

**SECTION 00 9121  
REBID ADDENDUM NUMBER 1**

**DATE: November 18, 2016**

**TO: PROSPECTIVE BIDDERS**

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated **November 1, 2016**, with amendments and additions noted below. Where addendum items below modify a portion of the Bid Documents, the remainder of the Bid Document remains unchanged.

**\*\*\*\*\*THIS ADDENDUM CHANGES THE RECEIPT OF BIDS DATE TO DECEMBER 13, 2016.\*\*\*\*\***  
**\*\*\*\*\* The last date that RFI's will be accepted is December 2, 2016. \*\*\*\*\***

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.

This addendum consists of 4 page(s), in addition to the following document(s):

- A. RFI Log dated 11/17/2016.
- B. Pre-bid walkthrough attendance sheet.
- C. Sections:
  - 00 4116 Bid Form
  - 01 5000a Phase 2a Site Lawn Mowing Sketch (C001 Site Demolition Plan)
  - 23 8316.11 Radiant Snow Melt System PEX
- D. Sketches:
  - ADDSK-A-17 Band Room Stair 12A Ceiling
  - ADDSK-A-18 Room 125 Elevations
  - ADDSK-A-19 Room 126 Elevations
  - ADDSK-A-20 Underlayment Legend
  - ADDSK-A-21 Main Entrance and Stair Snow Melt System (11x17)
  - ADDSK-A-22 Typical Door Bulkhead Detail

**CHANGES TO THE PROJECT MANUAL**

Section 00 1113 ADVERTISEMENT FOR BIDS

- A. REPLACE** the first paragraph in the section with the following: "Sealed bids will be received until **2:00 p.m. on December 13, 2016**, at the Rochester City School District building at 1776 North Clinton Ave., Rochester, NY 14621 (former Maynards Electric Supply) by the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"), Attention: Thomas **Renauto**, Executive Director, Tel. 585-512-3806, for the RCSD James Monroe High School Project Phase 2A ("Project"), at which time and place said bids will be publicly opened and read aloud. Questions during the bidding period must be emailed to Thomas Renauto at: [monroe@rjscb.org](mailto:monroe@rjscb.org) by **December 2, 2016 at 4:00 p.m.** The Owner will not accept or respond to questions from prospective bidders received orally or by facsimile.

Section 00 2113 INSTRUCTIONS TO BIDDERS

- A. **REPLACE** the first paragraph 1.01 in the section with the following: “1.01 RECEIPT AND OPENING OF BIDS: The Rochester Joint Schools Construction Board (“RJSCB”), herein referred to as “Owner,” invites bids on the Bid Form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the office of the Executive Director until **2:00 p.m. on Tuesday December 13, 2016**, and then at said time and place publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Attention: **Thomas Renauto, Executive Director, 1776 N Clinton Avenue, Rochester NY 14621**, and designated as:”

Section 00 4116 BID FORM

- A. **REPLACE** the Bid Form in the Project Specifications with the attached Bid Form.

Section 00 4322 UNIT PRICES

- A. **REVISE** GC Unit Price #11 to read: “Add/Delete Flooring Underlayment Work. Includes all work required to demo existing underlayment and fasteners and install new 3/8” plywood underlayment as specified in 06 1000 ROUGH CARPENTRY, and to prepare the underlayment for new flooring finishes per the manufacturers installation instructions. **(per sf)**
- B. **ADD** GC Unit Price #31: Add Water Vapor Reduction System. Includes all work required to install a MoistureBloc type product (per specifications section 09 6100 WATER VAPOR REDUCTION SYSTEMS) over new and existing concrete in advance of new flooring finishes. **(per sf)**

Section 01 1200 MULTIPLE CONTRACT SUMMARY

- A. **ADD** the following to the end of Section 1.10 Item #34 on page 8 as follows: “If a MoistureBloc type product (per specifications section 09 6100 WATER VAPOR REDUCTION SYSTEMS) must be applied to meet the manufacturers installation requirements, this will be paid for by Unit Price #31 established in specifications section 00 4322 UNIT PRICES.

Section 01 5000 TEMPORARY FACILITIES

- A. **REPLACE** the black and white Sketch CM-01 GC Mowing Area with the attached color sketch CM-01 GC Mowing Area.

Section 08 5520 ALUMINUM WINDOWS (ALTERNATE NO GC-01)

- A. Delete this section in its entirety.

Section 08 5520 ALUMINUM WINDOWS

- A. Change window manufacturer and window model number in paragraph 2.2, M, 1 from "Kawneer North America, TR-9900" to read "Kawneer North America, AA 5450".

DOOR SCHEDULE

- A. Change Door Types of the following doors from "E" to "A": 005-1, 215-2, and 400A-1.

FINISH SCHEDULE

- B. Change the following room ceiling heights to 9'-0":  
Rooms 213, 213A, 213B, and 215B.

Section 23 8316.11 RADIANT SNOW MELT SYSTEM PEX

- A. Add this section in its entirety and add to the Table of Contents.

**CHANGES TO THE DRAWINGS**

LS100 – LIFE SAFETY BASEMENT PLAN

- A. Follow changes to legend per ADDSK-A-20.

D100 – BASEMENT DEMOLITION PLAN

- A. Replace Keynote 7 with the following:  
7. Remove ceramic tile floor finish and bonding materials complete to expose existing substrate.

A100 – NOTES

- A. Add General Floor Plan Notes as follows:  
37. Remove all unused and abandoned recessed boxes and cover plates and infill with like wall materials as adjacent. Finish infill to match existing adjacent.  
38. Where removal of existing finish floor, as described in Demolition Plan Keynote 7, exposes existing wood strip flooring, follow General Floor Plan Note 34.
- B. Omit General Floor Plan Note 35 in its entirety.
- C. Replace General Floor Plan Notes 33 and 34 in their entirety with the following:  
33. After removal of floor finish per Demolition Keynote 7, provide new 3/8 inch exterior grade sanded plywood underlayment over existing luan plywood underlayment prior to installing new direct applied finishes. In rooms where multiple underlayments exist, including luan, provide new underlayment over the entire floor. New underlayment is not required in existing rooms 322, 324, 324A, 326, 332, 333, 334, 335, 335A, 3636 336A, and 337. Follow drawings LS100 through LS103 for locations of new underlayment.

34. Provide new 3/8 inch exterior grade sanded plywood underlayment over existing exposed wood strip finish flooring. Re-secure existing wood flooring to existing sleepers with 1-3/4 inch long (minimum) spiral shank nails, 24 inches on center to eliminate vertical movement and squeaky floor. Sand wood floor level after re-securing and prior to installing direct applied finishes. Follow drawings LS100 through LS103 for locations of new underlayment. Existing rooms with wood strip finish floor include: 121 and 121A, 128A and 128B and 128C, 129A and 129B and 129C, and 169 (partial); 302 - 305, 320, 321, 323, 329 - 331, 340B, 341- 343, 345, 360 - 362, 365A, 367, and 374 - 378.

D. Replace Demolition Plan Note 17 in its entirety with the following:

17. Remove all existing resilient tile and sheet flooring, and carpet tile and broadloom, complete.

A204 – EXTERIOR MAIN EXIT #1, EXIT #4 AND EXIT #5, AND BALCONY DETAILS

- A. Provide a snow melt system to the entrance landing and steps per ADDSK-A-21.

A307 – FIRST FLOOR CLASSROOM ELEVATIONS

- A. Replace detail 5/A307 in its entirety with ADDSK-A-22.

A308 – FIRST FLOOR CLASSROOM ELEVATIONS

- A. Replace room elevations 2/A308 and 3/A308 for rooms 125 and 126 with the attached sketches ADDSK-A-18 and ADDSK-A-19 respectively.

A326 – SCIENCE ROOM 202 AND 246 PLANS AND ELEVATIONS

- A. Change elevation key tag in both enlarged plans 1/A326 and 2/A326 from “A321” to “A326”.

A418 – THIRD FLOOR REFLECTED CEILING PLAN

- A. Provide new drapery pocket construction in rooms 313 and 315 where drapery pocket is shown on drawing.

A419 – BAND ROOM REFLECTED CEILING PLAN

- A. Provide Stair 12A ceiling per ADDSK-A-17.

**END OF REBID ADDENDUM NUMBER 1**

**RSMP Phase 2A REBID**  
**James Monroe High School**  
**RFI LOG**  
11/17/16

Project Owner: <b>Rochester City School District</b>		Constr. Manager: <b>Campus CMG</b>		<b>CJS Architects</b>	<b>Project No 1522</b>
RFI #	Date Received	RFI SUBJECT	RFI REPSONSE		
201	11/15/16	please see the description of the Alternate #06 for New Doors and Continuous Hinges: The door schedule does NOT have sufficient information in order to determine the cost of this alternate. We would need to have door sizes and elevations to be able to price this up for all of the Existing Openings.Thank You.	Door sizes are obtainable on site, and door styles are shown on corridor elevations and room elevations.		
202	11/17/16	The door elevations for types A, E & S are all shown as the same and appear to be all double-lite or double-panel doors. We would like a better understanding of what is expected for these units.	These units are identical in style. Door style of Type S can be considered identical to Door style of Type E.		





**Rochester Joint School Construction Board**  
**Monroe HS Phase 2a – GC Rebid**  
**Prebid Meeting**  
**November 14, 2016 @ 10:00 am**

**Sign – In Sheet**

Name		Organization	Phone	E-mail
Gary Huffman		Campus	585-509-2006	ghuffman@campuscmg.com
Charles Brown		Campus	585-233-8003	cbrown@campuscmg.com
Allison Thomson	X	Campus	585-397-5948	athomson@campuscmg.com
John Werner	X	Campus	585-610-3088	jwerner@campuscmg.com
Jay Gorman	X	Campus	716-364-3443	kgorman@campuscmg.com
Vinny Orologio		Campus	585-507-5362	vorologio@campuscmg.com
Rob Skeele	X	Gilbane	315-399-8184	rskeele@gilbaneco.com
Mike Ellison	✓	CJS	585-244-3780	mellison@cjsarchitects.com
A. Bateman	X	MSH		
Nick Cruden	X	MJ ENGINEERING	518 371 0799	ncruden@mjels.com
Kenneth Dow	X	Window Specialist	716-686-0950	Kent@windowsspecialistinc.com
Charles Cummings	X	Cummings	585 697-0385	charles@cumplings-construction.com
Alex Pannenberg	X	Cummings	585 697-0385	Alex@cumplings-construction.com
Tracy Maggard	X	Mark Carrone	585-752-3363	tmaggard@markcarrone.com
Scott Anderson Jeanne Hansen	✓	Anderson Granite & Marble Restoration LLC	585-454-9747	andersongranitemarble@gmail.com
KEVIN WELCH	✓	Pike Co.	585 241-0488	welck@pikeco.com
Thomas Murphy	✓	Campus CMG	585 435-2563	tmurphy@campuscmg.com
Mike Houcks	X	Two Brothers Const	315-736-5288	mikeh@two-brothers.com
KEN WILSON	X	ROCHESTER	585-294-1191	KENW@ROCHESTERWINDOW
PAUL BLOWTA	X	COLOWICK		blowta





**SECTION 004116 - BID FORM**

1.1 To the Rochester Joint Schools Construction Board (“RJSCB” or “Owner”):

The undersigned proposes to do all the work and furnish all material necessary for RCSD James Monroe High School – **Phase 2A of the RSMP** (herein, “Project”). (Use only one bid form per contract being bid):

**General Trades Contract No. 100**

1.1.1 In accordance with drawings and specifications therefore and addenda comprising the Contract Documents, for the lump sum of:

\_\_\_\_\_ Dollars  
Amount in Writing

(\_\_\_\_\_), herein referred to as the “Base Bid.”  
Figures

Of the “Base Bid,” the amount of \$\_\_\_\_\_ is included and attributable to the **General Contract No. 100** for procuring the “Builder’s Risk Insurance” in the amount and limit required under Section 00 73 16 (“Insurance and Bonds”).

1.2 ALLOWANCES

Refer to section 00 43 21 “Allowances” for description of Allowances, where used. **Allowances are to be included in base bid amount and are to be used for items not identified in the contract documents. Unit Price Costs will be used to add or delete scope from allowances when directed by the owner or construction manager.**

1.3 ALTERNATES

1. Alternate Bid #GC-01 – Replace Exterior Aluminum and Wood Windows

\_\_\_\_\_ Dollars  
(\$\_\_\_\_\_)

2. Alternate Bid #GC-02 – Replace Stair Treads and Handrails

\_\_\_\_\_ Dollars  
(\$\_\_\_\_\_)

3. Alternate Bid #GC-03 – Window Shades

\_\_\_\_\_ Dollars  
(\$\_\_\_\_\_)

4. Alternate Bid #GC-04 – Window Shades (Gymnasiums only)

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

5. Alternate Bid #GC-05 – Refinish Stage Floor

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

6. Alternate Bid #GC-06 – New Doors and Continuous Hinge

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

7. Alternate Bid #GC-07 – Repair/Refinish Existing Terrazzo

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

8. Alternate Bid #GC-08 – Exterior Aluminum Windows - Upgrade

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

The total Base Bid, together with any approved Alternates, once accepted and awarded by Owner, shall be referred to as the “Contract Sum.” The Contract Sum may be modified in accordance with the General Conditions (Section 007216).

1.4 UNIT PRICES

Refer to section 00 43 22 “Unit Prices”, for description of Unit Prices. For Owner’s information and for changing quantities of work items from those indicated by the Contract Drawings, upon written instruction from the Architect or Construction Manager, the Contractor shall submit unit prices (which must include all accessories, hangers, labor, materials, fire stopping, terminations, etc.). Unit prices include mark up, profit and overhead. Changes to the work shall be in accordance with the General Conditions (00 72 16).

- |  |                           |
|--|---------------------------|
| 1) GC Unit Price #1: Add/Delete Masonry Repointing:                  | \$_____ per SF            |
| 2) GC Unit Price #2: Add/Delete Brick Masonry Replacement:           | \$_____ per SF            |
| 3) GC Unit Price #3: Add/Delete Epoxy Injection (Floors):            | \$_____ per LF            |
| 4) GC Unit Price #4: Unsuitable Soils - Remove, Dispose and Replace: | \$_____ per CY            |
| 5) GC Unit Price #5: Add/Delete Lockers:                             | \$_____ per 2 tier locker |
| 6) GC Unit Price #6: Access Doors (non-fire rated):                  | \$_____ per door          |
| 7) GC Unit Price #7: Add/Delete Wood Blocking at Windows:            | \$_____ per window        |
| 8) GC Unit Price #8: Add/Delete VCT Flooring Work:                   | \$_____ per sf            |

- 9) GC Unit Price #9: Add/Delete ACT Ceiling Work: \$\_\_\_\_\_ per sf
- 10) GC Unit Price #10: Add/Delete Gypsum Wall Work: \$\_\_\_\_\_ per sf
- 11) GC Unit Price #11: Add/Delete Flooring Underlayment: \$\_\_\_\_\_ per sf
- 12) GC Unit Price #12: Add/Delete 2" Depth Polymer Modified Cementitious Mortar repair: \$\_\_\_\_\_ per lf
- 13) GC Unit Price #13: Add/Delete 4" Depth Polymer Modified Cementitious Mortar repair: \$\_\_\_\_\_ per lf
- 14) GC Unit Price #14: Add/Delete 6" Depth Polymer Modified Cementitious Mortar repair: \$\_\_\_\_\_ per lf
- 15) GC Unit Price #15: Add/Delete 8" Depth Polymer Modified Cementitious Mortar repair: \$\_\_\_\_\_ per lf
  
- 16) GC Unit Price #16: Floor Tile & Mastic (Existing Containment Area): \$\_\_\_\_\_ per sf
- 17) GC Unit Price #17: Floor Tile & Mastic (New Containment Area): \$\_\_\_\_\_ per sf
- 18) GC Unit Price #18: Pipe Insulation up to 4" Pipe (Existing Containment Area): \$\_\_\_\_\_ per lf
- 19) GC Unit Price #19: Pipe Insulation up to 4" Pipe (New Containment Area): \$\_\_\_\_\_ per lf
- 20) GC Unit Price #20: Wall Sealant (Caulk) (Existing Containment Area): \$\_\_\_\_\_ per lf
- 21) GC Unit Price #21: Wall Sealant (Caulk) (New Containment Area): \$\_\_\_\_\_ per lf
- 22) GC Unit Price #22: Window Glazing Compound(Interior in Existing Containment Area): \$\_\_\_\_\_ per lf
- 23) GC Unit Price #23: Window Glazing Compound(Interior in New Containment Area): \$\_\_\_\_\_ per lf
- 24) GC Unit Price #24: Mirror/Wallboard Mastic (Existing Containment Area): \$\_\_\_\_\_ per sf
- 25) GC Unit Price #25: Mirror/Wallboard Mastic (New Containment Area): \$\_\_\_\_\_ per sf
- 26) GC Unit Price #26: Ceramic Tile & Cement/Mastic (Existing Containment Area): \$\_\_\_\_\_ per sf
- 27) GC Unit Price #27: Ceramic Tile & Cement/Mastic (New Containment Area): \$\_\_\_\_\_ per sf
- 28) GC Unit Price #28: Sealant (Caulk) at Exterior: \$\_\_\_\_\_ per lf
- 29) GC Unit Price #29: Window Glazing Compound at Exterior: \$\_\_\_\_\_ per lf
- 30) GC Unit Price #30: PCB Containing Sealant (Caulk) at Exterior: \$\_\_\_\_\_ per lf
- 31) GC Unit Price #31: Add Concrete Water Vapor Reduction System: \$\_\_\_\_\_ per sf

1.5 PROJECT PHASING AND MILESTONES

If awarded the Contract, the undersigned bidder agrees to complete the entire work on or before the milestones and dates as denoted in Section 00 43 83 "MILESTONE SCHEDULE & CRITICAL SUBMITTALS."

1.6 ADDENDA

Receipt of the following addenda to the Contract Documents are acknowledged:

- Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

1.7 Give the name of each person, firm or corporation interested in the above bid. If the undersigned bidder is:

- 1. An individual, give full name \_\_\_\_\_.
- 2. A partnership under an assumed name, give name of each principal:  
\_\_\_\_\_.
- 3. A corporation, give full legal name \_\_\_\_\_.

4. Give the name of each person, firm or corporation other than the bidder having an interest in bids of the Contract proposed to be taken  
\_\_\_\_\_.

2.1 CERTIFICATION OF NON-COLLUSION IN BIDDING

- .1 By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury that to the best knowledge and belief:
  - .1 The prices of this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.
  - .2 Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
  - .3 No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

_____	BY _____
FULL LEGAL NAME OF FIRM OR CORPORATION	AUTHORIZED SIGNATURE
_____	_____
ADDRESS	TYPED NAME OF AUTHORIZED SIGNATURE/TITLE
_____	_____
CITY, STATE, ZIP CODE	TELEPHONE AND FACSIMILE NUMBERS
_____	_____
DATE	E-MAIL ADDRESS

**NOTICE TO BIDDERS**

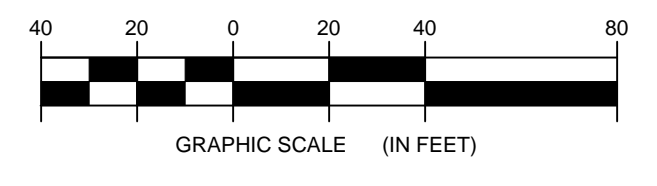
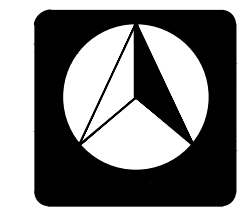
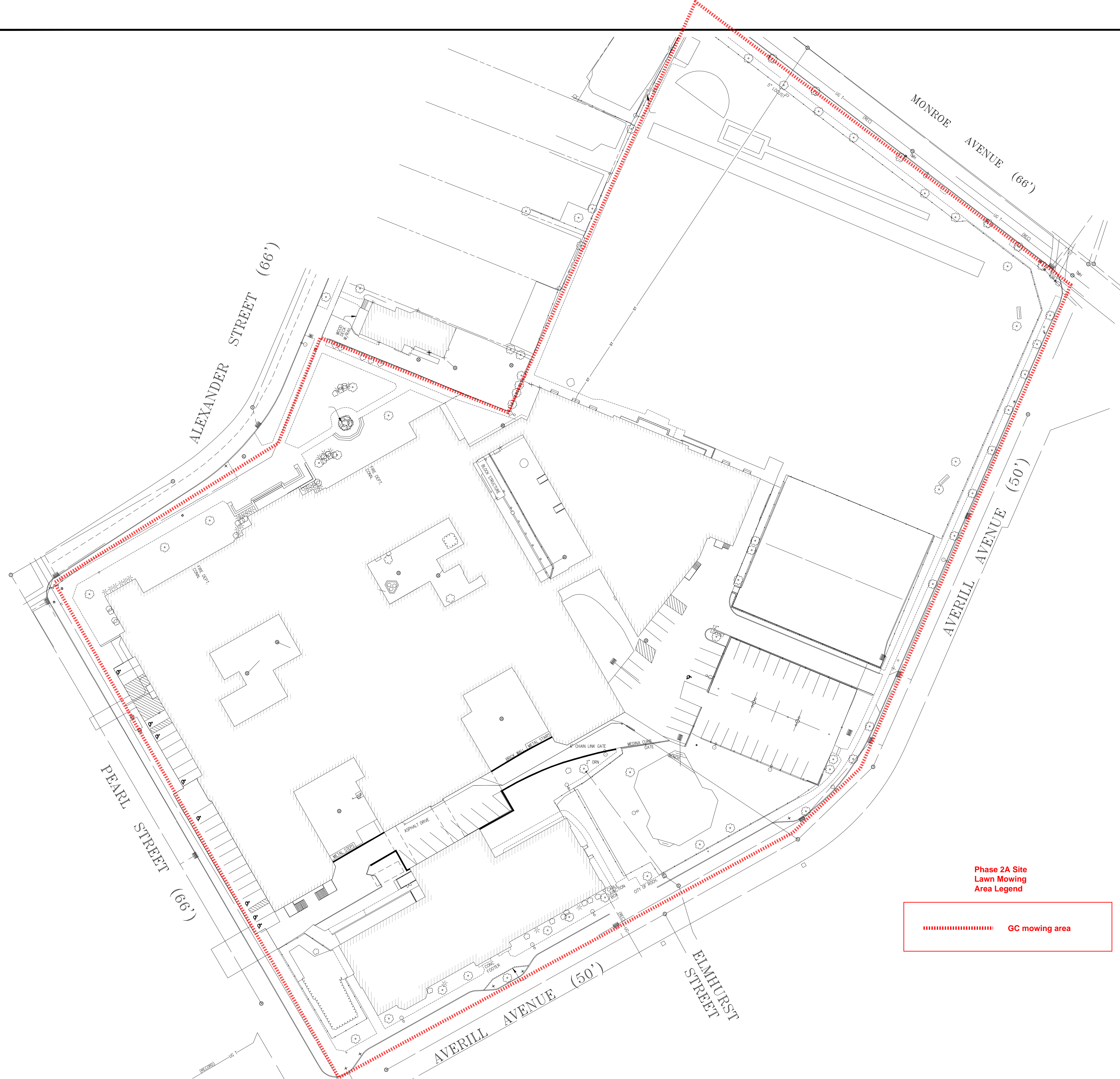
- 3.1 All bid forms shall be signed by the name of the person, firm or corporation submitting the bid, indicating by long-hand signature the person duly authorized to sign in behalf of such person, firm, or corporation and shall contain the business address of the bidder.
- 3.2 Bidders are required to submit unit prices only if required by the specifications.

- 3.3 Owner reserves the right to award contract to include any of the Alternates. Accordingly, bidders are required to bid on all Alternates called for in the specifications. However, Owner reserves the right to waive this requirement.
- 3.4 No bids on different kinds of work may be combined, grouped or added together except to make the lump sum total of work called for under any one contract.
- 3.5 All items on the bid form shall be filled in as called for, and the completed bid form shall be without interlineation, alteration or erasure; and shall not contain a bid or bids, or form of bid or bids, other than called for.

END OF SECTION 004116

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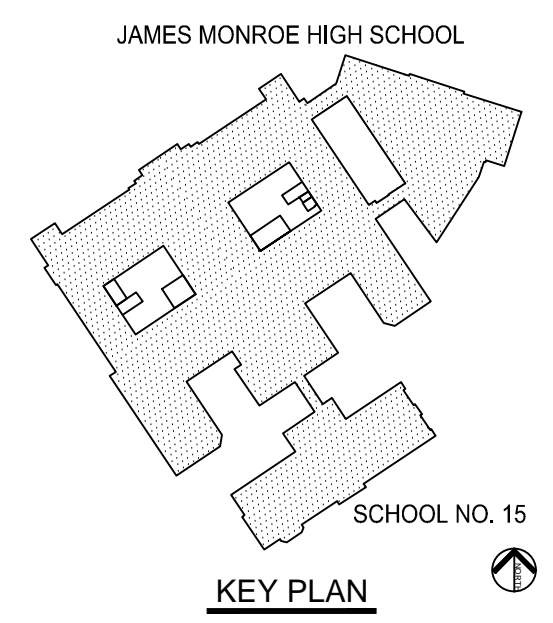




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**RCSD**  
**James Monroe High School**  
**Rochester Schools**  
**Modernization Program**

164 Alexander Street  
 Rochester NY, 14607  
 S.E.D. #: 26-16-00-01-0-107-027  
 S.E.D. EPC #: 26-16-00-01-0-107-028  
 S.E.D. DWT #: 26-16-00-01-7-999-013

DRAWING TITLE  
**SITE DEMOLITION PLAN**

JOB NO.	1125
SCALE	AS NOTED
DATE	DEC 10, 2013
DRAWN BY	DP, NB
CHECKED BY	CJ
REVISIONS	

THIS IS A SINGLE SHEET OF A COHESIVE SET OF CONSTRUCTION DOCUMENTS (INCLUDING DRAWINGS AND SPECIFICATIONS). INTERPRETATION OF THE INFORMATION AS PRESENTED SHOULD BE BASED ON THE ENTIRE SET OF DOCUMENTS.

DRAWING NO.  
**C001**

Phase 2A Site  
 Lawn Mowing  
 Area Legend

----- GC mowing area





## SECTION 238316.11

### RADIANT SNOW MELT SYSTEM (PEX)

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Provide labor, materials and equipment necessary to complete the radiant snow melt work of this section.

##### 1.2 CODES AND STANDARDS

- A. UL Compliance: Provide system tubing that has been listed by UL, and meets UL guide MEKC, File MH17193.
- B. ASTM Testing: Provide radiant tubing that is manufactured in accordance with the following standards:
  - 1. ASTM E 84: Burning Characteristics of Building Materials.
  - 2. ASTM F 876-99: Standard Specification for Cross-linked Polyethylene (PEX) Tubing.
  - 3. ASTM F 877-99: Standard Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold-Water Distribution Systems.
  - 4. ASTM F 2080: Standard Specification for Cold Expansion Fitting with Metal Compression-Sleeves for use with Cross-Linked Polyethylene (PEX) Pipe.
  - 5. CSA B137.5-97: Cross-linked Polyethylene Tubing Systems for Pressure Applications.
- C. The hose material shall carry a Class A N.Y.S. flame spread rating.
- D. Install radiant tubing in compliance with the Standard Guidelines for Radiant Panel Installations, as approved by the Radiant Panel Association.

##### 1.3 SUBMITTALS

- A. Submit manufacturer's specifications for radiant tubing products showing dimensions, temperature capacities (both constant and intermittent), pressure ratings (both operating and burst), flow rates, material composition, and bend radius.
- B. Submit shop drawings showing complete radiant floor system layouts including, tube spacing and manifold locations on a per zone basis, appropriate construction details, and field connection details. Include information on all parts of the system being provided by the manufacturer. Submit three (3) copies of each shop drawing.
- C. Submit three (3) 12 in. samples of each type and size of radiant tubing being furnished.

- D. Submit maintenance instructions, including repair of damaged components, corrosion protection instructions, and a spare parts list.
- E. Submit manufacturer's written warrantee. Tubing shall have a minimum of a twenty (20) year, non-prorated commercial warranty or a limited lifetime residential warranty, even when tubing is installed at temperatures below freezing and/or is exposed to sunlight for up to 120 days. The warranty must include all costs associated with the repair and/or replacement of the hydronic system, including materials and labor.
- F. Submit radiant design which must include the following information:
  - 1. Material List:
    - a. A complete list of components that will be supplied.
  - 2. Zone List:
    - a. Individual zone square footage with recommended tubing spacing and high intensity heating square footage.
    - b. Heating intensity in BTU/h/ft<sup>2</sup>.
    - c. The required heat (in BTU/h), radiant capacity, and complete radiant panel loads (including back and edge losses.
    - d. GPM, TDH, and Delta T.
    - e. Tube type, length, diameter and quantity of circuits.
  - 3. Nomograph for individual rooms indicating floor surface temperature vs. GPM vs. BTU/h/ft<sup>2</sup> vs. tube spacing. This report should also illustrate the required BTU/h/ft<sup>2</sup> and the maximum the installed floor heating system could potentially deliver.

## PART 2 - PRODUCTS

### 2.1 RADIANT FLOOR TUBING

- A. Material: All radiant floor heat pipe shall be high density cross-linked polyethylene manufactured using the high-pressure peroxide method (PEXa), with a minimum degree of cross-linking of 80% in accordance with ASTM D 2765, Method B. Pipe shall conform to ASTM F 876, F 877 and CSA B137.5, and be certified by CSA or equivalent testing organization.
- B. Temperature and Pressure Ratings: Pipe shall be rated for continuous use at 100 psi at 180°F temperature, and 80 psi at 200°F temperature.
- C. Oxygen Diffusion Barrier: Pipe shall have a co-extruded oxygen diffusion barrier capable of limiting oxygen diffusion through the pipe to less than 0.10 mg/l/day at 104°F water temperature, in accordance with DIN 4726.

- D. Bend Radius: The minimum bend radius for cold bending of the pipe shall be not less than five (5) times the outside diameter. Bends with a radius less than this shall require the use of a bending template as supplied by the pipe manufacturer, and/or hot air.
- E. Flame and Smoke Spread: Pipe to have a Flame Spread Index of less than 25, and a Smoke Developed Index of less than 50, when tested in accordance with ASTM E 84.

## 2.2 FITTINGS

- A. Fittings shall be manufactured of dezincification-resistant brass and shall be supplied by the pipe manufacturer as part of a proven cataloged system.
- B. Manifold fittings to be compression nut style with re-usable split compression ring.
- C. Pipe couplings embedded within the thermal mass shall be brass cold-expansion compression-sleeve fittings. Pipe fittings to require cold expansion of pipe for assembly, and to have minimum inside diameter of 82% of pipe inside diameter. Compression-sleeve couplings shall be certified to ASTM F877, ASTM F2080, and CSA B137.5.

## 2.3 DISTRIBUTION MANIFOLDS

- A. Distribution manifolds to be made of extruded brass pipe, tapped for connections. Manifolds shall be equipped with visual flow gauges, balancing and isolation valves for each circuit, header isolation valves and fill ports. Manifolds to be supplied completely assembled.

## 2.4 MANIFOLD CABINETS

- A. Distribution manifold cabinets to be made from galvanized steel with welded seams. Cabinets to be adjustable for depth and height, with removable floor brackets and adjustable manifold support brackets. Cabinets to have pipe knock-outs on both sides for pipe connections to the distribution manifold. Cabinets to be provided with keyed locks.

## 2.5 ACCESSORIES

- A. Repair Kit: One (1) for each size of radiant tubing used on the project.
- B. Cable Tie: One (1) every 18 in. (min.) of tubing.
- C. Hose Unwinder: Minimum of one (1) per project.
- D. Pressure Test Kit: Minimum of one (1) per project.

## 2.6 MAKES

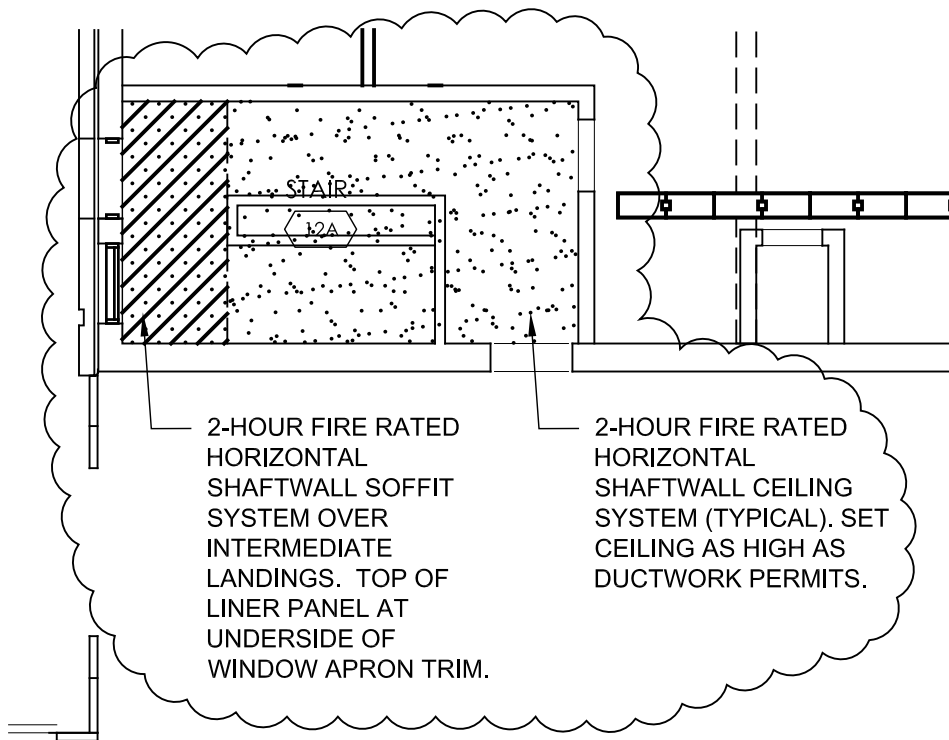
- A. Design Equipment: Watts Radiant.
- B. Manufacturers: Rehau, Watts Radiant, ThermaPEX.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Examine areas and conditions in which the radiant tubing is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the installer, the Architect/Engineer, and/or the Owner.
- B. Install tubing as indicated on drawings (plans and specs), schedules, and specifications, in accordance with the manufacturer's installation instructions. Locate tubing in the floor as indicated; cover areas continuously wall to wall at specified spacing unless otherwise indicated. Install 1/2 x 12 in. insulation wrap around tubing where they cross a construction joint. Where concrete saw cutting is required have future cuts marked out on grade prior to installation of radiant tubing. Address areas of concern with contractor performing cuts prior to the installation of the radiant tubing.
- C. Provide pressure testing of between 50 and 100 psi for a minimum of twenty-four (24) hours prior to, and during the pour for concrete applications; and for twenty-four (24) hours after all other applications. Install access panels centered in front of each manifold set where required.
- D. Manufacturer's Representative will be on site for initial system installation to supervise design conformance. Manufacturer's Representative will take digital photographs of the initial installation. These photographs will then be turned over to the design engineer for documentation purposes.

#### END OF SECTION



**A419**

DRAWING NUMBER:  
**ADDSK-A-17**

SED CONTROL NUMBERS:  
SED. #: 26-16-00-01-0-107-029  
DWT #: 26-16-00-01-7-999-019

PROJECT: **RSMP - JAMES MONROE HIGH SCHOOL  
PHASE 2A- REBID**

DRAWING TITLE: **BAND ROOM STAIR 12A CEILING**

PROJECT NO: <b>1522</b>	DRAWN BY: <b>ME</b>	SCALE: <b>AS NOTED</b>	ISSUE DATE: <b>11/14/16</b>	REVISION DATE: <b>11/14/16</b>
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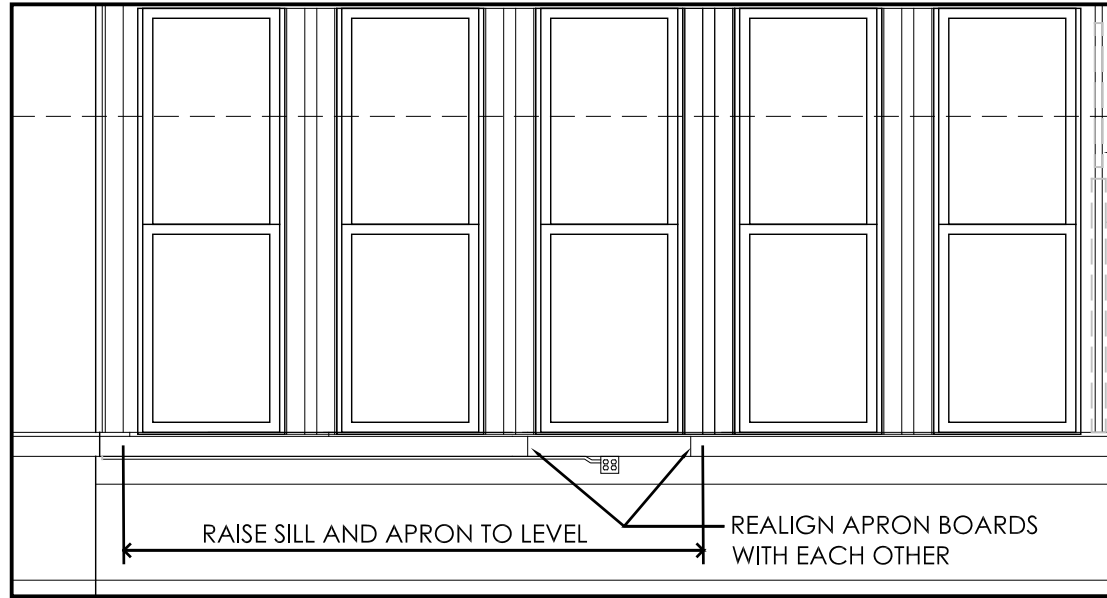
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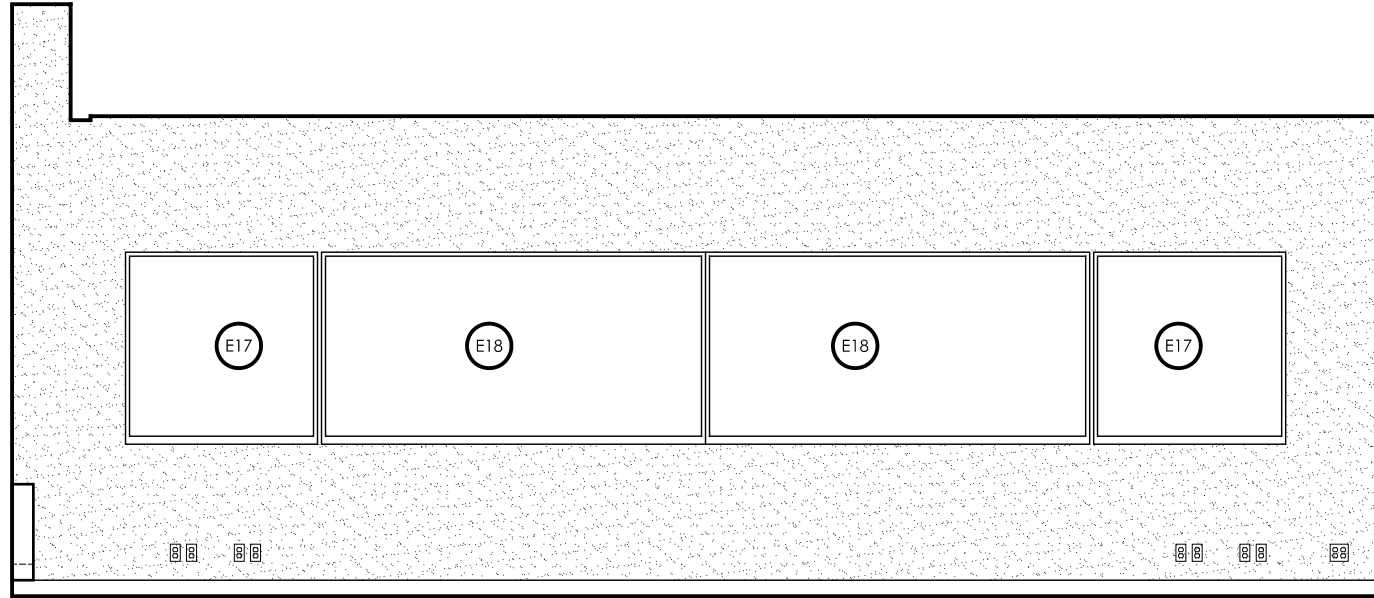
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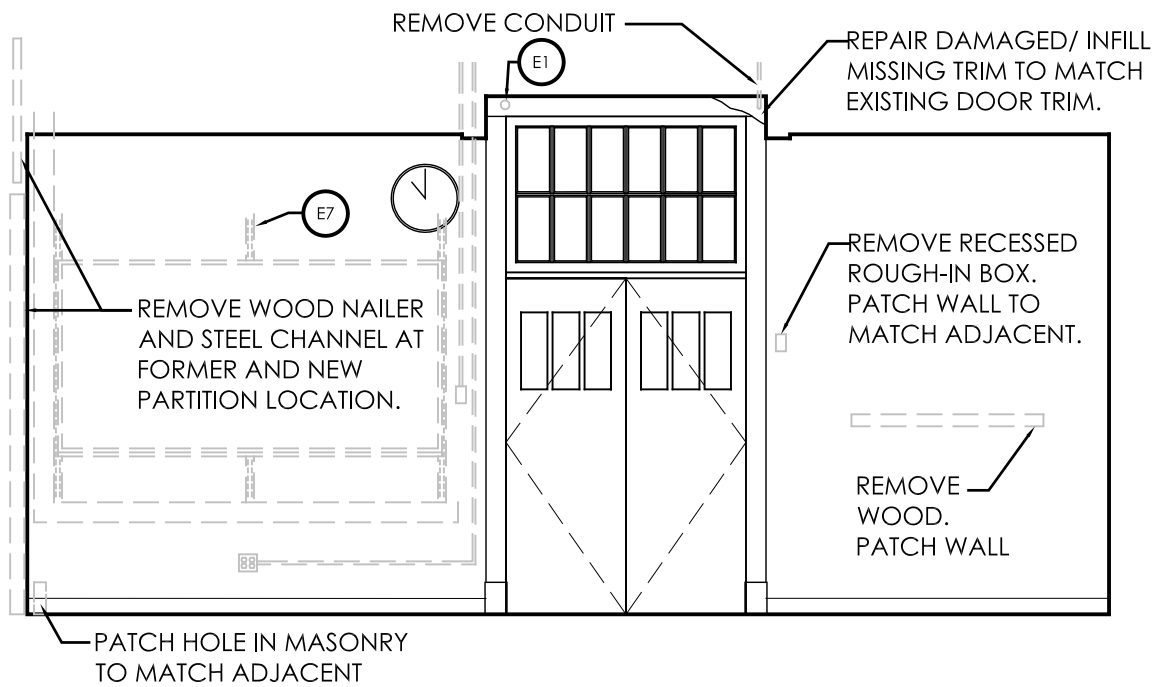




REMOVE WOOD NAILER AND STEEL CHANNEL AT FORMER AND NEW PARTITION LOCATION.

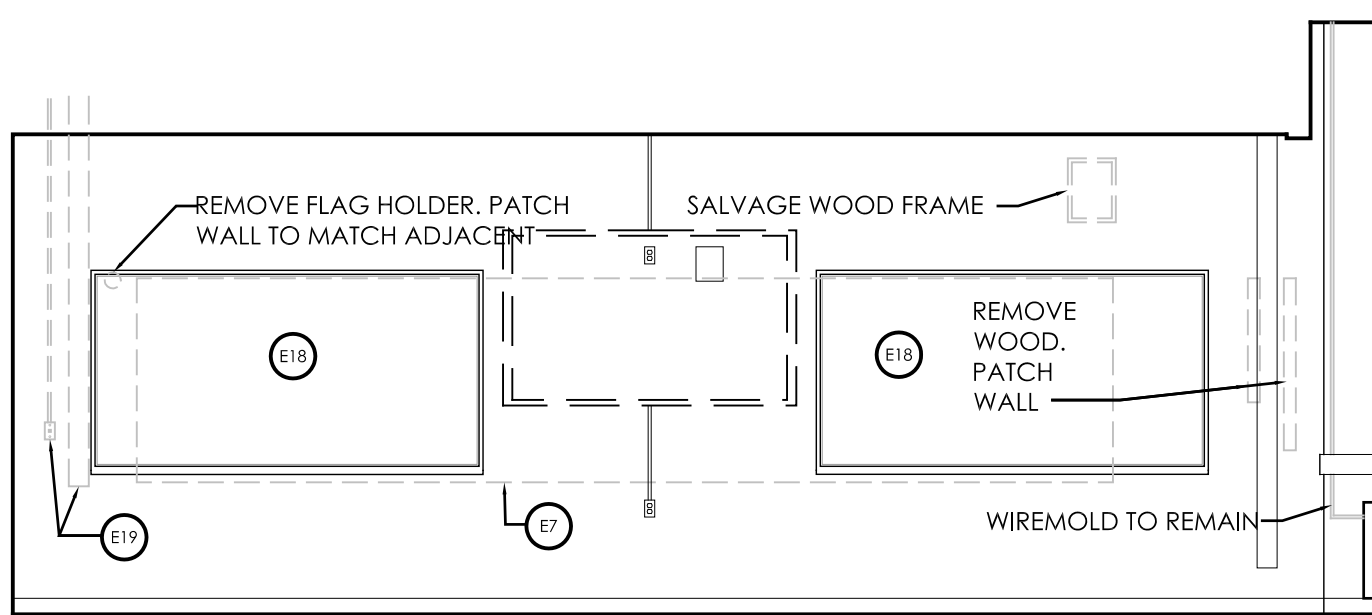


C



A

D



B

2 ROOM 125  
SCALE: 1/4" = 1'-0"

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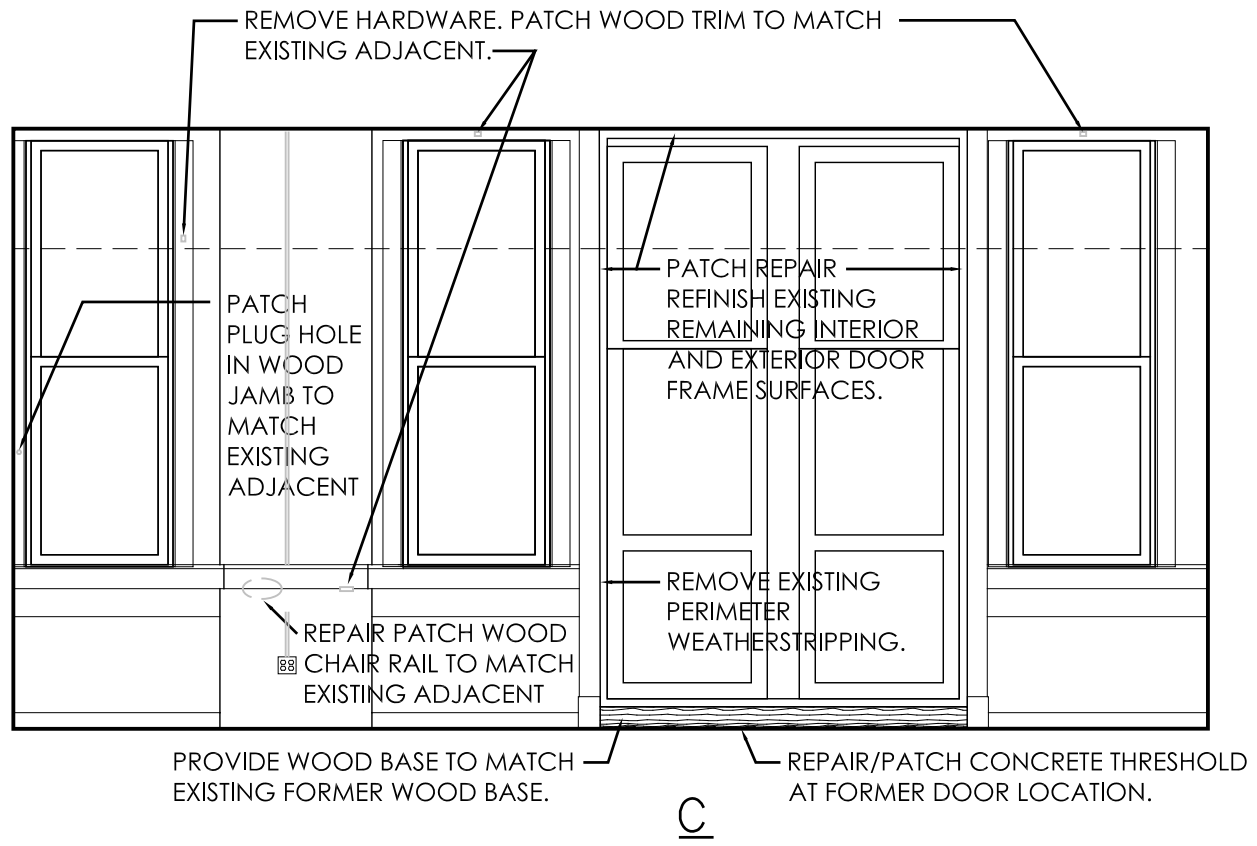
Rochester City School District  
James Monroe High School  
164 Alexander Street  
Rochester, New York  
SED #: 26-16-00-01-0-107-029  
DWT #: 26-16-00-01-7-999-019

PROJECT:	RSMP - JAMES MONROE HIGH SCHOOL PHASE 2A		
DRAWING TITLE:	ROOM 125 ROOM ELEVATIONS		
PROJECT NO:	1522	DRAWN BY:	ME
ISSUE DATE:	11/14/16	SCALE:	AS NOTED
REVISION DATE:	11/14/16		

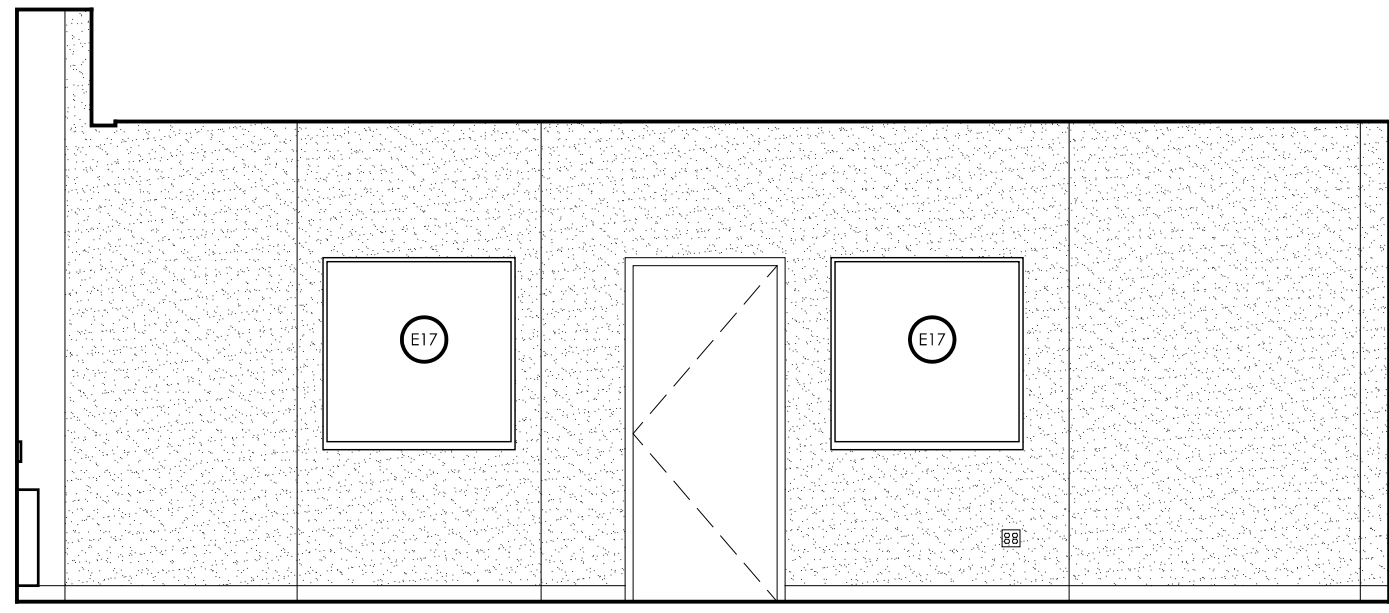
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DRAWING NUMBER: ADDSK-A-18



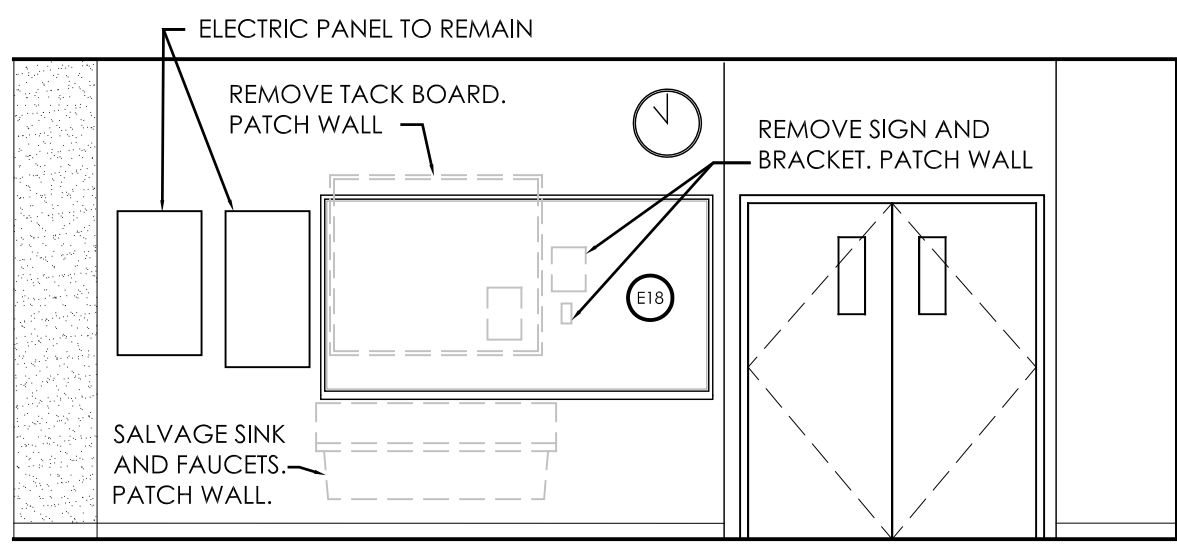




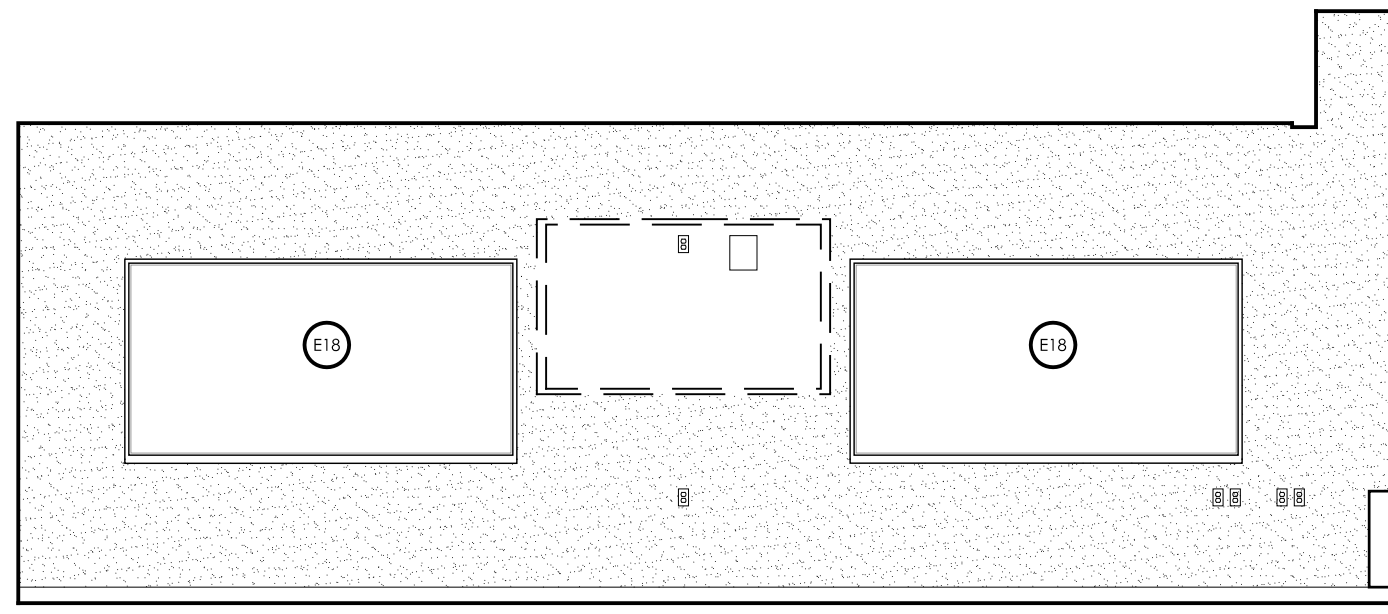
C



D



A
















B

3 ROOM 126  
SCALE: 1/4" = 1'-0"

PROJECT:	RSMP - JAMES MONROE HIGH SCHOOL PHASE 2A		
DRAWING TITLE:	ROOM 126 ROOM ELEVATIONS		
PROJECT NO:	1522	DRAWN BY:	ME
ISSUE DATE:	11/14/16	SCALE:	AS NOTED
REVISION DATE:	11/14/16		



# LEGEND

	MEANS OF EGRESS EXIT DISCHARGE.	R	REPAIR SCOPE OF WORK DESCRIPTION
	EXIT DOOR	1	LEVEL 1 ALTERATION SCOPE OF WORK DESCRIPTION
	EGRESS WINDOW	2	LEVEL 2 ALTERATION SCOPE OF WORK DESCRIPTION
	FIRE EXTINGUISHER AND CABINET (EXISTING)	A	ACCESSIBILITY SCOPE OF WORK DESCRIPTION
	EYE WASH STATION		
	EYE WASH SHOWER STATION		
	WIDTH OF EGRESS DOOR		
	WIDTH OF EGRESS STAIR		
	2-HOUR FIRE RATING		
	1-HOUR FIRE RATING		
			AREAS OF NEW UNDERLAYMENT OVER EXISTING UNDERLAYMENT, AND OVER EXISTING WOOD STRIP FLOORING.
			ELEVATED CONCRETE FLOOR SLAB ON METAL DECK (2 HR) UL DESIGN: D779
			METAL DECK AND CONCRETE OVER EXISTING CONCRETE SUBSTRATE

DRAWING REFERENCE NUMBER(S):  
**LS100**

DRAWING NUMBER:  
**ADDSK-A-20**

SED CONTROL NUMBERS:  
SED. #: 26-16-00-01-0-107-029  
DWT #: 26-16-00-01-7-999-019

PROJECT: **RSMP - JAMES MONROE HIGH SCHOOL  
PHASE 2A**

DRAWING TITLE:  
**UNDERLAYMENT LEGEND**

PROJECT NO: <b>1522</b>	DRAWN BY: <b>ME</b>	SCALE: <b>AS NOTED</b>	ISSUE DATE: <b>11/14/16</b>	REVISION DATE: <b>11/14/16</b>
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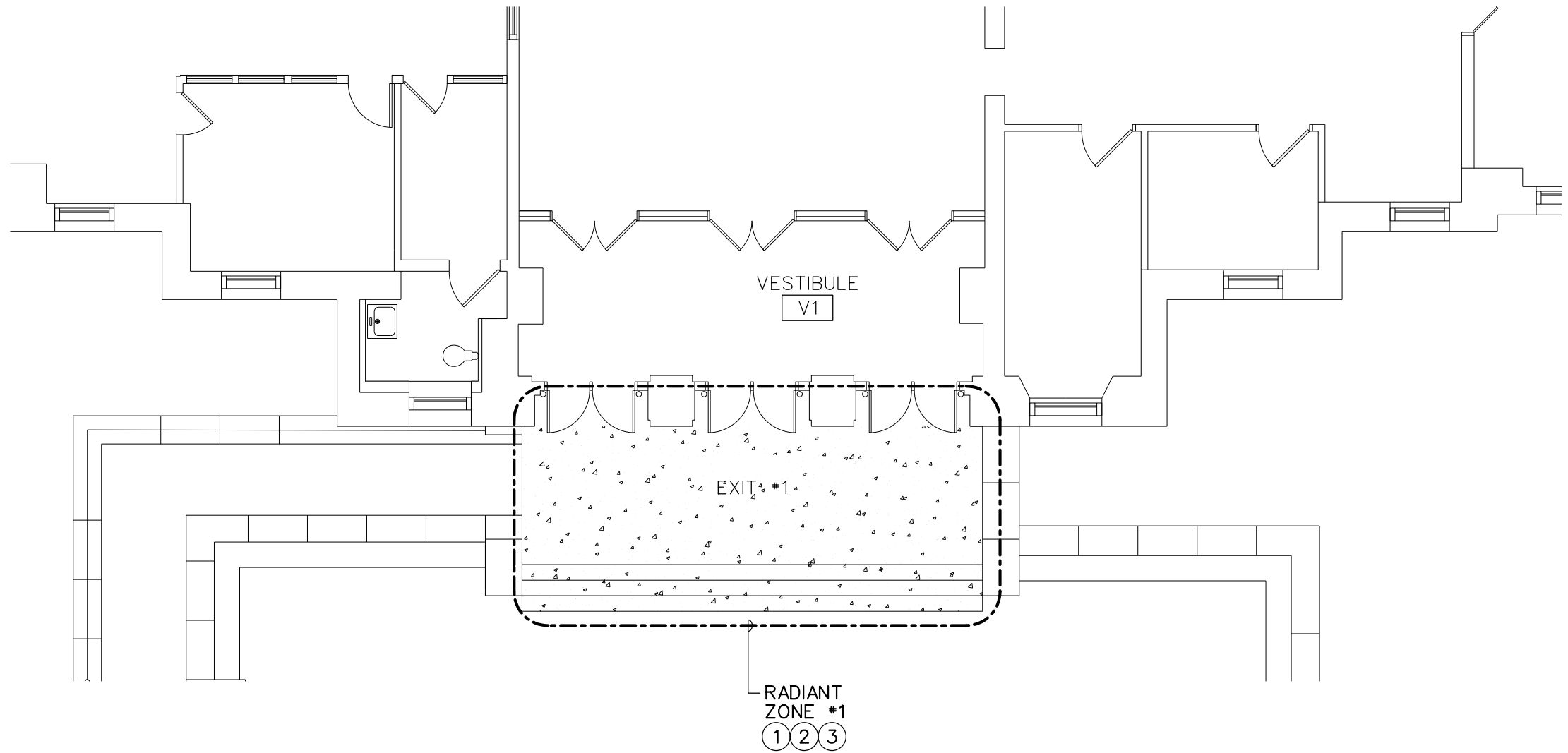
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**7** MAIN ENTRANCE AND STAIR SNOW MELT SYSTEM  
 A204 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

A. THIS CONCEPT OF THIS SKETCH IS TO ADD RADIANT TUBING TO THE MAIN ENTRANCE AND STEPS.

**DRAWING NOTES:**

- ① PROVIDE RADIANT SNOW MELT TUBING IN THE MAIN ENTRANCE LANDING AND STAIRS.
- ② THE TUBING SHALL BE INSTALLED AND TERMINATED AT THE MANIFOLD IN THE CRAWL SPACE BELOW. LOCATE THE MANIFOLD IN CRAWL SPACE CS, REFER TO DRAWING LS100 FOR CLARIFICATION. SYSTEM TO BE CAPPED FOR FUTURE CONNECTION TO THE BUILDING HEATING SYSTEM.
- ③ PROVIDE A 1" CONDUIT IN THE SLAB FOR INSTALLATION OF THE SLAB MOUNTED CONTROL SENSOR. THE CONDUIT SHALL TERMINATE IN CRAWL SPACE CS, ADJACENT TO THE MANIFOLD. COORDINATE WITH DAY AUTOMATION FOR LOCATION OF THE SLAB SENSOR.

RADIANT SNOW MELT SLAB SCHEDULE											
ZONE NO.	AREA SERVED	SUPPLY WATER TEMP DEG F	PRIMARY AREA (SQ.FT.)	GPM	P.D. FT HD	MBH	TUBING SIZE	MAX TUBING SPACING	NO. OF CIRCUITS	CIRCUIT LENGTH FT	DESIGN EQUIPMENT
1	EXIT #1 AND STAIRS	101	420	6.7	5.7	60.7	5/8"	9"	4	175	WATTS RADIANTPEX

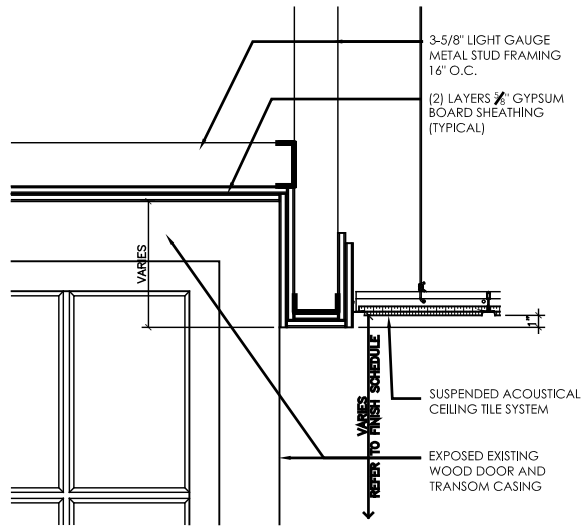
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 James Monroe High School  
 164 Alexander Street  
 Rochester, New York  
 SED #: 26-16-00-01-0-107-029  
 DWT #: 26-16-00-01-7-999-019

PROJECT: RSMP - JAMES MONROE HIGH SCHOOL  
 PHASE 2A  
 DRAWING TITLE: 11 x 17  
 PROJECT NO: 1522  
 SCALE: AS NOTED  
 DRAWN BY: AJM  
 ISSUE DATE: 6/28/16  
 REVISION DATE: 11/16/16

DRAWING REFERENCE NUMBER(S): A204  
 DRAWING NUMBER: ADDSK-A-21





5
TYPICAL DOOR BULKHEAD DETAIL  
SCALE: 3/4" = 1'-0"

DRAWING REFERENCE NUMBER(S): <b>A307</b>
DRAWING NUMBER: <b>ADDSK-A-22</b>
SED CONTROL NUMBERS: SED. #: 26-16-00-01-0-107-029 DWT #: 26-16-00-01-7-999-019

PROJECT: RSMP - JAMES MONROE HIGH SCHOOL PHASE 2A				
DRAWING TITLE: <b>TYPICAL DOOR BULKHEAD DETAIL</b>				
PROJECT NO: 1522	DRAWN BY: ME	SCALE: AS NOTED	ISSUE DATE: 11/17/16	REVISION DATE: 11/17/16

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