are the responsibility of the General Contractor. Baltimore County will hold General Contractor responsible for meeting these. See spec section 01 40 00.
108	Please confirm that the owner is responsible for cost associated with soil testing?	No, all third-party testing and costs are responsibility of general contractor.
109	Confirm if the waste management coordinator should be a dedicated staff or could this task be performed by any other GC staff which are assigned to this job.	Refer to spec section 01 40 00
110	The duration of the project is shown to be 548 days. Please confirm if this is defined to substantial completion or final completion. If Substantial, please provide a duration between substantial and final completion.	Final Completion.
111	Per the geotechnical report, there is a recommendation that the retaining wall footings be undercut at least 2'-0" below the footings, please confirm if this requirement is to be included in the base bid.	Include undercutting for the area shown on the boring location plan in the geotech report and an allowance for undercutting if unsuitable base material is found beyond the area shown in the report. Contractor shall follow the recommendations outlined in the geotechnical report. Reference Concept Site Plan in geotechnical report for location of estimated undercut.
112	Per air barrier specification, there is a requirement for ABAA testing and Audit, however, there is also a requirement for a 3rd party building envelope commissioning which includes testing of air barrier. Please confirm if both of these requirements are needed?	The commissioning agent is only performing inspections, observations, and minimal testing during installation. ABAA testing and audit is required.
113	Confirm if metal roofing and TPO roofing assemblies will need to be "FM approved".	Refer to the spec section 07 54 23
114	Please confirm that the artwork in specification 100005 is to be provided in base bid cost?	No artwork in project.
115	Please confirm seismic bracing for MEP components are not required.	Seismic bracing not specified.

116	Confirm if charging stations including the chargers are owner provided or GC provided.	Owner will provide charging stations only. Installation and related components by general contractor.
117	Architectural details on pages A409 and A410 show different air barrier details (2 layers vs. one layer) and also sequence of applications of waterproofing vas. Air barrier, vs. vapor barrier shown on these details are not practical as waterproofing should usually be extended above grade and air barrier will be terminated over the waterproofing. Please confirm if only one layer of air barrier is required.	Behind the drainage plane of the simulated stone, we would have the air barrier. Then as part of the Laticrete MVIS system, there is a waterproofing membrane within that system. See Specs 04 73 00 Adhered Masonry Veneer Simulated stone and 07 46 46 Fiber Cement Siding.
118	Confirm if flute closures or acoustical insulation profiles for metal decks are required?	Confirmed. Coordinate with specification section 05 31 00.
119	A310 is showing SF-28; however, there is no SF-28 shown on elevation page or floor plan. Please clarify.	Confirmed, there is no SF 28 in this project
120	Please confirm if Generac is an acceptable alternate manufacturer for the generator.	No, please bid basis of design.
121	Please clarify the color for the concrete paving.	Per Detail 7, Sheet C201 - the basis of design for designated exterior Colored Concrete Sidewalk is Sika Chromix G in Brownstone.
122	Please provide fire pump control specifications for electric-drive, vertical turbine fire pump equipment in Section 213213.	See revised specs section 21 32 13 to include fire pump controller information.
123	Please confirm if BIM is required.	BIM not required for GC
124	Please provide the required controls contractor information	Question Unclear, see spec sections for controls.
125	Substitution request - From resilient sports covering to DynaFit 3/8" Tiles	Substitution not accepted.

126	First the lift station is designed like a public sewer pumping station. The control panel is going to cost around $110,000.00 and all it needs is $3,000.00 control panel. It is like driving a Lamborghini on a golf course when all you need is a golf cart. The pumps are sewage pumps. They need to be effluent pumps. The pumps are after two septic tanks and the last one has an effluent filter. (no solids to pump) Also the panel is called to put 208V 3-phase when the pumps specified are 208V single phase.	Products mentioned in the specifications are effluent pumps. See revised spec section 23 25 13.40 now called Submersible Effluent Pumps Remove spec section 40 90 00 instrumental and control entirely. The control panels to be coordinated with revised specifications of the effluent pumps.

REVISED DOCUMENTS:

SPECIFICATIONS: **Total 4 Revised Specifications**

1. Revised Spec 07 41 13.16 Standing Seam Metal Roof Panels,8 pages.
2. Revised Spec 21 32 13 Electric-Drive, Vertical-Turbine Fire Pump, 6 pages.
3. NEW spec section 28 31 00 – Intrusion Detection System, 9 pages.
4. Revised Spec 43 25 13.40 Submersible Effluent Pumps, 11 pages.

DRAWINGS: **Total 10 revised sheets.**

1. Drawing # 2025-0237; C302 Utility Profiles
2. Drawing # 2025-0252; L101 Planting Plan
3. Drawing # 2025-0377; E003 Electrical – Site Plan – New Work
4. Drawing # 2025-0380; E102 First Floor Plan – Mechanical Connections
5. Drawing # 2025-0385; E401 Electrical Single Line Diagram
6. Drawing # 2025-0386; E501 Electrical Panel Schedules
7. Drawing # 2025-0387; E502 Electrical Panel Schedules
8. Drawing # 2025-0397; T302-First Floor Plan – Aid-to-call System.
9. Drawing # 2025-0407; SW202 Proposed Pump Station Plan and Details.
10. Drawing # 2025-0408; SW203 Sewer Profile

PICTURES OF EXISTING WATER ROOM:

Photo 1- Existing Water Room

Photo 2- Existing Water Room

Photo 3- Existing Water Room

END OF RFI QUESTIONS AND ANSWERS ADDENDUM NUMBER 1

26 05 19 WIRES AND CABLES
26 05 26 GROUNDING
26 05 29 SUPPORTING DEVICES
26 05 33 RACEWAYS
26 05 34 BOXES, FITTINGS AND CABINETS
26 05 73 COORDINATION STUDY
26 09 43 LIGHTING CONTROL SYSTEMS
26 24 16 PANELBOARDS
26 27 26 WIRING DEVICES
26 27 36 ELECTRICAL CONNECTIONS
26 28 16 DISCONNECTS, SWITCHES AND CONTACTORS
26 28 17 ENCLOSED CIRCUIT BREAKERS
26 29 13 MOTOR CONTROLLERS
26 31 00 PHOTOVOLTAIC SYSTEM
26 32 13 DIESEL GENERATOR SYSTEM
26 36 00 AUTOMATIC TRANSFER SWITCHES
26 41 13 LIGHTNING PROTECTION
26 43 13 INTEGRATED SURGE PROTECTIVE DEVICES (SPD)
26 51 00 LIGHTING FIXTURES

DIVISION 27 - COMMUNICATIONS

27 02 00 PROJECT CLOSEOUT TELECOMMUNICATIONS
27 05 01 INSPECTIONS, TESTING AND START-UP
27 05 26 GROUNDING AND BONDING FOR COMMUNCIATIONS SYSTEMS
27 05 28 PATHWAYS FOR COMMUNICATIONS SYSTEMS
27 05 29 HANGERS AND SUPPORTS FOR COMMUNICATIONS SYSTEMS
27 05 36 CABLE TRAYS FOR COMMUNCIATIONS SYSTEMS
27 05 44 SLEEVES AND SEALS FOR COMMUNCIATIONS SYSTEMS
27 05 53 IDENTIFICATION FOR COMMUNCIATIONS SYSTEMS

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

28 31 00 INTRUTION DETECTION SYSTEM
28 31 11 FIRE ALARM AND DETECTION SYSTEM

DIVISION 31 - EARTHWORK

31 10 00 SITE CLEARING
31 20 00 EARTH MOVING

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 12 16 ASPHALT PAVING
32 13 13 CONCRETE PAVING
32 32 23 SEGMENTAL RETAINING WALLS
32 33 00 SITE FURNISHINGS
32 91 13 SOIL PREPARATION
32 92 00 TURF AND GRASSES
32 93 00 PLANTS

SECTION 07 41 13.16 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes vertical-rib, seamed-joint, standing-seam metal roof panels; gutters and downspouts.

~~B. Section includes standing-seam metal roof panels; gutters and downspouts.~~

C. Roofing will receive solar PV panels mounted with non-penetrating clamp and rail systems to the standing seams; comply with additional requirements of the manufacturer in addition to the requirements within this section, in order to receive specified roofing warranty.

D. Refer to Section 26 13 00, “Photovoltaic Collectors” for PV panel coordination.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at project site.

1. Review shop drawings and additional requirements for panels carrying the weight and attachment of solar PV panels.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details such as integral gutters.
2. Detail tie-in of self-adhered water-resistive vapor-permeable air barrier roof underlayment to vertical air barrier systems to ensure continuity of air barrier, at all conditions.

C. Samples: For each type of metal panel indicated.

D. LEED Submittals: Comply with Section 01 81 13.

1. MR Credit 2: BPDO - Environmental Product Declarations
    a. Roof panels, if available
2. MR Credit 3: BPDO - Sourcing of Raw Materials
    a. Recycled content: Roof panels
3. SS Credit 5: Heat Island Reduction
    a. For roof surface materials: Documentation indicating initial Solar Reflectance Index (SRI) value or three-year aged SRI value.
4. IN Credit 1: PBT Reduction
    a. For all metal roofing, documentation confirming no lead content.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Warranties: Sample of special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.7 WARRANTY

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

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Recycled Content: Provide roofing material with minimum 25 percent recycled content.

B. Solar Reflectance Index (SRI) for roof surface materials:

1. Low-sloped Roofs: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.
2. Steep-sloped Roofs. Minimum 39 initial SRI; minimum 32 for three-year aged SRI.

C. Provide lead-free roofing.

D. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: As indicated on Drawings.
3. Deflection Limits: For wind loads, no greater than 1/240 of the span.

E. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E 1680 or ASTM E 283 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft.

F. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 or ASTM E 331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft.

G. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.

1. Uplift Rating: UL 90.

H. FM Global Listing: Provide metal roof panels and component materials that comply with requirements in FM Global 4471 as part of a panel roofing system and that are listed in FM Global's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.

1. Fire/Windstorm Classification: Class 1A-90.
2. Hail Resistance: MH.

I. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

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

J. Standing-seam metal roof panels must be listed under UL guide CETW.

~~2.2 VERTICAL-RIB, SNAP-JOINT, STANDING-SEAM METAL ROOF PANELS~~

~~A. Products: Subject to compliance with requirements, provide one of the following:~~

~~1. AEP Span a brand of ASC Profiles LLC, a part of BlueScope; Design Span hp.~~
~~2. Drexel Metals; 175S Profile.~~
~~3. Englert, Inc.; S2000.~~
~~4. Fabral; Thin Seam.~~
~~5. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company; Snap-Clad.~~
~~6. Sentrigard; NB Handy Company; SL175 1-3/4" Snap Lock Panel.~~

~~B. Panels: Formed with vertical ribs at panel edges; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and snapping panels together.~~

~~1. Structural Support: Over solid deck.~~
~~2. Material: Metallic-coated steel.~~

~~a. Aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.~~
~~b. Nominal Thickness: 24 gage.~~

~~3. Panel Profile: Intermediate stiffening ribs symmetrically spaced between ribs.~~
~~4. Panel Coverage:.~~
~~5. Panel Height: Minimum 1.75 inches.~~
~~6. Clips: Two piece, floating, designed to accommodate thermal movement.~~

~~a. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet; thickness engineered by manufacturer.~~
~~b. The clips shall provide for unlimited, unimpeded panel movement confirmed by testing from an independent testing laboratory.~~
~~c. Clip design to engage with pressure plate, with spacing engineered by roofing manufacturer for performance criteria.~~

2.3 VERTICAL-RIB, SEAMED-JOINT, STANDING-SEAM METAL ROOF PANELS

A. Products: Subject to compliance with requirements, provide one of the following:

1. Drexel Metals; 200S.
2. Englert, Inc.; S2500.
3. Fabral; PowerSeam™ II.
4. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company; Tite-Loc.
5. Sentrigard; NB Handy Company; ML200 2" Mechanical Lock Panel.

B. Panels: Formed with vertical ribs at panel edges; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.

1. Structural Support: Over solid deck.
2. Panel Material: Metallic-coated steel.

a. Aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
b. Nominal Thickness: 24 gage.

3. Seam Type: Manufacturer's standard.
4. Panel Profile: Smooth pan between seams.
5. Panel Coverage: 12 inches.
6. Panel Height: 2.0 inches.
7. Clips: Two piece, floating, designed to accommodate thermal movement.

a. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet; thickness engineered by manufacturer.
b. The clips shall provide for unlimited, unimpeded panel movement confirmed by testing from an independent testing laboratory.
c. Clip design to engage with pressure plate, with spacing engineered by roofing manufacturer for performance criteria.

2.4 UNDERLAYMENT MATERIALS

A. Insulation Underlayment: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick, factory primed.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include:

a. CertainTeed Corporation; GlasRoc Sheathing.
b. Georgia Pacific Corporation; Dens Deck or Dens Deck Prime.
c. USG Corporation; Securock Glass Mat Roof Board.

B. Insulation: Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 3, felt or glass-fiber mat facer on both major surfaces.

C. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils thick, with release-paper backing. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: Stable after testing at 240 deg F; ASTM D 1970.
2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970.
3. Products: Subject to compliance with requirements and acceptance of roofing manufacturer within weathertightness warranty.

a. Subject to acceptance, products may include:

1) Vapor retarders listed in Section 07 54 23.
2) VaproShield LLC; Vapro RoofBlock HT.
3) Standing seam roof manufacturer.

4. Location: Over insulation underlayment and integral gutter details.

D. Self-Adhered Water-Resistive Vapor-Permeable Air Barrier Roof Underlayment: Complete self-adhered water-resistive vapor-permeable air barrier roof underlayment membrane, including required components and accessories to ensure total system compatibility and integrity; all components must be obtained as a single-source.

1. Vapor Pemeance: Minimum 17 perms.
2. Products: Subject to compliance with performance and warranty requirements, available products that may be incorporated into the Work include:

a. Basis-of-Design: Self-adhered water-resistive vapor permeable roof underlayment membrane SlopeShield Plus by VaproShield LLC, or equivalent product of metal roofing manufacturer.

3. Location: Over insulation.

2.5 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C 645; cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 coating designation or ASTM A 792/A 792M, Class AZ50 coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, diverters, crickets, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Gutters and Downspouts: Formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels roof fascia and rake trim.

1. Gutters: SMACNA Rectangular style profile; Figure 1-2, Style F.
2. Downspouts: SMACNA round profile; Figure 1-32A.
3. Anchors and Supports: Profiled to suit gutters and downspouts.
    a. Anchoring Devices: In accordance with SMACNA requirements.
    b. Gutter Supports: Brackets and straps sized per SMACNA Table 1-B.
    c. Downspout Supports - Typical: Brackets; SMACNA Figure 1-35E.
4. Strainers: 15 gage stainless steel wire baskets.

E. Fasteners: Aluminum or Stainless steel, with EPDM washers.

F. Protective Backing Paint: FS TT-C-494, Bituminous.

G. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.

H. Panel Fasteners: Self-tapping screws designed to withstand design loads.

I. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch wide and 1/8 inch thick.
2. Joint Sealant: ASTM C 920; as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.6 FABRICATION

A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.

E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

F. Fabricate gutter and downspout accessories; seal watertight.

2.7 FINISHES

A. Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat.

a. Color - Basis-of-Design: Refer to schedule on Drawings.
b. SRI: Compliant with LEED certification requirements.

2. Concealed Finish: White or light-colored acrylic or polyester backer finish.

2.8 SNOW RAIL SYSTEM

A. Snow Rail System:

1. Available Products:

a. Snobar by Action Manufacturing.
b. E-Rail by Berger.
c. Equivalent of metal roofing manufacturer providing system for this Project.

2. Design: Shall be seam mounted, non-penetrating.
3. Accessory Components:

a. 12 gage stainless steel clamp; custom color to match roof panels.
b. 16 gage 1 inch x 1 inch stainless steel bar; custom color to match roof panels.
c. Extruded 0.125 aluminum ice stoppers nominal 3 inch wide; custom color to match roof panels.
d. Stainless steel setscrews.
e. Install as recommended by manufacturer; provide ice stoppers centered between roof panel seams for entire length of snow guard system.

2.9 PIPE SEALS FOR ROUND PENETRATIONS

A. Premolded EPDM boot with collar.

B. Similar to Dektite by Buildtex, or equivalent of roofing manufacturer providing system for this Project, Mule-Hide Products Co. Inc. or Johns Manville.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

A. Install substrate board with long joints in continuous straight lines, with end joints staggered not less than 24 inches in adjacent rows.

1. At steel roof decks, install substrate board at right angle to flutes of deck.

a. Locate end joints over crests of steel roof deck.

2. Tightly butt substrate boards together.
3. Cut substrate board to fit tight around penetrations and projections, and to fit tight to intersecting sloping roof decks.
4. Fasten substrate board to top flanges of steel deck according to recommendations in SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29.

B. Self-Adhering-Sheet Vapor Retarder: Prime substrate is mandated by Architect. Install self-adhering-sheet vapor retarder over area to receive vapor retarder, side and end lapping each sheet a minimum of 3-1/2 and 6 inches, respectively.

1. Extend vertically up parapet walls and projections to the height which will be concealed.
2. Fully seal and tie to vertical air barrier system.
3. Seal laps by rolling.

C. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 07 62 00 "Sheet Metal Flashing and Trim."

3.2 INSULATION INSTALLATION

A. Self-Adhered Water-Resistive Vapor-Permeable Air Barrier Roof Underlayment: Apply to top insulation surface as directed by manufacturer; seal all penetrations.

B. Insulation: Roof system clips and pressure plates to provide primary attachment and wind uplift resistance for insulation; temporarily hold insulation in place until installation of self-adhered water-resistive vapor-permeable air barrier roof underlayment, clips and pressure plates, without damage to insulation or self-adhered water-resistive vapor-permeable air barrier roof underlayment.

3.3 METAL PANEL INSTALLATION

A. Standing-Seam Metal Roof Panel Installation:

1. Secure panels at ridge as required by roof system manufacturer to account for additional weight of solar panels.
2. Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.

a. Install clips to supports with self-tapping fasteners.
b. Install pressure plates at locations indicated in manufacturer's written installation instructions.

3. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
4. Watertight Installation:

a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
c. At panel splices, nest panels with minimum 6-inch end lap, sealed with sealant and fastened together by interlocking clamping plates.

B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

D. Gutters and Downspouts:

1. Support Spacing:

a. Gutters:

1) Brackets: 36 inch o.c.
2) Straps: 36 inch o.c. offset 18 inches o.c. of bracket locations.

b. Downspouts: SMACNA Figure 1-35.

2. Flash and seal gutters to downspouts and accessories.
3. Slope gutters minimum 1/16 inch per foot.
4. Provide gutter slip joints every 20 feet in length for contraction and expansion; seal joints with sealant of matching color.
5. Set downspouts plumb and not less than 1 inch from the wall.
6. Provide leaders to connect gutters on overhanging eaves to downspouts; set leaders with a slope not less than 1/16 inch per foot or more than 30 degrees below a horizontal line.
7. Fit leaders over the outlet tube in gutter bottom riveted to the downspout; rivet spacing shall be not more than 2 inches.
8. Set strainers loosely in the outlet tube opening in gutter.
9. Make joints between lengths of downspouts by telescoping the end of the upper lengths at least 3/4 inch into the lower length.

E. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.4 SNOW GUARD INSTALLATION

A. Bar-Type Snow Guards: Attach bar supports to vertical ribs of standing-seam metal roof panels with clamps or set screws. Do not use fasteners that will penetrate metal roof panels.

1. Install snow guard clamps in continuous line, 12 inches up slope of exterior wall.

3.5 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 07 41 13.16

SECTION 21 32 13 – ELECTRIC-DRIVE, VERTICAL-TURBINE FIRE PUMPS

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. Vertical-turbine fire pumps.
2. Fire-pump accessories and specialties.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include rated capacities, operating characteristics, performance curves, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For fire pumps, motor drivers, and fire-pump accessories and specialties.

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

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of fire pump, from manufacturer.

B. Source quality-control reports.

C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire pumps to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Comply with NFPA 20.

B. Pump Equipment, Accessory, and Specialty Pressure Rating: 175 psig (1200 kPa) minimum unless higher pressure rating is indicated.

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

2.2 ASSEMBLY DESCRIPTION

A. Description: Factory-assembled and -tested fire-pump and driver unit.

B. Base: Fabricated and attached to fire-pump and driver unit, with reinforcement to resist movement of pump during seismic events when base is anchored to building substrate.

C. Mounting Plate: Shall span over the fiberglass vault below to adequately support the fire pump and all piping and appurtenances.

D. Finish: Red paint applied to factory-assembled and -tested unit before shipping.

2.3 VERTICAL-TURBINE FIRE PUMPS

A. Pump Head: Cast iron, for surface discharge.

1. Discharge Outlet: Flanged with flanges complying with ASME B16.1; except connections may be threaded according to ASME B1.20.1, in sizes where flanges are not available.
2. Pump Head Seal: Stuffing box and packing.
3. Base: Cast iron or steel.

B. Pump:

1. Standard: UL 448, for vertical-turbine pumps for fire service.
2. Discharge Head: High profile, with flange above ground outlet Class 125 for cast iron, and with flange above ground outlet Class 150 for steel, with 0.5-inch (12.7-mm) NPT pressure gauge connection.
3. Stuffing Box: Cast iron with packing rings, pressure-relief connection, stainless-steel packing gland, bronze bearing, and rubber slinger.
4. Line Shaft: Stainless steel in sections 10 feet (3 m) or less, with left-hand threaded steel couplings, centering spiders, and fluted rubber bearings.
5. Line Shaft Bearings: Bronze, water lubricated.
6. Bowl Section: Multiple close-grained, flanged cast-iron bowls. Intermediate bowls have enamel- lined waterways for maximum efficiency and wear protection, and they are of identical design for interchangeability. Bowls are fitted with bronze bearings.
7. Impeller: Closed type, stainless steel, dynamically balanced, and securely fastened to the bowl.
8. Suction Bell: Close-grained cast-iron bowl with bronze bearing and bronze sand collar.
9. Wear Rings: Bronze located in the suction and intermediate bowls and with minimum clearance to the surface of the impeller.
10. Column Pipe: ASTM A53/A53M, Schedule 40, galvanized-steel pipe with threaded sleeve couplings or rabbet fit flange ends in sections of 10 feet (3 m) or less.
11. Suction Strainer: Cast or fabricated; bronze, stainless steel, or Monel; and sized to restrict passage of 0.5-inch (12.7-mm) diameter objects.

C. Driver:

1. Standard: UL 1004A.
2. Type: Electric motor; NEMA MG 1, polyphase Design B.
3. Mounting: On pump head above pump.

D. Capacities and Characteristics:

1. Rated Capacity: 500 gpm .
2. Total Rated Head: 100 psig .
3. Pump Head Outlet Flange: Class 125.
4. Suction Head Available at Pump: 0 feet (m).
5. Motor Horsepower: 50 hp.
6. Motor Speed: 1660 rpm.
7. Electrical Characteristics:
    a. Volts: 208 V.
    b. Phase: Three.
    c. Hertz: 60.
8. Pump-Start, Pressure-Switch Setting: 90 psig (kPa).
9. Pump-Stop, Pressure-Switch Setting: Manual stop.

2.4 FIRE-PUMP CONTROLLER

A. New controller shall conform to NFPA 20 listed to UL 218 for electric-drive, fire-pump service, and service entrance; combined automatic and manual operation; factory assembled and wired; and factory tested for capacities and electrical characteristics.

1. The controller shall be marked "Fire Pump Controller."

2. Controllers shall be rated for scheduled fire-pump horsepower and short-circuit withstand rating at least equal to short-circuit current available at controller location. Take into account cable size and distance from substation or supply transformers when relocating.

3. Enclosure: UL 50, Type 2, drip-proof, indoor, unless special-purpose enclosure is indicated. Include manufacturer's standard red paint applied to factory-assembled and -tested unit before shipping.

4. Controls, devices, alarms, functions, and operations listed in NFPA 20 as required for drivers and controller types used, and specific items listed.

a. Isolating means and circuit breaker.

b. "Power on" pilot lamp.

c. Fire-alarm system connections for indicating motor running condition, loss-of-line power, and line-power phase reversal.

d. Automatic and manual operation, and minimum run-time relay to prevent short cycling.

e. Water-pressure-actuated switch with independent high and low calibrated adjustments responsive to water pressure in fire-suppression piping.

f. Automatic and manual shutdown.

g. System pressure recorder, electric ac driven with spring backup.

5. Nameplate complete with capacity, characteristics, approvals and listings, and other pertinent data.

6. Controller Sensing Pipes: Fabricate pipe and fittings according to NFPA 20 with nonferrous-metal sensing piping, NPS ½ inch, with globe valves for testing controller mechanism from system to pump controller as indicated. Include bronze check valve with 3/32-inch orifice in clapper or ground-face union with noncorrosive diaphragm having 3/32-inch orifice.

B. Full-Service Fire-Pump Controller:

1. Type Starting: Across the line

2. Mounting: Floor-stand type for field electrical connections.

3. Automatic Transfer Switches: UL 218 and UL 1008 and requirements for and attached to fire-pump controllers. Include enclosure complying with UL 50, Type 2, with automatic transfer switch with rating at least equal to fire-pump driver-motor horsepower. Include ampere rating not less than 115 percent of motor full-load current and suitable for switching motor-locked rotor current.

2.5 FIRE-PUMP ACCESSORIES AND SPECIALTIES

A. Pressure maintenance pump

1. Match voltage of fire pump
2. Size at 1% of fire pump flow rating
3. Provide separate controller
4. Submersible type.

B. Automatic Air-Release Valves: Comply with NFPA 20 for installation in fire-pump discharge piping.

C. Relief Valves:

1. Description: UL 1478, bronze or cast iron, spring loaded; for installation in fire-suppression water-supply piping.

D. Outlet Fitting: Concentric tapered reducer at pump-head discharge outlet.

E. Discharge Cone: Closed or open type.

F. Hose Valve Manifold Assembly:

1. Standard: Comply with requirements in NFPA 20.
2. Header Pipe: ASTM A53/A53M, Schedule 40, galvanized steel, with ends threaded according to ASME B1.20.1.
3. Header Pipe Fittings: ASME B16.4, galvanized cast-iron threaded fittings.
4. Automatic Drain Valve: UL 1726.
5. Manifold, Flush-Type Body:

   a. Test Connections: Comply with UL 405; however, provide outlets without clappers instead of inlets.
   b. Body: Flush type, brass or ductile iron, with number of outlets required by NFPA 20.
   c. Nipples: ASTM A53/A53M, Schedule 40, galvanized-steel pipe, with ends threaded according to ASME B1.20.1.
   d. Adapters and Caps with Chain: Brass or bronze, with outlet threaded according to NFPA 1963 and matching local fire-department threads.
   e. Escutcheon Plate: Brass or bronze; rectangular.

6. Manifold, Exposed-Type Body:

   a. Test Connections: Comply with UL 405; however, provide outlets without clappers instead of inlets.
   b. Body: Exposed type, brass, with number of outlets required by NFPA 20.
   c. Escutcheon Plate: Brass or bronze; round.

2.6 SOURCE QUALITY CONTROL

A. Testing: Test and inspect fire pumps according to UL 448 requirements for "Operation Test" and "Manufacturing and Production Tests."

1. Verification of Performance: Rate fire pumps according to UL 448.

B. Fire pumps will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 PREPARATION EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance of fire pumps.

B. Examine roughing-in for fire-suppression piping systems to verify actual locations of piping connections before fire-pump installation.

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

3.2 INSTALLATION

A. Fire-Pump Installation Standard: Comply with NFPA 20 for installation of fire pumps, relief valves, and related components.

B. Equipment Mounting:

1. Install fire pumps on cast-in-place concrete equipment bases or mounting plate.

C. Install fire-pump discharge piping equal to or larger than size required by NFPA 20.

D. Support piping and pumps separately, so weight of piping does not rest on pumps.

E. Install valves that are same size as connecting piping. Comply with requirements for fire-protection valves specified in Section 211313 "Wet-Pipe Sprinkler Systems."

F. Install pressure gage on pump-head discharge flange pressure-gage tapping. Comply with requirements for pressure gages specified Section 211313 "Wet-Pipe Sprinkler Systems."

G. Install piping hangers and supports, anchors, valves, gages, and equipment supports according to NFPA 20.

3.3 ALIGNMENT

A. Align pump and driver shafts after complete unit has been leveled on concrete base, grout has set, and anchor bolts have been tightened.

B. After alignment is correct, tighten anchor bolts evenly. Fill baseplate completely with grout, with metal blocks and shims or wedges in place. Tighten anchor bolts after grout has hardened. Check alignment and make required corrections.

C. Align piping connection.

D. Align pump and driver shafts for angular and parallel alignment according to HI 2.4 and to tolerances specified by manufacturer.

3.4 CONNECTIONS

A. Comply with requirements for piping and valves specified in 211313 "Wet-Pipe Sprinkler Systems." Drawings indicate general arrangement of piping, fittings, and specialties.

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

C. Connect relief-valve discharge to drainage piping or point of discharge.

D. Connect flowmeter-system meters, sensors, and valves to tubing.

E. Connect fire pumps to their controllers.

3.5 IDENTIFICATION

A. Identify system components. Comply with requirements for fire-pump marking according to NFPA 20.

3.6 FIELD QUALITY CONTROL

A. Test each fire pump with its controller as a unit.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections.

1. After installing components, assemblies, and equipment including controller, test for compliance with requirements.
2. Test according to NFPA 20 for acceptance and performance testing.
3. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
4. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Components, assemblies, and equipment will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

3.7 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

2. Provide test report

3.8 DEMONSTRATION

3.9 Train Owner's maintenance personnel to adjust, operate, and maintain fire pumps.

END OF SECTION 21 32 13

SECTION 283100 – INTRUSION DETECTION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The Drawings and Division-26 Section, Basic Electrical Materials and Methods, apply to this Section.

B. The complete set of Architectural, Structural, Civil, Mechanical, and Electrical drawings, specifications, and addenda apply to this work.

1.2 DEFINITIONS

A. DACS: Digital Alarm Communicator System

B. DACT: Digital Alarm Communicator Transmitter

C. DACR: Digital Alarm Communicator Receiver

D. RPS: Remote Programming Software

E. ACC: Alarm Command Center

1.3 SUMMARY

A. This section includes the following:

1. Intrusion detection with modular, microprocessor-based controls, intrusion sensors, and detection devices, and communication links to perform monitoring, alarm, and control functions.

1.4 SUBMITTALS

A. Submit product data for each component of the security system.

B. Shop Drawings. A complete set of shop drawings shall be supplied. This package shall include but not be limited to:

1. Control panel wiring and interconnection schematics. Contractor is responsible for verifying that all the voltages, inputs, and outputs are compatible with each other.
2. Complete point to point wiring diagrams.
3. Riser diagrams.
4. Complete floor and/or site plan drawings locating all devices and equipment in 1/8” = 1’-0” scale. Show the placement of each individual device/equipment as well as raceway size and routing, junction boxes, and conductor size/type/quantity/color in each raceway. Drawings shall indicate the coverage of each motion detector or intrusion detection device.
5. Show elevation drawing of all equipment
6. Detailed system operational description. Any specification differences and deviations shall be clearly noted and marked.
7. Complete system bill of material.

C. Operation and Maintenance Data

D. System Operation: Provide a detailed description of the system operation, including but not limited to the following:

1. Indicate when an alarm of supervisory signal is generated.
2. Indicate what data is stored on the control panel.

E. Equipment List: Include every piece of equipment by model number, manufacturer, serial number, location, and date of original installation. Add pretesting record of each piece of equipment, listing

F. Field quality-control test reports.

G. System Calculations

1. Provide battery sizing calculations for the standby batteries where applicable.

1.5 QUALITY ASSURANCE

A. Systems Integrator Qualifications: An experienced equipment supploer who has completed systems integration work for installations similar in material, design, and extent to that indicated for this Project, and whose work has resulted in construction with a record of successful in- service performance.

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

C. All security system components and the installation of the security system shall comply with the following codes and standards:

1. NFPA 70 "National Electrical Code"
2. NEC 2023
3. IBC
4. Applicable standards of Electronics Industries Association

D. All products, devices and equipment shall be UL Listed. AII products, devices and equipment shall be furnished and installed in accordance with the manufacturer's recommendations, UL's requirements, and applicable codes. AII products, devices and equipment shafts are suitable for their intended use, location, and environment.

E. Coordinate equipment enclosure/temperature/humidity ratings with the installed location and make sure the equipment is suitable for the location where it is installed.

F. Provide demonstration, training, and operations/maintenance manuals.

G. Provide all programming and equipment for a complete, fully operational and code compliant IDS system.

H. Provide warranty for labor and materials.

I. Coordinate all work with other trades.

J. Coordinate equipment installation and programming with the Owner.

K. Coordinate with the owner to make sure that all equipment performs in accordance with his/her requirements. Provide the features that are required by the owner.

L. Provide battery backup and uninterruptible power supplies for equipment and systems where required by the contract documents, the owner and/or applicable codes.

1.6 SYSTEM DESCRIPTION

A. The security system shall provide remote operation (release) of electric-strike lock sets and shall indicate the open or closed status of doors as indicated on the contract drawings.

B. The security system shall indicate the open or closed status of doors as indicated on the contract drawings.

C. The control of the electric-strike lock sets shall be provided by momentary panel-mounted push buttons which shall unlock the door when activated. Release of a push button shall cause the lock set to lock. The push-to-release circuits shall have provisions for remote push-to-release push button stations.

D. The monitoring of the open or closed status of doors shall be accomplished by direct connection to door status switches and lock status switches (electric lock doors) provided and installed by the Contractor. Either an open door or an unlocked door shall initiate an alarm condition for the doors with electric locks.

E. Door closed status shall be indicated on the door control panel by a green pilot light. When a door is opened, the door's green light shall extinguish, the door's red pilot light shall flash, and an audible alarm shall sound. Operation of the alarm circuit shall continue regardless of the status of the door. Activation of an acknowledged push button shall silence the audible alarm and cause the door's red pilot light to stop flashing but remain illuminated if the door is open or cause the door's red pilot light to extinguish and the door's green pilot light to illuminate if the door is closed.

F. The activation of the audible alarm upon receipt of individual door open signals shall be selectable in the field by operation of switches internal to the control panel or the addition or removal of a terminal strip jumper. A design which requires control wiring changes to engage and disengage the audible alarm for individual doors shall not be acceptable.

G. Auxiliary contacts shall be provided for customer use to monitor the open or closed status of the monitored doors. Auxiliary contacts shall be wired to terminal blocks for ease of customer connections.

PART 2 - PRODUCTS

2.1 ACCESS CONTROL AND MONITORING SYSTEM

A. Push buttons shall be momentary contact, spring return, heavy duty, oiltight with legend plate as specified. Buttons shall be red. Push buttons shall be Square D type K or equal.

B. Pilot lights shall be heavy duty, oiltight with legend plates as specified. Pilot lights shall utilize incandescent lamps designed for high brightness applications. Lens shall be acrylic fresnel type of the color specified. Pilot lights shall be Square D type K or equal.

C. Contact blocks shall be provided for all push buttons and switches. Contacts shall have a 10 ampere continuous current rating at 120VAC or 125VDC except where indicated otherwise. Contacts shall be normally open or normally closed as required to achieve the required operation.

D. Control relays shall be encapsulated plug-in type with contacts rated 5 amperes at 120VAC resistive suitable for switching inductive loads.

E. Enclosures shall be stainless steel with hinges and latches of stainless steel. The enclosures shall be sized to accommodate the devices to be installed.

F. Terminal strips shall be heavy duty, barrier type, sized for the size and number of conductors required. Terminals shall accept forked or spade lugs which shall be used for all terminations.

G. Nameplates shall be engraved type on plastic laminate with lettering 3/16 inches (5 mm) high minimum. Nameplates shall be mechanically fastened in place using stainless steel screws. Adhesive backings shall not be used. Nameplates shall be light gray with black lettering.

2.2 INTRUSION DETECTION CONTROL PANEL

A. Provide Bosch Alarm Panel D8512G panel platform in attack resistant LARGE enclosure with power supply, backup battery, tamper switch, enclosure lock and key set or equivalent approved by the Owner. Each alarm panel assembly will include:

1. Bosch B8512G Control Panel (with IP) in Large Enclosure
2. Bosch B1260 Alpha Command Center Keypad
3. Bosch Auxiliary power supply module, 2A 12V
4. Bosch 8-Input Expansion Module
    a. Provide 20% more than calculated input load
5. Bosch Output Expansion Module
    a. Provide 20% more than calculated input load
6. DITEK DTK-MRJ45C5E Ethernet Surge Protector
7. AlarmSaf FPO150/150-E2 Series Power Supply

B. Provide all wiring and programming required for the fully operational system.

2.3 ALARM COMMAND CENTER (KEYPAD) – PER PLANS

A. Bosch Alpha Command Center Keypad

2.4 SENSORS – PER PLANS

A. 360 Degree Dual-tech Motion Sensor

1. Acceptable Manufacturers
    a. Bosch
    b. Approved Equivalent
2. Bosch DS9370 and DS9371 or approved equivalent.
3. Minimum Features and Specifications
    a. Up to 25 ft (7.6 m) mounting height
    b. 360 degrees x 70 ft (20 m) diameter pattern
    c. Fully-adjustable optical arrays for coverage customization
    d. Rated for use in difficult environment to reduce false alarms from background disturbances such as air movement and hanging signs.
    e. Combination of passive infrared (PIR) detection, microwave detection, and advanced signal processing technology.
    f. Built-in tamper switch
    g. Operating Temperature: -40 to 120 deg F (-40 to 49 deg C)
    h. Dimensions: 3.5 x 7 in (8.9 x 17.8 cm)
    i. Voltage: 9 to 15 VDC
    j. UL Listed

B. Directional Dual-tech Motion Sensor

1. Acceptable Manufacturers
    a. Bosch
    b. Approved Equivalent
2. Bosch ISC-CDU-WA15G or approved equivalent
3. Minimum Features and specifications
    a. Combination of passive infrared (PIR) detection, microwave detection, and advanced signal processing technology
    b. Active infrared ant-masking
    c. Microwave noise adaptive processing
    d. Mounting height: 7.5 x 9 ft (2.3 x 2.75 m)
    e. Coverage Pattern: 50 x 50 ft (15 x 15 m)
    f. Built-in tamper switch
    g. Operating Temperature: 32 to 120 deg F (0 to 49 deg C)
    h. Dimensions: 4.7 x 2.75 x 2.2 in (12 x 7 x 5.5 cm)
    i. Voltage: 9 to 15 VDC
    j. UL Listed

C. Curtain PIR Motion Sensor

1. Acceptable Manufacturers
    a. Honeywell
    b. Approved Equivalent
2. Honeywell IS216T-CUR or approved equivalent
3. Minimum Features and specifications
    a. Dual element passive infrared

b. Mounting height: 5 x 8.8 ft (1.5 x 2.7 m)
c. 32 ft (10 m) in vertical mount position
d. Operating temperature: 14 to 131 deg F (-10 to 55 deg C)
e. Dimensions: 3.4 x 2.4 x 1.5 in (8.6 x 6 x 3.8 cm)
f. Supply Voltage: 8.5 to 15.4 VDC (12 VDC nominal)

D. Long-range Dual-tech Motion Sensor

1. Acceptable Manufacturers

a. Honeywell
b. Approved Equivalent

2. Honeywell [DT900 / DT901] [DT906 / DT907] or approved equivalent
3. Minimum Features and specifications

a. Combination of passive infrared (PIR) detection, microwave detection, and advanced signal processing technology.
b. Mounting height: 2 to 3.7 m (6 to 12 ft)
c. Coverage Pattern:

1) [DT900/901: 50 x 40 ft (15 x 12 m), and 90 x 70 ft (27 x 21 m)]
2) [DT906/907: 120 x 10 ft (37 x 3 m), and 200 x 15 ft (61 x 5 m)]

d. Built-in housing tamper switch
e. [[DT900] [DT906]: Anti-masking using active infrared look-down lens]
f. [[DT900] [DT906]: Detector mount tamper switches (2)]
g. Operating Temperature: 32 to 120 deg F (0 to 49 deg C)
h. Dimensions: 8 x 6.5 x 6 in (20 x 17 x 15 cm)
i. Voltage: 10 VDC to 15 VDC, 12 VDC nominal
j. UL Listed

E. Long-range PIR

1. Acceptable Manufacturers

a. Bosch
b. Approved Equivalent

2. Bosch DS778 Long Range PIR Detector or approved equivalent
3. Minimum Features and specifications

a. Mounting height: 6.5 x 8.5 ft (2 x 2.6 m)
b. Coverage: 200 x 15 ft (60 x 4.5 m)
c. Built-in tamper switch
d. Operating Temperature: -40 to 120 deg F (-40 to 49 deg C)
e. Dimensions: 5.75 x 3.75 x 2.5 in (14.6 x 9.5 x 6.35 cm)
f. Voltage: 6 to 15 VDC
g. UL Listed

F. Door Position Switch; Recessed

1. Acceptable Manufacturers

a. Magnasphere
b. Approved Equivalent

2. Magnasohere MSS-20 Series, MSS-26 Series for Normally Closed Loop or approved equivalent
3. Magnasphere MSS-19 Series, MSS-25 Series for Normally Open Loop or approved equivalent
4. Minimum features and Specifications

a. UL 634 Listed
b. Recessed

c. Magnetic tamper
d. 0.75 in (19 mm) or 1 in (25.4 mm) diameter
e. Capable of operating with a 0.5 in (13 mm) gap
f. Screw Terminals or 12 in (305 mm) wire leads, #22 AWG, solid

G. Door Position Switch; Surface

1. Acceptable Manufacturers

a. Magnasphere
b. Approved Equivalent

2. Magnasphere MSS-30XS Series or approved equivalent
3. Minimum Features and Specifications

a. UL 634 Listed
b. Surface mounted
c. Magnetic tamper
d. Size: 2 x 0.5 x 1 in (51 x 12.7 x 25.4 mm)
e. Capable of operating with a 0.3 in (7.6 mm) gap
f. Armored cable lead 24 in (61 mm)
g. Only for use on hatches where a standard recessed contact cannot be used

H. Door Position Switch; Overhead

1. Acceptable Manufacturers

a. Magnasphere
b. Approved Equivalent

2. Magnasphere MSS-105S or approved equivalent
3. Minimum Features and Specifications

a. UL 634 listed
b. Surface Mounted with overhead door bracket
c. Capable of operating with a 0.5 inch gap
d. Magnetic tamper
e. 5 ft (1.5 m) leads

I. Door Position Switch, UL Level 1, Surface

1. Acceptable Manufacturers

a. Magnasphere
b. Approved Equivalent

2. Magnasphere HS-L1.5 Series or approved equivalent
3. Minimum Features and Specifications

a. UL 634, Level 1 high security (both in-swing and out-swing doors)
b. Surface mounted
c. External and internal magnetic tamper
d. Size: 4.25 x 1 x 1 in (108 x 25.4 x 25.4 mm).
e. Capable of operating with a 0.25 in (6.25 mm) gap
f. Wire leads, #22 AWG, solid in 18 in (457 mm) armored cable
g. Housing: Aluminum case, silver-gray anodized
h. Dual Alarm contacts – Use for both IDS and ACS (two closed loop or one closed loop / one open loop)
i. NO adjustment required for installation
j. NO brackets needed for most out-swing door installations
k. Integrated removed / pry tamper (no back plates)

J. Door Position Switch; High Security, Recessed

1. Acceptable Manufacturers

a. Magnasphere
b. Approved Equivalent

2. Magnasphere HSS-L2C or OSS-L2C-A or approved equivalent
3. Minimum Features and Specifications

a. UL 634 Level 2 High Security Listed
b. Recessed
c. Integrated Removal Tamper Circuit and hardware, to actuate on removal of
d. switch from mounting surface
e. Used with, or contain embedded End of Line (EOL) resistors compatible with Software House control panels
f. Rated for both indoor and outdoor use
g. Qualify as an Intrinsically Safe - Simple Apparatus.
h. Installable in either a 1 in (25.4 mm) diameter hole or standard ANSI door cutout
i. Capable of operating with a 0.0625 in (1.5875 mm) gap
j. Wire leads, #22 AWG, solid, 12 in (305 mm) length
k. Brass magnet housing, ABS switch housing

K. Door Position Switch; High Security Surface

1. Acceptable Manufacturers

a. Magnasphere

1) Approved Equivalent

2. Magnasphere HSS-L2S Series or approved equivalent
3. Minimum Features and Specifications

a. UL 634, Level 2 listed
b. Surface mounted
c. Integrated Removal Tamper Circuit and hardware, to actuate on removal of
d. switch from mounting surface
e. Used with, or contain embedded End of Line (EOL) resistors compatible with Software House control panels
f. Rated for both indoor and outdoor use
g. Qualify as an Intrinsically Safe – Simple Apparatus
h. Size: 4.25 x 1.5 x 1 in (108 x 38 x 25.4 mm)
i. Capable of operating with a 0.125 in (3.18 mm) gap
j. Wire leads, #22 AWG, solid, in 36 in (91.4 cm) armored cable
k. Housing: Aluminum case, silver-gray anodized

4. Additional Required Options / Parts

a. HSS Roll-up Door Bracket Kit for use on overhead doors.

L. Vibration Detector

1. Acceptable Manufacturers

a. Bosch
b. Approved Equivalent

2. Bosch ISN-SM-80, or approved equivalent.
3. Minimum Features and Specifications

a. 5 m operating radius on concrete
b. Dimensions: 3.5 x 3.5 x .86 in (8.9 x 8.9 x 2.2 cm)
c. Operating temperature: -40 to 158 deg F (-40 to 70 deg C)
d. Supply Voltage: 8 to 16 VDC (12 VDC nominal)

M. Vibration Detector, Solid state

1. Acceptable Manufacturers

a. George Risk Industries, Inc.
b. Approved Equivalent

2. GRI Shockgard 1 SG-1 or approved equivalent.
3. Minimum Features and Specifications

a. 12 in (30.5 cm) operating radius on steel
b. Dimensions: .91 x .98 x 3.4 in (2.3 x 2.5 x 8.6 cm)
c. Operating temperature: -4 to 140 deg F (-20 to 60 deg C)
d. Supply Voltage: 9 to 15 VDC, Regulated

N. Duress Alarm

1. Acceptable Manufacturers

a. Honeywell
b. Approved Equivalent

2. Honeywell 269R/270R/269SN or approved equivalent.
3. Minimum Features and Specifications

a. Switch with a shroud over the activating lever that allows an individual to covertly send a duress signal to master control unit, with no visible or audible indication when activated. Switch shall lock in activated position until reset with a key.
b. Push Button: Finger activated, suitable for mounting on horizontal or vertical surface.
c. Latching with key reset
d. Plunger type DPDT
e. Switch rating: 0.2A @ 30VDC max
f. Operating Temperature: 14 to 140 deg F (-10 to 60 deg C)
g. UL 636 listed
h. Honeywell 269R: stainless steel cover
i. Honeywell 270R: plastic case
j. Honeywell 269SN: stainless steel cover (polling loop only)

O. AUDIBLE AND VISUAL ALARM DEVICES

1. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers. Retain one of first two paragraphs and list of manufacturers below. See Section 016000 "Product Requirements."
2. Bell: Master control unit 10 inches (254 mm) in diameter, rated to produce a minimum sound output of 84 dB at 10 feet (3 m) from master control unit.

a. Enclosure: Weather-resistant steel box equipped with tamper switches on cover and on back of box.

3. Klaxon Weatherproof Motor-Driven Hooter: UL listed, rated to produce a minimum sound output of 120 dB at 3 feet (1 m), plus or minus 3 dB, at a frequency of 470 Hz. Rated for intermittent use: two minutes on and five minutes off.
4. Designed for use in industrial areas and in high-noise, severe-weather marine environments.
5. Siren: 30-W speaker with siren driver, rated to produce a minimum sound output of 103 dB at 10 feet (3 m) from master control unit.

a. Enclosure: Weather-resistant steel box with tamper switches on cover and on back of box.

6. Strobe: Xenon light complying with UL 1638, with a clear polycarbonate lens.

a. Light Output: 115 cd, minimum.
b. Flash Rate: 60 per minute

2.5 SECURITY FASTENERS

A. Operable only by tools produced for use on specific type of fastener by fastener manufacturer or other licensed fabricator. Drive system type, head style, material, and protective coating as required for assembly, installation, and strength.

B. Drive System Types: Pinned Torx-Plus

C. Socket Flat Countersunk Headfasteners:

1. Heat-treated alloy steel, ASTM F 835 (ASTM F 835M).
2. Stainless steel, ASTM F 879 (ATSM F 879M), Group 1 CW.

D. Socket Bitton Head FastenersL

1. Heat-treated alloy steel, ASTM F 835 (ASTM F 835M).
2. Stainless steel, ASTM F 879 (ATSM F 879M), Group 1 CW.

E. Socket Head Cap Fasteners:

1. Heat-treated alloy steel, ASTM F 835 (ASTM F 835M).
2. Stainless steel, ASTM F 879 (ATSM F 879M), Group 1 CW.

F. Protective Coatings for Heat-Treated Alloy Steel:

1. Zinc chromate, ASTM F 1135, Grade 3 or Grade 4, for exterior applications and interior applications where indicated.
2. Zinc phosphate with oil, ASTM F 1137, Grade I, or black oxide unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The access control and monitoring system shall be installed in accordance with the manufacturer's written instructions.

B. All security system power, control and signal wiring shall be installed in raceways in accordance with Division-26 section, Raceways.

C. All connections, taps and splices shall be made in junction boxes or outlet boxes and shall conform to the requirements of Division-26 section, Electrical Connections.

D. Wiring, boxes and outlets shall be labeled to indicate they serve the security system.

E. The Contractor shall instruct the Owner's Representative and the Engineer in the operation and maintenance of the security system.

F. The Contractor shall provide a test report and certification that the security system has been installed, tested and is operating satisfactorily.

END OF SECTION 281300

SECTION 43 25 13.40 - SUBMERSIBLE **EFFLUENT** PUMPS

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish all labor, materials, equipment, and incidentals required to provide Submersible **Effluent** Pumps installed complete with motors, controls **as specified herein**, and accessories, as shown and specified.

B. The Contractor shall furnish, install, test, and place in satisfactory operation all Instrumentation and Control equipment and all ancillary equipment as specified herein and in other related sections.

C. The electrical contractor shall install all power, communication, and control wiring between interrelated panels/components.

D. It is the intention of this Specification that all equipment specified or required under this Section shall be provided by one supplier who shall have sole responsibility for the overall functions of the controls and provide one contact point for future service.

E. Related work specified elsewhere:
1. Division 3, Concrete.
2. Division 5, Metals.
3. Division 9, Finishes.
4. Division 26, Electrical.
5. Division 40, Process Integration.

1.02 REFERENCE STANDARDS

A. The following is a list of standards that may be referenced in this section:
1. National Electrical Code.
2. Standards of the National Electrical Manufacturers Association.
3. American National Standards Institute.
4. ASTM International (ASTM):
   a. A48, Standard Specification for Gray Iron Castings.
5. American Iron and Steel Institute.
6. Hydraulic Institute Standards.

1.03 RELATED REQUIREMENTS

A. The following items are included where shown on the Plans or otherwise specified.
1. Instrument panel(s) and controls systems.
2. All components of panels, associated systems, and specified auxiliaries.
3. All components of miscellaneous systems listed in this Section, including specified auxiliaries shown on the Plans and/or specified herein.
4. After installation, the manufacturer's representative supervises the initial operation of each system and its individual components for checkout and pre-start-up calibration.
5. Start-up of all components and operation of all systems under all modes and conditions to ensure systems function properly and in accordance with specified requirements.
6. Shop painting.
7. Coordination and verification of electrical terminations.

B. All components, including instruments, auxiliaries, pipe, fittings, wiring, conduit, panels, brackets, supports, etc., shall be of design and material specially adapted to the service for which they are intended and shall be of proper construction for installation at the locations designated and shall provide the functions to which they are applied.

C. All systems shall perform the services intended. The type and method of measurement, control, and operation shall be in accordance with the descriptions of the systems and components.

D. Schematic diagrams and elementary wiring diagrams shown on the plans shall be referenced, as well as the descriptions provided in these specifications.

E. Any additional equipment required during installation and/or the initial operating period shall be included in this item.

1.04 SUBMITTALS

A. Comply with Contract submittal procedures.

B. Shop drawings:
1. Comply with Contract submittal procedures.
2. Contractor shall coordinate pump discharge size with discharge piping shown on the Contract Drawings and shall provide all fittings, reducers, and specials as required to construct the pump and piping systems as shown on the Contract Drawings, coordinated with the Pump Manufacturer's approved shop drawings.
3. Submit for approval the following:
   a. Manufacturer's literature, illustrations, specifications, and engineering data including: dimensions, materials, size, weight, performance data, and curves showing overall pump efficiencies, flow rate, head, brake horsepower, motor horsepower, speed, and shut-off head.
   b. Shop Drawings showing: Fabrication, assembly, installation, and wiring diagrams.
   c. NEC code letter.

C. Operation and Maintenance Data **(Effluent Pumps)**:
1. Comply with Contract submittal procedures.
2. Submit for approval in accordance with Contract operation and maintenance data requirements, including the following additional information:
   a. Detailed parts list.
   b. Repair data.
   c. Manufacturing data for couplings, bushings, and pump seal assemblies.
   d. Electrical diagrams.
   e. Mechanical diagrams.
   f. Troubleshooting data.
   g. Test data.
   h. Repair parts and maintenance materials.

D. Operation and Maintenance Manuals (Instrumentation and Controls):
1. Furnish copies of a complete operation and maintenance manual for all items included under this Specification, including equipment specified in other sections and in accordance with the General Provisions.
2. Under this Section, the manual is intended to be completed, integrated, and inclusive, including all equipment described herein.
3. The instructions shall be legible and easily read, with large sheets of drawings folded in.

4. The manual shall include wiring and control diagrams and interconnection diagrams (which shall include any and all field changes to represent "a completed construction") with data to explain detailed operation and control of each item of equipment and the following;
a. a control sequence describing start-up,
b. operation and shut-down;
c. description of the function of each principal item of equipment;
d. the procedure for starting;
e. the procedure for operating;
f. shut-down instructions;
g. installation instructions;
h. maintenance instructions;
i. safety precautions;
j. diagrams and illustrations;
k. test procedures;
l. performance data;
m. and parts list.

E. Manufacturer's Certificate of Proper Installation:
1. Submit for information the manufacturer's certificate of proper installation prior to initiating commissioning activities.

F. Spare Parts and Maintenance Materials:
1. Comply with Contract submittal procedures.
2. Supply one (1) repair kit per pump size furnished under this Section.
3. Minimum components of each repair kit:
a. Bearings, quantity: (2).
b. Seals, quantity: (2).
c. O-rings, one (1) complete set.
d. Gaskets, one (1) complete set.

G. Record Documents: Comply with Contract submittal procedures.

1.05 QUALITY ASSURANCE

A. Contractor shall provide complete operating control and instrumentation systems.

B. The Contractor shall supply the services of the manufacturer's factory-trained start-up technician to ensure all equipment has been satisfactorily installed, is properly calibrated, and operates to the satisfaction of the Owner.

C. Factory test **(Effluent Pumps)**:
1. Shop Test: Factory test pumps and motors on water as a unit.
2. Test the pump-motor unit for the following:
a. Rated speed.
b. Head.
c. Capacity.
d. Efficiency over the entire operating range of the pump.
e. Brake horsepower demand over the entire operating range of the pump.
f. Establish the pump performance curve.
g. Submit certified copies of test curves for approval before shipping the pumps.
h. Minimum submergence at the guaranteed operating point.

D. Field tests:
1. Comply with the applicable portions of this specification.

2. Pumps shall not be damaged by reverse flow through the pump.

E. Service Organization:
1. The pump manufacturer shall have a full-capability service organization in place.
2. Such a service organization shall include at least one stocking distributor within 150 miles of the project site.

F. The Pump Manufacturer shall supply all motors and be responsible for complete coordination of the pumps, motors, and discharge elbows.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Comply with Section 01 60 00, Product Requirements.

B. Delivery of materials:
1. Pumps shall be shipped in components for minimal field assembly and protected on wooden skids.
2. Suction and discharge ports shall be protected against the entry of foreign objects.

C. Storage and Handling:
1. Store units in a clean, dry area out of the weather.
2. Cap all pipe connections.
3. Pumps shall remain on the original skid until the time of installation.
4. Pumps shall be tightly covered to protect against dirt, water, mechanical injury, and chemical damage.

1.07 GUARANTEE

A. The manufacturer shall warrant the new pumps against defects in workmanship and materials for **a period of three (3) years or a period similar to the pumps' specifications from the manufacturer** under normal use, operation, and service.

B. In addition, the manufacturer shall replace parts that become defective through normal use and wear on a **progressive cost schedule for three (3) years or as specified from pump manufacturer recommendations**; parts included are the pump shaft, rotating assembly, stuffing box, casing, seals, and rings, as applicable.

C. The warranty shall be published and apply to all similar units.

PART 2 - PRODUCTS

2.01 GENERAL

A. Type: Submersible **effluent** pump(s) with performance capabilities as scheduled on the Drawings.

B. Service Conditions:
1. Material:
a. Greywater with minimal solids.
b. Homes
c. Farms
d. Heavy Duty Sump, Water Transfers and dewatering
e. Solids Size: Up to 3/4-inch in diameter.

2. Temperature:
   a. Minimum: 40 degrees F.
   b. Maximum: 80 degrees F.
3. Normal: 55 degrees F.
4. Specific gravity at 68 degrees F: 1.0.
5. Vapor Pressure at 68 degrees: 0.339 psia.
6. pH range: 4.0 – 8.0.
7. Site altitude: 578 feet MSL.

C. Service Tolerances:
1. Comply with at least one of the following:
   a. At rated head, pump capacity shall be within +10% of specified capacity at Primary Duty Point.
   b. At rated capacity, the pump head shall be within +5% of the specified head at Primary Duty Point.

D. Operating Points, full-speed:
1. Pumps shall meet the following service conditions as scheduled on the Drawings.
   a. Number of Pumps: 2
   b. Operating duty point: 20 gpm at 14.3' TDH (1750 RPM).
   c. Minimum Shut-off: 26' TDH.
   d. Maximum motor horsepower: 0.5 hp.

E. Minimum hydraulic efficiency at Primary Duty Point: 51%.

F. Manufacturer:
1. Goulds Water Technology, WS05B
2. Orenco Pump Systems, PFEF Series
3. Approved equal

2.02 DETAILS OF CONSTRUCTION

A. General:
1. Pump volute shall be of gray cast iron per ASTM 35B with smooth surfaces devoid of blow holes and other irregularities.
2. All mating sections shall be gasketed watertight.
3. All exposed nuts, bolts, and washers shall be stainless steel.
4. All components of the pump shall be capable of continuous underwater operation.

B. Impeller:
1. Impellers shall be abrasion-resistant cast iron per ASTM A 48, Class 35, dynamically balanced, with ejector (pump out) vanes on the top of the impeller to protect the lower mechanical seal and hydraulic balance.
2. Due to design, only single-plane spin balancing shall be required for smooth operation.
3. Impellers shall be designed to handle up to ¾" solids.

C. Shafts and shaft seals:
1. The impeller shall be threaded to the solid series 400 stainless steel shaft.
2. All impellers shall be secured by a thread-locking feature, which will prevent the impeller from loosening during short periods of reverse rotation, as might occur when the rotation direction is being verified outside the installation.
3. The motor shall be protected by a mechanical shaft seal mounted on the pump shaft.

4. The mechanical seal shall be constructed of silicon carbide vs. silicon carbide sealing faces.
5. The mechanical seal shall be tensioned by a spring constructed of series 300 stainless steel metal components and BUNA-N elastomers.
6. Pumps shall be able to operate dry for extended periods without damage to the motor or seals.

D. Moisture sensor:
1. Provide a moisture-sensing switch to detect water leakage past the seals.
2. The switch shall have a SPDT relay with 120V contacts for moisture sensing.
3. The pump supplier shall include isolation transformer relays and/or other required components to provide isolated 120 VAC-rated contact outputs for each alarm condition.

E. Bearings:
1. The integral pump/motor shaft shall rotate on two bearings.
2. Motor bearings shall be sealed and permanently grease lubricated with high-temperature grease.
3. The motor shall be provided with ball-type anti-friction bearings, which shall support the heavy-duty rotor shaft and handle all radial and axial loads imposed by the impeller while limiting shaft deflection at the mechanical seal faces.
4. The minimum L_{10} bearing life shall be 30,000 hours from 50% to 150% of the best efficiency point.

F. Motors:
1. Motors shall be NEMA Design B with a minimum service factor of 1.25.
2. Voltage: 208 volts, single-phase, 60 Hz.
3. The integral motor shall be completely sealed from the environment by use of circular cross-section O-rings accurately fitted into machined grooves, which shall provide designed compression of metal-to-metal fits.
4. Single-phase motors shall be capacitor-start.
5. All single-phase motors shall be provided with thermal protection.
6. Single-phase motors shall have an on-winding sensor with automatic reset.
7. The stator winding shall be open type with class B insulation suitable for operation in clean dielectric oil for efficient heat transfer and lubrication of the ball bearings.
8. The stator shall be a register that fits into the bearing housing to ensure positive alignment and be bolted for ease of serviceability.
9. Motors shall be non-overloaded at any point on the pump curve.
10. The motor shall be rated for continuous duty under full nameplate load while fully submerged in the **pump or dosing** station.
11. Motors shall be designed for at least 10 starts per hour.
12. Motors shall allow full sump drawdown.
13. Motor construction and characteristics shall comply with NEC locked rotor indicating code letter "G" per NEC Section 430.7.
14. The pump supplier shall include relays, if needed, for the motor thermal overloads, to be wired into the control circuit in the field.

G. Cables and Wiring:
1. Each pump's power and control wires shall be contained in a single cable, properly shielded to prevent induction interferences.
2. The pump power and control cable shall be SO/SOWA type.
3. The cable shall enter the pump through heavy-duty entry assemblies that include elastomer grommets to protect against leakage.
4. Cable strain relief assemblies shall be included.
5. Cable entry shall be metal-to-metal.

6. The cable entry junction box shall be isolated from the motor.
7. Cable size shall be per NEC specifications. Cable length shall be 40 feet minimum.
8. Contractor shall coordinate final order length to provide sufficient slack to remove pumps from the installation.
9. Provide a cable for each pump provided.

H. Coating System:
1. The factory-applied pump coating shall be a 2-part epoxy coating suitable for sewage service and corrosive environments.
2. The coating system shall be applied in two coats with a minimum total dry film thickness of 15 mils.
3. Field-applied coatings will not be required.

2.03 REAL VOICE AUTODIALER

A. The automatic telephone system alarm dialer shall dial up to eight (8) alarms.

B. The dialer shall be capable of dialing up to sixteen (16) 60-digit numbers. The unit shall be capable of interfacing with pager systems and beepers.

C. The unit shall call each programmed number in sequence until an acknowledged response is received.

D. The unit shall be capable of analog input monitoring and contact closure input monitoring and shall transmit discrete alarms for high temperature, power failure, high wet well level, and low wet well level.

E. The automatic telephone system alarm dialer shall be RACO Verbatim, or equal.

F. The automatic telephone system dialer shall be equipped with a cellular phone transceiver, antenna, and back-up battery to power the transceiver and auto dialer upon loss of AC power. The cellular transceiver shall be a triode RACO Cellularm, or equal, and compatible with Owner's wireless network.

G. The automatic telephone system dialer shall be provided with a compatible cell phone.

H. Alarm inputs to the autodialer shall be as indicated by the Engineer on the approved submittal, but shall include, as a minimum:
1. wet well high level;
2. pump failure (high temperature);
3. utility power off; and
4. phase loss

2.04 ACCESSORIES

A. Discharge coupling and mating base elbow:
1. For each pump, discharge coupling, and mating elbow.
2. The elbow shall be complete with stainless steel anchor bolts and mate with the flanged discharge piping.

3. Sealing the pump discharge coupling to the base elbow flange shall be accomplished by a simple downward linear motion of the pump, with the entire weight of the pump being guided by guide rails to press tightly against the discharge elbow, forming a leak-proof connection.
4. No part of the pump shall bear directly on the sump floor, and no rotary motion of the pump shall be required for sealing.

B. Nameplates:
1. Each pumping unit shall be furnished with a stainless-steel nameplate which shall include but not be limited to the following information:
   a. Name of Manufacturer.
   b. Serial and model number.
   c. Design point with capacity in gallons per minute and total dynamic head in feet.
   d. Motor speed in revolutions per minute.
   e. Brake horsepower.
   f. Fabrication: Each pump shall be completely factory assembled.

C. Guide Rails:
1. Pumps shall be installed on a rail system to facilitate raising and lowering the pump for maintenance.
2. Guide rails shall be AISI Type 304 stainless steel schedule 40 pipe.
3. Guide rail brackets shall be stainless steel.
4. Manufacturer:
   a. CentriPro, Conery Base Elbow Rail System.
   b. Approved Equal.

D. Lifting cable:
1. Provide each pump with stainless steel wire rope lifting cable of sufficient length and gauge to facilitate lifting each pump out of the wet well.
2. The wet end of each cable shall be permanently secured to its respective pump.
3. An additional 5-foot length of stainless-steel safety cable with a snap on each end shall be attached to the free end of the lifting chain and to an eye bolt embedded in the top of the concrete wall.
4. All chain, hooks, anchorage, and miscellaneous fasteners shall be fabricated from Type 304 stainless steel.

E. Controls:
1. The pumps will be operated manually and automatically by the equipment described in this Section, and Divisions 40 and 26.
2. Additional materials or equipment required by the manufacturers of these pumps, but not shown on the Drawings, to allow these pumps to function in the required manner shall be furnished and installed under this Section.
3. All electrical equipment furnished under this Section shall comply with the requirements of Divisions 40 and 26.
4. Miscellaneous supports, brackets, fasteners or fabrications required to mount or install pump controls shall be fabricated from stainless steel in accordance with Section 05 50 00, Metal Fabrications.
5. **The Contractor shall furnish and install one (1) completely automatic duplex pump control panel for the New Senior Center Septic Pump Station. Each control center shall operate from a 208V, single-phase power source.**
   a. The panel shall be brushed stainless steel insulated NEMA 4X enclosure including:
      1) Hand-Off-Auto selector switches for each pump.
      2) Push button start/stop switches for each pump.
      3) Automatic shutdown circuitry for low-level shutdown;

4) Low/High level floats– non-mercury mechanical type (Flygt Corporation ENM-10, ABS Float Switch, or approved equal).
5) Interior panel mounted seal failure red alarm light for each pump.
6) Interior panel mounted red low level alarm light for each pump.
7) Elapsed time meters for each pump.
8) Intrinsically safe barrier for float switches and level transducer.
9) All door-mounted controls, pilot lights, etc., shall have nameplate indicating function. The control panel shall have the master nameplates labeled as applicable: "New Senior Center Septic Pump Station Pump Control Panel".
10) Float test switches.
11) Thru-panel motor starter reset buttons;
12) 3 pole, 208 Volt main circuit breaker disconnect.
13) Uninterruptible power supply sized to maintain power and provide full operation of the control panel for a minimum of one (1) hour.

b. Operation of the New Senior Center Septic Pump Station shall be as follows: As the wet well waste level rises to the "Lead Pump On" level, it shall start the lead pump and continue pumping until the "Pumps Off" is reached. Should the lead pump fail or not keep up with the influent flow rate, and the level rises to the "Lag Pump On", it shall start the lag pump such that the "Lead" and "Lag" pumps operate simultaneously. The lag pump shall continue pumping until the "Pumps Off" level is reached. Should both pumps not keep up with influent flows, the "High Water Level Alarm" condition shall be activated at the High Water Level setpoint.

c. Hands-Off-Auto Switch: The control panel for the New Senior Center Septic Pump Station pumps shall include a Hand-Off-Auto selector switch for each pump in the panel cover. The selector switches shall be heavy-duty oil tight and rated for the NEMA class of the enclosure. When the switch is in "hand" position, the pump shall start and stop manually by cover-mounted start-stop push buttons on the duplex drive control panel. When the H-O-A switch is in the "auto" position, the pump shall start and stop automatically by an integral level control system.

d. Temperature Control: Size to adequately dissipate heat from equipment mounted inside the panel or on the panel face.

e. Space Heaters: Thermostatically controlled to maintain internal panel temperatures above the dew point.

6. Field Wiring

a. Install conduit stubs at the bottom of the panel to accommodate existing field wiring.

b. Offset conduit stubs so that no conduit stub is directly over an existing conduit stub when the panel is installed.

c. Provide a watertight seal in panel conduit stubs.

d. A grommet-style seal or an approved chemical filler is acceptable.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Examine installation surfaces to receive pumps for deficiencies detrimental to the performance of the finished installation.

B. Complete installation in accordance with Manufacturer's recommendations, approved shop drawings, and the Contract Drawings.

C. Installation shall include furnishing and applying an initial supply of grease, oil, or other consumables, as required by the Manufacturer.

D. Install and support discharge piping independent of the pump.

E. Connect all piping, valves, and accessories as detailed on the Contract Drawings and approved shop drawings.

F. Complete all electrical power and control connections.

3.02 START-UP, ADJUSTMENT, AND TESTING

A. The Contractor shall supply the services of a Manufacturer's representative to check and approve the installation before commissioning the Work.

B. For equipment furnished under this Section, provide the services of a qualified manufacturer's representative during installation, startup, demonstration testing, and Owner training.

C. Submit a Manufacturer's certification of proper installation for information prior to initiating commissioning activities.

D. Make adjustments required to place the system in proper operating condition.

E. The Manufacturer's representative shall test operate the system and verify that each pump conforms to requirements and instruct operating personnel on operation, care, and maintenance of the equipment.

F. Operational Demonstration: Comply with the following:
1. Prior to acceptance by the owner, an operational test of all pumps, drives, and control systems shall be conducted to determine whether the installed equipment meets the specifications' purpose and intent.
2. Tests shall demonstrate that all equipment is electrically, mechanically, structurally, and otherwise acceptable; safe and in optimum working condition; and conforms to the specified operating characteristics.
3. After construction debris and foreign material have been removed from the wet well, the contractor shall supply clear water sufficient to operate the station through several pumping cycles.
4. Observe and record operation of pumps, suction and discharge gage readings, ampere draw, pump controls, and liquid level controls.

3.03 INSTRUCTION OF OPERATING PERSONNEL

A. Provide the services of a qualified, factory-trained Manufacturer's Representative to conduct training in the following sessions:

1. The manufacturer shall provide training in the operation and maintenance of the equipment under this Section.
   a. Include a review of O&M manuals and a survey of spares, expendables, and test equipment.
   b. Use equipment similar to that provided or currently owned by the Owner.
   c. Provide training suitable for instrument technicians with at least a 2-year associate engineering or technical degree or equivalent education and experience in electronics or instrumentation.
2. Training shall combine classroom and "hands-on" instruction to completely familiarize operating personnel with the theory, standard operating procedures, safety features, emergency procedures, and general maintenance of all components.
3. All training shall target journeyman operators and maintenance personnel.
4. Follow-up sessions, where called for, shall be scheduled after classroom and hands-on training and after some operating time by plant personnel.
5. Operating, Maintenance, Electrical, and Instrumentation Personnel Training:
   a. Total hours: 3 hours.
      1) Classroom: 1 hour.
      2) Hands-on: 2 hour.

3.04 SYSTEM RESPONSIBILITY

A. All equipment in this Section shall be supplied through one supplier, who shall be responsible for providing a complete, operational system for installation.

B. Equipment shall be supplied as a system to meet all intended functions.

C. The Supplier shall ensure satisfactory operation of all equipment and instruct the Owner's personnel in the proper maintenance and operation of all equipment supplied.

D. The Supplier shall provide at least two (2) 8-hour man days of start-up, training, and other services as specified for the new control system.

3.05 CLEANING

A. Clean dirt, marks, and other debris from the exterior of the pumps.

B. Remove debris and waste materials resulting from installation.

END OF SECTION 43 25 13.**40**

S E C T I O N – I V
P R O P O S A L

DESCRIPTION OF WORK

Bid Opening via Teleconference WebEx: Thursday, August 21, 2025 @ 10:30 a.m. EST.
WebEx Phone Number 1-415-655-0001, Access Code Number 2309 882 4905##.

Begin Work Within Fifteen (15) Days After NOTICE TO PROCEED

Calendar Days for Completion: Five Hundred Forty-Eight (548)

Liquidated and Other Damages: FIFTEEN HUNDRED DOLLARS ($1500.00 PER CALENDAR DAY)

Cost Group "G" ($10,500,001 to $5,000,000) (Prequalified contractors with a Cost Group restriction must bid within the dollar amount stated on their Certificate of Prequalification)

Work Classification: I1

TO BALTIMORE COUNTY, MARYLAND: New construction of Jacksonville Senior Center is a new approximately 17,000 square foot (SF) one-story construction. The site already has an existing building shared by the Senior Center and the Department of Recreation and Parks. The project shall meet US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) for New Construction (NC) LEED Silver Certification, with no fossil fuels to be included in the overall design. Trade contractor performing work on septic system must be registered with the Maryland Board of Onsite Wastewater Professionals and licensed in Baltimore County as a Disposal System Contractor. **Phoenix - District 10c3.**

The following listed Drawing Number(s) are collectively the "Drawings", and are hereby incorporated in the Contract.

Workday Number	Drawing Number(s)
107011861	2025-0219 thru 0412 (195 Drawings)

A pre-bid meeting will be held on Wednesday, July 30, 2025 at 10:00 a.m. EST via WebEx. *Phone-In (Audio Only)* – 1-415-655-0001, Meeting Number 2313 108 0192##. *Video Conference* – Meeting Number 2313 108 0192 ,**Password**: **PWGtaE6QijW54,** go to https://signin.webex.com/join,or for the WebEx link go to www.baltimorecountymd.gov/departments/public-works/engineering/contracts/current-solicitations

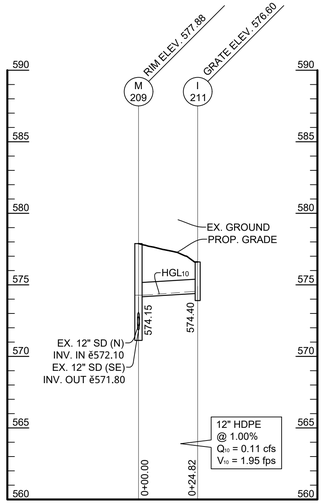
NOTE: No successful bidder may withdraw their bid within NINETY (90) days after the opening thereof.

The Contractor hereby declares that it has carefully examined the solicitation, plans and specifications, form of contract, Special Provisions and Drawings (collectively the "Contract Documents"). The Contractor also hereby declares that it has carefully examined the September 2023 "Standard Specifications for Construction and Materials" and "Standard Details for Contraction", collectively the "Applicable County Law" and any and all Department of Public Works and Transportation revisions thereto as of the date of advertisement. The Contract Documents, the Applicable County Law and the Department of Public Works and Transportation revisions thereto are collectively the "Specifications" and are incorporated herein. Copies of any and all Department of Public Works and Transportation revisions including but not limited to the General Conditions Building Projects, are available online at www.baltimorecountymd.gov/departments/public-works/standards. Also, the Contractor has, to its satisfaction, examined the locality of the proposed work and agrees to furnish all labor, tools, materials, machinery, equipment, and other means of construction called for in the manner provided in the Specifications for the prices shown on the next page(s) and as evidenced by Contractor's signature on the last page thereof.

SCHEDULE OF PRICES

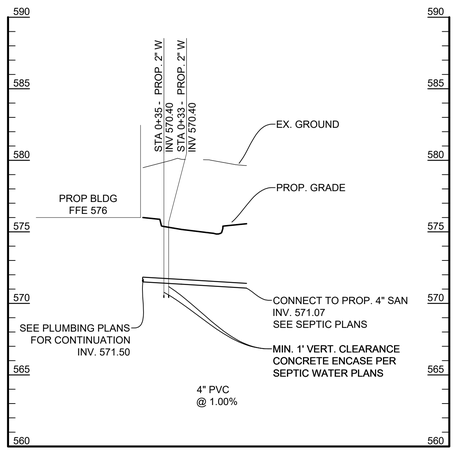
NOTE: The Bidder shall fill out this Proposal, write in the unit prices in clear numerals, and make the extensions.

For complete information concerning these items, see Specifications and contract forms.



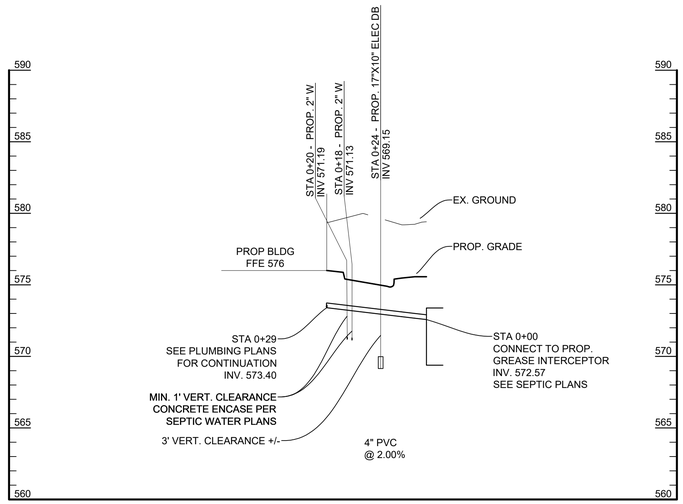
1 SD: I-211 to M-209

SCALES: HORIZ. 1" = 30'
VERT. 1" = 5'



2 SAN: BUILDING TO SEPTIC

SCALES: HORIZ. 1" = 30'
VERT. 1" = 5'



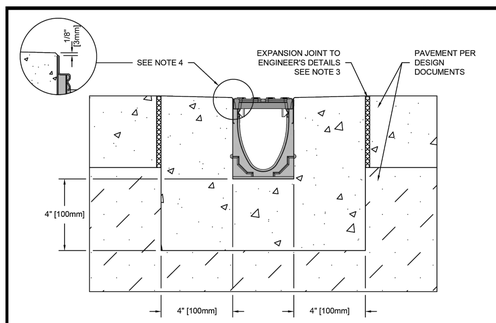
3 SAN: BUILDING TO GREASE INTERCEPTOR

SCALES: HORIZ. 1" = 30'
VERT. 1" = 5'

STORM DRAIN STRUCTURE TABLE

STRUCTURE #	STRUCTURE TYPE	TOP ELEV.	INV. IN	INV. OUT	COORDINATES
E-101	HPDE END SECTION		18" HDPE (NW) 558.02		N: 672,273.65 E: 1,437,700.04
M-103	PRECAST MANHOLE TYPE A BACO D-3.01	RIM 563.25	18" HDPE (NW) 558.47 12" HDPE (NE) 558.88 4" PVC (NE) 558.84	18" HDPE (SE) 558.38	N: 672,311.59 E: 1,437,670.57
I-105	30" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 562.25	4" PVC (NW) 558.58	18" HDPE (SE) 558.58	N: 672,321.36 E: 1,437,651.91
M-107	PRECAST MANHOLE TYPE B SHALLOW BACO D-3.01	RIM 566.22	12" HDPE (NE) 562.71 12" HDPE (NW) 562.71	12" HDPE (SW) 562.55	N: 672,376.63 E: 1,437,704.81
M-109	PRECAST MANHOLE TYPE A BACO D-3.01	RIM 568.32	12" HDPE (NE) 564.05 12" HDPE (NW) 564.05	12" HDPE (SW) 563.95	N: 672,400.67 E: 1,437,754.46
I-110	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 569.25	4" PVC (NE) 565.08	12" HDPE (SW) 564.41	N: 672,416.35 E: 1,437,786.84
I-111	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 567.25	4" PVC (NE) 563.58	12" HDPE (SE) 562.92	N: 672,395.13 E: 1,437,695.85
I-113	30" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 570.25	4" PVC (N) 566.08	12" HDPE (SE) 565.41	N: 672,418.12 E: 1,437,746.01
M-115	24" NYLOPLAST DRAIN BASIN DOME GRATE	RIM 575.68	12" HDPE (W) 569.12	12" HDPE (SE) 569.12	N: 672,429.59 E: 1,437,728.97
M-117	24" NYLOPLAST DRAIN BASIN SOLID COVER	RIM 572.46	12" HDPE (NW) 569.64	12" HDPE (E) 569.64	N: 672,415.63 E: 1,437,661.83
I-119	24" NYLOPLAST DRAIN BASIN SOLID COVER	GRATE 574.75	12" HDPE (NW) 570.86	12" HDPE (SE) 570.86	N: 672,561.10 E: 1,437,588.95
M-121	15" NYLOPLAST DRAIN BASIN SOLID COVER	RIM 575.16	12" HDPE (N) 571.08 4" PVC (NW) 572.08	12" HDPE (SE) 571.08	N: 672,586.83 E: 1,437,576.06
E-127	HDPE END SECTION	- 569.44	12" HDPE (NW) 568.25		N: 672,439.04 E: 1,437,794.75
I-129	TYPE S INLET DOUBLE GRATE TANDEM BACO D-2.19A	GRATE 571.03		12" HDPE (SE) 568.39	N: 672,451.60 E: 1,437,788.47
E-131	HDPE END SECTION		12" HDPE (E) 561.75		N: 672,330.04 E: 1,437,664.96
I-133	TYPE S INLET DOUBLE GRATE TANDEM BACO D-2.19A	GRATE 564.28		12" HDPE (W) 562.15	N: 672,322.51 E: 1,437,704.35
I-201	TYPE S INLET SINGLE GRATE BACO D-2.16A		15" HDPE (S) 564.57 15" HDPE (NW) 564.67	24" RCP (E) 563.82	N: 672,447.43 E: 1,437,859.34
I-202	TYPE S INLET DOUBLE GRATE TANDEM BACO D-2.19A	GRATE 569.54		15" HDPE (N) 565.80	N: 672,388.58 E: 1,437,840.69
I-203	TYPE S INLET SINGLE GRATE BACO D-2.16B	GRATE 574.50	12" HDPE (SW) 569.36 12" RCP (NW) 568.18	15" HDPE (SE) 566.93	N: 672,548.90 E: 1,437,809.82
I-205	TYPE S INLET SINGLE GRATE BACO D-2.16A	GRATE 574.27	12" HDPE (NW) 569.91	12" HDPE (NE) 569.81	N: 672,529.05 E: 1,437,769.14
ADD1 M-209	36" NYLOPLAST DRAIN BASIN SOLID COVER	RIM 577.88	12" HDPE (NW) 574.15 12" RCP (N) 572.10	12" RCP (SE) 571.80	N: 672,653.42 E: 1,437,758.82
I-211	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 576.60		12" HDPE (SE) 574.40	N: 672,666.15 E: 1,437,737.51
I-213	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 575.40	12" HDPE (NW) 571.05	12" HDPE (SE) 570.95	N: 672,616.05 E: 1,437,711.33
I-215	TYPE S INLET DOUBLE GRATE TANDEM BACO D-2.19A	GRATE 574.87	12" HDPE (N) 571.62	12" HDPE (SE) 571.52	N: 672,655.21 E: 1,437,685.00
I-217	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 575.25		12" HDPE (S) 571.75	N: 672,667.10 E: 1,437,689.06
I-219	TYPE S INLET DOUBLE GRATE TANDEM BACO D-2.19A*	GRATE 585.00			N: 672,883.71 E: 1,437,717.32

*NOTE I-219 WILL HAVE BASE CAST IN PLACE WITH A DOG HOUSE RISER TO ACOMMODATE EXISTING 12" PVC AS OUTLET



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K100 KLASSIKDRAIN 'DRAINLOK' LOAD CLASS A

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

K1D-A-ECP
DATE: 08/16/17

K100 - KLASSIKDRAIN - LOAD CLASS: A
Exposed Concrete Pavement
INSTALLATION DRAWING - ACO DRAIN

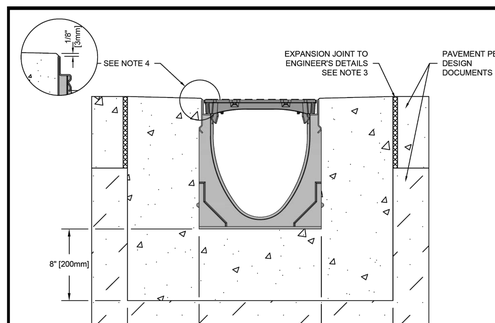
ACO Polymer Products, Inc.
825 W. Beechcraft St, Casa Grande, AZ 85122, Tel: 520-421-9988, Fax: 520-421-9899
9470 Pinecone Dr., Mentor, OH 44060, Tel: 440-639-7230, Fax: 440-639-7235
4211 Pleasant Rd., Fort Mill, SC 29708, Tel: 440-639-7230, Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764

4 4" TD SECTION - CLASS A PEDESTRIAN LOADING

NOTE: OR APPROVED EQUAL

NOT TO SCALE



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K200 KLASSIKDRAIN 'DRAINLOK' LOAD CLASS C

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K200 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 8" (200mm) NOMINAL INTERNAL WIDTH WITH A 10.2" (260mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

K2D-C-ECP
DATE: 08/17/16

K200 - KLASSIKDRAIN - LOAD CLASS: C
Exposed Concrete Pavement
INSTALLATION DRAWING - ACO DRAIN

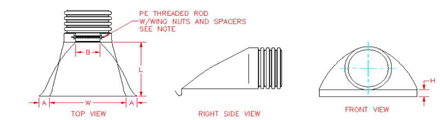
ACO Polymer Products, Inc.
825 W. Beechcraft St, Casa Grande, AZ 85122, Tel: 520-421-9988, Fax: 520-421-9899
9470 Pinecone Dr., Mentor, OH 44060, Tel: 440-639-7230, Fax: 440-639-7235
4211 Pleasant Rd., Fort Mill, SC 29708, Tel: 440-639-7230, Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764

5 8" TD SECTION - CLASS C HEAVY LOADING

NOTE: OR APPROVED EQUAL

NOT TO SCALE



PART #	PIPE SIZE	A	B(MAX)	H	L	W
1015NP	10 in (250 mm)	3.8 in (95 mm)	10.0 in (254 mm)	6.5 in (165 mm)	28.0 in (711 mm)	34.5 in (876 mm)
1215NP	12 & 15 (300 & 375mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1810NP	18 in (450 mm)	7.5 in (191 mm)	15.0 in (381 mm)	6.5 in (165 mm)	32.0 in (813 mm)	36.0 in (965 mm)
2410NP	24 in (600 mm)	7.5 in (191 mm)	18.0 in (457 mm)	6.5 in (165 mm)	36.0 in (914 mm)	45.0 in (1143 mm)
3015NP	30 in (750 mm)	7.5 in (191 mm)	12.0 in (305 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)
3615NP	36 in (900 mm)	7.5 in (191 mm)	25.0 in (635 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)

6 HDPE END SECTION

BASIS OF DESIGN: ADS
NOTE: OR APPROVED EQUAL

NOT TO SCALE

SEAL

DATE : _____

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 42977 EXPIRATION DATE 06/07/2025

ENGINEER: PETER SOPRANO
SITERESOURCES
Creative Design. Sustainably Engineered.
4 North Park Drive, Suite 100, Cockeysville, MD 21030
410.683.3388 www.siteresourcesinc.com

DGN BY: EAM
DWN BY: L_H
CHKD BY: RSW/KPR

AS-BUILT / REVISION	BY	DATE
Addenda #1	ADD1	8/7/25
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

P.W.A. NO.
R.O.W NO.

KEY SHEET	POSITION SHT
UNE	78NE11
	78NE12
	79NE11
	79NE12

DRAWING SCALE
PLAN SCALE: AS SHOWN
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

MARYLAND COORDINATE SYSTEM NAD83/2011 & NAVD88

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER
UTILITY PROFILES
BID DOCUMENTS 5/15/2025
3601 SWEET AIR RD, PHOENIX, MD 21131

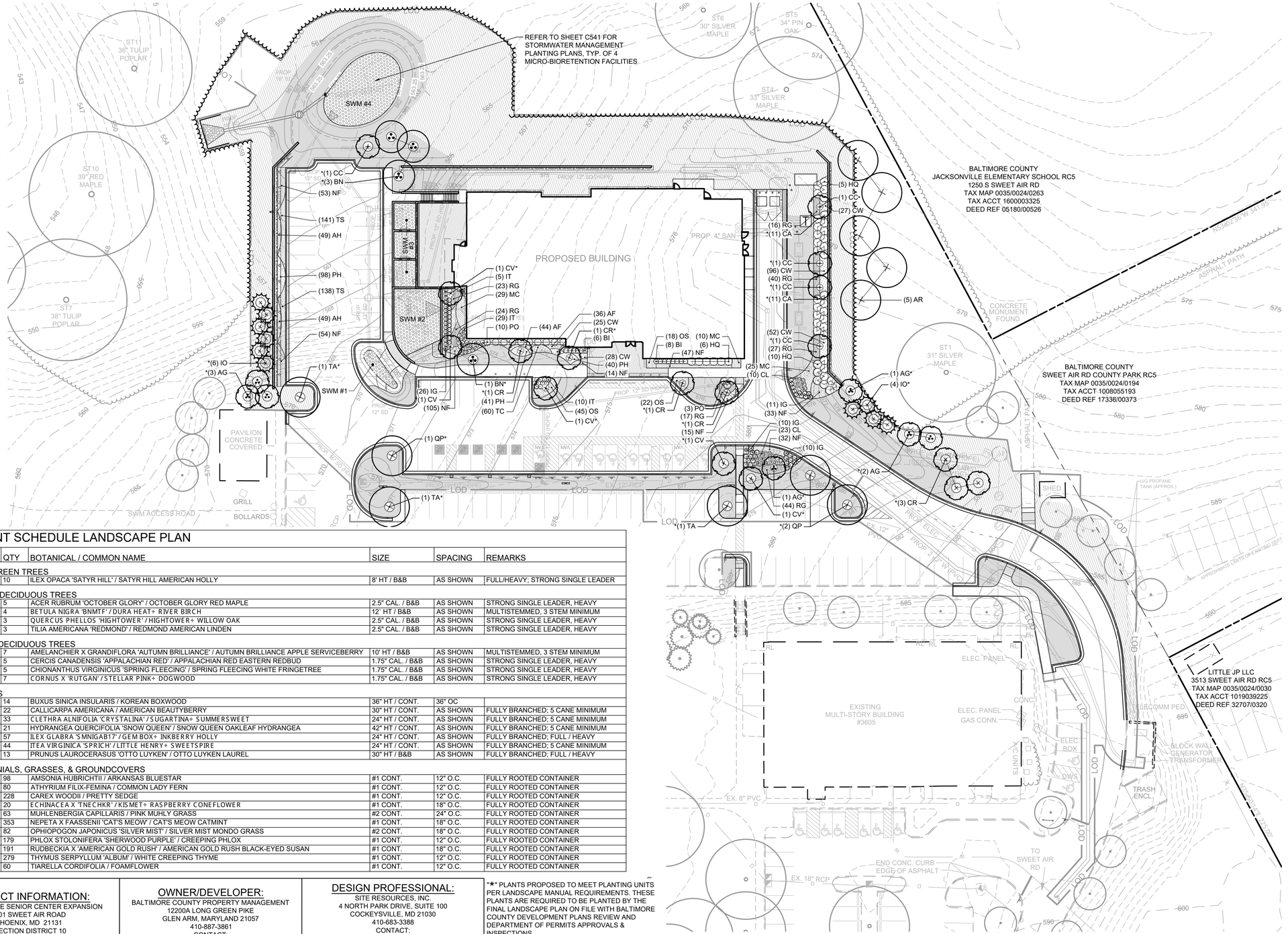
SUBDIVISION: JACKSONVILLE

ELECTION DIST. NO.: 10C3

SHEET DESIGNATION	CONTRACT NUMBER
C302	25010 P00
JOB ORDER NUMBER	
10-701-1861	
SHEET 19 OF 195	
DRAWING NUMBER	
2025-0237	
FILE NO.: 8	REV. 00/00

BID DOCUMENTS 5/15/2025

DWG. FILENAME: ⊕ SITE RESOURCES, INC. Z:\25\25113-BACO NEW JACKSONVILLE SENIOR CENTER\04-DWG\C301 STORMDRAIN PROFILES.DWG 8/7/2025 1:32 PM rsw



LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING BUILDING
- EXISTING WALK
- EXISTING ROAD
- EXISTING FENCE
- EXISTING TREES
- EXISTING STORM DRAIN
- EXISTING WATER
- EXISTING SANITARY SEWER
- EXISTING CONTOURS
- PROPOSED BUILDING
- PROPOSED BUILDING OVERHANG
- PROPOSED RETAINING WALL
- PROPOSED CONCRETE WALK
- PROPOSED CONCRETE WITH INTEGRAL COLOR
- PROPOSED GUARDRAIL
- PROPOSED SIGN
- PROPOSED STORM DRAIN
- PROPOSED WATER
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY FORCE MAIN
- PROPOSED TELECOMMUNICATIONS
- PROPOSED ELECTRIC
- PROPOSED LIGHT POLE
- PROPOSED CONTOURS
- PROPOSED SWM
- LIMIT OF DISTURBANCE
- PROPOSED TREE
- PROPOSED SHRUBS
- PROPOSED PERENNIALS, GRASSES
- PROPOSED SOD
- PROPOSED SEEDING

GENERAL NOTES

1. REFER TO L201 AND L202 FOR PLANTING DETAILS
2. SOME PLANTS PROPOSED ON THIS PLAN ARE REQUIRED BY THE FINAL LANDSCAPE PLAN APPROVED BY BALTIMORE COUNTY. THESE PLANTS ARE INDICATED WITH AN ASTERISK (*) ON THE PLANT SCHEDULE AND NEXT TO THEIR LABEL ON THE PLAN.

FOREST CONSERVATION VARIANCE NOTE

A VARIANCE (TRACKING #03-24-4191) WAS GRANTED BY BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY TO ALLOW IMPACT TO TWO (2) SPECIMEN TREES. CONDITIONS WERE PLACED ON THIS VARIANCE TO ENSURE THAT THE SPIRIT AND INTENT OF THE FOREST CONSERVATION LAW ARE MET.

SCALE: 1" = 30'

PLANT SCHEDULE LANDSCAPE PLAN

	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING	REMARKS
	EVERGREEN TREES					
*	IO	10	ILEX OPACA 'SATYR HILL' / SATYR HILL AMERICAN HOLLY	8' HT / B&B	AS SHOWN	FULL/HEAVY; STRONG SINGLE LEADER
	MAJOR DECIDUOUS TREES					
	AR	5	ACER RUBRUM 'OCTOBER GLORY' / OCTOBER GLORY RED MAPLE	2.5" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
*	BN	4	BETULA NIGRA 'BNMTF' / DURA HEAT÷ RIVER BIRCH	12` HT / B&B	AS SHOWN	MULTISTEMMED, 3 STEM MINIMUM
*	QP	3	QUERCUS PHELLOS 'HIGHTOWER' / HIGHTOWER÷ WILLOW OAK	2.5" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
*	TA	3	TILIA AMERICANA 'REDMOND' / REDMOND AMERICAN LINDEN	2.5" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
	MINOR DECIDUOUS TREES					
*	AG	7	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' / AUTUMN BRILLIANCE APPLE SERVICEBERRY	10' HT / B&B	AS SHOWN	MULTISTEMMED, 3 STEM MINIMUM
*	CC	5	CERCIS CANADENSIS 'APPALACHIAN RED' / APPALACHIAN RED EASTERN REDBUD	1.75" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
*	CV	5	CHIONANTHUS VIRGINICUS 'SPRING FLEECING' / SPRING FLEECING WHITE FRINGETREE	1.75" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
*	CR	7	CORNUS X 'RUTGAN' / STELLAR PINK÷ DOGWOOD	1.75" CAL. / B&B	AS SHOWN	STRONG SINGLE LEADER, HEAVY
	SHRUBS					
	BI	14	BUXUS SINICA INSULARIS / KOREAN BOXWOOD	36" HT / CONT.	36" OC	
*	CA	22	CALLICARPA AMERICANA / AMERICAN BEAUTYBERRY	30" HT / CONT.	AS SHOWN	FULLY BRANCHED; 5 CANE MINIMUM
	CL	33	CLETHRA ALNIFOLIA 'CRYSTALINA' / SUGARTINA÷ SUMMERSWEET	24" HT / CONT.	AS SHOWN	FULLY BRANCHED; 5 CANE MINIMUM
	HQ	21	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN' / SNOW QUEEN OAKLEAF HYDRANGEA	42" HT / CONT.	AS SHOWN	FULLY BRANCHED; 5 CANE MINIMUM
	IG	57	ILEX GLABRA 'SMNIGAB17' / GEM BOX÷ INKBERRY HOLLY	24" HT / CONT.	AS SHOWN	FULLY BRANCHED; FULL / HEAVY
	IT	44	ITEA VIRGINICA 'SPRICH' / LITTLE HENRY÷ SWEETSPIRE	24" HT / CONT.	AS SHOWN	FULLY BRANCHED; 5 CANE MINIMUM
	PO	13	PRUNUS LAUROCERASUS 'OTTO LUYKEN' / OTTO LUYKEN LAUREL	30" HT / B&B	AS SHOWN	FULLY BRANCHED; FULL / HEAVY
	PERENNIALS, GRASSES, & GROUNDCOVERS					
	AH	98	AMSONIA HUBRICHTII / ARKANSAS BLUESTAR	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER
	AF	80	ATHYRIUM FILIX-FEMINA / COMMON LADY FERN	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER
	CW	228	CAREX WOODII / PRETTY SEDGE	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER
	EO	20	ECHINACEA X 'TNECHKR' / KISMET÷ RASPBERRY CONEFLOWER	#1 CONT.	18" O.C.	FULLY ROOTED CONTAINER
	MC	63	MUHLENBERGIA CAPILLARIS / PINK MUHLY GRASS	#2 CONT.	24" O.C.	FULLY ROOTED CONTAINER
	NF	353	NEPETA X FAASSENII 'CAT'S MEOW' / CAT'S MEOW CATMINT	#1 CONT.	18" O.C.	FULLY ROOTED CONTAINER
	OS	82	OPHIOPOGON JAPONICUS 'SILVER MIST' / SILVER MIST MONDO GRASS	#2 CONT.	18" O.C.	FULLY ROOTED CONTAINER
	PH	179	PHLOX STOLONIFERA 'SHERWOOD PURPLE' / CREEPING PHLOX	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER
	RG	191	RUDBECKIA X 'AMERICAN GOLD RUSH' / AMERICAN GOLD RUSH BLACK-EYED SUSAN	#1 CONT.	18" O.C.	FULLY ROOTED CONTAINER
	TS	279	THYMUS SERPYLLUM 'ALBUM' / WHITE CREEPING THYME	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER
	TC	60	TIARELLA CORDIFOLIA / FOAMFLOWER	#1 CONT.	12" O.C.	FULLY ROOTED CONTAINER

"*" PLANTS PROPOSED TO MEET PLANTING UNITS PER LANDSCAPE MANUAL REQUIREMENTS. THESE PLANTS ARE REQUIRED TO BE PLANTED BY THE FINAL LANDSCAPE PLAN ON FILE WITH BALTIMORE COUNTY DEVELOPMENT PLANS REVIEW AND DEPARTMENT OF PERMITS APPROVALS & INSPECTIONS.

PROJECT INFORMATION:

JACKSONVILLE SENIOR CENTER EXPANSION
3601 SWEET AIR ROAD
PHOENIX, MD 21131
ELECTION DISTRICT 10
COUNCILMANIC DISTRICT 3

OWNER/DEVELOPER:

BALTIMORE COUNTY PROPERTY MANAGEMENT
12200A LONG GREEN PIKE
GLEN ARM, MARYLAND 21057
410-887-3861
CONTACT:
LOUISA RETTEW

DESIGN PROFESSIONAL:

SITE RESOURCES, INC.
4 NORTH PARK DRIVE, SUITE 100
COCKEYSVILLE, MD 21030
410-683-3388
CONTACT:
EMILY MAGNESS
EMAGNESS@SITERESOURCESINC.COM

SEAL

DATE : ______________

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 4238, EXPIRATION DATE 02/03/2026.

LANDSCAPE ARCHITECT: REBEKAH WOLF

SITERESOURCES
Creative Design. Successfully Engineered.
4 North Park Drive, Suite 100, Cockeysville, MD 21030
410.683.3388 www.siteresourcesinc.com

DGN BY: EFA
DWN BY: EFA
CHKD BY: RSW/KPR

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
Addenda #1	ADD1	8/7/25		UNE	78NE11 78NE12 79NE11 79NE12	PLAN SCALE:	AS SHOWN
			R.O.W NO.			PROFILE SCALE:	
CONTRACT COMPLETION BOX							

BUREAU OF ENGINEERING AND CONSTRUCTION		HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

PROPERTY MANAGEMENT
APPROVED BY: ______________
PROPERTY MANAGER
DATE: ______________

MARYLAND COORDINATE SYSTEM NAD83/2011 & NAVD88

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

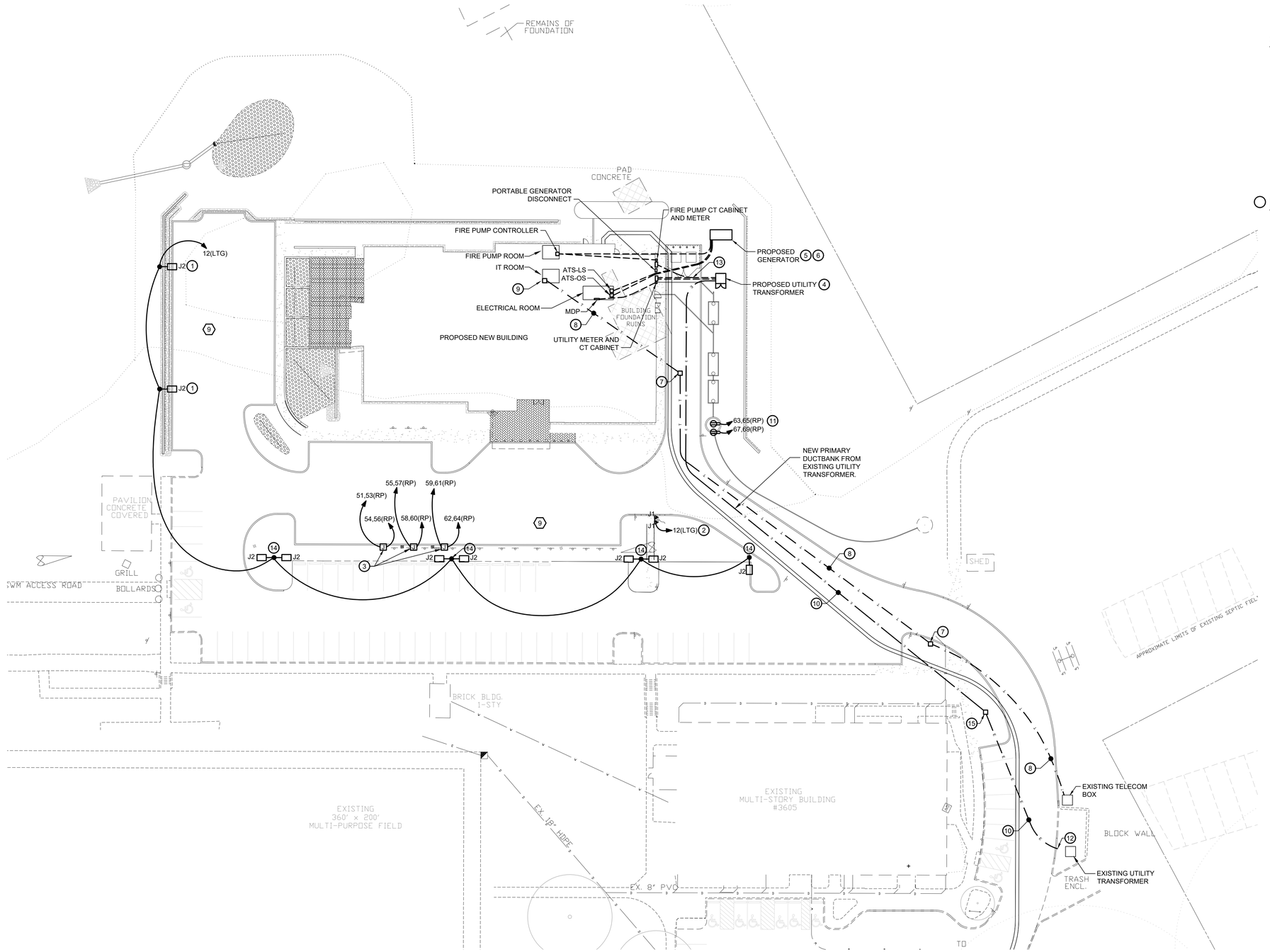
JACKSONVILLE SENIOR CENTER
PLANTING PLAN
BID DOCUMENTS 5/15/2025
3601 SWEET AIR RD, PHOENIX, MD 21131

SUBDIVISION: JACKSONVILLE

ELECTION DIST. NO.: 10C3

SHEET DESIGNATION	CONTRACT NUMBER
L101	25010 P00
	JOB ORDER NUMBER
	10-701-1861
	SHEET 34 OF195
	DRAWING NUMBER
	2025-0252
	FILE NO.: 8 REV. 03/22

DWG. FILENAME: Ø SITE RESOURCES, INC. Z:\22\22113-BACO NEW JACKSONVILLE SENIOR CENTER\04-DWG\L101 PLANTING PLAN.DWG 8/6/2025 3:46 PM rsw



1 ELECTRICAL - SITE PLAN - NEW WORK

SCALE: 1" = 30'-0"

0 15' 30' 45' 60' 90'

SCALE: 1" = 30'-0"

DWG. RELEVANCE

GENERAL NOTES:

1. REFER TO E001 AND E002 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. REFER TO E201 FOR ALL BUILDING MOUNTED LIGHTS.
3. ALL EXTERIOR SITE AND BUILDING MOUNTED LIGHT FIXTURES SHALL BE ROUTED TO PANEL VIA EXTERIOR LIGHTING TIMECLOCK LOCATION IN ELECTRICAL ROOM. TIMECLOCK SHALL BE PROGRAMMED TO MATCH EXISTING SITE LIGHTING FIXTURES TO REMAIN.
4. CONTRACTOR SHALL PROVIDE TEMPORARY PARKING LOT LIGHT FIXTURES WHEN EXISTING PARKING LOT LIGHT FIXTURES ARE DEMOLISH. LIGHT FIXTURES SHALL BE PROVIDED WITH LENS SHIELDING AND PROVIDE COMPRABLE LIGHT LEVELS TO EXISTING LIGHTING. CONTRACTOR SHALL PROVIDE SUBMITTAL FOR PROPOSED LIGHT FIXTURE DURING CONSTRUCTION. TEMPORARY LIGHT FIXTURES SHALL BE UTILIZED UNTIL PERMANENT LIGHT FIXTURES ARE OPERATIONAL.

○ DRAWING NOTES:

1. PROVIDE PARKING LOT LIGHT FIXTURE TYPE J2 AND POWER FROM PANEL LTG. SEE LIGHTING SCHEDULE ON E002 FOR MORE INFORMATION. REFER TO E602 FOR POLE MOUNTING DETAILS. PROVIDE (2)#10AWG + (1)#10GND IN 3/4"C. LIGHT POLE SHALL MATCH EXISTING POLES TO BE RE-USED. COORDINATE EXACT POLE TYPE, HEIGHT, FINISH, ETC WITH EXISTING POLE AND OWNER PRIOR TO PURCHASE.
2. PROVIDE FLAGPOLE LIGHTS TYPE J1 AND POWER TO PANEL LTG. CIRCUIT SHALL BE ROUTED THROUGH TIME CLOCK. SEE LIGHTING SCHEDULE ON E002 FOR MORE INFORMATION. PROVIDE (2)#10AWG + (1)#10GND IN 3/4"C.
3. PROVIDE POWER CONNECTION FOR DUAL CAR CHARGING STATION BY BLINK SERIES 8 EV OR EQUAL. SEE DETAIL 4 ON E603 FOR MOUNTING DETAILS. PROVIDE (3)#4AWG + (1)#8GND IN 1-1/2"C.

   ALTERNATE 08: PROVIDE METERING FOR CAR CHARGING CIRCUITS.
4. PROPOSED UTILITY TRANSFORMER PROVIDED BY UTILITY COMPANY. PROVIDE UTILITY TRANSFORMER PAD AS REQUIRED (78"X66"X6"D). COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH BGE PRIOR TO STARTING CONSTRUCTION.
5. PAD MOUNTED DIESEL GENERATOR WITH 6 HOUR FUEL BELLY TANK. GENERATOR SHALL BE PROVIDED WITH WEATHERPROOF ENCLOSURE AND SOUND ATTENUATION PER SPECIFICATIONS. PROVIDE DIRECT BURIED CONDUITS FROM GENERATOR AS SHOWN A MINIMUM OF 24" BELOW FINAL GRADE.
6. PROVIDE LOAD CENTER PANEL LOCATED IN GENERATOR ENCLOSURE. LOAD CENTER PANEL SHALL BE PROVIDED BY GENERATOR MANUFACTURER PREWIRED FOR ALL ACCESSORY POWER CONNECTIONS INCLUDING BLOCK HEATER, BATTERY CHARGER, ENCLOSURE LIGHTS, AND RECEPTACLE. FEED FROM PANEL LS.
7. PROVIDE 24" X 24" X 24"D HANDHOLE.
8. PROVIDE (3) 4" TELECOM CONDUITS FOR SERVICE PROVIDER CABLES. PROVIDE PULL STRING IN ALL CONDUITS.
   - (1) CONDUIT FOR COMCAST
   - (1) CONDUIT FOR VERIZON
   - (1) CONDUIT FOR COUNTY
9. TELECOM DEMARCATION LOCATED IN IT ROOM 115. STUB UP CONDUITS 6" ABOVE FINISHED FLOOR. REFER TO T101 AND T301 FOR EXACT LOCATION.
10. PROVIDE (2) 4" CONDUITS WITH PULLSTRINGS FOR NEW PRIMARY ELECTRICAL SERVICE. ONE CONDUIT SHALL BE USED FOR BGE PROVIDED CONDUCTORS AND ONE CONDUIT SHALL REMAIN FOR SPARE. CONDUITS SHALL BE DIRECT BURIED 36" BFG MINIMUM.
11. PROVIDE POWER CONNECTION FOR DUPLEX PUMPS IN PUMP STATION. COORDINATE LOCATIONS AND FINAL TERMINATIONS WITH SEPTIC INSTALLER.
12. NEW ELECTRICAL CIRCUIT WILL BEGIN 5' AWAY FROM EXISTING TRANSFORMER. BGE TO PROVIDE FINAL TERMINATION INTO THE EXISTING TRANSFORMER. ELBOWS SHALL BE CONCRETE ENCASED. COORDINATE WITH BGE PRIOR TO INSTALLATION.
13. PROVIDE (3) 4" CONDUITS WITH PULL STRING FOR NEW SECONDARY ELECTRIC SERVICE. ONE CONDUIT SHALL CONTINUE TO FIRE PUMP METER. TWO CONDUITS SHALL CONTINUE TO UTILITY CABINET/METER. COORDINATE WITH BGE PRIOR TO INSTALLATION.
14. DEMOLISH EXISTING LIGHT FIXTURE. SALVAGE EXISTING POLE FOR REUSE IN NEW WORK. PROVIDE PARKING LOT LIGHT FIXTURES TYPE J2 AND POWER FROM PANEL LTG. SEE LIGHTING SCHEDULE ON E002 FOR MORE INFORMATION. REFER TO E602 FOR POLE MOUNTING DETAILS. PROVIDE (2)#10AWG + (1)#10GND IN 3/4"C.
15. PROVIDE 13KV SPLICE BOX FOR BGE CONDUCTORS. COORDINATE ALL REQUIREMENTS AND DIMENSIONS WITH BGE PRIOR TO INSTALLATION.

SEAL: RICHARD ADAM BURDETTE, No. 20513, STATE OF MARYLAND, REGISTERED PROFESSIONAL ENGINEER

DATE:

PROFESSIONAL CERTIFICATION			
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20513 EXPIRATION DATE: 07/17/26			
ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.	DGN BY: JF		
AS–BUILT PER RECORD PRINT	DWN BY: DAM		
BY: DATE:	CHKD BY: RAM		

AS–BUILT / REVISION	BY	DATE	P.W.A NO.
PERMIT REVISIONS #1	1	3/19/25	
ADDENDA #1	ADD1	8/7/25	
CONTRACT COMPLETION BOX			

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

KEY SHEET	POSITION SHT	DRAWING SCALE	
UNE	79NE12	PLAN SCALE:	
	78NE12		
	78NE11	PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER

ELECTRICAL - SITE PLAN - NEW WORK

BID DOCUMENTS 05/15/2025

3601 SWEET AIR RD, PHOENIX, MD 21131

SUBDIVISION: JACKSONVILLE

ELECTION DIST. NO.: 10 C3

SHEET DESIGNATION	CONTRACT NUMBER
E003	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	160 OF 195
	DRAWING NUMBER
	2025-0377
	FILE NO.: 8

BALTIMORE COUNTY MARYLAND

BID DOCUMENTS 05/15/2025

BKM# 23127.01

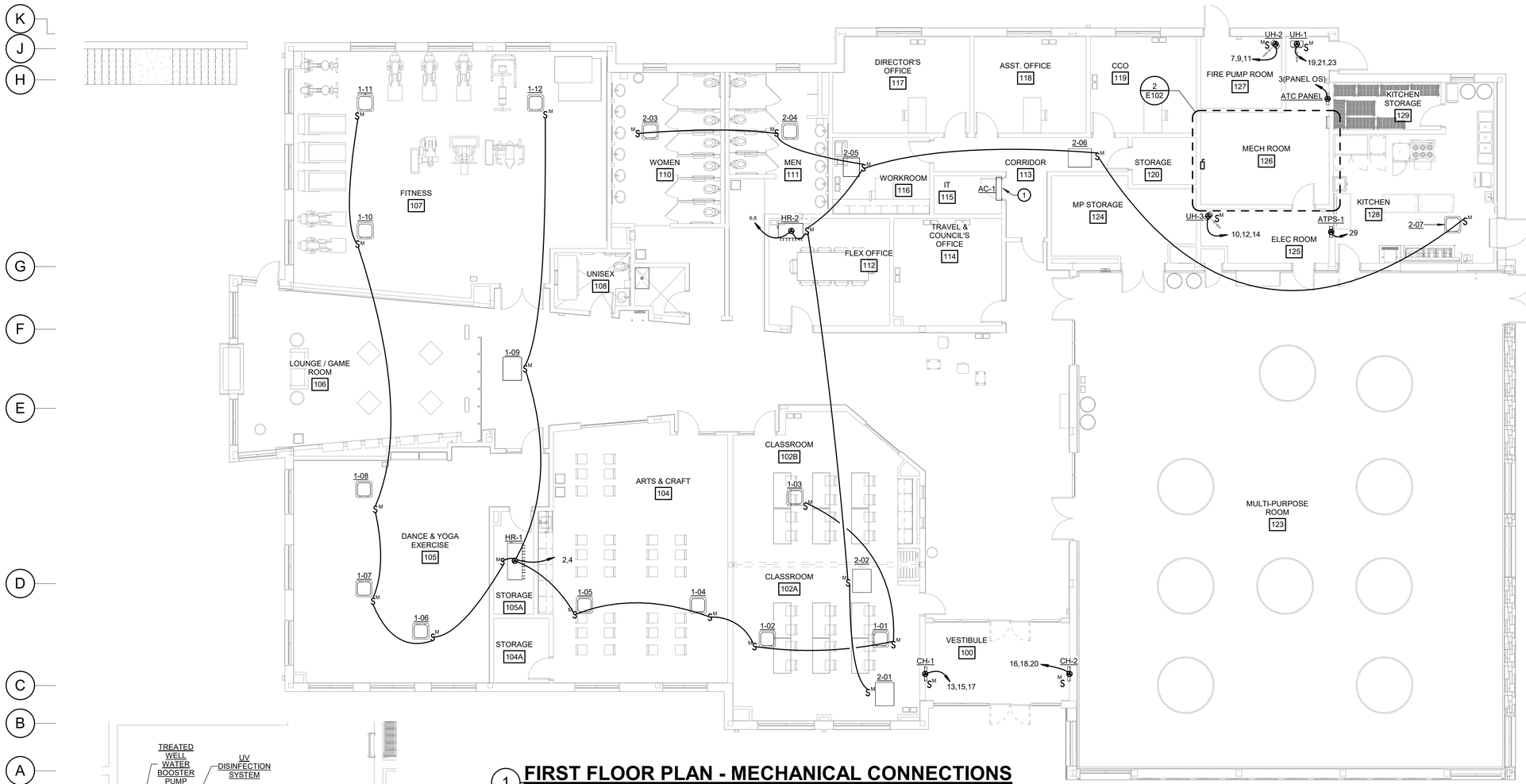
Contract No.25010 PO0

Addendum No.1

Revised, August 8, 2025

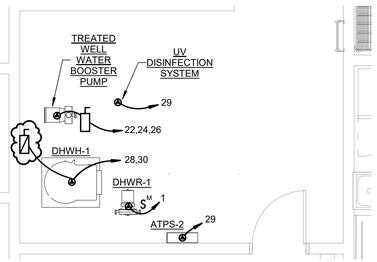
ARL: \BKM\A-DC11\Projects\23127.01\Drawings\Acad\E\E003 - SITE PLAN

Plotted By: Dylan Martinez | 8/7/2025 1:05 PM



FIRST FLOOR RM LIST

100	VESTIBULE
101	LOBBY
102A	CLASSROOM
102B	CLASSROOM
103	CIRCULATION
104	ARTS & CRAFT
104A	STORAGE
105	DANCE & YOGA EXERCISE
105A	STORAGE
106	LOUNGE / GAME ROOM
107	FITNESS
108	UNISEX
109	JC
110	WOMEN
111	MEN
112	FLEX OFFICE
113	CORRIDOR
114	TRAVEL & COUNCIL'S OFFICE
115	IT
116	WORKROOM
117	DIRECTOR'S OFFICE
118	ASST. OFFICE
119	CCO
120	STORAGE
123	MULTI-PURPOSE ROOM
124	MP STORAGE
125	ELEC ROOM
126	MECH ROOM
127	FIRE PUMP ROOM
128	KITCHEN
129	KITCHEN STORAGE



1 FIRST FLOOR PLAN - MECHANICAL CONNECTIONS

SCALE: 1/8" = 1'-0"

2 PART PLAN - MECHANICAL ROOM

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO E001 AND E002 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. UNLESS OTHERWISE NOTED, ALL MECHANICAL EQUIPMENT SHALL BE CIRCUITED TO MP. SEE MECHANICAL CONNECTION SCHEDULE ON DRAWING E501 FOR MORE DETAILS.

○ DRAWING NOTES:

1. INDOOR UNIT AC-1 IS POWERED BY OUTDOOR UNIT CU-1

0 2 4 8 16 24

SCALE: 1/8" = 1'-0"

DWG FILENAME

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. _____, EXPIRATION DATE:_____

ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.

DGN BY: JF

DWN BY: DAM

CHKD BY: RAM

AS–BUILT PER RECORD PRINT

BY:

DATE:_____

DATE:

AS–BUILT / REVISION

PERMIT REVISIONS #1

ADDENDA #1

CONTRACT COMPLETION BOX

BUREAU OF ENGINEERING AND CONSTRUCTION | TRAFFIC | HIGHWAYS | STRUCTURES | STORM DRAINS | SEWER | WATER | FIELD ENGINEER

REVIEWED BY:

DATE REVIEWED:

BY	DATE	P.W.A NO.
1	3/19/25	
ADD1	8/7/25	

KEY SHEET: UNE

POSITION SHT: 79NE12, 78NE12, 78NE11

DRAWING SCALE

PLAN SCALE:

PROFILE SCALE:

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE:

SUBDIVISION: JACKSONVILLE

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER

FIRST FLOOR PLAN - MECHANICAL CONNECTIONS

BID DOCUMENTS 05/15/2025

3601 SWEET AIR RD, PHOENIX, MD 21131

ELECTION DIST. NO.: 10 C3

SHEET DESIGNATION	CONTRACT NUMBER
E102	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	163 OF 195
	DRAWING NUMBER
	2025-0380
	FILE NO.: 8

BALTIMORE COUNTY MARYLAND

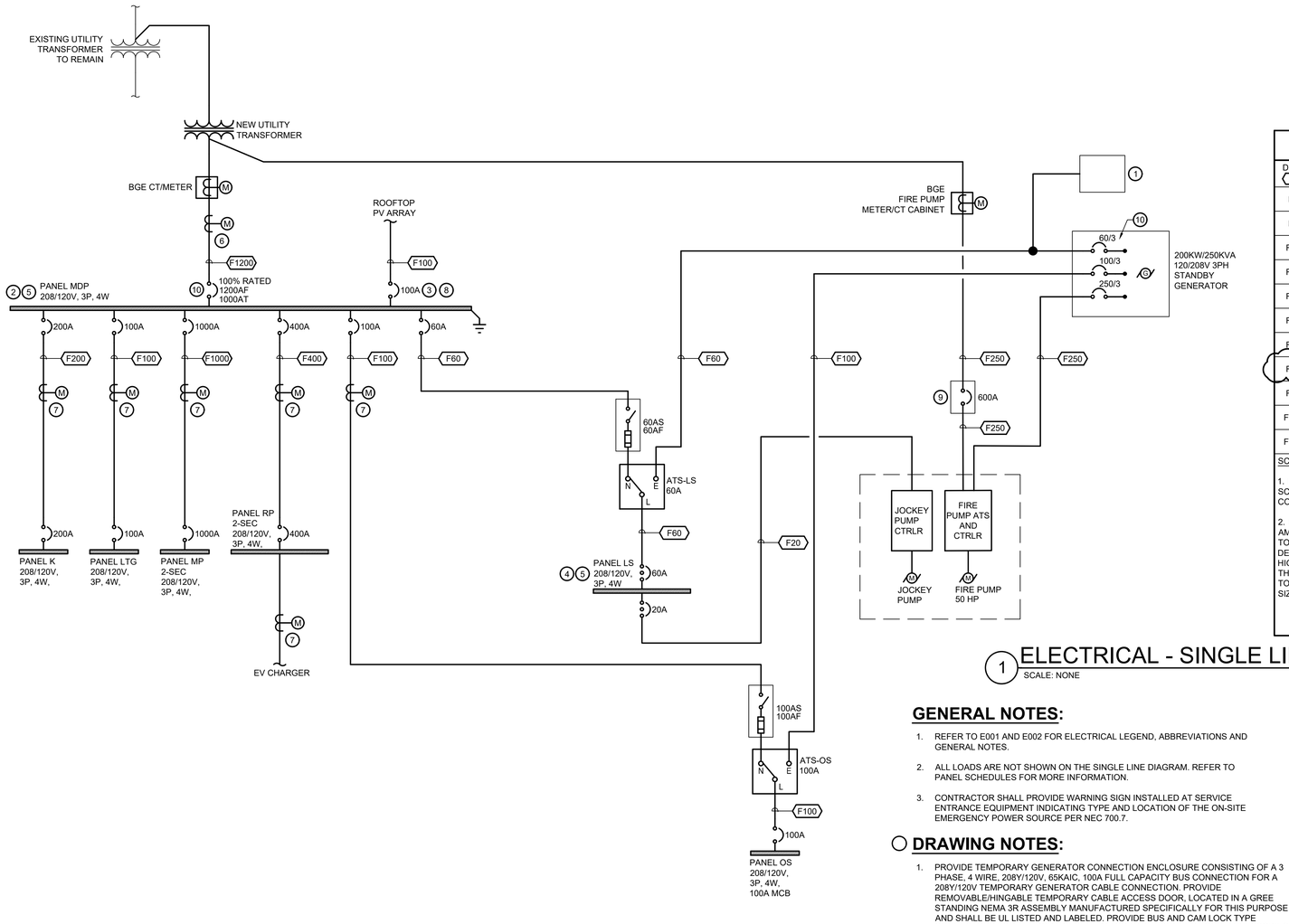
BID DOCUMENTS 05/15/2025

BKM# 23127.01

Contract No.25010 PO0

Addendum No.1

Revised, August 8, 2025



FEEDER SCHEDULE

DESIG	QTY	PHASE CONDUCTORS	NEUTRAL	GROUND	CONDUIT	REMARKS
F20	1 SET	(3) #12 AWG	#12 AWG	#12 AWG	3/4"	
F60	1 SET	(3) #6 AWG	#6 AWG	#10 AWG	1"	
F100	1 SET	(3) #1 AWG	#1 AWG	#8 AWG	1-1/4"	
F150	1 SET	(3) #1/0 AWG	#1/0 AWG	#6 AWG	2"	
F200	1 SET	(3) #3/0 AWG	#6 AWG	#6 AWG	2"	
F250	1 SET	(3) #250 AWG	#250 AWG	#6 AWG	2-1/2"	
F300	1 SET	(3) #350 AWG	#350 AWG	#4 AWG	3"	
F400	2 SET	(3) #3/0 AWG	#3/0 AWG	#3 AWG	2"	
F600	2 SET	(3) #350 AWG	#350 AWG	#1 AWG	3"	
F1000	4 SET	(3) #250 AWG	#250 AWG	#2/0 AWG	3"	
F1200	4 SET	(3) #350 AWG	#350 AWG	#3/0 AWG	3"	

SCHEDULE NOTES:

1. PHASE CONDUCTORS, NEUTRAL GROUND AND CONDUIT SHOWN IN THE FEEDER SCHEDULE APPLY TO EACH SET WHEN MULTIPLE SETS ARE REQUIRED. ALL CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED.

2. 600 VOLT CONDUCTORS HAVE BEEN SELECTED IN ACCORDANCE WITH THE AMPACITIES LISTED IN TABLE 310.15(B)(16) OF THE CURRENT NEC. THIS TABLE APPLIES TO CONDUCTORS RATED 0-2000 VOLTS, BASED ON AMBIENT TEMPERATURES OF 26-30 DEGREES C (78-86 DEGREES F). INSTALLATION OF RACEWAYS UNDERGROUND OR IN HIGHER AMBIENT AREAS MAY REQUIRE CHANGES TO CONDUCTOR AND CONDUIT SIZES. THE CONTRACTOR SHALL ADJUST CONDUCTOR AND CONDUIT SIZES WHERE REQUIRED TO ACCOMMODATE THESE CONDITIONS. IN NO CASE SHALL CONDUCTOR AND CONDUIT SIZES BE SMALLER THAN THOSE SCHEDULED OR SPECIFIED.

1 ELECTRICAL - SINGLE LINE DIAGRAM

SCALE: NONE

GENERAL NOTES:

1. REFER TO E001 AND E002 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. ALL LOADS ARE NOT SHOWN ON THE SINGLE LINE DIAGRAM. REFER TO PANEL SCHEDULES FOR MORE INFORMATION.
3. CONTRACTOR SHALL PROVIDE WARNING SIGN INSTALLED AT SERVICE ENTRANCE EQUIPMENT INDICATING TYPE AND LOCATION OF THE ON-SITE EMERGENCY POWER SOURCE PER NEC 700.7.

DRAWING NOTES:

1. PROVIDE TEMPORARY GENERATOR CONNECTION ENCLOSURE CONSISTING OF A 3 PHASE, 4 WIRE, 208Y/120V, 65KAIC, 100A FULL CAPACITY BUS CONNECTION FOR A 208Y/120V TEMPORARY GENERATOR CABLE CONNECTION. PROVIDE REMOVABLE/HINGABLE TEMPORARY CABLE ACCESS DOOR, LOCATED IN A GREE STANDING NEMA 3R ASSEMBLY MANUFACTURED SPECIFICALLY FOR THIS PURPOSE AND SHALL BE UL LISTED AND LABELED. PROVIDE BUS AND CAM LOCK TYPE CONNECTORS FOR TEMPORARY GENERATOR CABLE CONNECTIONS. ACCESSORIES: TWO WIRE AUTO START, 20A DUPLEX RECEPTACLE, AND PHASE ROTATION MONITOR (TRYSTAR GENERATOR DOCKING STATION - BASIS OF DESIGN)
2. ALTERNATE 01: PROVIDE A PERMANENT PLAQUE OR DIRECTORY ON PANEL MDP COVER SAYING, "THIS IS ONE OF TWO SERVICES THAT FEED THIS BUILDING. SECOND SERVICE IS THE PHOTOVOLTAIC DISCONNECT LOCATED IN THIS ROOM."
3. ALTERNATE 01: PROVIDE A PERMANENT PLAQUE OR DIRECTORY ON THE PHOTOVOLTAIC DISCONNECT COVER SAYING, "THIS IS ONE OF TWO SERVICES THAT FEED THIS BUILDING. SECOND SERVICE IS PANEL MDP LOCATED IN THIS ROOM."
4. PROVIDE FUSED COORDINATION PANELBOARD. REFER TO SPECIFICATION SECTION 262417 FOR ADDITIONAL INFORMATION.
5. PROVIDE INTEGRAL SURGE PROTECTION DEVICE.
6. BASE BID: PROVIDE CLASS 3200 SMART METER BY E-MON D-MON. MOUNT METER IN MMU ENCLOSURE WITHIN ELECTRICAL ROOM. COORDINATE INDIVIDUAL MODEL NUMBER BASED ON REQUIRED AMPERAGE AND VOLTAGE. COORDINATE WITH BAS SUPPLIER TO ENSURE METER CAN COMMUNICATE WITH THE BAS SYSTEM FOR MONITORING CAPABILITY. PROVIDE ALL CONNECTIONS TO BAS AS REQUIRED. PROVIDE ALL REQUIRED LOW VOLTAGE CT WIRING AND LINE VOLTAGE POWER/REFERENCE WIRING BETWEEN REMOTE METER AND ASSOCIATED PANEL.
7. ALTERNATE 08: SAME AS NOTE #6. PROVIDE CLASS 3200 SMART METER BY E-MON D-MON. MOUNT METER IN MMU ENCLOSURE WITHIN ELECTRICAL ROOM. COORDINATE INDIVIDUAL MODEL NUMBER BASED ON REQUIRED AMPERAGE AND VOLTAGE. COORDINATE WITH BAS SUPPLIER TO ENSURE METER CAN COMMUNICATE WITH THE BAS SYSTEM FOR MONITORING CAPABILITY. PROVIDE ALL CONNECTIONS TO BAS AS REQUIRED. PROVIDE ALL REQUIRED LOW VOLTAGE CT WIRING AND LINE VOLTAGE POWER/REFERENCE WIRING BETWEEN REMOTE METER AND ASSOCIATED PANEL.
8. ALTERNATE 01: CONTRACTOR SHALL INSTALL PV CIRCUIT BREAKER ON OPPOSITE SIDE OF BUSBAR AWAY FROM MAIN CIRCUIT BREAKER. CONTRACTOR SHALL COORDINATE CIRCUIT BREAKER SIZE AND WIRE/CONDUIT SIZE WITH FINAL PV DESIGN. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
9. PROVIDE TORNA TECH FIRE PUMP OCPD OR EQUAL. LOCKABLE IN CLOSED POSITION. NEMA 3R, 65K AIC RATING. SIZED FOR 50HP, 3PH FIRE PUMP. THE OCPD MUST BE UL LISTED AND COMPLY WITH NEC ART. 695.4(B)(2)(a)(2). ENCLOSED CIRCUIT BREAKER MUST BE SERVICE ENTRANCE RATED. BASIS OF DESIGN CIRCUIT BREAKER IS MAGNETIC ONLY, 600AF.
10. PROVIDE L.S.I CIRCUIT BREAKER.

DWG. FILENAME

SEAL: STATE OF MARYLAND · RICHARD ADAM PRUSH · NO. 20513 · REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 20513, EXPIRATION DATE: 07/17/26.

DATE:

AS–BUILT / REVISION	BY	DATE	P.W.A NO.
PERMIT REVISIONS #1	1	3/19/25	
ADDENDA #1	ADD1	8/7/25	
CONTRACT COMPLETION BOX			

KEY SHEET	POSITION SHT	DRAWING SCALE
UNE	79NE12 78NE12 78NE11	PLAN SCALE: PROFILE SCALE:

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.	DGN BY: JF
AS–BUILT PER RECORD PRINT	DWN BY: DAM
BY:	CHKD BY: RAM
DATE:	

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

SUBDIVISION: JACKSONVILLE

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER

ELECTRICAL SINGLE LINE DIAGRAM

BID DOCUMENTS 05/15/2025

3601 SWEET AIR RD, PHOENIX, MD 21131

ELECTION DIST. NO.: 10 C3

SHEET DESIGNATION	CONTRACT NUMBER
E401	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	168 OF 195
	DRAWING NUMBER
	2025-0385
	FILE NO.: 8

BALTIMORE COUNTY MARYLAND

BID DOCUMENTS 05/15/2025
BKM# 23127.01
Contract No.25010 PO0
Addendum No.1
Revised, August 8, 2025

ARL: I:\BKMA-DC11\Projects\23127.01\Drawings\Acad\EE401 - SINGLE LINE DIAGRAM

Plotted By: Dylan Martinez | 8/7/2025 11:09 AM

Switchboard: PANEL MDP

Location: ELEC ROOM 125 | **Volts:** 120/208 3Ø 4W | **A.I.C. Rating:** 42 KAIC
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 1200 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load (kVA)	Remarks
1	PANEL RP (2 SECTION PANEL)	3	400 A	400 A	95.9	
2	PANEL K	3	200 A	200 A	47.5	
3	PANEL LTG	3	100 A	100 A	8.6	
4	PANEL MP (2 SECTION PANEL)	3	1000 A	1000 A	260.9	
5	ATS LS	3	100 A	60 A	3.5	PROVIDE L.S.I
6	ATS OS	3	100 A	100 A	6.5	
7	ROOFTOP PV	3	100 A	100 A	30.0	(1)
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
				Total Conn. Load:	452.7	kVA
				Total Amps:	1256.6	A

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
LIGHTING	8329 VA	100.00%	8329 VA		
POWER	27840 VA	100.00%	27840 VA	**Total Conn. Load:**	452.7 kVA
RECEPTACLE	31890 VA	65.68%	20945 VA	**Total Est. Demand:**	351.9 kVA
Kitchen Equipment - Non-Dwelling Unit	45220 VA	65.00%	29393 VA	**Total Conn. Current:**	1256.6 A
Mech	246850 VA	70.00%	172795 VA	**Total Est. Demand Current:**	976.7 A

Notes:
MAIN CB SHALL BE 100% RATED WITH L,S,I ADJUSTMENTS.
PROVIDE INTEGRAL SURGE PROTECTION

Panel: PANEL OS

LOCATION: ELEC ROOM 125 | **MAINS RATING:** 100 A | **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface | **MAINS TYPE:** MCB | **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	REACH-IN FREEZER	20 A	1	0.95			1.00			1	20 A	REACH-IN REFRIGERATOR	2
3	ATC PANEL - 126	20 A	1		0.50			1.00		1	20 A	SERVER RACK - 115	4
5	SERVER RACK - 115	20 A	1			3.00			0.00	1	20 A	SPARE	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPACE	--	1			--			--	1	--	SPACE	12
13	SPACE	--	1	--			--			1	--	SPACE	14
15	SPACE	--	1		--			--		1	--	SPACE	16
17	SPACE	--	1			--			--	1	--	SPACE	18

Connected Load:
AØ: 1.95 KVA = 16 A A
BØ: 1.50 KVA = 13 A A
CØ: 3.00 KVA = 25 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
POWER	4500 VA	100.00%	4500 VA		
Kitchen Equipment - Non-Dwelling Unit	1950 VA	100.00%	1950 VA	**Total Conn. Load:**	6.45 kVA
				Total Est. Demand:	6.45 kVA
				Total Conn. Current:	17.90 A
				Total Est. Demand Current:	17.90 A

Notes:

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	MCA/FLA/HP	MOCP	VOLTAGE	PHASE	DISCONNECTING MEANS	PANEL	CIRCUIT	FEEDER	NOTE
ACCU-1 (ROOF)	70 MCA	110 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	57,59,61	(3)#2AWG, (1)#6 GND IN 1-1/2"C	
ACCU-2 (ROOF)	45 MCA	70 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	44,46,48	(3)#4AWG, (1)#8GND IN 1-1/4"C	
CH-1 (100)	5 kW	20 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	13,15,17	(3)#12AWG, (1)#12 GND IN 3/4"C	
CH-2 (100)	5 kW	20 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	16,18,20	(3)#12AWG, (1)#12 GND IN 3/4"C	
CU-1 (ROOF)	11 MCA	20 A	208 V	1	DISCONNECT PROVIDED BY MANUFACTURER	MP	43,45	(2)#12AWG, (1)#12 GND IN 3/4"C	
DHWH-1 (126)	9 kW	80 A	208 V	1	80A FUSED DISCONNECT BY ELECTRICAL CONTRACTOR	MP	28,30	(2)#6AWG, (1)#10 GND IN 1-1/4"C	
DHWR-1 (126)	60 W	20 A	120 V	1	30A DISCONNECT BY ELECTRICAL CONTRACTOR	MP	1	(2)#12AWG, (1)#12 GND IN 3/4"C	
DOAS-1 (ROOF)	222.1 MCA	225 A	208 V	3	VFD AND DISCONNECT PROVIDED BY MANUFACTURER	MP	56,58,60	(3)#4/0AWG, (1)#4 GND IN 2-1/2"C	
EF-1 (ROOF)	1 HP	20 A	208 V	1	DISCONNECT PROVIDED BY MANUFACTURER	MP	53,55	(2)#12AWG, (1)#12 GND IN 3/4"C	
HR-1 + VRF-1-(1-12)	9.2 MCA	20 A	208 V	1	DISCONNECT PROVIDED BY MANUFACTURER	MP	2,4	(2)#12AWG, (1)#12 GND IN 3/4"C	
HR-2 + VRF-2-(1-7)	13.3 MCA	20 A	208 V	1	DISCONNECT PROVIDED BY MANUFACTURER	MP	6,8	(2)#12AWG, (1)#12 GND IN 3/4"C	
MAU-1 (ROOF)	124.5 MCA	125 A	208 V	3	VFD AND DISCONNECT PROVIDED BY MANUFACTURER	MP	50,52,54	(3)#1AWG, (1)#6 GND IN 2"C	
RTU-1 (ROOF)	246.4 MCA	250 A	208 V	3	VFD AND DISCONNECT PROVIDED BY MANUFACTURER	MP	47,49,51	(3)#250AWG, (1)#4 GND IN 3"C	
UH-1 (126)	10kW	35 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	19,21,23	(3)#10AWG, (1)#10 GND IN 3/4"C	
UH-2 (127)	5kW	20 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	7,9,11	(3)#12AWG, (1)#12 GND IN 3/4"C	
UH-3 (125)	5kW	20 A	208 V	3	DISCONNECT PROVIDED BY MANUFACTURER	MP	10,12,14	(3)#12AWG, (1)#12 GND IN 3/4"C	

◯ DRAWING NOTES:

1. ALTERNATE 01: PROVIDE CIRCUIT BREAKER FOR ROOFTOP PV AS SHOWN.

DWG FILENAME

SEAL

DATE:

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. _____ EXPIRATION DATE: _____
ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.
DGN BY: JF
DWN BY: DAM
AS–BUILT PER RECORD PRINT
BY:
DATE:
CHKD BY: RAM

AS–BUILT / REVISION	BY	DATE	P.W.A NO.
PERMIT REVISIONS #1	1	3/19/25	
ADDENDA #1	ADD1	8/7/25	
CONTRACT COMPLETION BOX			

KEY SHEET: UNE
POSITION SHT: 79NE12, 78NE12, 78NE11
DRAWING SCALE: PLAN SCALE: _____ PROFILE SCALE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER
ELECTRICAL PANEL SCHEDULES
BID DOCUMENTS 05/15/2025
3601 SWEET AIR RD, PHOENIX, MD 21131

SUBDIVISION: JACKSONVILLE
ELECTION DIST. NO.: 10 C3

SHEET DESIGNATION	CONTRACT NUMBER
E501	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	169 OF 195
	DRAWING NUMBER
	2025-0386
	FILE NO.: 8

BID DOCUMENTS 05/15/2025
BKM# 23127.01
Contract No.25010 PO0
Addendum No.1
Revised, August 8, 2025

Panel: PANEL RP (SECTION 1)

LOCATION: ELEC ROOM 125 **MAINS RATING:** 400 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	AV RECEPTACLE	20 A	1	0.18			0.54			1	20 A	RECS - OFFICE 118	2
3	TREADMILL - FITNESS 107	20 A	1		1.95			1.08		1	20 A	RECS - GAME ROOM 106	4
5	RECS - OFFICE 117	20 A	1			0.54			0.72	1	20 A	RECS - CLASSROOM 102A	6
7	RECS - CLASSROOM 102B	20 A	1	0.72			1.08			1	20 A	RECS - FLEX ROOM 112	8
9	RECS - YOGA 105	20 A	1		1.11			1.08		1	20 A	RECS - FITNESS 107	10
11	RECS - ART 104	20 A	1			1.44			1.44	1	20 A	RECS - CORRIDOR	12
13	RECS - 120, 124, 126, 127	20 A	1	1.44			1.08			1	20 A	RECS - 108, 109, 110, 111	14
15	RECS - MULTI ROOM 123	20 A	1		0.90			0.54		1	20 A	TV - YOGA 105	16
17	TREADMILL - FITNESS 107	20 A	1			1.95			1.00	1	20 A	TV - FITNESS 107	18
19	TREADMILL - FITNESS 107	20 A	1	0.70			0.36			1	20 A	RECS - IT ROOM 115	20
21	PAPER TOWEL - 110	20 A	1		1.20			0.18		1	20 A	EWC - MULTIPURPOSE ROOM	22
23	REC - IT ROOM 115	20 A	1			0.18			0.54	1	20 A	RECS - WORKROOM 116	24
25	EWC - CORRIDOR	20 A	1	0.58			0.54			1	20 A	RECS - OFFICE 119	26
27	RECS - TRAVEL OFFICE 114	20 A	1		0.54			1.00		1	20 A	KITCHEN PASS THRU	28
29	RECS - ART 104	20 A	1			1.26			0.00	1	20 A	SPARE	30
31	RECS - LOBBY ENTRANCE	20 A	1	0.72			0.00			1	20 A	SPARE	32
33	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	34
35	SPACE	--	1			--			--	1	--	SPACE	36
37	SPACE	--	1	--			--			1	--	SPACE	38
39	SPACE	--	1		--			--		1	--	SPACE	40
41	SPACE	--	1			--			--	1	--	SPACE	42

Connected Load:
AØ: 30.95 KVA = 258 A A
BØ: 33.32 KVA = 278 A A
CØ: 31.61 KVA = 263 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
POWER	7980 VA	100.00%	7980 VA		
RECEPTACLE	27340 VA	68.29%	18670 VA	**Total Conn. Load:**	95.87 kVA
				Total Est. Demand:	87.20 kVA
				Total Conn. Current:	266.11 A
				Total Est. Demand Current:	242.04 A

Notes:
PROVIDE FEED THRU LUGS
LOAD SHOWN ON SECTION 1 INCLUDES TOTAL LOAD FROM SECTION 2

Panel: MP (SECTION 1)

LOCATION: ELEC ROOM 125 **MAINS RATING:** 1000 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	DHWR-1 (126)	20 A	1	0.06			0.80			2	20 A	HR-1 + VRF-1-(1-12)	2
3	MEN'S TOILETS - 111	20 A	1		0.06			0.80		--	--	--	4
5	WOMEN'S TOILETS - 110	20 A	1			0.07			1.15	2	20 A	HR-2 + VRF-2-(1-7)	6
7	UH-2 (127)	20 A	3	1.67			1.15			--	--	--	8
9	--	--	--		1.67			1.67		3	20 A	UH-3 (125)	10
11	--	--	--			1.67			1.67	--	--	--	12
13	CH-1 (100)	20 A	3	1.67			1.67			--	--	--	14
15	--	--	--		1.67			1.67		3	20 A	CH-2 (100)	16
17	--	--	--			1.67			1.67	--	--	--	18
19	UH-1 (126)	35 A	3	3.33			1.67			--	--	--	20
21	--	--	--		3.33			1.33		3	20 A	BOOSTER PUMP (126)	22
23	--	--	--			3.33			1.33	--	--	--	24
25	REC - ROOF	20 A	1	0.18			1.33			--			26
27	REC - ROOF	20 A	1		0.18			4.50		2	80 A	DHWH-1 (126)	28
29	ATPS-1, ATPS-2, UV...	20 A	1			0.47			4.50	--		--	30
31	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	32
33	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	34
35	SPACE	--	1			--			--	1	--	SPACE	36
37	SPACE	--	1	--			--			1	--	SPACE	38
39	SPACE	--	1		--			--		1	--	SPACE	40
41	SPACE	--	1			--			--	1	--	SPACE	42

Connected Load:
AØ: 85.15 KVA = 710 A A
BØ: 87.57 KVA = 730 A A
CØ: 88.15 KVA = 735 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
POWER	13660 VA	100.00%	13660 VA		
RECEPTACLE	360 VA	100.00%	360 VA	**Total Conn. Load:**	260.87 kVA
Mech	246850 VA	70.00%	172795 VA	**Total Est. Demand:**	186.82 kVA
				Total Conn. Current:	724.10 A
				Total Est. Demand Current:	518.55 A

Notes:
PROVIDE FEED THRU LUGS
LOAD SHOWN ON SECTION 1 INCLUDES TOTAL LOAD FROM SECTION 2

Panel: PANEL LTG

LOCATION: ELEC ROOM 125 **MAINS RATING:** 100 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING - CLASSROOMS	20 A	1	1.02			0.36			1	20 A	LIGHTING - CORRIDORS	2
3	LIGHTING - ENTRANCE	20 A	1		0.63			0.12		1	20 A	OUTDOOR BUILDING LIGHTS	4
5	LIGHTING - GAMEROOM 106	20 A	1			0.33			0.48	1	20 A	LIGHTING - FITNESS 107	6
7	LIGHTING - OFFICES	20 A	1	0.49			0.37			1	20 A	LIGHTING - RESTROOM	8
9	LIGHTING - KITCHEN	20 A	1		0.49			1.06		1	20 A	LIGHTING - MULTI 123	10
11	LIGHTING - MULTI 123	20 A	1			1.18			1.35	2	20 A	SITE LIGHTING LIGHT POLES	12
13	SPARE	20 A	1	0.00			0.68			--	--	--	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPACE	--	1		--			--		1	--	SPACE	22
23	SPACE	--	1			--			--	1	--	SPACE	24
25	SPACE	--	1	--			--			1	--	SPACE	26
27	SPACE	--	1		--			--		1	--	SPACE	28
29	SPACE	--	1			--			--	1	--	SPACE	30
31	SPACE	--	1	--			--			1	--	SPACE	32
33	SPACE	--	1		--			--		1	--	SPACE	34
35	SPACE	--	1			--			--	1	--	SPACE	36
37	SPACE	--	1	--			--			1	--	SPACE	38
39	SPACE	--	1		--			--		1	--	SPACE	40
41	SPACE	--	1			--			--	1	--	SPACE	42

Connected Load:
AØ: 2.91 KVA = 24 A A
BØ: 2.31 KVA = 19 A A
CØ: 3.33 KVA = 28 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
LIGHTING	6531 VA	100.00%	6531 VA		
				Total Conn. Load:	8.56 kVA
				Total Est. Demand:	8.56 kVA
				Total Conn. Current:	23.75 A
				Total Est. Demand Current:	23.75 A

Notes:

Panel: PANEL RP (SECTION 2)

LOCATION: ELEC ROOM 125 **MAINS RATING:** 400 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MLO **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
43	PROJECTION SCREEN - 123	20 A	1	0.63			0.36			1	20 A	PROJECTORS - 123	44
45	ELECTRIC SHADE-123	20 A	1		0.72			1.20		1	20 A	PAPER TOWEL - 111	46
47	RECS - 123	20 A	1			0.90			0.72	1	20 A	ELECTRIC SHADE - 123	48
49	SHADES - 106, 123	20 A	1	0.72			1.50			1	20 A	FIRE PLACE - 106	50
51	EV CHARGER	60 A	2		4.95			1.44		1	20 A	ENTRANCE PASS THRU	52
53	--	--	--			4.95			4.95	2	60 A	EV CHARGER	54
55	EV CHARGER	60 A	2	4.95			4.95			--	--	--	56
57	--	--	--		4.95			4.95		2	60 A	EV CHARGER	58
59	EV CHARGER	60 A	2			4.95			4.95	--	--	--	60
61	--	--	--	4.95			4.95			2	60 A	EV CHARGER	62
63	SITE SEPTIC TANK	20 A	2		0.58			4.95		--	--	--	64
65	--	--	--			0.58			0.54	1	20 A	RECS - EXTERIOR	66
67	SITE SEPTIC TANK	20 A	2	0.00			0.00			1	20 A	SPARE	68
69	--	--	--		0.00			0.00		1	20 A	SPARE	70
71	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	72
73	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	74
75	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	76
77	SPACE	--	1			--			--	1	--	SPACE	78
79	SPACE	--	1	--			--			1	--	SPACE	80
81	SPACE	--	1		--			--		1	--	SPACE	82
83	SPACE	--	1			--			--	1	--	SPACE	84

Connected Load:
AØ: 23.01 KVA = 192 A A
BØ: 23.74 KVA = 198 A A
CØ: 22.54 KVA = 188 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
POWER	5730 VA	100.00%	5730 VA		
RECEPTACLE	3000 VA	100.00%	3000 VA	**Total Conn. Load:**	69.28 kVA
				Total Est. Demand:	69.28 kVA
				Total Conn. Current:	192.30 A
				Total Est. Demand Current:	192.30 A

Notes:

Panel: MP (SECTION 2)

LOCATION: ELEC ROOM 125 **MAINS RATING:** 1000 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MLO **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
43	CU-1 (ROOF)	20 A	2	1.00			4.33			3	70 A	ACCU-2 (ROOF)	44
45	--	--	--		1.00			4.33		--	--	--	46
47	RTU-1 (ROOF)	250 A	3			23.67			4.33	--	--	--	48
49	--	--	--	23.67			12.17			3	125 A	MAU-1 (ROOF)	50
51	--	--	--		23.67			12.17		--	--	--	52
53	EF-1 (ROOF)	20 A	2			0.93			12.17	--	--	--	54
55	--	--	--	0.93			22.53			3	225 A	DOAS-1 (ROOF)	56
57	ACCU-1 (ROOF)	110 A	3		7.00			22.53		--	--	--	58
59	--	--	--			7.00			22.53	--	--	--	60
61	--	--	--	7.00			0.00			1	20 A	SPARE	62
63	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	64
65	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	66
67	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	68
69	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	70
71	SPACE	--	1			--			--	1	--	SPACE	72
73	SPACE	--	1	--			--			1	--	SPACE	74
75	SPACE	--	1		--			--		1	--	SPACE	76
77	SPACE	--	1			--			--	1	--	SPACE	78
79	SPACE	--	1	--			--			1	--	SPACE	80
81	SPACE	--	1		--			--		1	--	SPACE	82
83	SPACE	--	1			--			--	1	--	SPACE	84

Connected Load:
AØ: 71.63 KVA = 597 A A
BØ: 70.70 KVA = 589 A A
CØ: 70.63 KVA = 589 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
POWER	0 VA	0.00%	0 VA		
Mech	212950 VA	70.00%	149065 VA	**Total Conn. Load:**	212.95 kVA
				Total Est. Demand:	149.07 kVA
				Total Conn. Current:	591.09 A
				Total Est. Demand Current:	413.76 A

Notes:

Panel: PANEL LS

LOCATION: ELEC ROOM 125 **MAINS RATING:** 60 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** 60A FUSED **AIC RATING:** 22 KAIC

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	EM LIGHTING	20 A	1	0.45			0.57			3	20 A	JOCKEY PUMP (127)	2
3	EM LIGHTING	20 A	1		0.50			0.57		--	--	--	4
5	EM LIGHTING	20 A	1			0.84			0.57	--	--	--	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPACE	--	1			--			--	1	--	SPACE	12
13	SPACE	--	1	--			--			1	--	SPACE	14
15	SPACE	--	1		--			--		1	--	SPACE	16
17	SPACE	--	1			--			--	1	--	SPACE	18

Connected Load:
AØ: 1.02 KVA = 9 A A
BØ: 1.07 KVA = 9 A A
CØ: 1.41 KVA = 12 A A

Load Classification	Connected Load	Demand Factor	Est. Demand	Panel Totals	
LIGHTING	1797 VA	100.00%	1797 VA		
POWER	1700 VA	100.00%	1700 VA	**Total Conn. Load:**	3.50 kVA
				Total Est. Demand:	3.50 kVA
				Total Conn. Current:	9.71 A
				Total Est. Demand Current:	9.71 A

Notes:
FUSED PANELBOARD

CIVIL FILENAME

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. _____, EXPIRATION DATE:_____

ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DGN BY: JF
DWN BY: DAM
CHKD BY: RAM

AS-BUILT / REVISION	BY	DATE	P.W.A NO.
PERMIT REVISIONS #1	1	3/19/25	
ADDENDA #1	ADD1	8/7/25	
CONTRACT COMPLETION BOX			

KEY SHEET	POSITION SHT	DRAWING SCALE	
UNE	79NE12 78NE12 78NE11	PLAN SCALE: PROFILE SCALE:	

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

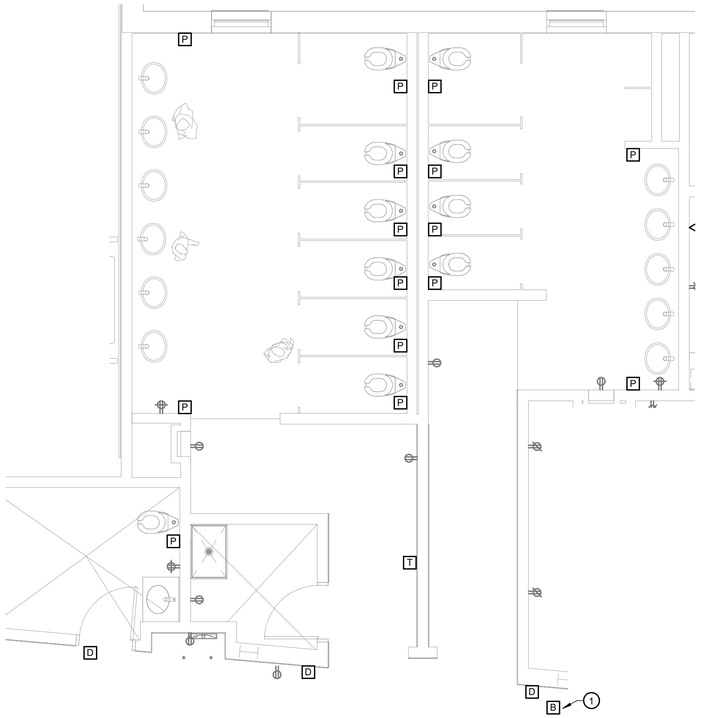
JACKSONVILLE SENIOR CENTER
ELECTRICAL PANEL SCHEDULES
BID DOCUMENTS 05/15/2025
3601 SWEET AIR RD, PHOENIX, MD 21131

SUBDIVISION: JACKSONVILLE
ELECTION DIST. NO.: 10 C3

SHEET DESIGNATION	CONTRACT NUMBER
E502	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	170 OF 195
	DRAWING NUMBER
	2025-0387
	FILE NO.: 8

BALTIMORE COUNTY MARYLAND

BID DOCUMENTS 05/15/2025
BKM# 23127.01
Contract No.25010 PO0
Addendum No.1
Revised, August 8, 2025



1 FIRST FLOOR PART PLAN - AID-TO-CALL SYSTEM

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

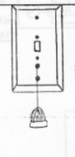
1. REFER TO T001 AND T002 FOR TELECOM LEGEND, ABBREVIATIONS GENERAL NOTES, AND RESPONSIBILITY MATRIX.
2. CALL FOR AID SYSTEM SUMMARY: PULLCORDS SHALL BE INSTALLED ALONG TOILETS IN RESTROOM. WHEN PULLED, DOME LIGHT IN FRONT OF RESTROOM WILL ACTIVATE ALTERTING STAFF WITH THE BUZZER. SYSTEM IS STANDALONE AND SHALL NOT INTERCONNECT OR COMMUNICATE TO ANY OTHER SYSTEM.
3. AUTENTIC PARTS IS BOD FOR CALL FOR AID SYSTEM. CONTRACTOR MAY SUBMIT AN ALTERNATE THAT WILL MEET/EXCEED THE SYSTEM REQUIREMENTS. (APPROVED EQUAL: CREST HEATHCARE)

DRAWING NOTES:

1. REMOTE BUZZER LOCATED AT RECEPTION DESK. REFER TO T101 FOR EXACT LOCATION.

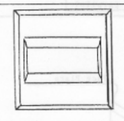
AUTHENTIC PARTS

Handicapped/CALL-FOR-AID Kit P/N LV-24
Kit Contains:
1- Pullcord Station 206-2
1- Dome Light 302-2B
1- Transformer



Pullcord Station 206-2 P/N 120606-01
The 206-2 emergency pullcord station provides emergency call placement with reset capability only at the call inlating station.
Material: Satin Stainless Steel Overall Dimension 4 1/2H X 2 3/4" W
Unit Mounts on a single gang electrical box.

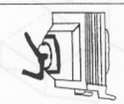
Pushbutton Station 206-2S P/N 120606-24
Same as above with pushbutton instead of pullcord



Dome Light 302-2B P/N 945075-03

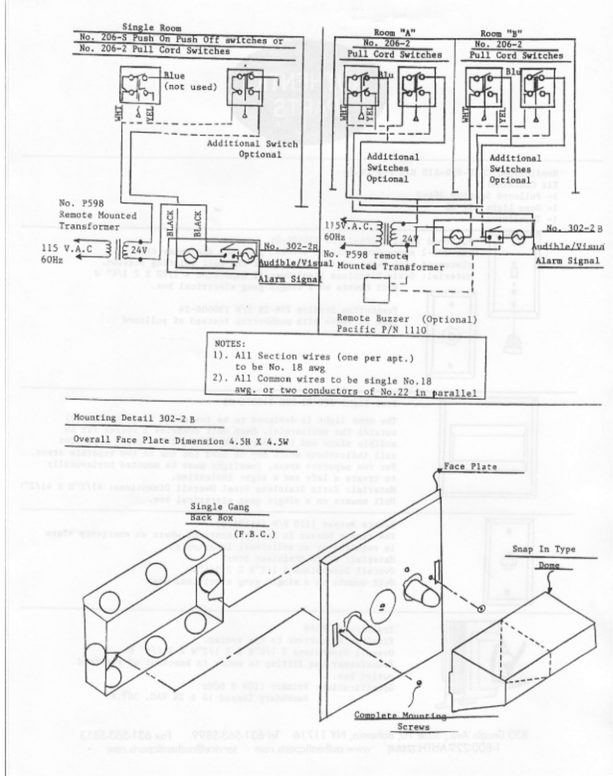
The dome light is designed to be installed over the door(s) outside the restroom(s). Each unit contains a buzzer for an audible alarm and two lamps (GE #1820, 24V bayonet type) for call indications which may be used for one or two separate areas. For two separate areas, domelight must be mounted horizontally to create a left and a right indication.
Material: Satin Stainless Steel Overall Dimensions: 41/2"H X 41/2"W
Unit mounts on a single gang electrical box.

Remote Buzzer 1110 P/N 111101-01
The remote buzzer is for applications where an emergency alarm is required at an additional location(s).
Material: Satin Stainless Steel
Overall Dimensions 4 1/2"H X 2 3/4"W
Unit mounts on a single gang electrical box.



Transformer P598
Provides AC current to the system.
Overall Dimensions 2 1/8"H X 2 1/2"W X 2 1/4" D
Transformer has fitting to mount in knockout of standard outlet box.
Specification: Primary 110V @ 60Hz
Secondary Tapped 16 & 24 VAC, 30V.A.

850 Lincoln Ave., Suite 10, Bohemia, NY 11716 Tel 631-563-5899 Fax 631-563-5853
1-800-229-AUTH (2884) www.authenticparts.com service@authenticparts.com



2 AID-TO-CALL WIRING DIAGRAM

SCALE: 1" = 1'-0"

DWG FILENAME

SEAL	PROFESSIONAL CERTIFICATION		AS–BUILT / REVISION	BY	DATE	P.W.A NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AN A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.		PERMIT REVISIONS #1	1	3/19/25		UNE	79NE12	PLAN SCALE:		APPROVED BY: PROPERTY MANAGER
	LICENSE NO. _____, EXPIRATION DATE:_____		ADDENDA #1	ADD1	8/7/25			78NE12	PROFILE SCALE:		DATE:
	ENGINEER: BURDETTE, KOEHLER, MURPHY & ASSOCIATES, INC.	DGN BY: JMH	CONTRACT COMPLETION BOX					78NE11			
		DWN BY: DAM	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
	AS–BUILT PER RECORD PRINT _____ BY:	CHKD BY: JMH	REVIEWED BY:								
DATE:_____	DATE:		DATE REVIEWED:								

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER
PART FLOOR PLAN - AID-TO-CALL SYSTEM
BID DOCUMENTS 05/15/2025
3601 SWEET AIR RD, PHOENIX, MD 21131

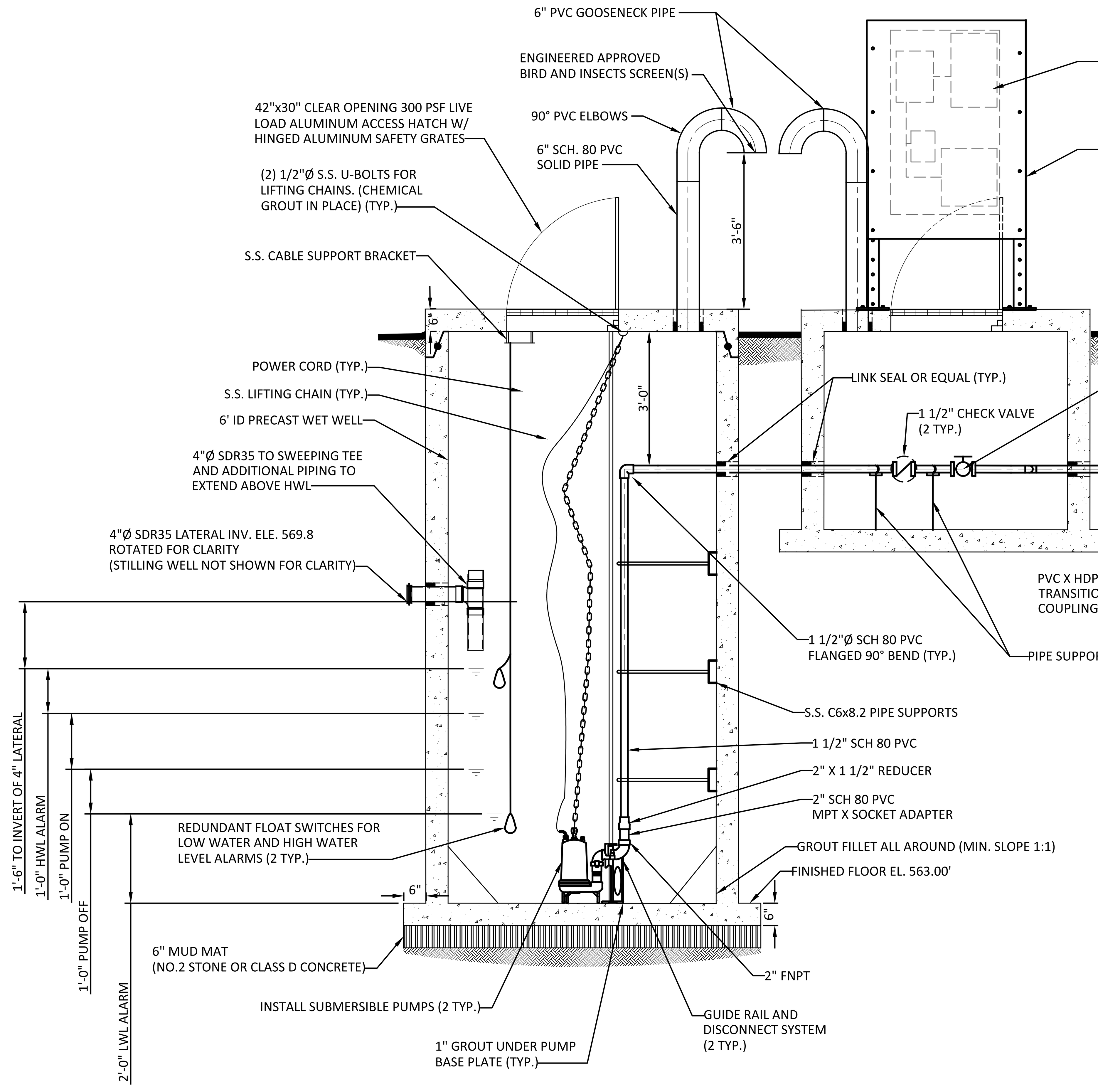
SUBDIVISION: JACKSONVILLE

ELECTION DIST. NO.: 10 C3

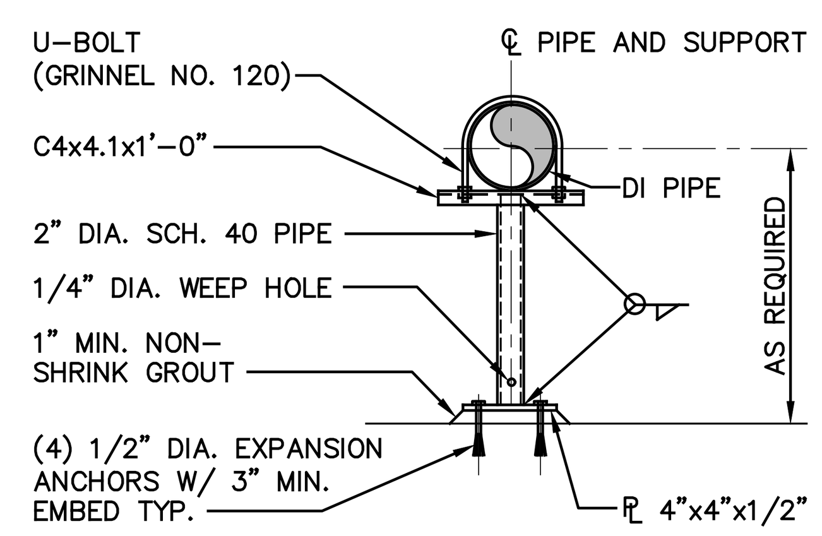
SHEET DESIGNATION	CONTRACT NUMBER
T302	25010 PO0
	JOB ORDER NUMBER
	PO 10-701-1861
	180 OF 195
	DRAWING NUMBER
	2025-0397
	FILE NO.: 8

BALTIMORE COUNTY MARYLAND

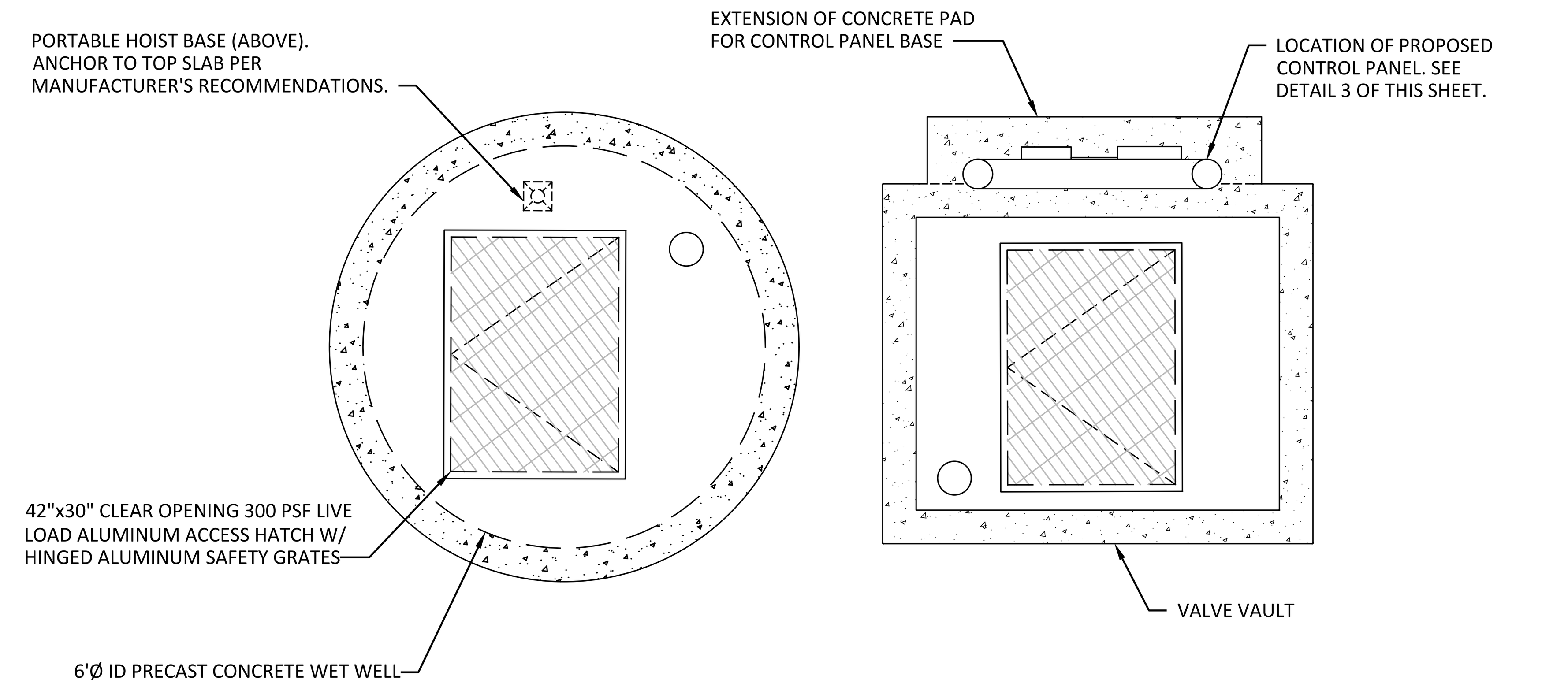
BID DOCUMENTS 05/15/2025
BKM# 23127.01
Contract No.25010 PO0
Addendum No.1
Revised, August 8, 2025



A SW202 SECTION
SCALE: 1/2" = 1'-0"



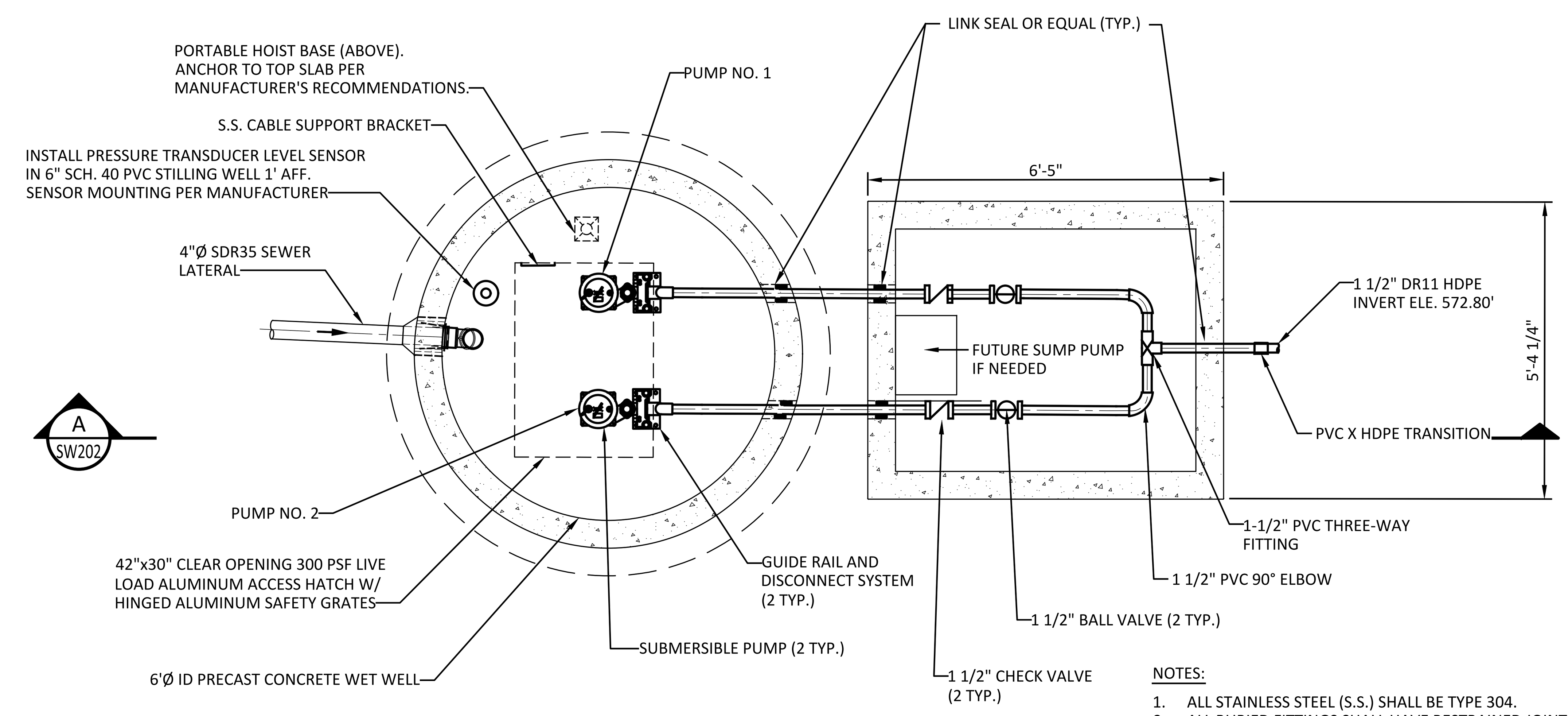
3 PIPE SUPPORT DETAIL
N.T.S.



NOTE:

1. REFER TO PUMP STATION PLAN/SECTION OF THIS SHEET.

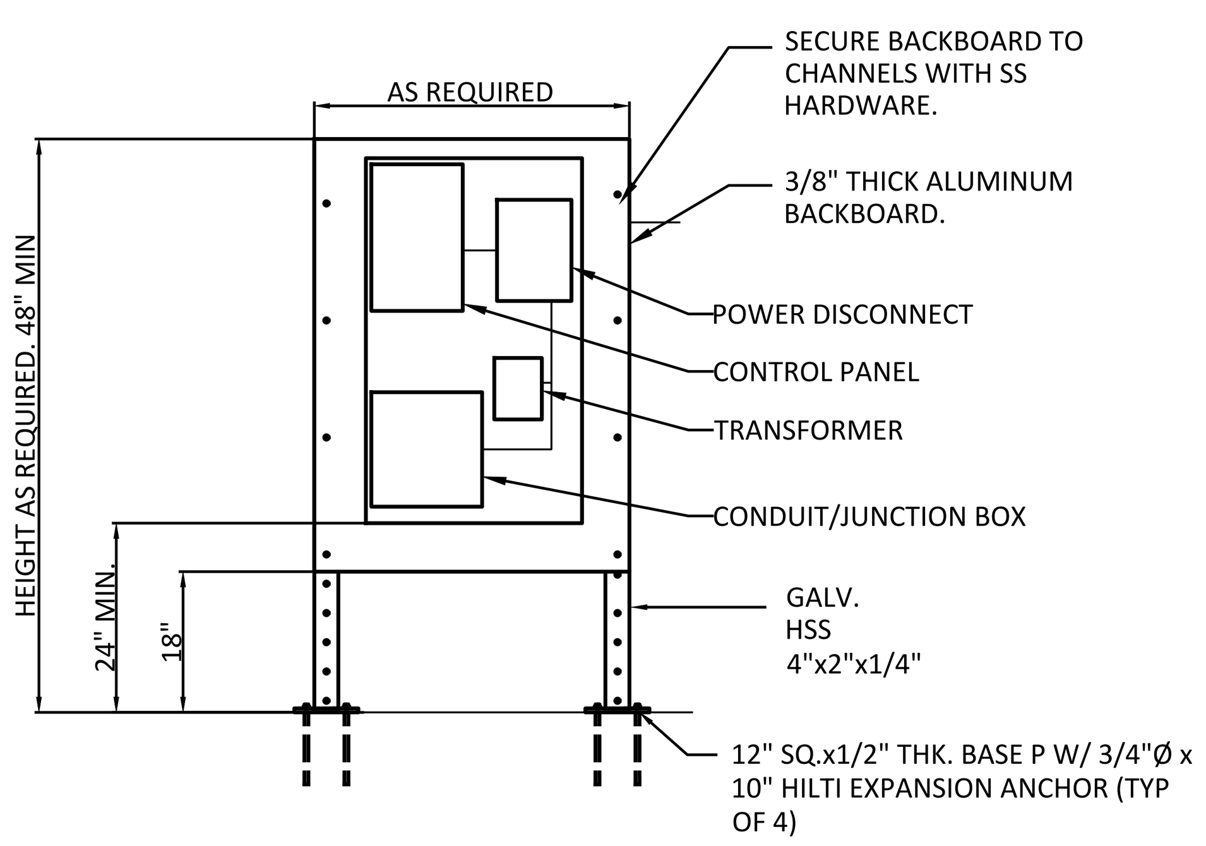
1 PUMP STATION UPPER PLAN
SCALE: 1/2" = 1'-0"



NOTES:

1. ALL STAINLESS STEEL (S.S.) SHALL BE TYPE 304.
2. ALL BURIED FITTINGS SHALL HAVE RESTRAINED JOINTS.
3. ALL PIPE PENETRATIONS SHALL BE SEALED VIA LINK-SEAL (OR EQUAL) FOR FLEXIBLE CONNECTIONS, UNLESS OTHERWISE SHOWN.

2 PUMP STATION LOWER PLAN
SCALE: 1/2" = 1'-0"



NOTE:

1. COORDINATE ALL EQUIPMENT WITH PUMP MANUFACTURER

4 FREE STANDING EQUIPMENT BACKBOARD AND CONTROL PANEL
N.T.S.

NOTES:

1. PROPOSED SYSTEM IS A DUPLEX PUMP STATION - PURPOSE IS TO TRANSFER FLOWS TO EXISTING JACKSONVILLE PUMP STATION. THE EXISTING PUMP STATION HAS SUFFICIENT VOLUME TO SUSTAIN FLOWS FROM PROPOSED AND EXISTING BUILDING.
   1.1. DESIGN PEAK FOR OVERALL SYSTEM:
      1.1.1. DESIGN PEAK FOR PROP BUILDING: 2,289 GPD
      1.1.2. DESIGN PEAK FOR EX. BUILDING: 458 GPD
   1.2. PUMP STATION DIMENSIONS: 6-FT (DIAMETER) x 13-FT (D)
   1.3. TRANSFER PUMP STATION VOLUME (GAL): 1,375 (APPROX.)
      1.3.1. AVERAGE DAILY TRANSFER FLOW (GPM): 2.0
      1.3.2. 6 CYCLES PER DAY, TOTAL VOL. TRANSFERRED (GAL): 211.5
   1.4. EXISTING PUMP STATION VOLUME (GAL): 9,815 (APPROX.)
   1.5. VALVE VAULT DIMENSIONS (APPROXIMATE): 5'-4 1/4" (W) x 6'-5" (L) x 4'-9/20" (H) 1
   WALL THICKNESS: 6"
2. REFER TO SPECIFICATIONS DOCUMENT SECTION 40 90 00 - INSTRUMENTATION AND CONTROL FOR PROCESS SYSTEMS INFORMATION.
3. REFER TO SPECIFICATIONS DOCUMENT SECTION 40 90 00.01 - FOR COMPONENT SPECIFICATIONS INFORMATION.
4. REFER TO SPECIFICATIONS DOCUMENT SECTION 43 25 13.27 - FOR SUBMERSIBLE SEWAGE PUMPS INFORMATION.

DWG. FILENAME:

1/2"=1'-0" 2' 0 2' 4'

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. ____ EXPIRATION DATE ____	PERMIT REVISIONS #1	B&L					PLAN SCALE: NTS	APPROVED BY: ____ PROPERTY MANAGER
		ADDENDA #1	ADD1	8/7/25	R.O.W NO.			PROFILE SCALE:	DATE:
		CONTRACT COMPLETION BOX							
	ENGINEER: BARTON AND LOGUIDICE, D.P.C / DGN BY:	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT / DWN BY:	REVIEWED BY:							
	BY: / CHKD BY:	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER

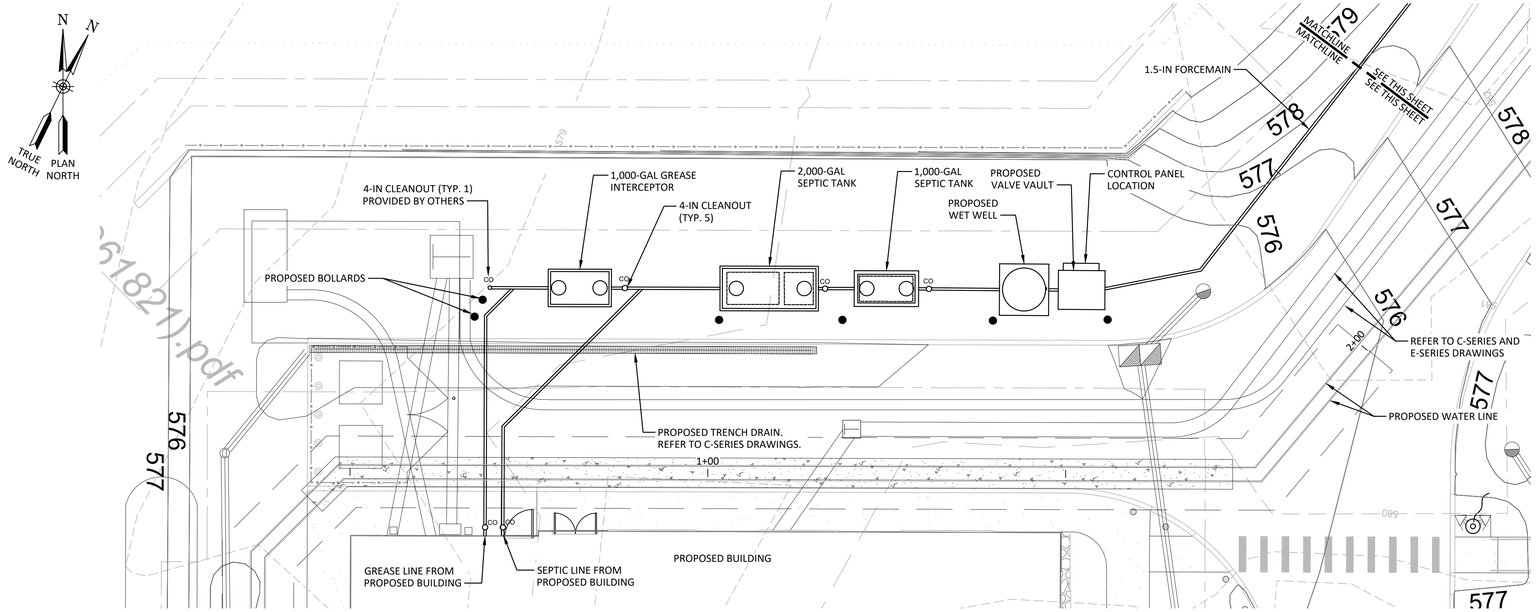
PROPOSED PUMP STATION PLAN AND DETAILS

100% BID DOCUMENTS 05/15/2025

SUBDIVISION: JACKSONVILLE | 3601 SWEET AIR RD, PHOENIX, MD 21131 | ELECTION DIST. NO.:10C3

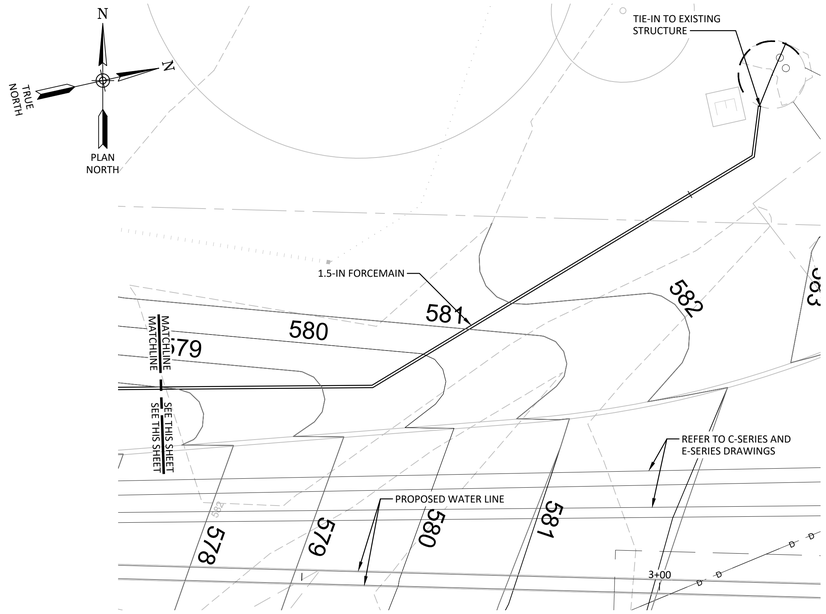
SHEET DESIGNATION	CONTRACT NUMBER
SW202	25010 P00
	JOB ORDER NUMBER
	10-701-1861
	SHEET 190 OF 195
	DRAWING NUMBER
	2025-0407
	FILE NO.:

100% BID DOCUMENTS 05/15/2025



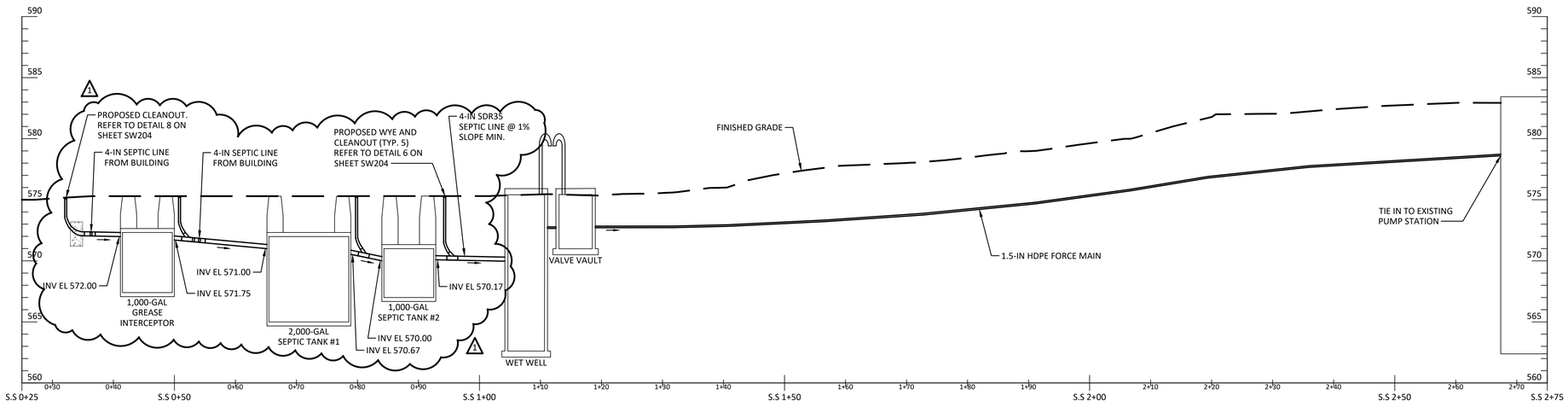
FORCE MAIN AND SEPTIC SYSTEM PLAN

SCALE: 1" = 10'-0"



FORCE MAIN AND SEPTIC SYSTEM PLAN

SCALE: 1" = 10'-0"



FORCE MAIN AND SEPTIC SYSTEM PROFILE

HORIZONTAL SCALE: 1" = 10'-0"
VERTICAL SCALE: 1" = 5'-0"

NOTES:
1. ALL SANITARY GRAVITY LINES ARE TO BE 4-IN SDR35 PIPE.
2. REFER TO P101, NOTES 2 & 3 FOR GREASE INTERCEPTOR ELEVATIONS.

10' 0 10' 20'
1"=10'

DWG. FILENAME:

SEAL

DATE :

PROFESSIONAL CERTIFICATION		AS–BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.		ADDENDA #1	ADD1	8/7/25			T08R21	PLAN SCALE:	1"=10'	APPROVED BY:
LICENSE NO. _____, EXPIRATION DATE _____.					R.O.W NO.	UNK	T09R21			PROPERTY MANAGER
		CONTRACT COMPLETION BOX					S08R21	PROFILE SCALE:	AS SHOWN	DATE:
ENGINEER: _____	DGN BY: PIA/BJS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	T09R21	WATER	FIELD ENGINEER	
BARTON AND LOGUIDICE, D.P.C	DWN BY: BAB	REVIEWED BY:								
AS–BUILT PER RECORD PRINT										
BY:	CHKD BY: DJK	DATE REVIEWED:								
DATE:										

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

JACKSONVILLE SENIOR CENTER

SEWER PROFILE

100% BID DOCUMENTS 05/15/2025

SUBDIVISION: JACKSONVILLE — 3601 SWEET AIR RD, PHOENIX, MD 21131 — ELECTION DIST. NO.:10C3

SHEET DESIGNATION	CONTRACT NUMBER
SW203	25010 P00
JOB ORDER NUMBER	10–701–1861
SHEET	191 OF 195
DRAWING NUMBER	2025–0408
FILE NO.:	8 of 8

100% BID DOCUMENTS 05/15/2025

Contract No.25010 P00
Addendum No.1
Revised, August 8, 2025