

Addendum No. 2

Date: July 27, 2018
Project: Caesar Rodney High School
Additions
Contract No. SRS-18004-CRHSadditions

The work herein shall be considered part of the bid documents for the referenced project and carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Acknowledge receipt of addendum on the bid form as indicated.

General

1. A copy of the 2018-2019 School Calendar is attached.
2. A copy of the Site Utilization Diagram, Revision 2, dated 6-27-18 is attached. The diagram generally indicates the expected areas that contractors will use to complete the work.
 - Contractor shall utilize the haul road and laydown space defined in purple.
 - Contractor shall not use the main school entrances, exits and driveways.
 - Contractor shall be responsible to provide emergency egress at four locations defined in orange. Egress path may shift throughout the construction period as required to complete work in the area. Emergency means of egress shall be level, free of hazard and clearly marked. Where paving is not present, contractor shall provide crushed stone and stone fines, compacted to provide accessible pathway. Lawn areas shall be restored when pathway is no longer required.
3. The Site Contractor is responsible to provide, prepared table-top elevations within areas of buildings to be constructed under this contract. Table-top elevations will include compacted sub-grade elevation 8" below the finish floor elevations indicated on the Civil Drawings.

Clarifications

1. Mortar net shall be provided at all flashing and weep locations.

RFI Responses

1. **Question:** You have a spec for EIFS but I don't see any on the drawings unless that's what you want on the underside of the covered walks labeled "exterior acrylic soffit." Please clarify.
Response: Yes. The exterior acrylic soffit material indicated on the drawings shall be as specified in spec section 07 24 00 – Exterior Insulation and Finish Systems. At all exterior soffit locations, the exterior acrylic system shall be installed over 5/8" exterior gypsum sheathing. See "Changes to Specifications" below for further clarification.

2. **Question:** A3.5 bottom right corner of sheet there looks to be security fencing and gates. Can you please clarify if we are to include the price in our bid, the extent and spec?
Response: Fence and gates that show on plans, elevations and sections in the area where the walkway passes below the building are to be provided and installed by the Site Contractor and are shown for information and coordination only.
3. **Question:** Can you confirm the flooring material to be installed in the Team Room (Room E111)? The finish schedule and the finish plan are contradictory.
Response: The floor finish at Team Room E111 shall be vinyl quartz tile, VQT1 and VQT2, including inlaid 'CR' logo as indicated on the finish schedule and on the finish plan.
4. **Question:** It is assumed that the exterior inlaid brick pavers and sidewalks shown on A4.8 and at similar locations are by Site Contractor and not in this contract. Can you confirm?
Response: Site sidewalks, paving and pavers are by the Site Contractor and are shown for information and coordination only – EXCEPT – as shown on sheet A7.16. The 14 foot diameter, semi-circular paved area including stone bed, pavers, edging, all footings and structures are to be included in this contract.
5. **Question:** Where on the property will the Maintenance Shed on A7.13 sit?
Response: See attached sketch SK-A.02 – Partial Site Plan.
6. **Question:** On P10.1 there is a Utility Shut-Off control system. I could not locate them on any of the plans. Can you clarify sizes, locations and quantities?
Response: They are located in the Second Floor Science Lab, Room E204.
7. **Question:** On P10.0 WH-1 is listed as a quantity of 5, there are only 4 shown on the drawings. Are 4 or 5 required?
Response: Five are required. Two at room F108, two at room E110A, and one at room FH01 at the Storage Building shown on sheet P10.12.
8. **Question:** M8.7 has 2 clothes washers and 2 dryers. Is it the intent to include them in the Mechanical package?
Response: Two washers and two dryers are to be provided under this contract. Coordinate with general contractor for scope of subcontractor's work.
9. **Question:** In the specs you have operable partitions but I do not see them in the drawings?
Response: The operable panel partition is located in between Room 209 and Room 209A, along column line GG.

10. **Question:** In the specs you have storage shelving but I do not see them in the drawings?
Response: Metal storage shelving shall be provided at Storage Room STR01 shown on sheet A7.12. 36 units shall be provided. Single row of 6 – aisle – double row of six – aisle – double row of six – aisle – row of six with break in the middle. See “Changes to Specifications” below for further clarification.
11. **Question:** Specification Section 09 77 20 – FRP Wall Panels is provided. Where are these panels located?
Response: Provide FRP wall panels, floor to ceiling at Janitor F110 and Janitor F208.
12. **Question:** Drawing A7.10, Section 3/A7.10, indicates wood trusses at 48” O.C., however, Drawing A7.11 the trusses appear to be indicated at 24” O.C. Which is correct?
Response: Design intent is roof trusses at 24” O.C. Storage Building is specified as a pole barn to be delivered under delegated design. Final truss spacing may be determined by the engineer of record.
13. **Question:** Section 3/A7.10 indicates metal soffit, gutters, and metal roofing, but does not indicate a metal fascia to wrap the P.T. wood fascia. Is this the intent?
Response: Fascia shall be 2x wood wrapped with prefinished aluminum.
14. **Question:** Please define Add Alternate #2.
Response: Alternate #2 is renamed “New Building Automation System Head-End and Integration.” See revised spec section 23 09 23 – Direct-Digital Control System for HVAC issue in Addendum 1.
15. **Question:** Is spray fireproofing or intumescent paint required on the structural steel?
Response: No.
16. **Question:** Does the closed cell foam act as the vapor barrier when applied over the exterior sheathing?
Response: Yes. Self-adhered membrane vapor barrier shall be used to terminate the vapor barrier and windows, doors and other penetrations.
17. **Question:** Where does the Torch of Knowledge on A7.16 get installed? Is everything on this page under this contract? What scope is in the site work package?
Response: See attached sketch SK-A.02 – Partial Site Plan.
18. **Question:** For Alternate 1 – Storage Building, is the pad prep and water / sanitary / storm 5’ out by the Site Prime?
Response: Yes.
19. **Question:** In section 07 95 13 – Expansion Joint Covers, part 2.02 call out a specific assembly, noting if “subject to Seismic movement.” Is this building subject to seismic movement?
Response: No. See “Changes to Specifications” below for further clarification.

20. **Question:** In section 07 95 13 – Expansion Joint Covers, part 2.02 call out a specific assembly, noting if “subject to Seismic movement.” Is this building subject to seismic movement?
Response: No. See “Changes to Specifications” below for further clarification.
21. **Question:** Detail 8/A6.4 calls out acrylic soffit. Is this product found in specification section 07 24 00, composite cladding of rigid insulation? What is the substrate this product is to be applied over? Is rigid insulation part of this assembly?
Response: The exterior acrylic soffit material indicated on the drawings shall be as specified in spec section 07 24 00 – Exterior Insulation and Finish Systems. At all exterior soffit locations, the exterior acrylic system shall be installed over 5/8” exterior gypsum sheathing. See “Changes to Specifications” below for further clarification.
22. **Question:** Is there mechanical work in Area C as shown on the key plan on M8.2.
Response: No.
23. **Question:** Is the Storage Building sprinklered?
Response: No.
24. **Question:** A2.0 shows demoing of fuel storage tank. What type of fuel tanks are these?
Response: All work shown on sheet A2.0 has been completed by others. Delete sheet A2.0 from the drawing set.
25. **Question:** Regarding the casework, under spec section 123040, are you requiring the casework contractors to be AWI certified, or are you saying they should follow the AWI quality standards?
Response: Spec 12 30 40 does not require that the manufacturer be AWI certified.
26. **Question:** Section 072400 – Exterior Insulation and Finish Systems are specified, however, we cannot locate where they go in the drawings. Please advise.
Response: The exterior acrylic soffit material indicated on the drawings shall be as specified in spec section 07 24 00 – Exterior Insulation and Finish Systems. At all exterior soffit locations, the exterior acrylic system shall be installed over 5/8” exterior gypsum sheathing. See “Changes to Specifications” below for further clarification.
27. **Question:** Exterior sheathing is specified in 092116 – Gypsum Board Assemblies, however, in Section 061000 – Rough Carpentry, section 2.03 Construction Panels, paragraph A. identifies wall sheathing for locations at parapets: plywood, PS-1, Grade C-D, Exposure 1, Exterior Exposure, fire retardant treated. It is not clear on the drawings/wall section s where the plywood is to occur? Is it back of parapets only? Please advise.
Response: Delete paragraph 2.03.A.

28. **Question:** Please clarify what you mean in Alternate #2: “HVAC Controls Head End.”

Response: Alternate #2 is renamed “New Building Automation System Head-End and Integration.” See revised spec section 23 09 23 – Direct-Digital Control System for HVAC issue in Addendum 1.

29. **Question:** Can you provide us with the manufacture of the existing fire alarm equipment in the high school?

Response: See spec section 28 31 00 – Fire Detection and Alarm System.

30. **Question:** Demo Drawing A2.1 shows to remove bollards, tanks by others. Will the concrete pad be removed by others?

Response: The concrete pad will be removed by the Site Contractor. Delete sheet A2.1 from the drawing set.

31. **Question:** Drawing A4.8, detail 2, shows continuous soffit. Will the soffit be aluminum composite material?

Response: Soffit will be exterior gypsum sheathing with exterior acrylic soffit finish.

32. **Question:** Acrylic soffit panels are shown on drawing, there are no specification reference. Do we use spec section 074213 showing metal soffit panels?

Response: No. The exterior acrylic soffit material indicated on the drawings shall be as specified in spec section 07 24 00 – Exterior Insulation and Finish Systems. At all exterior soffit locations, the exterior acrylic system shall be installed over 5/8” exterior gypsum sheathing. See “Changes to Specifications” below for further clarification.

33. **Question:** Drawing A3.19 shows water proofing, can a specification be issued?

Response: Provide GCP Applied Technologies products indicated on drawing 6/A3.19 or approved equivalent.

- Preprufe 300R below slab.
- Procor 75/20 with Hydroduct 220 drainage composite at side walls.
- Omit perforated drain pipe.

34. **Question:** Flooring at elevator.

Response: Quartz Vinyl Tile.

35. **Question:** A2.1: Will the site contractor be removing the masonry privacy on the exterior were area B connects to the existing building?

Response: Yes. Delete sheet A2.1 from the drawing set.

36. **Question:** Provide a spec for the Solatubes.

Response: See attached spec section 08 62 50 – Tubular Daylighting Devices.

Substitution Requests

1. 07 21 19 – Foamed-In-Place Insulation

Johns Manville Corbond III shall be considered an equal substitution for foamed-in-place insulation subject to compliance with the requirements of spec section 07 21 19.

2. 07 41 13 – Metal Roof Panels

Fabral Powerseam is **not** an acceptable substitution for the specified product. Roof installation requires a pitch of 1/2:12. Fabral Powerseam indicates a minimum acceptable pitch of 1:12.

3. 10 11 01 – Visual Display Boards

Platinum Visual Systems shall be considered an equal substitution for marker boards and tack boards subject to compliance with the requirements of spec section 10 11 01.

4. 10 28 00 – Toilet, Bath and Laundry Accessories

Bobrick Washroom Equipment, Inc. shall be considered an equal substitution for toilet, bath and laundry accessories subject to compliance with the requirements of spec section 10 28 00.

5. 10 51 00 – Lockers

List Industries, Inc., Classic KD Wardrobe Lockers and Republic Storage Systems, LLC., Standard Lockers shall be considered equal substitutions for student lockers subject to compliance with the requirements of spec section 10 51 00.

List Industries, Inc., Superior Athletic Team Fully-Framed All-Welded Lockers and Republic Storage Systems, LLC., All Welded Ventilated Lockers shall be considered equal substitutions for athletic lockers subject to compliance with the requirements of spec section 10 51 00.

6. 12 24 00 – Window Shades

Draper Inc. is listed as an approved manufacturer for Window Shades subject to compliance with the requirements of spec section 12 24 00.

7. 12 30 20 – Manufactured Lab Casework

Diversified Woodcrafts, Inc, Millennium Style, shall be considered an equal substitution for lab casework and accessories subject to compliance with the requirements of spec section 12 30 20.

Note: It is the intent that the lab casework contractor provide the associated trim and accessories listed by ICI Scientific product numbers on the architectural drawings.

8. 12 30 40 – Laminate Clad Casework

Mastercraft, Regional Series shall be considered an equal substitution for laminate clad casework subject to compliance with the requirements of spec section 12 30 40.

9. 14 24 00 – Machine Room-Less Hydraulic Elevators

Proprietary or non-proprietary hydraulic elevator with machine room, subject to the requirements of spec section 14 24 00, will be accepted. Configuration of machine room shall be in accordance with attached sketch SK-A.02 and as further described under “Changes to Drawings” below.

Changes to Specifications:**1. 04 20 00 – Unit Masonry**

Revised brick selections, mock-up requirements and allowance for bricks

Revised spec section 04 20 00 is attached.

2. 07 24 00 – Exterior Insulation and Finish Systems

Delete paragraph 2.03.D.

Add paragraph 2.04.

Revised spec section 07 24 00 is attached.

3. 07 95 13 – Expansion Joint Cover Assemblies

Revised spec section 07 95 13 is attached.

4. 08 62 50 – Tubular Daylighting Devices

Added spec section 08 62 50 is attached.

5. 10 51 00 – Lockers

Revise paragraph 2.01 to indicate List Industries, Inc. and Republic Storage Systems, LLC. As acceptable manufacturers.

Revise paragraph 2.02 to indicate basis-of-design product and to indicate requirement for handicapped accessible lockers were shown on plan.

Delete Paragraphs 2.03.B through 2.03.E.

Add paragraph 2.04 for benches and pedestals.

Revised spec section 10 51 00 is attached.

6. 10 56 13 – Metal Storage Shelving

Revise paragraphs 1.01, 2.01, 2.02 and 2.03.

Revised spec section 10 56 13 is attached.

Changes to Drawings

1. A3.19 ENLARGED ELEVATOR PLANS AND DETAILS

Proprietary or non-proprietary hydraulic elevator with machine room, subject to the requirements of spec section 14 24 00, will be accepted. Configuration of machine room shall be in accordance with attached sketch SK-A.02. Contractor's price shall include all work associated with the elevator and machine room including, but not limited to, the following:

- Approximately 18 linear feet of 1- hour rated, partition type F2, paint finish and rubber base at each side
- UL rated joint sealant assemblies at all openings and penetrations
- 3'-0" x 7'-0" 60-minute rated, solid-core, hollow metal door and frame
- UL listed door hardware: butt hinges, storeroom lockset, closer, weather stripping, wall stop.
- 2A:10B:C fire extinguisher with wall bracket
- Samsung AR09LSFPDWQ mini-split system with indoor unit mounted above door and outdoor unit mounted at roof or equal
- Photoelectric smoke detector
- One light fixture type J with switch
- Power, switches and devices required for elevator equipment

See attached sketch SK-A.01.

2. A7.1 ROOM FINISH SCHEDULE

Change wall finish at room F110 and F208 to FRP panel.

No sketch is issued to reflect this change. The change will be reflected on the conformed set.

End



Caesar Rodney School District
188 Teacher/176 Student
School Calendar
2018-19



2018			Teacher Days	Student Days	Student Hours
July 30	M	9th grade Success Academy starts			
Aug. 2	Th	9th grade Success Academy ends			
Aug. 21	T	Schools Closed/Teacher In-Service			
Aug. 22	W	Schools Closed/Teacher In-Service			
Aug. 23	Th	Schools Closed/Teacher In-Service			
Aug. 24	F	Schools Closed/Teacher In-Service			
Aug. 27	M	Student First Day	8	4	26
Aug. 31	F	Schools Closed (12 month employees workday)			
Sept. 3	M	Schools Closed Labor Day (12 month employees off)			
Sept. 6	Th	Schools Closed/Primary Election/Teacher In-Service	19	18	117
Oct. 12	F	Schools Closed/Teacher In-Service	23	22	143
Nov. 2	F	Schools Half Day <i>MEIP AM Classes Only</i>			
Nov. 6	T	Schools Closed/Election Day (12 month employees off)			
Nov. 12	M	Schools Closed/Veterans Day Observed (12 month employees off)			
Nov. 19	M	Half Day - MECC/Elementary/Middle/Charlton MEIP PM Classes Only, Evening Conferences			
Nov. 20	T	Half Day - MECC/Elementary/Middle/Charlton MEIP AM Classes Only, Afternoon Conferences			
Nov. 21-23	W-F	Schools Closed/Thanksgiving Break (11/21 - 12 month employees workday)	17	17	101.5
Dec. 24-31	M-M	Schools Closed/Winter Break (12/26-28, 31 - 12 month employees vacation days)	15	15	97.50
2019					
Jan. 1	T	Schools Closed/New Year's Day (12 month employees off)			
Jan. 2	W	Schools Re-Open			
Jan. 14	M	CRHS Semester Exams Full Day			
Jan. 15	T	CRHS Exams Half Day			
Jan. 16	W	CRHS Exams Half Day			
Jan. 17	Th	CRHS Exams Half Day			
Jan. 18	F	Schools Closed/Teacher In-Service**			
Jan. 21	M	Schools Closed/ Martin Luther King Day (12 month employees off)	21	20	130
Feb. 1	F	Half Day - MECC/Elementary/Middle/Charlton, MEIP PM Classes Only, Afternoon Conferences			
Feb. 4	M	Schools Closed/Teacher In-Service**			
Feb. 18	M	Schools Closed/President's Day (12 month employees off)	19	18	114
Mar. 22	F	Schools Half Day. <i>MEIP AM Classes Only</i>			
Mar. 25	M	Schools Closed/Teacher In-Service	21	20	127
Apr. 5	M	Half Day - MECC/Elementary/Middle/Charlton MEIP PM Classes Only, Afternoon Conferences			
Apr. 19-26	F-F	Schools Closed/Spring Break (Apr. 22, 23, 24, 25, 26 -12 month employee workdays)			
Apr. 29	M	Schools Re-Open	16	16	101
May 27	M	Schools Closed/Memorial Day (12 month employees off)	22	22	143
Jun. 4	T	Schools Half Day			
Jun. 5	W	Schools Half Day			
Jun. 6	Th	Schools Half Day Last Student Day			
Jun. 7	F	Schools Closed/Teacher In-Service			
Jun. 10	M	Schools Closed/Teacher In-Service			
Jun. 11	T	Schools Closed/Teacher In-Service/ Last Teacher Day**	7	4	17

On all half days dismissal will be 3 hours early. Cafeterias will be open on all half days.

This calendar reflects 188 teacher work days, 185 paraprofessional work days, 176 student days and 1117 student hours.

** The three dates marked with (**) are paraprofessional non-working days.

SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete Block.
- B. Clay Facing Brick.
- C. Reinforcement and Anchorage.
- D. Installing Flashings.
- E. Lintels.
- F. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 01 78 39 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.
- C. Section 03 30 00 - Cast-in-Place Concrete: Reinforcing steel.
- D. Section 04 05 11 - Masonry Mortaring and Grouting.
- E. Section 05 50 00 - Metal Fabrications: Loose steel lintels and fabricated steel items.
- F. Section 07 27 27 - Fluid Applied Air and Vapor Barrier System.
- G. Section 07 21 00 - Thermal Insulation: Insulation for cavity spaces.
- H. Section 07 84 00 - Firestopping: Firestopping at penetrations of fire-rated masonry and at top of fire-rated walls.
- I. Section [] - Joint Sealers: Backing rod and sealant at control and expansion joints.
- J. See Structural Drawings for additional Project Specifications. If Conflicting Project Specifications arise, the Project Specifications on the Structural Drawings govern.

1.03 REFERENCE STANDARDS

- A. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries.
- B. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International.
- C. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- D. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A580/A580M - Standard Specification for Stainless Steel Wire.
- F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement.
- G. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
- H. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- I. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- J. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction.

- K. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale).
- L. ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- M. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.
- N. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units.
- O. ASTM C140/C140M - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units.
- P. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
- Q. ASTM C150/C150M - Standard Specification for Portland Cement.
- R. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- S. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale).
- T. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
- U. ASTM C404 - Standard Specification for Aggregates for Masonry Grout.
- V. ASTM C476 - Standard Specification for Grout for Masonry.
- W. ASTM C652 - Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale).
- X. ASTM C744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units.
- Y. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
- Z. IMIAWC (CW) - Recommended Practices & Guide Specifications for Cold Weather Masonry Construction; International Masonry Industry All-Weather Council; 1993.
- AA. IMIAWC (HW) - Recommended Practices & Guide Specifications for Hot Weather Masonry Construction; International Masonry Industry All-Weather Council; current edition.
- AB. UL (FRD) - Fire Resistance Directory.

1.04 SUBMITTALS

- A. See Section 01 33 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
- C. Samples: Submit four samples of facing brick and concrete block units to illustrate color, texture, and extremes of color range.
- D. Manufacturer's Certificate: Certify that masonry units and brick meet or exceed specified requirements.
- E. Certify that C.M.U. masonry units used in firewall assemblies are of minimum equivalent thickness of 4" and that there is no calcereous or siliceous gravel aggregate used.

1.05 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
 - 1. Maintain one copy of each document on project site.
- B. Fire Rated Assemblies: Conform to applicable code for UL Assembly No.

1.06 MOCK-UP

- A. Construct 4 foot by 4 foot mock-up panels for each brick color and split-face block color required. Panels shall serve to confirm brick and mortar selection. If alternate color or substitution are proposed, construct additional 4 foot by 4 foot panel for each color next to mock-up panel for the basis-of-design product.
- B. Construct a full exterior wall construction mock-up panel sized 8 feet long by 6 feet high; include mortar and accessories, structural backup, wall openings, flashings, wall insulation, parging, and damp proofing in mock-up. Construct in accordance with sketch provided by Architect. Mock-up panel shall demonstrate construction detail and quality and shall serve as benchmark for construction.
- C. Locate where directed.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

1.09 EXTRA MATERIALS

- A. See Section 01 60 00 - Product Requirements, for additional provisions.
- B. Provide 50 of each size, color, and type of brick units for Caesar Rodney School District use in maintenance of project.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards fire rated, non fire rated and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depth of 2, 4, 6, 8 inches, 10, 12, 14 inches and/or as indicated on drawings.
 - 2. Special Shapes: Provide non-standard blocks configured for bull nose corners, lintels, headers, control joint edges, and bond beams and other conditions.
 - 3. Load-Bearing Units: ASTM C90, normal weight.
 - a. Both hollow and solid block, as indicated.
 - 1) Supply grade N for all C.M.U construction.
 - b. Exposed faces: Manufacturer's standard color and texture. Corridor walls to have ground face block where indicated.
 - c. Exposed corners to be bull nose.
 - d. First course is square to accommodate cove base.
 - 4. Non-Loadbearing Units: ASTM C129.
 - a. Both hollow and solid block, as indicated.
 - b. Normal weight.
 - c. Exposed corners to be bull nose.
 - d. First course is square to accommodate cove base.
 - 5. Split-Faced Units: ASTM C90, hollow block, normal weight.
 - a. Color: To be selected from manufacturer's standard range.
 - b. Provide units with integral water repellent.

2.02 BRICK UNITS

- A. Facing Brick: ASTM C216, Type FBS, Grade SW.
 - 1. Type 1:
 - a. Color to match existing.
 - b. Basis-of-Design: Redland, Old Richmond, modular.
 - c. Alternate: Glen Gery, Laurilton, modular.
 - d. Allowance to be included in bid: \$450 per thousand.
 - 2. Type 2:
 - a. Palmetto, Ivorystone, modular.
 - b. Allowance to be included in bid: \$635 per thousand.

2.03 MORTAR AND GROUT MATERIALS

- A. Mortar and grout: As specified in Section 04 05 11.

2.04 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers of Joint Reinforcement and Anchors:
 - 1. Dur-O-Wal: www.dur-o-wal.com.
 - 2. Hohmann & Barnard, Inc: www.h-b.com.
 - 3. WIRE-BOND: www.wirebond.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Reinforcing Steel: ASTM A615/A615M Grade 40 (280) deformed billet bars. _____
- C. Adjustable Multiple Wythe Joint Reinforcement: Truss or Ladder type with adjustable ties spaced at 16 in on center and fabricated with moisture drip; ASTM A 82/A 82M steel wire, hot dip galvanized after fabrication to ASTM A 153/153M, Class B; or stainless steel wire conforming tot ASTM A 580/A 580M Type 304.0.1875 inch side rods with 0.1483 inch cross rods and adjustable components of 0.1875 inch wire; width of components as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from each masonry face.
 - 1. Vertical adjustment: Not less than 2 inches.
 - 2. Insulation Clips: Provide clips at tabs or ties designed to secure insulation against outer face of inner wythe of masonry.
- D. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face.
 - 1. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch thick, with trapezoidal wire ties 0.1875 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B-2.
- E. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B-2; stainless steel.
 - 1. Anchor channel: Not less than 0.120 inch thick, designed for fastening to structural backup by non corrodeable fasteners;Design Basis = Hohman & Barnard #362-C.
 - 2. Wire ties: Triangular; Trapezoidal; Rectangular or Manufacturer's standard shape, 0.1875 inch thick.
 - 3. Vertical adjustment: Not less than 3-1/2 inches.
 - 4. Seismic Feature: Provide lip, hook, or clip on end of wire ties to engage or enclose not less than one continuous horizontal joint reinforcement wire of 0.1875 inch diameter.

2.05 FLASHINGS

- A. Metal Flashing Materials: Polymer modified asphalt coated copper, 7oz/sq.ft. Provide "C-Coat" flashing by Hohmann & Bernard, or Architect approved equal.
- B. Lap Sealant: recommended by flashing manufacturer type.

2.06 ACCESSORIES

- A. Preformed Control Joints: Rubber or neoprene material.
 - 1. Manufacturers:
 - a. Hohmann & Barnard, Inc (including Dur-O-Wal brand); Product RS or VS: www.h-b.com.
 - b. WIRE-BOND: www.wirebond.com.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Joint Filler: Closed cell polyethylene; polyurethane or rubber oversized 50 percent to joint width; self expanding; 1 inch wide design width x by maximum lengths available.
 - 1. Manufacturers:
 - a. Hohmann & Barnard, Inc (including Dur -O-Wal brand); Product P.E. Foam Expansion unit fuller: www.h-b.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Reglets: As specified on Section 07 62 00.
- D. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
 - 1. Mortar Diverter: Panels designed for installation at flashing locations.
 - a. Manufacturers:
 - 1) Mortar Net Solutions: www.mortarnet.com.
 - 2) Substitutions: See Section 01 60 00 - Product Requirements.
- E. Weeps: Polyethylene tubing.
- F. Mortar Mesh, For cavity wall mortar control where indicated; polyethylene (HDPE) or nylon mesh, 90% open;
 - 1. Manufacturer's:
 - a. Hohmann and Barnard, Inc; Product Mortar Net: www.h-b.com.
 - b. Dur - O - Wall; Product DA1008 Mortar Net: www.dur-o-wall.com.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- G. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.07 LINTELS

- A. Precast Concrete Lintels: Sizes and reinforcing as shown on plans. Precast units made from concrete matching concrete masonry units in color, texture, and compressive strength and with reinforcing bars required to support loads indicated. Cure precast lintels by same method used for concrete masonry units.
- B. Masonry Lintels: prefabricated or built-in-place masonry lintels made from bond beam concrete masonry units with reinforcing bars placed as required and filled with coarse grout.
- C. See Structural Drawings for Steel Lintel information.

2.08 MORTAR AND GROUT MIXES

- A. Mortar and Grout mixes as specified in Section 04 05 11.
- B. Colored Mortar: As specified in Section 04 05 11. Use like colored mortar where exposed surface of pre-faced units occurs-first course above finished floor.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.

- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

- A. Direct and coordinate placement of items supplied for installation under other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

3.04 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running; Match existing brand.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Common CMU Mortar Joints: Concave struck.
 - 4. Ground Face CMU Mortar Joints: Grooved struck on interior at ground face only.
 - 5. Use flush joint on cavity side face of C.M.U. where fluid applied air and vapor barrier is applied.
- D. Brick Units:
 - 1. Bond: Running; As indicated for different locations.
 - 2. Vertical Coursing: Three units and three mortar joints to equal 8 inches.
 - 3. Mortar Joints: Concave.

3.05 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Remove excess mortar and mortar smears as work progresses.
- E. Interlock intersections and external corners.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Set reglets as shown on plans.
- H. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- I. Cut mortar joints flush where wall tile is scheduled, cement parging is required, or resilient base is scheduled. Block exposed cavity space with raiseable steel guard of correct width.
- J. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.
- K. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.06 WEEPS

- A. Install weeps in veneer walls at 32 inches on center horizontally above opening, above through-wall flashing, above shelf angles and lintels, at bottom of walls, and as shown on drawings.

3.07 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
- B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.
- C. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.08 REINFORCEMENT AND ANCHORAGE - GENERAL

- A. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 16 inches horizontally and 16 inches vertically.

3.09 REINFORCEMENT AND ANCHORAGES - CAVITY WALL MASONRY

- A. Install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of openings.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.
- E. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Space anchors at maximum of 24 inches horizontally and 16 inches vertically.
- F. Reinforce joint corners and intersections with strap anchors 16 inches on center.

3.10 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
 - 1. Extend flashings full width at such interruptions and at least 8 inches into adjacent masonry and turn up at least 2 inches to form watertight pan at non-masonry construction.
 - 2. Remove or cover protrusions or sharp edges that could puncture flashings.
 - 3. Seal lapped ends and penetrations of flashing before covering with mortar.
- B. Extend metal flashings through exterior face of masonry and turn down to form drip. Hemedge. Install joint sealer below drip edge to prevent moisture migration under flashing.
- C. Lap end joints of flashings at least 4 inches and seal watertight with mastic or elastic sealant, type as recommended by flashing manufacturer.

3.11 LINTELS

- A. Install loose steel lintels over openings, where shown on drawings.
- B. Install pre-cast lintels over openings where steel or precast concrete lintels are not scheduled.
- C. Maintain minimum 8 inch bearing on each side of opening.

3.12 GROUTED COMPONENTS

- A. Reinforce bond beams as shown on plans.
- B. Lap splices minimum 40 bar diameters.
- C. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- D. Place and consolidate grout fill without displacing reinforcing.

- E. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

3.13 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control and expansion joints.
- B. Form control joint with a sheet building paper bond breaker fitted to one side of the hollow contour end of the block unit. Fill the resultant core with grout fill. Rake joint at exposed unit faces for placement of backer rod and sealant.
- C. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- D. Form expansion joint as detailed.
- E. Locate per drawings.

3.14 BUILT-IN WORK

- A. As work progresses, install built-in metal door frames, glazed frames, fabricated metal frames, window frames, anchor bolts, plates, and boxes and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
 - 1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
- D. Do not build into masonry construction organic materials that are subject to deterioration.

3.15 TOLERANCES

- A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft.
- C. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 20ft.
- E. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- F. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.16 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.17 FIELD QUALITY CONTROL

- A. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C67 requirements, sampling 5 randomly chosen units for each 50,000 installed.
- B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140 for conformance to requirements of this specification.
- C. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.18 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.

- C. Clean soiled surfaces with cleaning solution.
- D. Use non-metallic tools in cleaning operations.

3.19 PROTECTION

- A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

SECTION 07 24 00
EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Composite soffit cladding of rigid insulation and reinforced finish coating ("Class PB").

1.02 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
- C. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units.
- D. ASTM C1397 - Standard Practice for Application of Class PB Exterior Insulation and Finish Systems (EIFS) and EIFS with Drainage.
- E. ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
- F. ASTM D2247 - Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
- G. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- H. ICC-ES AC219 - Acceptance Criteria for Exterior Insulation and Finish Systems.
- I. NFPA 259 - Standard Test Method for Potential Heat of Building Materials.
- J. NFPA 268 - Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
- K. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on system materials, product characteristics, performance criteria, and system limitations.
- C. Shop Drawings: Indicate wall and soffit joint patterns, joint details, and molding profiles.
- D. Selection Samples: Submit manufacturer's standard range of samples illustrating available coating colors and textures.
- E. Verification Samples: Submit actual samples of selected coating on specified substrate, minimum 12 inches square, illustrating project colors and textures.
- F. Manufacturer's Installation Instructions: Indicate preparation required, installation techniques, and jointing requirements.

1.04 QUALITY ASSURANCE

- A. Maintain copy of specified installation standard and manufacturer's installation instructions at project site at all times during installation.
- B. EIFS Manufacturer Qualifications: Provide all EIFS products other than insulation from the same manufacturer with qualifications as follows:
 - 1. Member in good standing of EIMA (EIFS Industry Members Association).
 - 2. Manufacturer of EIFS products for not less than 20 years.

- C. Insulation Manufacturer Qualifications: Approved by manufacturer of EIFS and approved and labeled under third party quality program as required by applicable building code.
- D. Installer Qualifications: Company specializing in EIFS work, with minimum 10 years of experience.

1.05 MOCK-UP

- A. Construct mock-up of typical EIFS application on specified substrate, size as indicated on drawings, and including flashings, joints, and edge conditions.
- B. Locate mock-up as indicated on drawings.
- C. Mock-up may remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to project site in manufacturer's original, unopened containers with labels intact. Inspect materials and notify manufacturer of any discrepancies.
- B. Storage: Store materials as directed by manufacturer's written instructions.

1.07 FIELD CONDITIONS

- A. Do not prepare materials or apply EIFS under conditions other than those described in the manufacturer's written instructions.
- B. Do not prepare materials or apply EIFS during inclement weather unless areas of installation are protected. Protect installed EIFS areas from inclement weather until dry.
- C. Do not install coatings or sealants when ambient temperature is below 40 degrees F.
- D. Do not leave installed insulation board exposed to sunlight for extended periods of time.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's standard material warranty, covering a period of not less than 12 years.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Basis of Design: Dryvit Systems, Inc; Dryvit Outsulation Exterior Insulation and Finish System, Class PB: www.dryvit.com.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 EXTERIOR INSULATION AND FINISH SYSTEM

- A. Exterior Insulation and Finish System: BARRIER type; reinforced finish coating on insulation board adhesive-applied direct to substrate; provide a complete system that has been tested to show compliance with the following characteristics; include all components of specified system and substrate in tested samples.
- B. Fire Characteristics:
 - 1. Flammability: Pass, when tested in accordance with NFPA 285.
 - 2. Ignitibility: No sustained flaming when tested in accordance with NFPA 268.
 - 3. Potential Heat of Foam Plastic Insulation Tested Independently of Assembly: No portion of the assembly having potential heat that exceeds that of the insulation sample tested for flammability (above), when tested in accordance with NFPA 259 with results expressed in Btu per square foot.
- C. Water Penetration Resistance: No water penetration beyond the plane of the base coat/insulation board interface after 15 minutes, when tested in accordance with ASTM E331 at 6.24 psf differential pressure with tracer dye in the water spray; include in tested sample at least

two vertical joints and one horizontal joint of same type to be used in construction; disassemble sample if necessary to determine extent of water penetration.

- D. Salt Spray Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating after 300 hours exposure in accordance with ASTM B117, using at least three samples matching intended assembly, at least 4 by 6 inches in size.
- E. Freeze-Thaw Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating when viewed under 5x magnification after 10 cycles, when tested in accordance with ICC-ES AC219 or AC235.
- F. Weathering Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating when viewed under 5x magnification after 2000 hours of accelerated weathering conducted in accordance with ASTM G153 Cycle 1 or ASTM G155 Cycle 1, 5, or 9.
- G. Water Degradation Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating after 14 days exposure, when tested in accordance with ASTM D2247.
- H. Mildew Resistance: No growth supported on finish coating during 28 day exposure period, when tested in accordance with ASTM D3273.
- I. Abrasion Resistance Of Finish: No cracking, checking or loss of film integrity when tested in accordance with ASTM D968 with 500 liters of sand.

2.03 MATERIALS

- A. Finish Coating Top Coat: Water-based, air curing, acrylic or polymer-based finish with integral color and texture.
 - 1. Texture: Dryvit Systems, Inc., Standard Textures, with Dirt Pickup Resistance; Sandpebble Fine DPR.
 - 2. Color: As selected by StudioJAED from manufacturer's full range.
- B. Base Coat: Fiber-reinforced, acrylic or polymer-based product compatible with insulation board and reinforcing mesh.
- C. Reinforcing Mesh: Balanced, open weave glass fiber fabric, treated for compatibility and improved bond with coating, weight, strength, and number of layers as required to meet required system impact rating.

2.04 EXTERIOR ACRYLIC SOFFIT SYSTEM

- A. Basis-of-Design: Dryvit Textured Acrylic Finishes (TAFS Option 2) for Exterior Soffits.
- B. System Components:
 - 1. Reinforcing mesh embedded in base coat.
 - 2. Finish Coat.
- C. Color: Selected from manufacturer's full range.
- D. Texture: Sandpebble Fine.

PART 3 EXECUTION

3.01 GENERAL

- A. Install in accordance with EIFS manufacturer's instructions and ASTM C1397.
- B. Where different requirements appear in either document, comply with the most stringent.
- C. Neither of these documents supercedes the provisions of the Contract Documents that define the contractual relationships between the parties or the scope of work.

3.02 EXAMINATION

- A. Verify that substrate is sound and free of oil, dirt, other surface contaminants, efflorescence, loose materials, or protrusions that could interfere with EIFS installation and is of a type and construction that is acceptable to EIFS manufacturer. Do not begin work until substrate and adjacent materials are complete and thoroughly dry.
- B. Verify that substrate surface is flat, with no deviation greater than 1/4 in when tested with a 10 ft straightedge.

3.03 PREPARATION

- A. Apply primer to substrate as recommended by EIFS manufacturer for project conditions.

3.04 INSTALLATION - INSULATION

- A. Install in accordance with manufacturer's instructions.
- B. Install back wrap reinforcing mesh at all openings and terminations that are not to be protected with trim.
- C. On wall surfaces, install boards horizontally. On horizontal surfaces, install boards _____.
- D. Place boards in a method to maximize tight joints. Stagger vertical joints and interlock at corners. Butt edges and ends tight to adjacent board and to protrusions. Achieve a continuous flush insulation surface, with no gaps in excess of 1/16 inch.
- E. Fill gaps greater than 1/16 inch with strips or shims cut from the same insulation material.
- F. Rasp irregularities off surface of installed insulation board.
- G. Adhesive Attachment: Use method recommended by EIFS manufacturer.

3.05 INSTALLATION - FINISH

- A. Base Coat: Apply in thickness as necessary to fully embed reinforcing mesh, wrinkle free, including back-wrap at all terminations of the EIFS. Install reinforcing fabric as recommended by EIFS manufacturer.
 - 1. Lap reinforcing mesh edges and ends a minimum of 2-1/2 inches.
 - 2. Allow base coat to dry a minimum of 24 hours before next coating application.
- B. Apply finish coat after base coat has dried not less than 24 hours, embed finish aggregate, and finish to a uniform texture and color.
- C. Apply sealant at finish perimeter and expansion joints in accordance with Section 07 90 05.

3.06 CLEANING

- A. Clean EIFS surfaces and work areas of foreign materials resulting from EIFS operations.

END OF SECTION

SECTION 07 95 13
EXPANSION JOINT COVER ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Expansion joint assemblies for floor, wall, ceiling and soffit surfaces.

1.02 REFERENCE STANDARDS

- A. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.03 SUBMITTALS

- A. See Section 01 33 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide joint assembly profiles, profile dimensions, anchorage devices.
- C. Manufacturer's Installation Instructions: Indicate rough-in sizes; provide templates for cast-in or placed frames or anchors; required tolerances for item placement.

PART 2 PRODUCTS

2.01 EXPANSION JOINT COVER ASSEMBLY APPLICATIONS

- A. Interior Floor Joints:
 - 1. Basis-of-Design: Emseal Joint Systems Ltd.: Migutrans 50/35
 - 2. Where floor finish material is different on each side of the joint, feather the slab on the side of the thinner material to provide flush transition across joint.
- B. Interior Wall/Ceiling Joints:
 - 1. Basis-of-Design: Nystrom, Inc.: WJ-100 and WJ-100W

2.02 EXPANSION JOINT COVER ASSEMBLIES

- A. Expansion Joint Cover Assemblies - General: Factory-fabricated and assembled; designed to completely fill joint openings, sealed to prevent passage of air, dust, water, smoke; suitable for traffic expected.
 - 1. Joint Cover Sizes: Selected to suit joint width and configuration, based on manufacturer's published recommendations and limitations.
 - 2. Lengths: Provide covers in full lengths required; avoid splicing wherever possible.
 - 3. Anchors, Fasteners, and Fittings: Provided by cover manufacturer.
- B. Floor Joint Covers: Coordinate with indicated floor coverings.

2.03 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper; or ASTM B308/B308M, 6061 alloy, T6 temper.
 - 1. Exposed Finish at Floors: Natural anodized.
 - 2. Exposed Finish at Walls and Ceilings: Natural anodized.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joint preparation and dimensions are acceptable and in accordance with manufacturer's requirements.

3.02 PREPARATION

- A. Provide anchoring devices for installation and embedding.
 - 1. Provide templates and rough-in measurements.

3.03 INSTALLATION

- A. Install components and accessories in accordance with manufacturer's instructions.
- B. Align work plumb and level, flush with adjacent surfaces.
- C. Rigidly anchor to substrate to prevent misalignment.

3.04 SCHEDULE

- A. Provide floor, wall and ceiling expansion joint covers at all corridor connections to existing building. Six locations.

3.05 PROTECTION

- A. Do not permit traffic over unprotected floor joint surfaces.
- B. Provide strippable coating to protect finish surface.

END OF SECTION

TUBULAR DAYLIGHTING DEVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Tubular daylighting devices and accessories.

1.2 PERFORMANCE REQUIREMENTS

- A. Daylight Reflective Tubes: Spectralight Infinity with Cool Tube Technology combines ultra-high Visible Light reflectance with Ultra-low Infrared (IR) reflectance. Patented spectrally-selective optical surface yields an average total- and specular-reflectance greater than 99.5% percent for the Visible Light spectrum (400 nm to 700 nm) providing maximized visible light transmission and less than 25% reflectance for Infrared (IR) heat wavelengths (750 nm to 2500 nm) for minimized heat transmission, resulting in a spectrally-selective Total Solar Spectrum (250 nm to 2500 nm) reflectance less than 37 percent, as measured using a Perkin Elmer Lambda 1050 spectrophotometer with a Universal Reflectance Accessory. Color: a* and b* (defined by CIE L*a*b* color model) shall not exceed plus 2 or be less than minus 2 as determined in accordance to ASTM E 308.
- B. SOLAMASTER 330 DS-C (CLOSED CEILING)
 - 1. AAMA/WDMA/CSA 101/IS2/A440, Class CW-PG80, size tested 21 inch (533 mm) diameter, Type TDDOC and Type TDDCC.
 - a. Air Infiltration Test:
 - 1) Air infiltration will not exceed 0.30 cfm/sf aperture with a pressure delta of 1.57 psf across the tube when tested in accordance with ASTM E 283.
 - b. Water Resistance Test:
 - 1) Passes water resistance; no uncontrolled water leakage with a pressure differential of 10.7 psf (512 Pa) or 15 percent of the design load (whichever is greater) and a water spray rate of 5 gallons/hour/sf for 24 minutes when tested in accordance with ICC-ES AC-16, ASTM E 547 and ASTM E 331.
 - c. Uniform Load Test: All units tested with a safety factor of (3) for positive pressure and (2) for negative pressure, acting normal to plane of roof in accordance with ASTM E 330.
 - 1) No breakage, permanent damage to fasteners, hardware parts, or damage to make daylighting system inoperable or cause excessive permanent deflection of any section when tested at a Positive Load of 150 psf (7.18 kPa) or Negative Load of 70 psf (3.35 kPa).
 - 2. Hurricane Resistance:
 - a. Meets Florida Building Code TAS, 201, TAS, 202 and TAS 203 for Impact and non-impact components or HVHZ and non-HVHZ applications.
 - b. Meets ASTM E 1886 and ASTM E1996 for missile and cyclic pressure differential testing for TDI Windstorm zones.

3. Fire Testing:
 - a. Fire Rated Roof Assemblies:
 - 1) When used with the Dome Edge Protection Band, all domes meet fire rating requirements as described in the International Building Code for Class A, B, and C roof assemblies.
 - b. Self-Ignition Temperature - Greater than 650 degrees F per ASTM D-1929.
 - c. Smoke Density: Rating no greater than 450 per ASTM Standard E 84 in way intended for use. Classification C.
 - d. Rate of Burn and/or Extent: Maximum Burning Rate: 2.5 inches/min (62 mm/min) Classification CC-2 per ASTM D 635.
 - e. Rate of Burn and/or Extent: Maximum Burn Extent: 1 inch (25 mm) Classification CC-1 per ASTM D 635.
4. FM Certification:
 - a. Spread of Flame: Passes: Class A at 5 in12. No flame spread when tested in accordance with FM modified version of ASTM E108 Fire Test of Roof Coverings.
 - b. Simulated Hail Resistance (Pre UV Exposure): Passes: No cracking or breaks when tested with nominal 2.0 in. (51 mm) diameter ice ball having a kinetic energy of 26.8 ft-lbs (36.4J)
 - c. Simulated Hail Resistance (Post UV Exposure): Passes: No cracking or breaks when tested with nominal 2.0 in. (51 mm) diameter ice ball having a kinetic energy of 26.8 ft-lbs (36.4J) after no less than 1000 hours of ultraviolet (UV) light exposure.
 - d. Simulated Impact: Passes: No breakage or through openings when a 100 lb (45.5 kg) weight dropped from 4 ft (1.2 m) above highest point of test sample.
 - e. Simulated Wind Uplift: Passes: 195 psf Wind Rating. No separation, breaking or cracking occurred when tested in accordance with FM 4431.
5. Fall Protection Performance:
 - a. Passes fall protection test: No penetration of dome or curb cap when subject to 400 lb (160 Kg)/42 inch (1066 mm) impact drop test when tested in accordance with OSHA 29 CFR 1926.506(c) Safety Net Systems.
 - b. Passes fall protection test: California State OSHA Fall Protection Code of Regulations, Title 8, Section 3212 (e)(1) Skylight Screens.
6. Blast Resistance: ASTM F1642, ASTM F2912, GSA-TS01-2003, and UFC 4-010-01:
 - a. Airblast Loading ASTM Hazard Rating: Passes: No Hazard Rating
 - b. Airblast Loading UFC Level of Protection: Passes Medium Level of Protection
 - c. Dynamic Overpressure Loading ASTM Hazard Rating: Passes: No Hazard Rating
 - d. Dynamic Overpressure Loading UFC Level of Protection: Passes Medium Level of Protection

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.

3. Data sheets showing roof dome assembly, flashing base, reflective tubes, diffuser assembly, and accessories.
 4. Installation requirements.
- C. Shop Drawings. Submit shop drawings showing layout, profiles and product components, including rough opening and framing dimensions, anchorage, roof flashings and accessories.
- D. Test Reports: Independent testing agency or evaluation service reports verifying compliance with specified performance requirements.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Engaged in manufacture of tubular daylighting devices for minimum 20 years.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- B. Store products in manufacturer's unopened packaging until ready for installation.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.7 WARRANTY

- A. Daylighting Device: Manufacturer's standard warranty for 10 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design: Solatube International, Inc.; 2210 Oak Ridge Way, Vista, CA 92081. Tel. Toll Free: 888-765-2882. Tel: (760) 477-1120. Fax: (760) 597-4488. Email: commsales@solatube.com. Web: www.solatube.com.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 TUBULAR DAYLIGHTING DEVICES

- A. Tubular Daylighting Devices General: Transparent roof-mounted skylight dome and self-flashing curb, reflective tube, and ceiling level diffuser assembly, transferring sunlight to interior spaces; complying with ICC AC-16.
- B. SolaMaster Series: Solatube Model 330 DS, 21 inch (530 mm) Daylighting System:
 - 1. Model:
 - a. Solatube Model 330 DS-O Open Ceiling. AAMA Type TDDOC.
 - 2. Capture Zone:
 - a. Roof Dome Assembly: Transparent, UV and impact resistant dome with flashing base supporting dome and top of tube.
 - 1) Dome Glazing: Type DA, 0.143 inch (3.7 mm) minimum thickness injection molded acrylic classified as CC2 material; UV inhibiting (100 percent UV C, 100 percent UV B and 98.5 percent UV A), impact modified acrylic blend.
 - 2) Dome Glazing: Type DP, 0.115 inch (3 mm) minimum thickness polycarbonate classified as CC1 material.
 - 3) Tube Ring: Attached to top of base section; 0.090 inch (2.3 mm) nominal thickness injection molded high impact PVC; to prevent thermal bridging between base flashing and tubing and channel condensed moisture out of tubing. Attached to the base of the dome ring using butyl glazing rope 0.24 inch (6 mm) diameter; to minimize air infiltration.
 - 4) Dome Seal: Adhesive backed weatherstrip, 0.63 inch (16 mm) tall by 0.28 inch (7 mm) wide.
 - 5) LightTracker Reflector, made of aluminum sheet, thickness 0.015 inch (0.4 mm) with Spectralight Infinity. Positioned in the dome to capture low angle sunlight.
 - b. Dome Options:
 - 1) Dome Edge Protection Band for Curb Cap: Type PBC, for fire rated Class A, B or C roof applications with 750 DS Domes on Curb Cap Flashing installations. Galvanized steel. Nominal thickness of 0.039 inch (1 mm). For use with Curb Cap Flashing (Type FC), only.
 - c. Flashings:
 - 1) Roof Flashing Base:
 - (a) One Piece: One piece, seamless, leak-proof flashing functioning as base support for dome and top of tube. Sheet steel, corrosion resistant conforming to ASTM A 653/A 653M or ASTM A 463/A 463M or ASTM A 792/A 792M, 0.028 inch (0.7 mm) plus or minus .006 inch (.015 mm) thick.
 - (1) Base Style: Type F4, Self Mounted, 4 inches (102 mm) high.
 - (2) Base Style: Type F8, Self Mounted, 8 inches (203 mm) high.
 - (3) Base Style: Type F11, Self Mounted, 11 inches (279 mm) high.
 - (4) Base Style: Type FC, Curb cap, with inside dimensions of 27 inches by 27 inches (685 mm by 685 mm) to cover curb as specified in Section 07600.
 - 2) Flashing Options:
 - (a) Flashing Insulator: Type FI, Thermal isolation material is for use under the following flashing types: Type F4, F8, or F11.

- (b) Curb Insulator: Curb Insulator, Type CI, Thermal isolation material is for use under flashing Type FC.
 - (c) Curb Cap Insulation: Type CCI, Nominal 1 inch thick thermal insulation pad to reduce thermal conduction between curb-cap and tubing and thermal convection between room air and curb-cap. Rated R-6 ($^{\circ}\text{F}\cdot\text{ft}^2\cdot\text{hr}/\text{Btu}$) Insulation is Polyisocyanurate foam utilizing CFC, HCFC, & HFC free blowing agent. Type-1 Class-1 per ASTM C 1289; Passes UL 1715 (15-minute thermal barrier per IBC 2603.4); Attic ventilation may be required per IBC 1203.2($^{\circ}\text{F}\cdot\text{ft}^2\cdot\text{hr}/\text{Btu}$)
 - (d) Roof Flashing Turret Extensions: Provide manufacturer's standard extensions for applications as requiring:
 - (1) Type T12: Additional lengths of 12 inches (300 mm) extension.
 - (2) Type T24: Additional lengths of 24 inches (600 mm) extension.
 - (3) Type T36: Additional lengths of 36 inches (900 mm) extension.
 - (4) Type T48: Additional lengths of 48 inches (1200 mm) extension.
 - (e) Membrane Counter Flashing: Type MCF, one piece, seamless, spun Aluminum Alloy 1100, functioning as a counter flashing for use with F8 or F11 Flashings, only, when applied to membrane roofs. Corrosion resistant conforming to ASTM B 209, 0.059 inch (1.5 mm) thick.
- 3. Transfer Zone:
 - a. Extension Tubes: Aluminum sheet, thickness 0.018 inch (0.5 mm).
 - 1) Reflective Tubes:
 - (a) Reflective extension tube, Type EXX and Type EL with total length of run as indicated on the Drawings.
 - (b) Interior Finish: Spectralight Infinity with Cool Tube Technology combining ultra-high Visible Light reflectance with Ultra-low Infrared (IR) reflectance.
 - 2) Tube Options
 - (a) Thermal Insulation Panel: Type TIP, high-performance dual-glazed, thermally-broken tube insulation system.
 - (b) Wire Suspension Kit: Type E, Use the wire suspension kit when additional bracing to the structure is required.
- 4. Delivery Zone:
 - a. Diffuser Assemblies for Tubes Penetrating Ceilings: Ceiling mounted box transitioning from round tube to square ceiling assembly, supporting light transmitting surface at bottom termination of tube 23.8 inches by 23.8 inches (605 mm by 605 mm) square frame to fit standard suspended ceiling grids or hard ceilings.
 - 1) Lens: Type L2 Prismatic lens design to maximize light output and diffusion with extruded aluminum frame and EPDM foam seal to minimize condensation and bug, dirt and air infiltration per ASTM E 283.

Visible Light Transmission shall be greater than 90 percent at 0.100 inches (2.5 mm) thick. Classified as CC2.

(a) Listed Class-2, 24VAC Transformer.

2.3 ACCESSORIES

- A. Curb: 18 inch, insulated curb.
- B. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.
- C. Suspension Wire: Steel, annealed, galvanized finish, size and type for application and ceiling system requirement.
- D. Sealant: Polyurethane or copolymer based elastomeric sealant as provided or recommended by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Examine openings, substrates, structural support, anchorage, and conditions for compliance with requirements for installation tolerances and other conditions.
- C. If substrate and rough opening preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Coordinate requirements for power supply, conduit and wiring.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions.
- B. Coordinate installation with substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing to ensure that each element of the Work performs properly and that finished installation is weather tight.
 - 1. Install flashing to produce weatherproof seal with curb and overlap with roofing system termination at top of curb.

2. Provide thermal isolation when components penetrate or disrupt building insulation. Pack fibrous insulation in rough opening to maintain continuity of thermal barriers.
 3. Coordinate attachment and seal of perimeter air and vapor barrier material.
- C. Where metal surfaces of tubular unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, provide permanent separation as recommended by manufacturer
- D. Align device free of warp or twist, maintain dimensional tolerances.
- E. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.
- F. Inspect installation to verify secure and proper mounting. Test each fixture to verify operation, control functions, and performance. Correct deficiencies.

3.4 CLEANING

- A. Clean exposed surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 10 51 00

LOCKERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal lockers.

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 01 78 39 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.04 SUBMITTALS

- A. See Section 01 33 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's published data on locker construction, sizes and accessories.
- C. Shop Drawings: Indicate locker plan layout, numbering plan and combination lock code.
- D. Manufacturer's Installation Instructions: Indicate component installation assembly.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect locker finish and adjacent surfaces from damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Lockers:
 - 1. Penco Products, Inc: www.pencoproducts.com.
 - 2. Republic Storage Systems Co: www.republicstorage.com.
 - 3. List Industries, Inc.: www.listindustries.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 LOCKER APPLICATIONS

- A. Student Lockers: Single tier metal lockers, wall mounted with matching closed base.
 - 1. Basis-of-Design: Penco Products, Inc.: Vanguard.
 - 2. Width: 12 inches.
 - 3. Depth: 12 inches.
 - 4. Height: 72 inches.
 - 5. Fittings: Hat shelf, 2 coat hooks.
 - 6. Locking: Built-in combination locks.
 - 7. Provide sloped top.
 - 8. Provide 4" closed base.
 - 9. Provide lockers configured for handicapped accessibility where shown on plan.
- B. Athletic Lockers: Single tier metal lockers, wall mounted with concrete base.
 - 1. Basis-of-Design: Penco Products, Inc.: All-Welded.
 - 2. Width: 18 inches.
 - 3. Depth: 18 inches.
 - 4. Height: 72 inches.
 - 5. Fittings: Hat shelf, rod, 2 coat hooks.
 - 6. Locking: Padlock hasps, for padlocks provided by Owner.

7. Provide sloped top.
8. Set on concrete base.
9. Provide perforated sides and front.
10. Provide lockers configured for handicapped accessibility where shown on plan.

2.03 METAL LOCKERS

- A. Lockers: Factory assembled, made of formed sheet steel, ASTM A653/A653M SS Grade 33/230, with G60/Z180 coating, stretcher leveled; metal edges finished smooth without burrs; baked enamel finished inside and out.
 1. Where ends or sides are exposed, provide flush panel closures.
 2. Provide filler strips where indicated, securely attached to lockers.
 3. Color: To be selected by StudioJAED; allow for 2 different colors.
- B. Sloped Top: 20 gage, 0.036 inch, with closed ends.
- C. Trim: 20 gage, 0.036 inch.
- D. Filler panels: 20 gage, 0.036 inch.
- E. Coat Hooks: Stainless steel or zinc-plated steel.
- F. Number Plates: Provide oval shaped brass plates, block font style with ADA designation in contrasting color

2.04 BENCHES AND PEDESTALS

- A. Bench: 20 x 72 x 1-1/4 inch hardwood bench top.
- B. Pedestal: 16-1/4 inch high steel tube pedestal anchored the the floor.
 1. Four per bench.
 2. Color: Gray.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install lockers plumb and square.
- C. Secure lockers with anchor devices to suit substrate materials. Minimum Pullout Force: 100 lb.
- D. Bolt adjoining locker units together to provide rigid installation.
- E. Install accessories.
- F. Replace components that do not operate smoothly.

3.02 CLEANING

- A. Clean locker interiors and exterior surfaces.

END OF SECTION

SECTION 10 56 13
METAL STORAGE SHELVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Post and beam rivet shelving with wood shelves.
- B. Shelving accessories.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. ANSI MH28.1 - American National Standard for the Design, Testing, Utilization and Application of Industrial Grade Steel Shelving - Specifications.

1.04 SUBMITTALS

- A. See Section 01 33 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Rated uniform shelf loads.
 - 2. Details of shelving assemblies, including reinforcement.
 - 3. Accessories.
- C. Test Reports: Provide independent agency test reports documenting compliance with specified structural requirements.
- D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Caesar Rodney School District's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Inspect for dents, scratches, or other damage. Replace damaged units.
- B. Store in manufacturer's unopened packaging until ready for installation.
- C. Store under cover and elevated above grade.

1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide one year manufacturer warranty covering defects of manufacturing and workmanship and rust and corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Post and Beam Rivet Shelving:
 - 1. Penco Products, Inc RivetRite Shelving: www.pencoproducts.com.

2.02 SHELVING - GENERAL

- A. Shelving: Provide products tested to comply with ANSI MH28.1 for design criteria, lateral stability, shelf connections, and shelf capacity.
- B. Anchors: Provide anchoring hardware to secure each shelving unit to floor and wall.
 - 1. Provide hardware of type recommended by manufacturer for substrate.

2.03 RIVET SHELVING

- A. Rivet Shelving: Steel post-and-beam type with sway bracing, shelving brackets, shelving surfaces, and accessories as specified.
 - 1. Unit Width: 36 inches, center to center of posts.
 - 2. Shelf Depth: 24 inches, minimum.
 - 3. Shelf Quantity: Six per unit.
 - 4. Unit Height: 120 inches, overall.
 - 5. Finish: Baked enamel, medium gloss.
 - 6. Number of Units: 36.
- B. Posts and Beams: Formed sheet members; perforations may be exposed on face of members.
 - 1. Heavy-duty, double rivet.
- C. Shelves: Wood
 - 1. Shelf Material: 3/4" particle board.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate is level and that clearances are as specified.
- B. Verify that walls are suitable for shelving attachment.
- C. Do not begin installation until substrates have been properly prepared.
- D. If substrate preparation is the responsibility of another installer, notify StudioJAED of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Anchor and reinforce as specified and as recommended by manufacturer.
- C. Anchor shelving units to wall.
- D. Install shelving with shelf surfaces level and vertical supports plumb; adjust feet and bases as required.
- E. Out-Of-Square Tolerance - Four Post Shelving: Maximum of 1/8 inch difference in distance between bottom shelf and canopy top, measured along any post in any direction.

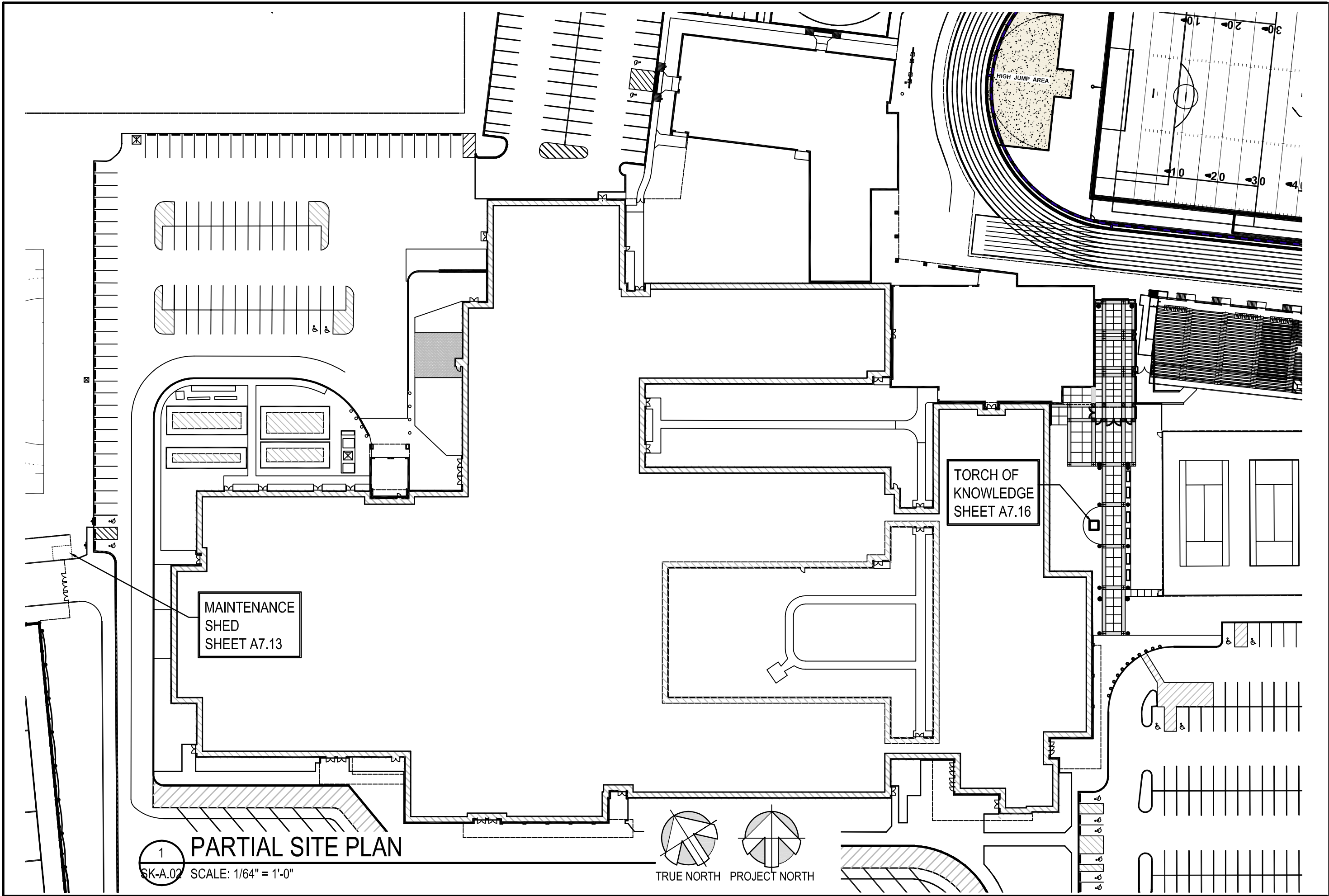
3.04 CLEANING

- A. Clean shelving and surrounding area after installation.

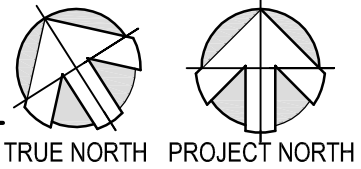
3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



1
SK-A.02
PARTIAL SITE PLAN
SCALE: 1/64" = 1'-0"



07/27/18 DATE	16061 PROJECT NO.	SK-A.01 SHEET NO.	CAESAR RODNEY SCHOOL DISTRICT CAESAR RODNEY HIGH SCHOOL ADDITIONS AND RENOVATIONS 239 OLD NORTH ROAD CAMDEN, DE 19934	 STUDIO JAED ARCHITECTS ■ ENGINEERS ■ FACILITIES SOLUTIONS CORPORATE HEADQUARTERS 2000 W. BAYVIEW BLVD., SUITE 110 BEAVER CREEK, CO 80501 P: (303) 833-1832 F: (303) 833-1423 Website: www.StudioJAED.com E-Mail: info@StudioJAED.com	REVISIONS: ADDENDUM 3
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**SITE
UTILIZATION
REV 2
6-27-18**