

ADDENDUM #3

To: All Bidders

Project Name: Renovations to the Owen J. Roberts
District Services Center

Prepared for: Owen J. Roberts School District
901 Ridge Road
Pottstown, PA 19465

Date: 08/20/2026

Notice to all Contractors bidding the Renovations to the Owen J. Roberts District Services Center. This Addendum is to amend or clarify the Contract documents as follows:

GENERAL:

PRIME CONTRACTORS can REGISTER and obtain Contract Documents by contacting BLUEEDGE, 1015 Chestnut Street, Philadelphia, PA. 19107 (phone: 215 627 6493 or by downloading from the link below).

- 1. Contract Documents can be downloaded in .pdf format for a non-refundable cost of One Hundred Dollars (\$100.00) (payment can be made via American Express, Visa, or MasterCard) by accessing the following link:*

<https://www.bluedgebuild.com/projects/8/details/owen-j-roberts-school-district>

In order to ensure REGISTERED BIDDERS receive addenda and bid related correspondence, requests for Bid Documents, shall include the following information:

- 1. Telephone number*
 - 2. Contact person*
 - 3. E-mail address for addenda*
- A. This Addendum constitutes part of the Project Manual and Contract. Should conflict occur between the Project Manual and items in this Addendum or between Drawings and this Addendum, the Addendum shall govern.
- B. Work described in this Addendum shall be in accordance with Specifications for like items in remainder of building and complete with all labor and materials required.
- C. Bidders are requested to attach a copy of this Addendum to the Project Manual in their possession.
- D. Work affected by items in this Addendum shall be appropriately adjusted to accommodate these changes.

- E. Acknowledge receipt of this Addendum by inserting its number and date in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.
- F. Bids shall only be based on the products specified. No pre-bid substitutions shall be considered. Products that meet or exceed the product specifications will be considered for use during the Shop Drawing Submittal Phase.
- G. STANDARD OF QUALITY: The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. **In general**, it is not the intent to limit the bidder, the bid or the evaluation of the bid to any one material or product specified but rather to describe the minimum standard, **except where listed without the following clause**. When proprietary names are used, they shall generally be followed by the words "or alternatives of the quality necessary to meet the specifications". Where proprietary names are used and are not followed by a clause similar to that listed above, the contractor is limited to providing that specified product to keep a standard product already established by the School District. A bid containing an alternative which does not meet the specifications may not be accepted, but, if an award is made to the bidder, the bidder will be required to replace any alternatives which do not meet the specifications at no additional cost. The intent of the bid documents is based on this STANDARD OF QUALITY and not to be proprietary in nature in any way.

SPECIFICATIONS

1.01 23 2123 – HYDRONIC PUMPS

- Added entire Specification Section. Refer to attached document

1.02 230549 – VIBRATION ISOLATION

- Added section 2.15 – B to specification.
- Added #3 to 3.3 Vibration isolator restraint schedule.
- Refer to revised specifications attached.

1.03 238101 – TERMINAL HEAT TRANSFER UNITS

- Added section 2.3 Hot Water Duct Coils to specification.
- Refer to revised specifications attached.

1.04 28 1000 – ACCESS CONTROL

- Added entire Specification Section. Refer to attached document

DRAWINGS

Architectural:

- 2.01 Drawing 1/AD101.1A: **REVISE** demolition tags as shown in the attached sketch AD3-A01.

Electrical:

- 2.02 SED101 – SITE DEMOLITION PLAN - ELECTRICAL
- Added sheet in its entirety.
- 2.03 SE100 – SITE PLAN - LIGHTING
- Added sheet in its entirety.
- 2.04 E201.A – FIRST FLOOR PLAN – AREA A - SIGNAL
- Added information regarding card readers as per attached drawing.

BIDDERS QUESTIONS (questions responded to in previous addenda will be highlighted in gray)

- 3.01 **Question:** What are the estimated values for bonding?
Response: *The estimated overall budget is \$6,200,000.*
- 3.02 **Question:** Is there a FPC prime contractor?
Response: *Fire protection is carried under the Plumbing Contract. Reference the Summary of Work and Multiple Contract Summary specifications sections.*
- 3.03 **Question:** Is this a multi-prime or single-prime project. If this is a multi-prime project; how many prime contractors and what are they?
Response: *This is a multi-prime project that includes a General Contractor, HVAC contractor, Electrical Contractor, and a Plumbing contractor.*
- 3.04 **Question:** The specifications state the GC is responsible for hoisting and scaffolding for all trades – please confirm.
Response: *Hoisting and scaffolding is the responsibility of the trade requiring the work.*
- 3.05 **Question:** Please clarify if Roman Mosaic is the only allowed terrazzo installer?
Response: *No, the specification is open per section 096623. Roman is noted in the finishes schedule due to them being the installer from the previous renovation project. New terrazzo installation must match the existing installation.*
- 3.06 **Question:** Confirm the electrical contractor is responsible for the installation of the lightning protection system.

Response: *The electrical contractor is responsible for the lighting protection. Reference addendum 1.*

3.07 **Question:** There are new roof top mechanical units, is support steel to be provided.

Response: *Reference S141.A which indicated support steel for units.*

3.08 **Question:** Is the flushing of the existing roof drains by the plumbing contractor?

Response: *Yes, flushing of the existing roof drains is by the plumbing contractor.*

3.09 **Question:** Where are trailers and lay down areas designated on site?

Response: *There are no prescribed areas at the moment. All trailer, staging, lay-down areas, etc. are to be coordinated with the owner once construction starts. OJR noted there is plenty of real-estate for this uses.*

3.010 **Question:** Please clarify if the cameras shown on drawing E001, that are not tagged with an 'E', are all to be removed, including cabling demo. All cameras shown on this drawing are not contained in Area A or Area B.

Response: *On sheet E001 all cameras tagged with an 'E' are existing to remain. All other cameras shown are new cameras except for one camera that shall be removed as noted. On sheet E201.A identifies additional camera locations within the main scope of work area.*

3.011 **Question:** Please clarify new camera types/models required shown on drawing E201.A.

Response: *Camera models/types are provided by owner. Contractor shall provide backbox, conduit, and data cabling to all camera locations. Owner to provide, install, and program cameras. Refer to low-voltage systems responsibility matrix on E000.*

3.012 **Question:** Please clarify which video surveillance system software is currently in use and if the DSC will keep this system in place or require an upgrade to current school district standards.

Response: *Owner to provide, install, and program cameras.*

3.013 **Question:** Section 087100 - Door Hardware was not found in Specs Volume 2. Please clarify electrified locking hardware intending for the following doors calling for card access per Door Schedule A601: 100.2, V101A, V101B.

Response: *Section 087100 was included with addendum 1.*

3.014 **Question:** For existing doors with card readers per Door Schedule A601 (100.2 and V101A), please clarify if we are to replace existing card readers, door contacts, request-to-exit sensors, etc. with new/updated equipment, as well as replace the existing access control cabling.

Response: *See attached to this addendum 3 for access control work required by the EC.*

3.015 **Question:** We have identified that no scope of work is associated with the existing card access at the Vestibule V107 exterior double doors. Please clarify if any scope of work (temporary demo, equipment replacement/upgrades, etc.) is needed.

Response: *There is no scope of work in Vestibule V107.*

3.016 **Question:** What brand is switchboard SWA and what type breakers are required

Response: Switchboard is Siemens ITE Switchboard. Attached are some photos.

3.017 **Question:** On drawing A601 the window notes 1 thru 7 do not appear to be relevant to this project and may be a carry over from another Shrader Group project design, inadvertently, there are not any exterior window or storefront units that require insulated glass. The only Window Keynote that is relevant is 'T'. The 6" Aluminum Cast in Terrazzo Letters require more information regarding thickness, style, and finish.

Response: The notes on sheet A601 are general, and may or may not pertain to this project. The cast letters are to be brushed aluminum, 6" tall provided in "Arial" font.

3.018 **Question:** Please provide information pertaining to the (2) Column Covers – refer to Material thickness & finish selection:

- Quantities and lengths of parts
- Section view of parts with finish side clearly marked
- All linear dimensions provided
- Angular dimensions provided if other than 90 degrees
- Welding or sanding requirements if applicable

Response: There are two column covers. Contractor shall final verify the dimensions required in the field.

3.019 **Question:** How many copies of our bid need to be submitted on bid day?

Response: Please provide (2) copies of bids.

3.020 **Question:** Section 102600 - Wall and Door Protection: Corner Guards – what locations or how many?

Response: Corner guards are required at all corners at gypsum walls.

3.021 **Question:** Section 101416 - Plaques: Please verify if Plaques are in the scope. Plan A101.A indicates relocating existing Plaque are new Plaques to be purchased?

Response: There are no new dedication plaques. Contractor shall relocate the existing plaque.

3.022 **Question:** Section 101423 – Panel Signage: Signage plan be issued with locations?

Response: Signs are required at all door locations. See attached signage types used throughout the existing spaces – signs shall match.

3.023 **Question:** The comprehensive general liability portion of the insurance states that No Deductibles are permitted. Can this be waived for a \$5,000.00 deductible?

Response: This is acceptable by the Owen J. Roberts School District. The contractor is still responsible for the \$5,000 deductible.

3.024 **Question:** Reference Addendum 1, Pre-Bid Agenda, section 5-h (EC Contract Scope of Work): there is a reference to "exterior parking lot lighting head replacement". This is not shown on the plans. Please verify there is no work required for replacement of parking lot lighting heads.

Response: *Reference attachments as part of this addendum #3 for site lighting information. Only the fixture heads are to be replaced.*

3.025 **Question:** Reference section 011200-2.03-C-19: this states "Provide concrete for encasement of conduit, foundation/base for site lighting, etc. as required for work by this contract. Provide warning tape as required. Provide rebar reinforcement as shown on Contract Documents." This work is not shown on the plans. Please verify there is no work required for site lighting.

Response: *This work is not required for the site lighting. We are replacing heads only.*

3.026 **Question:** Please verify all work can be performed during normal working hours.

Response: *This is a partially occupied building, therefore there will be time when off hours work will be required. It is assumed that most work will take place during normal working hours, but there will be times when off hours will need to be utilized to conduct work that may interrupt the operations and systems of the occupied areas. Provide advance notice to the owner/architect for any disruptions that may take place in order to notify occupants and ensure a plan can be prepared to conduct the work safely and efficiently.*

3.027 **Question:** Reference Addendum 2, question 3.016: this states that pictures of the existing switchboard are attached to the addendum. There were no pictures attached. Please provide them.

Response: *See attached to this addendum 3.*

3.028 **Question:** There is no Access Control work shown on the electrical drawings. Please confirm that the EC is not responsible for any Access Control work.

Response: *See attached to this addendum 3 for access control work required by the EC.*

3.029 **Question:** Dwg E000 Electrical General Note 6 Please confirm that these devices are to be included in addition to the Unit Price Allowances.

Response: *Devices noted are in addition to the Unit Prices and Allowances.*

3.030 **Question:** Can the as-builts for the existing lightning protection system be provided?

Response: *See attached to this addendum 3.*

3.031 **Question:** Will bracing be required at the top of masonry walls to the deck? If so, please provide detail / spacing requirements.

Response: *No bracing required. At Conference Room 116, 4" metal stud partition pocket walls are to be fastened to the cmu block wall. These metal stud walls run to the underside of and fastened to the roof deck.*

3.032 **Question:** Can you specify a manufacturer and how many pole lights need to be replaced for this project as per addendum #1 Electrical Construction Project Scope of Work.

Response: *Reference attachments as part of this addendum #3 for site lighting information. Only the fixture heads are to be replaced.*

3.033 **Question:** Can the AWI certs be waived for this project?

Response: *AWI certification can be waived for this project.*

- 3.034 **Question:** There was mention at the pre-bid that liquidated damages would not be applied if the roof coating was not completed by the completion date. The roof coating needs to be installed with 50degrees and rising. Please clarify the roofing schedule and when the coating would need completed.

Response: *The expectation is that the project is completed by the dates noted in the specifications.*

ATTACHMENTS

General:

Switchboard Photos

Specifications:

230549 – VIBRATION ISOLATION

232123 – HYDRONIC PUMPS

238101 – TERMINAL HEAT TRANSFER UNITS

281000 – ACCESS CONTROL

Drawings:

AD3-A01 – Revised Demolition Tags

E201.A – FIRST FLOOR PLAN – AREA A - SIGNAL

SED101 – SITE DEMOLITION PLAN - ELECTRICAL

SE100 – SITE PLAN – LIGHTING

END OF ADDENDUM



SIEMENS

I-T-E Switchboard Type / Cat. No. FC-I
Series 6 S.O. 18-92587-A01
System 208Y/120vac, 3 PHASE 4 WIRE

Enclosure Type 1

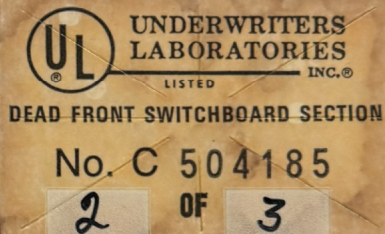
Supply	Section	Bus	
1600	1600	Mains	SUITABLE ONLY FOR USE AS
1600	1600	Neutral	SERVICE EQUIPMENT

Manufacturing Date 10/91 Location A

The short circuit current rating of this switchboard section is 65000 Amps RMS Symm. at 240 Volts.

The short circuit current rating is limited to the lowest short circuit current rating of any

switchboard section connected in series or the lowest short circuit rating of any device installed. Additional or replacement devices shall be of the same manufacture, type designation, and short circuit rating.



Breaker handle in intermediate position indicates tripped.
To reset move handle to the extreme off position, then to on.



! DANGER

High voltage.
Will cause severe injury or death.
Keep out.
Qualified personnel only.
Lock off power supplying this
equipment before working inside.

Siemens Energy & Automation, Inc. | For emergency service
Electrical Apparatus Division | call 1-800-241-4453
Atlanta, Ga. U.S.A.

11-1045-01 Rev.2



SECTION 230549 - VIBRATION ISOLATION

PART 1 - GENERAL

1.1 SUMMARY:

- A. The extent of vibration isolation work is indicated by Drawings and schedules and by requirements of this Section.
- B. The types of vibration isolation specified in this Section include the following:
 - 1. Support isolation for motor driven Mechanical Equipment.
 - 2. Support isolation for piping and piping risers.
 - 3. Flexible connections for piping at Equipment.
 - 4. Flexible ductwork connections.

1.2 SUBMITTALS:

- A. Comply with pertinent provisions of Division 1.
- B. The Manufacturer of vibration isolation products shall submit the following data clearly marked on the submittal drawing. Each piece of isolated equipment shall be clearly identified, as well as the quantity and type of vibration isolators.
 - 1. Weight and center of gravity of each piece of isolation equipment, and RPM of each piece of rotating isolated equipment. When equipment center of gravity is not available, assumed locations for center of gravity shall be identified in submittals.
 - 2. Calculated static load on each isolator.
 - 3. Calculated deflection for each piece of isolated equipment.
- C. Submittals for mountings and hangers incorporating springs shall include spring diameters, rated deflections, spring free height, solid spring height and spring color code.
- D. Submittals for bases shall clearly identify locations for all mountings, as well as all locations for attachment points of the equipment to be mounting base. Installation instructions shall be included.

1.3 QUALITY ASSURANCE:

- A. Product Qualification: Provide each type of vibration isolation unit produced by a specialized manufacturer, with not less than 5 years successful experience in the production of units similar to those for the project.
 - 1. Except as otherwise indicated obtain support isolation units from a single manufacturer.

2. Engage the manufacturer to provide technical supervision of the installation of support isolation units produced by him, and of associated inertia bases.
- B. Manufacturer: Provide vibration isolation mounting units manufactured by the following:
1. Amber/Booth
 2. Consolidated Kinetics Corp.
 3. Vibration Mountings and Controls, Inc./Korfund Dynamics
 4. Mason Industries
 5. Vibration Eliminator Co.
- C. After installation is complete and while the system is operating, the vibration isolation Manufacturer and/or his qualified Representative shall conduct an inspection of the installation with the Contractor. The Representative will submit a written inspection report detailing any discrepancies, the Representative shall submit a report so stating. If there are discrepancies, the report shall detail corrective work to be done.
- 1.4 DESIGN - VIBRATION ISOLATION SYSTEMS:
- A. Vibration isolators shall be selected based on known or estimated operating weight distributions of the isolated equipment, with the quantity and location as shown on the component's drawings. Isolator type shall be tabulated for each isolated piece of equipment.
 - B. Isolators shall have either known non-deflected heights of spring element or calibration markings so that, after adjustment, when carrying their load, the deflection under load can be verified to determine if the load is within the proper range of the isolator and if the correct degree of vibration isolation is being provided.
 - C. Isolators shall function in the linear portion of the load versus deflection curve. Theoretical vertical natural frequency shall not differ from the design objectives by more than +10%.
 - D. Vibration isolation available internal to the equipment shall not be considered equivalent, and may only be used where it can be shown not to compromise the strength or performance of the entire system.
 - E. Unless otherwise specified, all isolated equipment and all piping and ductwork shall be restrained in accordance with requirements contained herein. All un-isolated mechanical equipment shall be adequately secured to the structure.
 - F. Unless the equipment incorporates unit construction using an integral unit frame or is specified otherwise, each item of mechanical equipment, along with its drive unit, shall be mounted on a rigid steel or steel and concrete base. The equipment, including the base, shall be mounted on, or suspended from, vibration isolators to prevent the transmission of vibration and mechanically transmitted structure-borne sound to the supporting structure.

- G. Isolation hangers shall be used for all piping in equipment rooms or for 50 ft. from vibration equipment, whichever is greater. To avoid reducing the effectiveness of equipment isolators, at least three of the first hangers from the equipment should provide the same deflection as the equipment isolators, with a maximum limitation of 2 inch deflection. The remaining hangers shall be spring or combination spring and rubber with a minimum of 0.75 in deflection. To prevent load transfer to the equipment flanges when the piping system is filled, the first three hangers adjacent to the equipment shall be the positioning type (specification type 5). Floor supports for piping in equipment rooms and adjacent to isolated equipment shall use restrained vibration isolators. They should be selected according to the guidelines for hangers.

PART 2 - PRODUCTS

- 2.1 Unless otherwise specified, all hardware shall be stainless steel or zinc plated. Springs with a deflection of up to 2 inches shall be zinc plated, or coated with a polyester epoxy powder. Springs with a rated deflection capability greater than 2 inches may be painted. Zinc plating shall conform to ASTM B633, Class 2 SC2, minimum.
- 2.2 TYPE 1 MOUNTINGS - DOUBLE DEFLECTION NEOPRENE:
 - A. Double deflection neoprene mountings shall have a minimum rated static deflection of 0.40 inches. Steel top plate and base plate shall be completely bonded and embedded in oil-resistant elastomer. Mountings shall be molded in color for ease of identification of load capacity, and shall have ribbed neoprene surfaces on top and bottom to provide friction pads for those applications which do not need to be bolted to the floor or to equipment. Bolt holes shall be provided on the bottom plate, and a tapped hole on the top, for applications requiring positive tie down.
 - B. Mountings may be combined with steel rails for ease of installation, to compensate for overhung components or for equipment which lack sufficient rigidity for point support.
 - C. Neoprene mountings shall be type RD and steel channel rails type DRB as manufactured by Vibration Mountings and Controls, Inc.
- 2.3 TYPE 2 MOUNTINGS - FLOOR MOUNTED SPRING ISOLATORS:
 - A. Free standing spring-type isolators, shall be laterally stable without housing, snubbers, or guides, and shall include a steel reinforced, ribbed neoprene cup (1/4-inch minimum thickness) between the baseplate and the support.
 - B. Mountings shall have leveling bolts on the top, consisting of an adjusting bolt, cap screw and washer. Mountings shall include a bolt hole in the bottom cup or a two hole rectangular steel baseplate for bolting to the structure. Springs shall not be welded to the baseplate or cup.

- C. Spring diameters shall be no less than 0.8 times the compressed height of the spring at rated load. Springs shall also have a minimum additional travel to solid equal to 50% of the rated deflection.
- D. Springs shall have a ratio of horizontal stiffness to vertical stiffness of .75 to 1.25.
- E. Springs shall be color coded for proper identification of rated load capacity. Springs shall be coated with a polyester epoxy powder. Springs having rated deflection greater than 2 inches may be painted. Hardware shall be stainless steel.
- F. Housed floor isolators shall consist of a telescoping housing containing one or more steel springs as the isolating medium. Isolators shall include resilient inserts to act as upper and lower housing guides, and to prevent metal-to-metal contact providing elastomeric snubbing for side loads. A replaceable neoprene acoustical non-skid pad shall be attached to the bottom of the housing. Mountings shall have built-in leveling bolts and a minimum additional travel to solid equal to 50% of the rated deflection.
- G. Free standing Spring-Flex Mountings shall be Series AC, Series ACB, or Series AWHC as manufactured by Vibration Mountings and Controls, Inc. Housed Spring-Flex Mountings shall be Series B, C, or D as manufactured by Vibration Mountings and Controls, Inc.

2.4 TYPE 3 MOUNTINGS - HOUSED SPRINGS WITH LIMIT STOPS:

- A. Free standing, laterally stable spring-type isolators. Isolators is the same as described in Specification Type 2, except that it includes a housing to provide vertical limit stops to prevent spring extension during weight changes (e.g., draining of fluid from cooling towers and boilers), or when equipment (such as cooling towers) are exposed to uplift loads such as wind loading.
- B. The housing serves as blocking during erection, and shall be located between the equipment and supporting structure. Housing shall be painted or hot dip galvanized. There shall be a minimum clearance of 1/2 inch between the restraining bolts and the housing and spring to prevent interference with spring performance. Limit stops shall be out of contact during normal operation.
- C. Mountings shall have an adjusting bolt on the top of the spring compression plate. Neoprene acoustical non skid pads (1/4 inch minimum thickness) shall be attached to the bottom plate.
- D. Spring diameters shall be no less than 0.8 times the compressed height of the spring at rated load. Springs shall also have a minimum additional travel to solid equal to 50% of the rated deflection.
- E. Springs shall be color coded for proper identification of rated load capacity. Springs shall be coated with a polyester epoxy powder. Springs having rated deflection greater than 2 inches may be painted. Hardware shall be stainless steel or zinc plated. Springs shall not be welded to the cups or housings.

- F. Spring-Flex Mountings shall be Series AWR as manufactured by Vibration Mountings and Controls, Inc.

2.5 TYPE 4 MOUNTINGS - SPRING AND RUBBER HANGERS:

- A. Spring-Flex hangers shall consist of a steel spring in series with a .2 inch (minimum) deflection neoprene element. Springs shall be color coded, and elastomer element molded in specific colors for proper identification of rated load capacity. The total static deflection at rated load shall be 1.20 inches.
- B. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection.
- C. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- D. Spring-Flex hangers shall be series RSH as manufactured by Vibration Mountings and Controls, Inc.

2.6 TYPE 5 MOUNTINGS - SPRING AND RUBBER PRE-POSITIONING HANGERS:

- A. Spring-Flex hangers shall consist of color-coded steel spring in series with a neoprene element molded in specific colors for proper identification of rated load capacity. Hanger design shall incorporate a means for supporting the suspended equipment or piping at a fixed elevation during installation regardless of load changes as well as a means for transferring the load to the spring.
- B. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- C. Spring-Flex hangers shall be series RSHP positioning hangers as manufactured by Vibration Mountings and Controls, Inc.

2.7 TYPE 6 MOUNTINGS - SPRING AND RUBBER HANGERS WITH 30 DEGREE MISALIGNMENT CAPABILITY:

- A. Spring-Flex hangers shall consist of a color coded steel spring in series with a neoprene element molded in specific colors for proper identification of rated load capacity. Spring diameters and hanger box lower hole sizes shall be of sufficient size to permit the hanger rod to swing approximately 30 degrees before contacting the box. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. Hangers which are to be used with flat iron duct straps will be provided with eye bolts on both ends.
- B. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.

- C. Spring-Flex hangers shall be Series RSH-30A as manufactured by Vibration Mountings and Controls, Inc. Hangers with eyebolts to be type RSHSC as manufactured by Vibration Mountings and Controls, Inc. Hangers with eyebolts to be type RSHSC as manufactured by Vibration Mountings and Controls, Inc.

2.8 TYPE 7 MOUNTINGS - PRE-COMPRESSED HANGERS:

- A. Spring-Flex hangers shall consist of a color coded steel spring in series with a neoprene element molded in specific colors for proper identification of rated load capacity. Springs shall be pre-compressed to the rated deflection so as to support the suspended equipment or piping at a fixed elevation during installation regardless of load changes. For 30 degree misalignment capability, spring diameters and hanger box lower hole sizes shall be of sufficient size to permit the hanger rod to swing approximately 30 degrees before contacting the box.
- B. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- C. Spring-Flex hangers shall be Series RSHP or RSHP-30A for 30 degree misalignment capability, as manufactured by Vibration Mountings and Controls, Inc.

2.9 TYPE 8 MOUNTINGS - SPRING HANGERS:

- A. Spring-Flex hangers shall consist of a color coded steel spring with a neoprene and steel washer which will properly distribute the load on the spring. For 30 degree misalignment capability, spring diameters and hanger box lower hole sizes shall be of sufficient size to permit the hanger rod to swing approximately 30 degrees before contacting the box. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. Hangers where are to be used with flat iron duct straps will be provided with eye bolts on both ends.
- B. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- C. Spring-Flex hangers shall be Series SH or SH-30A for 30 degree misalignment capability, as manufactured by Vibration Mountings and Controls, Inc. Hangers with eyebolts to be Type SHSC or SHSC-30A for 30 degree misalignment capability, as manufactured by Vibration Mountings and Controls, Inc.

2.10 TYPE 9 MOUNTINGS - HORIZONTAL THRUST RESTRAINTS:

- A. Horizontal Thrust Restraints shall be provided to prevent excessive movement of air handling equipment having air thrust which exceeds 10% of the unit weight. The horizontal thrust restraint shall consist of a steel housing containing a steel spring in series with a neoprene pad. The restraint assembly shall be designed to be pre-adjusted by the manufacturer and permit further adjustment in the field to limit horizontal movement to a maximum of 1/4 inch. Assembly shall be furnished with back up plates

and hardware for attachment to both the equipment and ductwork or structure. Horizontal restraints shall be attached on the centerline of thrust on each side of the unit.

- B. Springs shall be color coded for proper identification of rated load capacity. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- C. Springs shall be color coded for proper identification of rated load capacity. Springs shall be coated with a polyester epoxy powder. Hardware shall be stainless steel, or zinc plated. Steel housings shall be painted or galvanized.
- D. Horizontal thrust restraints shall be Series HTR as manufactured by Vibration Mountings and Controls.

2.11 TYPE 10 MOUNTINGS - FLOOR, WALL, AND CEILING SLEEVES:

- A. Where piping passes through walls, floors, or ceilings, a vibration control sleeve shall be provided to reduce the transmission of vibration. The sleeve shall consist of two pipe halves with neoprene sponge material bonded to the inside and a bolting arrangement for secure fit around piping.
- B. Sleeve shall be type VCS as manufactured by Vibration Mountings and Controls, Inc.

2.12 TYPE 11 MOUNTINGS - RESILIENT PIPE GUIDES:

- A. Where vertical piping runs between support points, a resilient pipe guide shall be provided. The guide shall consist of an angle frame and four double deflection neoprene mountings molded in specific colors for proper identification of rated load capacity.
- B. Resilient Pipe Guide shall be type RPG as manufactured by Vibration Mountings and Controls, Inc.

2.13 TYPE 12 MOUNTINGS - PIPE ANCHORS:

- A. Multi-directional pipe anchor shall consist of suitable steel sections in series with heavy duty duck and neoprene material assembled in a telescopic housing to provide the necessary restraint in both the vertical and horizontal directions. Pipe anchor shall be sized to limit load on neoprene and duck material to 500 psi.
- B. Multi-directional Pipe Anchor shall be type MDPA as manufactured by Vibration Mountings and Controls, Inc.
- C. Pipe anchors are not required for grooved piping with flexible couplings.

2.14 TYPE 13 - FLEXIBLE CONNECTORS:

- A. Install Quiet-Sphere Flexible Connectors at the suction and discharge of each pump and inlet and outlet of each chiller, condenser, boiler, cooling tower, and all floor mounted and inline pumps. The connectors shall be molded in spherical design of multiple layers of neoprene and synthetic fiber with integral corrosion resistant plate steel flanges. The connectors shall be suitable for pressures up to 214 psi and temperatures up to 240 degrees F. Where piping is not anchored, control rods must be installed at each connector to limit movement within their specified limits.
- B. Flexible connectors shall be Quiet-Sphere Type VMT, or VMU as manufactured by Vibration Mountings & Controls, Inc.

2.15 BASES AND RAILS:

A. TYPE C - CONCRETE INERTIA BASE:

- 1. Concrete Inertia Base Pouring Forms shall be of formed steel members with a depth not less than 1/12 of the longest base dimension, but not less than 6 inches. Height saving isolator mounting brackets shall be bolted or welded to the members. Pouring forms shall include minimum 3/8 inch concrete reinforcing steel (rebar) on 8 inch centers running the length and width of the base. Pouring forms for Split Case Pumps shall be wide enough to support suction and discharge elbows. Anchor bolt templates shall be provided to accept mounting hole location of the supported equipment. Bolted modular designs may be supplied for bases 6" or 10" thick.
- 2. Bases shall be Type MPF for Modular style or Type WPF for Welded style, as manufactured by Vibration Mountings & Controls, Inc.

B. TYPE D – ROOF CURB EQUIPMENT ISOLATION RAIL:

- 1. ***Full-perimeter rail type isolator, spring components shall be 1" or 2" (as outlined in the vibration isolation schedule below) deflection, free-standing, un-housed, laterally stable steel springs. Springs shall have a lateral stiffness greater than 1.0 times the rated vertical stiffness and shall be designed for 50% overload to solid. Springs shall be color coded to indicate load capacity. Rails shall provide continuous support for the rooftop equipment and shall be designed to provide isolation against casing-radiated vibration in the rooftop equipment housing and structure-borne vibration from rotating and mechanical equipment in the rooftop package. Rail assembly shall consist of extruded aluminum top and bottom members connected by spring isolators and a continuous air- and water-tight seal. The seal shall be a beaded elastomeric material retained in a keyway along the top extrusion. The weather strip shall be sealed along the bottom with an aluminum fascia strip. Rail assemblies shall incorporate means for attachment to the building and the supported equipment and shall incorporate additional stiffening members if necessary to assure stability. Rails shall be fitted with wind restraint devices suitable for prevailing wind conditions that will not impose loads on the curb walls at***

90 degrees to their long axis. Vibration isolators shall be selected by the manufacturer for each specific application to comply with deflection requirements as shown on the Vibration Isolation Schedule or as indicated on the project documents.

- 2. Roof Curb Rails shall be Model KSR as manufactured by Kinetics Noise Control, Inc. or approved equal.**

PART 3 - EXECUTION

3.1 PERFORMANCE OF VIBRATION ISOLATORS:

- A. The manufacturer shall warrant the selection, sizing, and application of all vibration isolator restraints for each application.

3.2 APPLICATIONS:

- A. General: Except as otherwise indicated, apply the following types of vibration isolator restraints for the indicated items of Equipment.

3.3 VIBRATION ISOLATOR RESTRAINT SCHEDULE

A. EQUIPMENT	TYPE	DEFLECTION
1. Packaged Rooftop Units	D	1.00"
2. Ceiling Fans & Cabinet Heaters	4	0.75"
3. Base mounted Pumps	13 and C	1.00"

- B. Flexible Duct Connectors: Install at the following ductwork connections:

1. Connections with vibration-isolation-mounted air handling equipment.
2. Connections with fixed wall louvers for air intake and exhausts.

- C. Flexible Pipe Connectors: Install in piping systems at the following locations:

1. Connections, 3/4" pipe size and larger, with vibration isolation mounted equipment.

3.4 INSTALLATION:

- A. Isolation systems shall be installed in strict accordance with the Manufacturer's written instructions and submittal data. Locations of all vibration isolation products shall be selected for ease of inspection and adjustment, as well as for proper operation. Electrical and plumbing connections to vibration isolated equipment shall be flexible.
- B. All vibration isolators shall be leveled and aligned squarely below the mounting points of the supported equipment. Isolators for equipment with bases shall be located on the

sides of the bases which are parallel to the equipment shaft (generally, the long axis) unless this is not possible because of physical restraints.

- C. Unless otherwise indicated, there shall be a minimum operating clearance of 1 inch between inertia bases or structural steel frames and the concrete housekeeping pad or floor beneath the equipment. The clearance space shall be checked by the Contractor to ensure that no construction debris has been left to short circuit or restrict the proper operation of the vibration isolation system.
- D. Vibration isolation hangers shall be positioned as high as possible in the hanger rod assembly, and so that the hanger housings may rotate a full 360 degrees without touching any object. Hanger rods shall not contact any object which would short out the vibration isolation systems. Parallel running pipes may be hung together on a trapeze which is isolated from the building. Do not mix vibration isolated and non-vibration isolated pipes on the same trapeze.
- E. Attention must be paid to movements of piping caused by expansion and contraction.

3.5 EXAMINATION OF RELATED WORK:

- A. Installer of vibration isolation work shall observe the installation of other Work related to vibration isolation work, including work connected to vibration isolation work; and after completion of other related Work (but before Equipment startup), shall furnish a written report to the Engineer listing observed inadequacies for proper operation and performance of vibration isolation work. Report shall cover, but not necessarily be limited to the following:
 - 1. Equipment installations (performed as Work of other Sections) on vibration isolators.
 - 2. Piping connections including flexible connections.
 - 3. Ductwork connections including provisions for flexible connections.
 - 4. Passage of piping and ductwork which is to be isolated through walls and floors.
- B. Do not start up Equipment until inadequacies have been corrected in a manner acceptable to vibration isolation installer.

END OF SECTION 230549

SECTION 232123 - HYDRONIC PUMPS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Base mounted pumps.

1.2 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 23 0513 - Common Motor Requirements for HVAC Equipment.
- C. Section 23 0716 - HVAC Equipment Insulation.
- D. Section 23 2113 - Hydronic Piping.
- E. Section 23 2114 - Hydronic Specialties.

1.3 REFERENCE STANDARDS

- A. NEMA MG 1 - Motors and Generators; National Electrical Manufacturers Association; 2011.
- B. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association; 2008 (Revised 2010) (ANSI/NEMA OS 1).
- C. UL 778 - Standard for Motor-Operated Water Pumps; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.4 SUBMITTALS

- A. See Division 1 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide certified pump curves showing performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable. Include electrical characteristics and connection requirements.
- C. Manufacturer's Installation Instructions: Indicate hanging and support requirements and recommendations.
- D. Millwright's Certificate: Certify that base mounted pumps have been laser aligned.

- E. Operation and Maintenance Data: Include installation instructions, assembly views, lubrication instructions, and replacement parts list.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Division 1 - Product Requirements, for additional provisions.
 - 2. Extra Pump Seals: One set for each type and size of pump.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture, assembly, and field performance of pumps, with minimum three years of documented experience.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Armstrong Pumps Inc.
- B. ITT Bell & Gossett (Basis of Design)
- C. Taco

2.2 HVAC PUMPS - GENERAL

- A. Provide pumps that operate at specified system fluid temperatures without vapor binding and cavitation, are non-overloading in parallel or individual operation, and operate within 25 percent of midpoint of published maximum efficiency curve.
- B. Minimum Quality Standard: UL 778.
- C. Base Mounted Pumps: Aligned by qualified millwright.
- D. Products Requiring Electrical Connection: Listed and classified by UL or testing agency acceptable to authority having jurisdiction as suitable for the purpose specified and indicated.

2.3 BASE MOUNTED PUMPS

- A. Bell & Gossett Series 1510, Armstrong Series 4030.
- B. Type: Horizontal shaft, single stage, direct connected, radially or horizontally split casing, for 125 psi maximum working pressure.

- C. Casing: Cast iron, with suction and discharge gage ports, renewable bronze casing wearing rings, seal flush connection, drain plug, flanged suction and discharge.
- D. Impeller: Bronze, fully enclosed, keyed to shaft.
- E. Bearings: Oil lubricated roller or ball bearings.
- F. Shaft: Alloy steel with copper, bronze, or stainless steel shaft sleeve.
- G. Seal: Mechanical seal, 225 degrees F maximum continuous operating temperature.
- H. Drive: Flexible coupling with coupling guard.
- I. Baseplate: Cast iron or fabricated steel with integral drain rim.

PART 3 EXECUTION

3.1 PREPARATION

- A. Verify that electric power is available and of the correct characteristics.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide access space around pumps for service. Provide no less than minimum space recommended by manufacturer.
- C. Decrease from line size with long radius reducing elbows or reducers. Support piping adjacent to pump such that no weight is carried on pump casings. For close coupled or base mounted pumps, provide supports under elbows on pump suction and discharge line sizes 4 inches and over. Refer to Section 23 0549.
- D. Check, align, and certify alignment of base mounted pumps prior to start-up.
- E. Lubricate pumps before start-up.

END OF SECTION 232123

SECTION 238101 - TERMINAL HEAT TRANSFER UNITS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Unit heaters.
- B. Cabinet unit heaters.
- C. *Hot water duct coils***

1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.3 WARRANTY

- A. See Division 1 - Closeout Submittals, for additional warranty requirements.

1.4 EXTRA MATERIALS

- A. Provide two sets of filters.

PART 2 - PRODUCTS

2.1 UNIT HEATERS

- A. Manufacturers:
 - 1. Sterling Hydronics/Mestek Technology, Inc: www.sterlingheat.com.
 - 2. Trane Inc: www.trane.com.
 - 3. Rittling.
 - 4. Sigma
- B. Coils: Seamless copper tubing, silver brazed to steel headers, and with evenly spaced aluminum fins mechanically bonded to tubing.
- C. Casing: 0.0478 inch steel with threaded pipe connections for hanger rods.
- D. Finish: Factory applied baked primer coat.

- E. Fan: Direct drive propeller type, statically and dynamically balanced, with fan guard; horizontal models with permanently lubricated sleeve bearings; vertical models with grease lubricated ball bearings.
- F. Air Outlet: Adjustable pattern diffuser on projection models and two way louvers on horizontal throw models.
- G. Motor: Permanently lubricated sleeve bearings on horizontal models, grease lubricated ball bearings on vertical models.
- H. Control: Local disconnect switch.
- I. Capacity: As scheduled, based on 65 degree F entering air temperature, 180 degree F average water temperature.

2.2 CABINET UNIT HEATERS

- A. Manufacturers:
 - 1. Sterling Hydronics/Mestek Technology, Inc: www.sterlingheat.com.
 - 2. Trane Inc: www.trane.com.
 - 3. Rittling.
 - 4. Sigma
- B. Coils: Evenly spaced aluminum fins mechanically bonded to copper tubes, designed for 100 psi and 220 degrees F.
- C. Cabinet: 0.0598 inch steel with exposed corners and edges rounded, easily removed panels, glass fiber insulation and integral air outlet.
- D. Finish: Factory applied baked enamel of color as selected on visible surfaces of enclosure or cabinet.
- E. Fans: Centrifugal forward-curved double-width wheels, statically and dynamically balanced, direct driven.
- F. Motor: Tap wound multiple speed permanent split capacitor with sleeve bearings, resiliently mounted.
- G. Control: Multiple speed switch, factory wired, located in cabinet.
- H. Filter: Easily removed 1 inch thick permanent washable type, located to filter air before coil.

2.3 HOT WATER DUCT COILS

A. Manufacturers:

- 1. Daikin**
- 2. Carrier**
- 3. York**

- B. Coils to have extended surface, staggered tube, and plate fin design. Coil connection should be compatible with the piping to the coil to minimize chance of "galvanic action/electrolysis". Connections to be copper and should be a diameter adequate for specified gpm flow. Connections to be wrought copper male threaded .5" N.P.T. fittings. Connections located to permit universal mounting of the coil and assure equal pressure through all circuits. Coils are circuited to provide maximum mean effective temperature difference for heat transfer rates.**
- C. Completed Water Heating Booster Coils are leak tested at a minimum of 320 PSIG air pressure, allowed to settle, and monitored for pressure loss. The loss can not exceed .050 PSI. Standard coil construction is rated for 250 PSIG working pressure at 300 degrees**
- D. Tubes to be 5/8" O.D. copper, staggered in direction of airflow, and must be on 1 1/2" tube centers (5BB on 3" centers). Wall thickness to be .020" nominal and water pressure drop of coil selection adjusted to wall thickness specified. Tubes to be mechanically expanded in to fin collars to provide a continuous primary to secondary compression bond over entire coil length, assuring maximum heat transfer.**
- E. Plate style fins shall be corrugated for high capacity and structural strength. Fin thickness shall be .0075" aluminum. The fins to have collars to determine fin spacing per inch and support the heat transfer bond to primary surface. Copper tubing should not be visible between the fins. Coil casing to be galvanized steel with slip joint flange and back break to maximize casing strength.**

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.**
- B. Install equipment exposed to finished areas after walls and ceiling are finished and painted. Do not damage equipment or finishes.**
- C. Protection: Provide finished cabinet units with protective covers during balance of construction.**

- D. Unit Heaters: Hang from building structure, with pipe hangers anchored to building, not from piping. Mount as high as possible to maintain greatest headroom unless otherwise indicated.
- E. Cabinet Unit Heaters: Install as indicated. Coordinate to assure correct recess size for recessed units.

3.2 CLEANING

- A. After construction is completed, including painting, clean exposed surfaces of units. Vacuum clean coils and inside of cabinets.
- B. Touch-up marred or scratched surfaces of factory-finished cabinets, using finish materials furnished by manufacturer.
- C. Install new filters.

END OF SECTION 238101

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SECTION 281000 - ACCESS CONTROL (ADDENDUM #3)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Access control system requirements.
- B. Access control units and software.
- C. Access control point peripherals, including readers and keypads.

1.2 RELATED REQUIREMENTS

- A. Section 08 7100 - Door Hardware: Electrically operated door hardware, for interface with access control system.
 - 1. Includes door hardware with integral request to exit devices.
- B. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- C. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.3 DEFINITIONS

- A. Access Control Cloud Services: Subscription-based hosted application utilizing Software as a Service (SaaS) delivery model in lieu of on-premises servers/software.

1.4 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 294 - Access Control System Units; Current Edition, Including All Revisions.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:

1. Coordinate the work with other installers to provide suitable door hardware as required for both access control functionality and code compliance.
2. Coordinate the placement of readers with millwork, furniture, equipment, etc. installed under other sections or by others.
3. Coordinate the work with other installers to provide power for equipment at required locations.
4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.6 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Include plan views indicating locations of system components and proposed size, type, and routing of conduits and/or cables. Include elevations and details of proposed equipment arrangements. Include system interconnection schematic diagrams. Include requirements for interface with other systems.
- C. Product Data: Provide manufacturer's standard catalog pages and data sheets for each system component. Include ratings, configurations, standard wiring diagrams, dimensions, finishes, service condition requirements, and installed features.
- D. Evidence of qualifications for manufacturer.
- E. Evidence of qualifications for installer.
- F. Evidence of qualifications for maintenance contractor (if different entity from installer).

1.7 QUALITY ASSURANCE

- A. Comply with the following:
 1. NFPA 70.
 2. The requirements of the local authorities having jurisdiction.
 3. Applicable TIA/EIA standards.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience with access control systems of similar size, type, and complexity and providing contract maintenance service as a regular part of their business; authorized manufacturer's representative.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

1.9 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.10 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Access Control Units:
 - 1. Extend existing Keyscan/Aurora system.

2.2 ACCESS CONTROL SYSTEM REQUIREMENTS

- A. Provide new access control system consisting of required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
 - 1. Access Control Units and Readers: Listed and labeled as complying with UL 294.

2.3 ACCESS CONTROL UNITS AND SOFTWARE

- A. Provide access control units and software compatible with readers to be connected.
- B. Unless otherwise indicated, provide software and licenses required for fully operational system.

2.4 ACCESS CONTROL POINT PERIPHERALS

- A. Provide devices compatible with control units and software.
- B. Provide devices suitable for operation under the service conditions at the installed location.
- C. Readers and Keypads:
 - 1. General Requirements:
 - a. Provide readers compatible with credentials to be used.
 - b. Color: To be selected by Architect from manufacturer's available standard colors.
- D. Door Position Switches:
 - 1. Magnetic Contacts: Encapsulated reed switch(es) and separate magnet; designed to monitor opened/closed position of doors.
- E. Request to Exit Devices:
 - 1. Door Hardware with Integral Request to Exit Switches: Comply with Section 08 7100.
- F. Door Locking Devices (Electric Strikes and Magnetic Locks): Comply with Section 08 7100.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that ratings and configurations of system components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive system components.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to system.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install access control system in accordance with NECA 1 (general workmanship).

- B. Install products in accordance with manufacturer's instructions.
- C. Provide grounding and bonding in accordance with Section 26 0526.
- D. Identify system wiring and components in accordance with Section 26 0553.

3.3 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Prepare and start system in accordance with manufacturer's instructions.
- C. Program system parameters according to requirements of Owner.
- D. Test for proper interface with other systems.
- E. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.

3.4 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.5 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. See Section 01 7900 - Demonstration and Training, for additional requirements.

3.6 PROTECTION

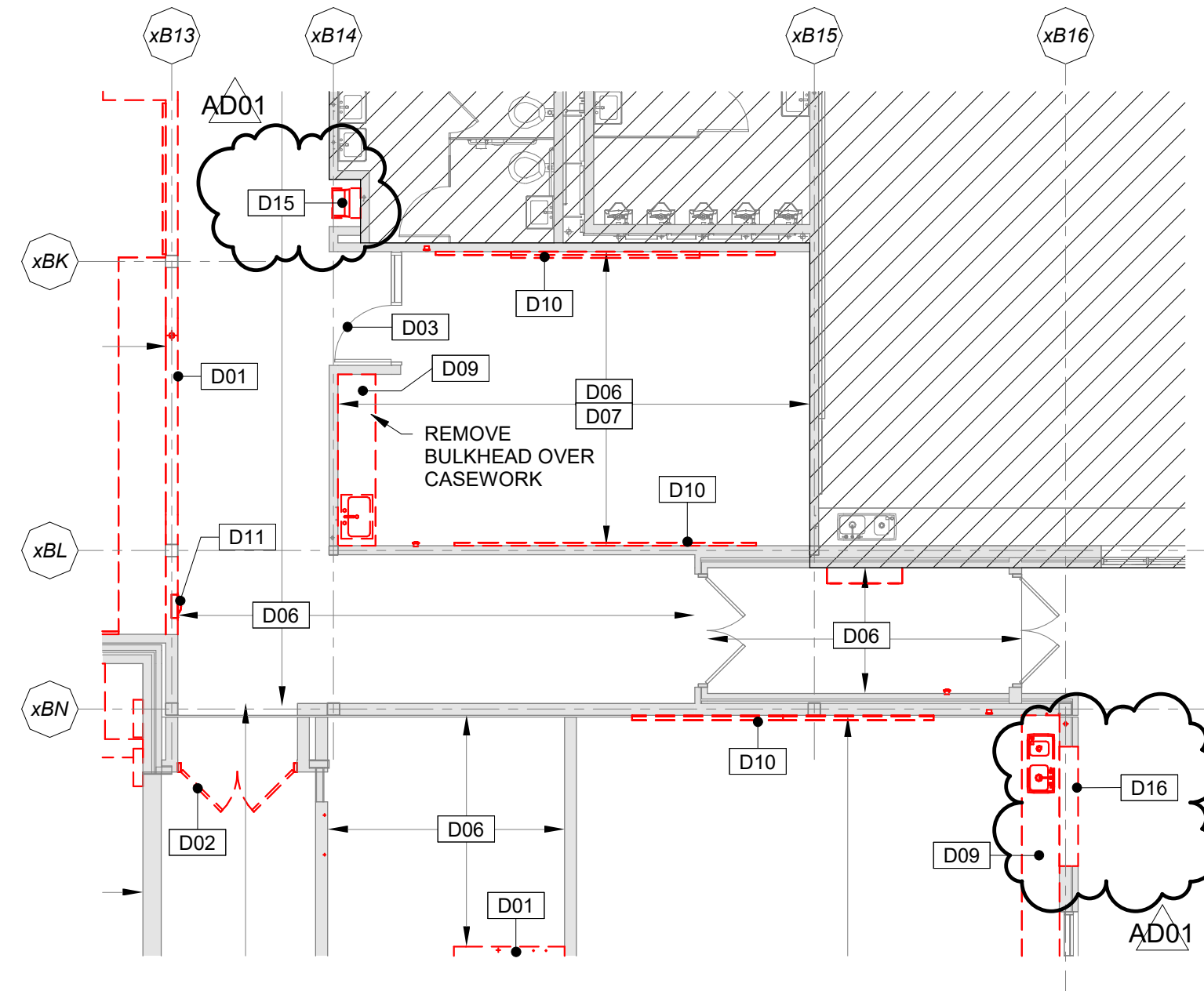
- A. Protect installed system components from subsequent construction operations.

3.7 MAINTENANCE

- A. See Section 01 7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

END OF SECTION 28 1000

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PARTIAL FIRST FLOOR DEMOLITION PLAN - AREA A

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

REFERENCE 1/AD1.01A

Renovations to:
OJR DISTRICT SERVICES CENTER

Drawing Title:
REVISED DEMOLITION TAGS

932 SANATOGA ROAD
POTTSTOWN, PA 19465

Date: 08/20/26
Scale: 1/8" = 1'-0"

Drawing Number:
**AD3-
A01**

Civil

K&W Engineers
2201 N Front Street, Suite 200
Harrisburg, PA 17110
717.635.2835

MEP

MEP Engineer
1005 W Lehigh St,
Bethlehem, PA 18018
610.694.8020

Structural Engineer

Schradergroup
153 East King Street, Suite 211-212
Lancaster, PA 17602
610.694.8020

Professional Seal:

Owner:
OWEN J. ROBERTS
SCHOOL DISTRICT
Owner Address

Additions and Renovations to:

OUR DISTRICT SERVICES
CENTER

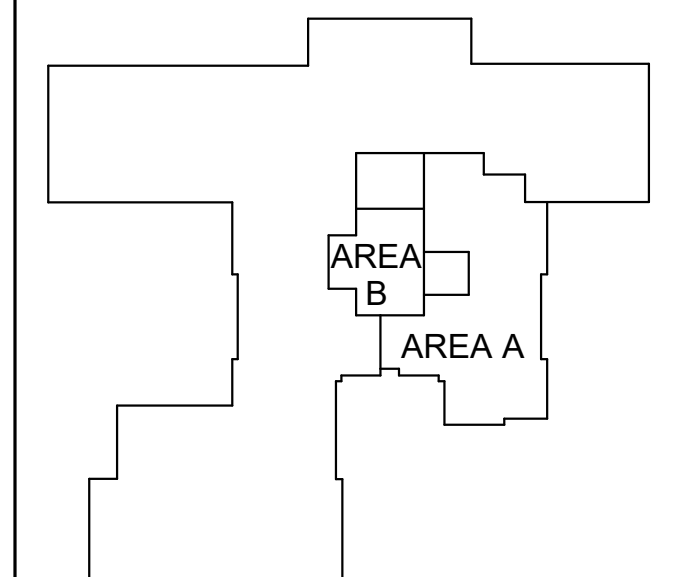
ISSUED FOR:

NO.	DESCRIPTION	DATE
	ISSUED FOR BIDDING	07/27/2026
3	ADDENDUM 3	08/20/2026

DATE: 07/24/2026

SG PROJECT NUMBER: 225180.00

Key Plan:



Drawing Title:

FIRST FLOOR PLAN -
AREA A - SIGNAL

Drawing Number:

E201.A

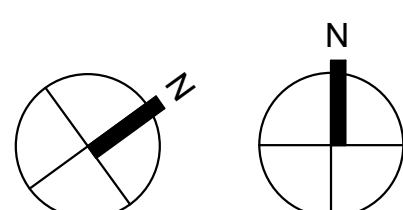


GENERAL SIGNAL NOTES

1. REFER TO E000 FOR LEGEND AND GENERAL NOTES.
2. REFER TO POWER PLANS FOR PANEL DESIGNATIONS.
3. PROVIDE SURGE PROTECTION FOR ALL EXTERIOR DATA DROPS. PERLE CAT6 DT-LAN-CAT6 OR EQUAL.
4. HATCHED AREA NOT IN SCOPE OF WORK.

CODED SIGNAL NOTES

- A** PROVIDE ALL LOW-VOLTAGE CABLING AND APPURTENANCES FOR A FULLY OPERABLE ACCESS CONTROL SYSTEM. REFER TO DETAIL AND SPECIFICATION FOR MORE INFORMATION.



True

Project

Civil:

2201 N Front Street, Suite 200
Harrisburg, PA 17110
717.635.2835

MEP

1005 W Lehigh St,
Bethlehem, PA 18018
610.694.8020

Structural Engineer

153 East King Street, Suite 211-212
Lancaster, PA 17602
610.694.8020



Owner:

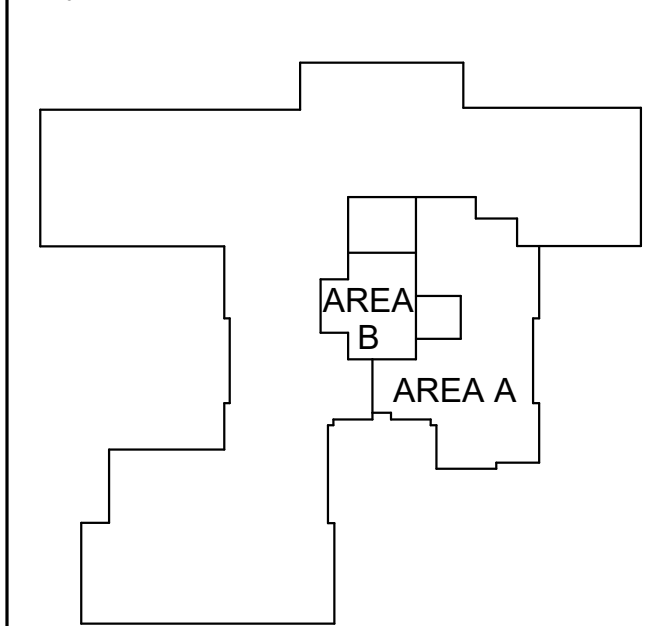
Owner Address

Additions and Renovations to:

OUR DISTRICT SERVICES
CENTER

DATE:	07/24/2026
SG PROJECT NUMBER:	225180.00

Key Plan:



SITE PLAN - LIGHTING

SE100

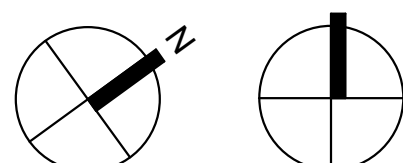
ELEC - Site Lighting Fixture Schedule										
Type	Input Watts	Manufacturer	Catalog Number	Pole Information	Total VA	No. of Lamps	Lamp Type	Voltage	Additional Remarks	Site - Approved Equivs
SL1	140	KEYSTONE TECHNOLOGIES	KT-ALED140PS-ND-QSB-PMA-BCSB-VDIM-PV2	EXISTING	140	LED	10000K U 3000K	UNV	TYPE III DISTRIBUTION LED FIXTURE WITH INTEGRAL P/N RECEPTACLE FIXTURE SHALL BE SET TO 3000C COLOR TEMPERATURE. MOUNT FIXTURE AT 20' ABOVE GRADE. PROVIDE ADDITIONAL HARDWARE AS REQUIRED TO MOUNT FIXTURE TO EXISTING POLE.	EQUALS NOT CONSIDERED.
SL2	140	KEYSTONE TECHNOLOGIES	KT-ALED140PS-ND-QSB-PMA-BCSB-VDIM-PV2	EXISTING	140	LED	10000K U 3000K	UNV	TYPE IV DISTRIBUTION LED FIXTURE WITH INTEGRAL P/N RECEPTACLE FIXTURE SHALL BE SET TO 3000C COLOR TEMPERATURE. MOUNT FIXTURE AT 20' ABOVE GRADE. PROVIDE ADDITIONAL HARDWARE AS REQUIRED TO MOUNT FIXTURE TO EXISTING POLE.	EQUALS NOT CONSIDERED.
SL3	140	KEYSTONE TECHNOLOGIES	KT-ALED140PS-ND-QSB-PMA-BCSB-VDIM-PV2	EXISTING	140	LED	10000K U 3000K	UNV	TYPE V DISTRIBUTION LED FIXTURE WITH INTEGRAL P/N RECEPTACLE FIXTURE SHALL BE SET TO 3000C COLOR TEMPERATURE. MOUNT FIXTURE AT 20' ABOVE GRADE. PROVIDE ADDITIONAL HARDWARE AS REQUIRED TO MOUNT FIXTURE TO EXISTING POLE.	EQUALS NOT CONSIDERED.

SITE LIGHTING NOTES

1. FINISHES SELECTED BY ARCHITECT AT TIME OF SHOP DRAWINGS. ASSUME PREMIUM FINISH

1 | SITE PLAN - LIGHTING

SE100 SCALE: 1" = 40'-0"



True

Project

Civil:

K&W Engineers
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Harrisburg, PA 17110
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MEP:

MEP Engineer
1005 W Lehigh St,
Bethlehem, PA 18018
610.694.8020

Structural Engineer

Schradergroup
153 East King Street, Suite 211-212
Lancaster, PA 17602
610.694.8020

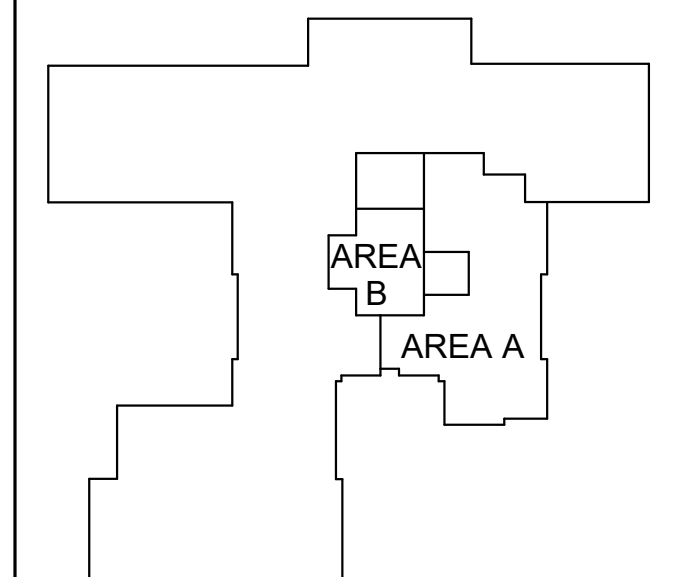
Professional Seal:

Owner:
OWEN J. ROBERTS
SCHOOL DISTRICT
Owner Address

OUR DISTRICT SERVICES
CENTER

[illegible]

Key Plan:

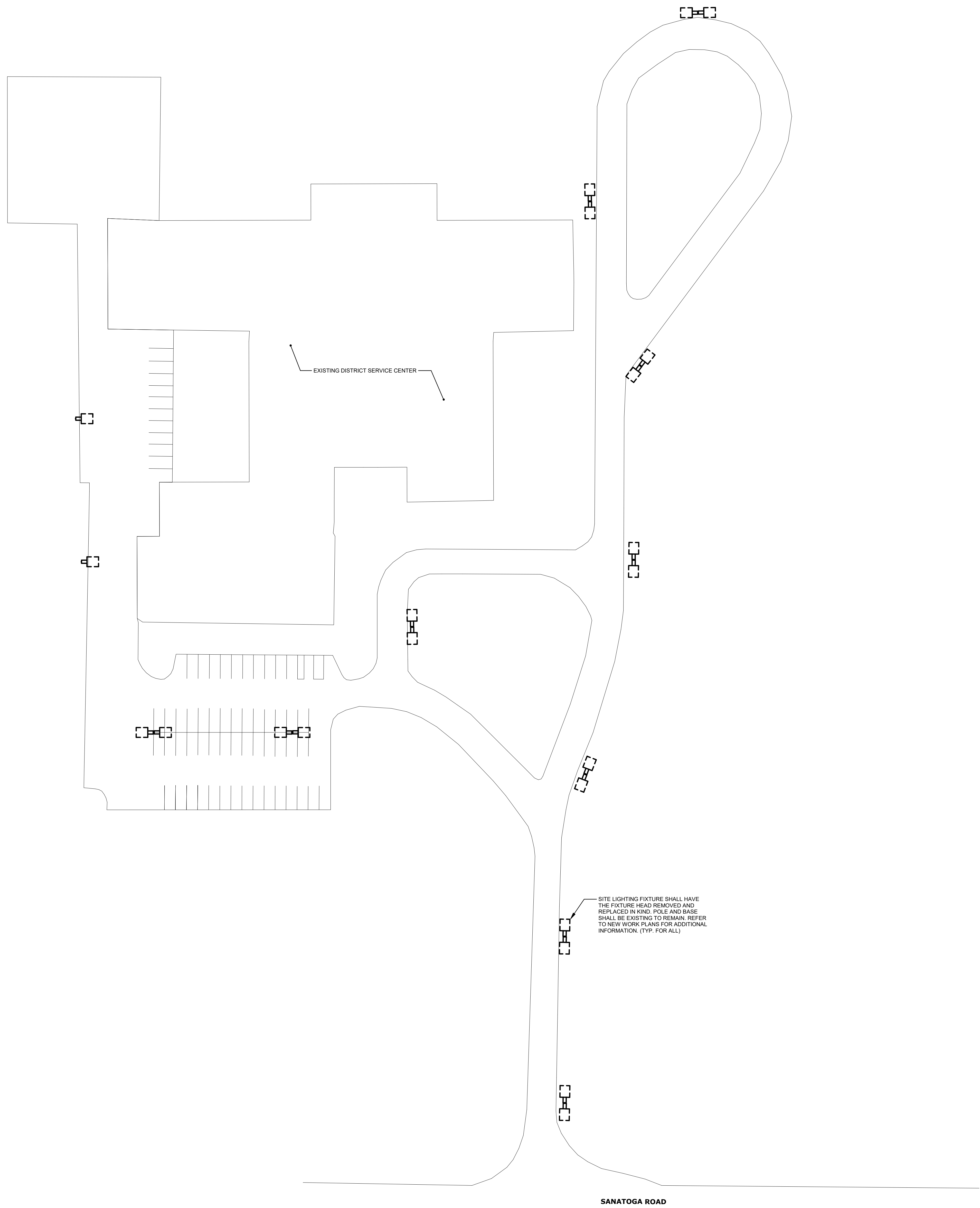


Drawing Title:

SITE DEMOLITION PLAN - ELECTRICAL

Drawing Number:

SED101



DEMOLITION NOTES

- UNLESS OTHERWISE INDICATED OR NOTED, ALL ELECTRICAL ITEMS SHOWN ARE TO BE REMOVED. THIS REMOVAL INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS: LIGHTING FIXTURES; RECEPTACLES; JUNCTION BOXES; CONDUIT; AND ALL OTHER ELECTRICAL ITEMS SHOWN ON THIS DRAWING. THIS INCLUDES ANY ASSOCIATED BRANCH CIRCUIT AND/OR PHASE WIRING BACK TO THE MAIN SERVICE PANEL. THE E.C. IS ALSO RESPONSIBLE FOR THE REMOVAL OF MOUNTING DEVICES, HANGERS, ETC. ASSOCIATED WITH THIS EQUIPMENT.
- AN ATTEMPT HAS BEEN MADE TO SHOW ALL THE LIGHTING FIXTURES, RECEPTACLES, JUNCTION BOXES AND CONDUIT LOCATIONS. HOWEVER, THERE MAY BE OTHERS THAT ARE NOT BELIEVED TO BE DRAWN. HOWEVER, THE E.C. SHALL BE RESPONSIBLE FOR THE REMOVAL OF ANY AND ALL OF THESE COMPONENTS THAT EXIST IN THE FIELD AND ARE IN THE WAY OF THE NEW CONSTRUCTION.
- NO WIRING SHALL BE ABANDONED IN PLACE. IT SHALL BE REMOVED. ALL CONDUIT SHALL BE REMOVED, EXCEPT WHERE IT IS USED TO PROTECT NEW WIRING. THE E.C. SHALL BELIEVE THAT IN THESE CASES CUT THE ENDS OF THE CONDUIT FLUSH WITH THE WALL OR FLOOR AND FILL WITH PATCHING MATERIALS TO MATCH ADJACENT SURFACES.
- THE E.C. SHALL BE RESPONSIBLE FOR RECONNECTING ANY EXISTING DEVICE WHICH IS TO REMAIN ENERGIZED AND HAS BEEN DISCONNECTED DUE TO THE DEMOLITION. PROVIDE ALL WIRING AND DEVICES TO BE RECONNECTED.

1 | SITE DEMOLITION PLAN - ELECTRICAL
SED101 | SCALE: 1" = 40'-0"

