

**MANSFIELD MIDDLE SCHOOL
ROOF REPLACEMENT AND PHOTOVOLTAIC PROJECT
205 SPRING HILL ROAD
STORRS, CT 06268**

State Project No. 078-0069 RR

State Project No. 078-0070 PV

S/P+A PROJECT NO. 20.087

DATE: April 28, 2021

The following changes to the Drawings and Project Specifications shall become a part of the Drawings and Project Specifications; superseding previously issued Drawings and Project Specifications to the extent modified by Addendum No. 1.

General Information/Clarifications:

- Pre-Bid sign-in sheet, attached as part of this Addendum. (2 pages)

RFI's: As indicated in the Bid Log, attached as part of this Addendum. (1 page)

New Specifications

- Add: Section 012300 "Alternates", attached as part of this Addendum. (2 pages)

Changes to the Specifications:

- Specification Section 075216 "SBS Modified Bituminous Membrane Roofing": Revise Paragraph 2.5/B to indicate "Polyisocyanurate Board Insulation: ASTM C 1289, ASTM D1621, Type II, Class I, Grade 3 (High-Density 25 PSI Compressive Strength), felt or glass-fiber mat facer on both major surfaces". Revise paragraph 2.6/G (Cover Board) to indicate "High Density".
- Delete: Section 077200 "Roof Accessories" in its entirety.
- Add: Revised Section 077200 "Roof Accessories". (10 pages)
- Delete: Bid Form in its entirety.
- Add: Revised Bid Form. (4 pages)
- Delete: Section 074212.23 "Metal Composite Material Wall Panels" in its entirety.

The bid due dates are unchanged by this Addendum.

The Addendum consists of twenty (20) pages of 8½" x 11" text, and zero (0) pages of 30" x 42" drawings.

End of Addendum #1



BID RFI LOG

PROJECT NAME: **Mansfield Middle School Roof Replacement & Photovoltaic Project**
205 Spring Hill Road
Mansfield, CT 06268

Contractor: All Bidders

SP+A PROJECT NUMBER: 20.087

RFI #	DESCRIPTION	DATE RECEIVED	COMMENTS	ADDENDUM #
RFI 01	GCE is not a state DAS certified contractor. Is it possible to have a DAS certified electrician bid as the contractor with a non-state certified solar developer listed as their subcontractor?	2021-04-16	The prime contractor needs to be DAS Certified. In this case, whatever GC's submit bids for the entire project.	1
RFI 02	Is it possible to submit a bid for the solar installation portion only or does the bidder need to submit a bid for the roof replacement as well?	2021-04-16	The project is structured for contractors to submit a bid for the <u>entire</u> project. The bid form requires a breakdown of the bid into the two categories – roof and PV for state grant accounting purposes.	1
RFI 03	Is tree clearing or tree trimming allowed if needed?	2021-04-20	Tree trimming shouldn't be needed, the owner would have to answer if it is allowed.	1
RFI 04	Is the Town only interested in purchasing the solar array outright or would they be open to a PPA where the solar developer would own and maintain the array?	2021-04-20	The Town is only interested in purchasing the solar array outright.	1
RFI 05	Can you please confirm the electrical configuration and capacity of the school's main switchboard?	2021-04-20	Switchgear is Square D, configuration is 277/480V, 3-phase, capacity is 4000A.	1
RFI 06	Is the school's preference to have both the roof and solar array installed this summer? If yes, would the plan be to have the sections of the roof where the solar will be installed replaced first so solar installation and roof installation can run parallel to each other? If delays are caused due to weather, etc., would it be ok if the solar install carried over after students return in the fall?	2021-04-20	Yes, the intent is that roof and solar array shall both be installed this summer. The contractor awarded the project will be responsible for producing a schedule. The intent is that Roof sections which will have solar shall be replaced first so roof replacement and PV installation can run parallel to each other. If there are reasonable delays, as defined by the contract, such as weather, then it would be ok if the solar install carried over after students return in the fall.	1
RFI 07	Could you please share the sign-in list from tomorrow's site visit?	2020-04-22	YES, it will be made available by Addendum.	1
RFI 08	In reviewing the Roof Plan A1, Roof Areas 'R', and 'Z' indicate an Existing Roof Pitch of 1/12 and indicate a ¼" per foot tapered insulation also. Is this Correct? Please clarify.	2020-04-22	Drawing A1: Revise note on Roof Areas 'R' and 'Z' from 1/4" per foot tapered insulation to 5" rigid insulation.	1
RFI 09	Specification Section 075216;3.3;H1 indicates a Nailed Base Sheet @ Tectum Decks with flat and Tapered insulation set in Low Rise Adhesive with Cover Board (½" DensDeck) set in set in Hot Asphalt. Can All Insulations and Cover Board be Set in Hot Asphalt in lieu of specified Low Rise Adhesive?	2020-04-22	Install all insulations with Low Rise Adhesive. Cover board can be set in Hot Asphalt.	1
RFI 10	At Metal roof deck areas Specification 075216;3.3;H2 indicates to ADHERE base layer of insulation to Metal Deck in low rise adhesive with subsequent layers in low rise adhesive with Cover Board (1/2" DensDeck) set in hot asphalt? Is this Correct? Can we Mechanically Fasten ALL Insulation thru to metal deck with the cover board(1/2" DensDeck) in Hot as Specified?	2020-04-22	Install all insulations with Low Rise Adhesive. Cover board can be set in Hot Asphalt.	1
RFI 11	Is the Existing roof deck slope of 1/12" at multiple roof areas(as shown on A1) actually 1/12 or less? Roofing Manufacturers will require wood nailers and Back Nailing of felts of any slope greater than ¼/12 pitch.	2020-04-21	Provide Wood Nailers and Back Nailing per Manufacturer's requirements.	1
RFI 12	Are mechanical attachments allowed? If not, can you confirm the PSF of the new roof will support a fully ballasted PV system?	2020-04-22	Specification Section 075216 "SBS Modified Bituminous Membrane Roofing": Revise Paragraph 2.5/B to indicate "Polyisocyanurate Board Insulation: ASTM C 1289, ASTM D1621, Type II, Class I, Grade 3 (High-Density 25 PSI Compressive Strength), felt or glass-fiber mat facer on both major surfaces". Revise paragraph 2.6/G (Cover Board) to indicate "High Density". All materials and attachments, if required, will need to be 100% acceptable and fully warranted by the roofing manufacturer.	1
RFI 13	Specification 074213.23 describes Aluminum Composite Wall Panels. After review of the drawings and walkthrough of the project, where will the Aluminum Composite Panels described in the specification section be installed? Detail M/A2 shows cutting back an existing metal panel, but this panel is a standing seam panel, not a aluminum composite panel. Please advise where the Aluminum Composite Panels are to be installed. If they are to be installed at a location on this project, please provide a detail showing this work.	2020-04-27	Delete in its entirety Specification Section 074213.23 "Metal Composite Material Wall Panels". Per detail M/A2, remove and reinstall existing metal panels (as noted) which are to be cut, off the roof, as required to raise the bottom above the new roof height. Provide touch up paint to the cut edge.	1
RFI 14				
RFI 15				
RFI 16				

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. **ADD ALTERNATE NO. 1: Provision of New Roof Hatch:** Add to the Base Bid the labor, materials and equipment to incorporate into the scope of work provision of a new Roof Hatch, as indicated in the Specifications and the Drawings. The Work includes the provision of all related components of the Roof Hatch System.

END OF SECTION 012300

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Roof curbs.
- 2. Equipment supports.
- 3. Roof hatches.
- 4. Preformed flashing sleeves.

B. Related Sections:

- 1. Section 076200 "Sheet Metal Flashing and Trim" for shop- and field-formed metal flashing, roof-drainage systems, roof expansion-joint covers, and miscellaneous sheet metal trim and accessories.
- 2. Section 077100 "Roof Specialties" for manufactured fasciae, copings, gravel stops, gutters and downspouts, and counterflashing.
- 3. Section 077129 "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint covers.

1.3 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.
- B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of roof accessory.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For roof accessories.

1. Include plans, elevations, keyed details, and attachments to other work. Indicate dimensions, loadings, and special conditions. Distinguish between plant- and field-assembled work.
- C. Samples: For each exposed product and for each color and texture specified, prepared on Samples of size to adequately show color.
- D. Delegated-Design Submittal: For roof curbs, equipment supports and walkways indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 1. Detail mounting, securing, and flashing of roof-mounted items to roof structure. Indicate coordinating requirements with roof membrane system.
 2. Wind-Restraint Details: Detail fabrication and attachment of wind restraints. Show anchorage details and indicate quantity, diameter, and depth of penetration of anchors.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items. Show the following:
 1. Size and location of roof accessories specified in this Section.
 2. Method of attaching roof accessories to roof or building structure.
 3. Other roof-mounted items including mechanical and electrical equipment, ductwork, piping, and conduit.
 4. Required clearances.
- B. Sample Warranties: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For roof accessories to include in operation and maintenance manuals.

1.7 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within specified warranty period.
 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS**2.1 PERFORMANCE REQUIREMENTS**

- A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design roof curbs and equipment supports to comply with wind performance requirements, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- C. Wind-Restraint Performance: As indicated on Drawings.

2.2 ROOF CURBS

- A. Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings, bearing continuously on roof structure, and capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, straight sides, and integrally formed deck-mounting flange at perimeter bottom.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bristolite Daylighting Systems, Inc.
 - b. Milcor; Commercial Products Group of Hart & Cooley, Inc.
 - c. Roof Curb Systems
 - d. Substitutions: Under provisions of Section 012500 "Substitution Procedures".
 - B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
 - C. Supported Load Capacity: As indicated on Drawings.
 - D. Material: Zinc-coated (galvanized) steel sheet, 0.064 inch thick.
 - 1. Finish: Two-coat fluoropolymer.
 - 2. Color: As selected by Architect from manufacturer's full range of standard colors.
 - E. Construction:
 - 1. Curb Profile: Manufacturer's standard compatible with roofing system.
 - 2. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
 - 3. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.

4. Top Surface: Level top of curb, with roof slope accommodated by sloping deck-mounting flange or by use of leveler frame.
5. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.
6. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
7. Liner: Same material as curb, of manufacturer's standard thickness and finish.
8. Nailer: Factory-installed wood nailer along top flange of curb, continuous around curb perimeter.
9. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb, of size and spacing required to meet wind uplift requirements.
10. Platform Cap: Where portion of roof curb is not covered by equipment, provide weathertight platform cap formed from 3/4-inch thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
11. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as curb.
12. Security Grille: Provide where indicated.
13. Damper Tray: Provide damper tray or shelf with opening 3 inches less than interior curb dimensions indicated.

2.3 ROOF HATCH

- A. Roof Hatches: Thermally-broken metal roof-hatch units with lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, straight sides, and integrally formed deck-mounting flange at perimeter bottom.
 1. Basis-of-Design Manufacturer: Bilco Company (The); F-50TB (Thermally Broken)
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bristolite Daylighting Systems, Inc.
 - b. Nystrom, Inc.
 - c. Substitutions: Under provisions of Section 012500 "Substitution Procedures".
- B. Type and Size: Single-leaf lid, 48 by 48 inches (16 s.f. total).
- C. Loads: Minimum 40-lbf/sq. ft. external live load and 20-lbf/sq. ft. internal uplift load.
- D. Hatch Material: Aluminum sheet.
 1. Thickness: Manufacturer's standard thickness for hatch size indicated.
 2. Finish: Two-coat fluoropolymer.
 3. Color: As selected by Architect and Owner from manufacturer's full range.
- E. Construction:
 1. Insulation: Polyisocyanurate board.

- a. R-Value: 12.0 according to ASTM C 1363.
 - 2. Nailer: Factory-installed wood nailer continuous around hatch perimeter.
 - 3. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 - 4. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
 - 5. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 - 6. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.
 - 7. Sloping Roofs: Where slope or roof deck exceeds 1:48, fabricate curb with perimeter curb height that is tapered to accommodate roof slope so that top surfaces of perimeter curb are level. Equip hatch with water diverter or cricket on side that obstructs water flow.
- F. Hardware: Spring operators, hold-open arm, galvanized-steel spring latch with turn handles, stainless-steel butt- or pintle-type hinge system, and padlock hasps inside and outside.
- 1. Provide two-point latch on lids larger than 84 inches.
- G. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.
- 1. Height: 42 inches above finished roof deck.
 - 2. Posts and Rails: Galvanized-steel pipe, 1-1/4 inches in diameter or galvanized-steel tube, 1-5/8 inches in diameter.
 - 3. Flat Bar: Galvanized steel, 2 inches high by 3/8 inch thick.
 - 4. Maximum Opening Size: System constructed to prevent passage of a sphere 21 inches in diameter.
 - 5. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
 - 6. Post and Rail Tops and Ends: Weather resistant, closed or plugged with prefabricated end fittings.
 - 7. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members.
 - 8. Fabricate joints exposed to weather to be watertight.
 - 9. Fasteners: Manufacturer's standard, finished to match railing system.
 - 10. Finish: Manufacturer's standard.
- a. Color: As selected by Architect from manufacturer's full range of standard colors.
- H. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.
- 1. Operation: Post locks in place on full extension; release mechanism returns post to closed position.
 - 2. Height: 42 inches above finished roof deck.
 - 3. Material: Steel tube.

4. Post: 1-5/8-inch-diameter pipe.
5. Finish: Manufacturer's standard baked enamel or powder coat.
 - a. Color: As selected by Architect from manufacturer's full range of standard colors.

2.4 EQUIPMENT SUPPORTS

- A. Equipment Supports: Internally reinforced perimeter metal equipment supports capable of supporting superimposed live and dead loads between structural supports, including equipment loads and other construction indicated on Drawings, spanning between structural supports; capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed structure-mounting flange at bottom.
 1. Coordinate Equipment Supports with those specified in Division 23 Mechanical sections.
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Conn-Fab Sales, Inc.
 - b. LM Curbs
 - c. Roof Curb Systems
 - d. Substitutions: Under provisions of Section 012500 "Substitution Procedures".
- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Supported Load Capacity: As indicated on Drawings.
- D. Material: Zinc-coated (galvanized) steel sheet, 0.079 inch thick.
 1. Finish: Two-coat fluoropolymer.
 2. Color: As selected by Architect from manufacturer's full range.
- E. Construction:
 1. Curb Profile: Manufacturer's standard compatible with roofing system.
 2. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
 3. Liner: Same material as equipment support, of manufacturer's standard thickness and finish.
 4. Nailer: Factory-installed continuous wood nailers 5-1/2 inches wide on top flange of equipment supports, continuous around support perimeter.
 5. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb of size and spacing required to meet wind uplift requirements.
 6. Platform Cap: Where portion of equipment support is not covered by equipment, provide weathertight platform cap formed from 3/4-inch thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
 7. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as equipment support.

8. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
9. Fabricate equipment supports to minimum height of 12 inches above roofing surface unless otherwise indicated.
10. Sloping Roofs: Where roof slope exceeds 1:48, fabricate each support with height to accommodate roof slope so that tops of supports are level with each other. Equip supports with water diverters or crickets on sides that obstruct water flow.
11. Security Grille: Provide where indicated on Drawings.

2.5 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653, G90 coating designation.
 1. Exposed Coil-Coated Finish: Pre-painted by the coil-coating process to comply with ASTM A 755. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Two-Coat Fluoropolymer Finish: AAMA 621. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.
- B. Steel Shapes: ASTM A 36, hot-dip galvanized according to ASTM A 123 unless otherwise indicated.
- C. Steel Tube: ASTM A 500, round tube.
- D. Galvanized-Steel Tube: ASTM A 500, round tube, hot-dip galvanized according to ASTM A 123.
- E. Steel Pipe: ASTM A 53, galvanized.
- F. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792, AZ50 coated.
 1. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil.
 - a. Two-Coat Fluoropolymer Finish: AAMA 621. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.
 2. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.
- G. Aluminum Sheet: ASTM B 209, manufacturer's standard alloy for finish required, with temper to suit forming operations and performance required.
 1. Exposed Coil-Coated Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

- a. Two-Coat Fluoropolymer Finish: AAMA 2605. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.
- 2. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.
- H. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used; otherwise mill finished.

2.6 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, thickness and thermal resistivity as indicated.
- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium, and complying with AWPA C2; not less than 1-1/2 inches thick.
- D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.
- E. Underlayment:
 - 1. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
 - 2. Polyethylene Sheet: 6-mil-thick polyethylene sheet complying with ASTM D 4397.
 - 3. Slip Sheet: Building paper, 3 lb/100 sq. ft. minimum, rosin sized.
 - 4. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
 - 5. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
 - 6. Fasteners for Zinc-Coated or Aluminum-Zinc Alloy-Coated Steel: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153 or ASTM F 2329.
 - 7. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 8. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
- F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.
- G. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.

- H. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.
- I. Asphalt Roofing Cement: ASTM D 4586/D 4586M, asbestos free, of consistency required for application.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- C. Verify dimensions of roof openings for roof accessories.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions.
 - 1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 - 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 - 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 - 1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.

2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.
 3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.
- C. Roof Curb Installation: Install each roof curb so top surface is level.
- D. Equipment Support Installation: Install equipment supports so top surfaces are level with each other.
- E. Roof-Hatch Installation:
1. Verify that roof hatch operates properly. Clean, lubricate, and adjust operating mechanism and hardware.
 2. Attach safety railing system to roof-hatch curb.
 3. Attach ladder-assist post according to manufacturer's written instructions.
- F. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 099113 "Exterior Painting."
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Clean off excess sealants.
- E. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

(To be submitted in duplicate)

BIDDER: _____
Name

Address

To: **Ms. Charmaine Bradshaw-Hill**
Director of Finance
Mansfield Town Hall
4 South Eagleville Road
Storrs, CT 06268

Project: **MANSFIELD MIDDLE SCHOOL**
ROOF REPLACEMENT AND PHOTOVOLTAIC PROJECT
205 SPRING HILL ROAD
STORRS, CT 06268

In preparing this bid, we have carefully examined the Bidding Documents for this Project. We have visited the site and noted the conditions affecting the Work.

The Bidding Documents referred to include Drawings and Project Manual dated December 2, 2020 for the above referenced project, prepared by Silver/Petrucci + Associates, Inc., Hamden, Connecticut.

We propose to perform the work described in the Bidding Documents, in keeping with definitions of Article 1 of the Instructions to Bidders, for the Base Bid Sum as follows:

Base Bid (Total Cost for Roof Replacement and PV Installation):

Mansfield Middle School Roof Replacement and Photovoltaic Project for a Total Cost of:

\$ _____ Dollars (\$) _____ .00).
written figure

We will commence work on the project _____

calendar days after receipt of "Notice to Proceed" or signing of Contract (whichever is earlier). We will be able to substantially complete the project within _____ calendar days thereafter (see SIB-1, 1.1.B) but no later than _____, 2021.

Total Cost for Roof Replacement Only:

Mansfield Middle School Roof Replacement Project for a Total Cost of:

\$ _____ Dollars (\$) _____ .00).
written figure

We will commence work on the project _____ calendar days after receipt of "Notice to Proceed" or signing of Contract (whichever is earlier). We will be able to substantially complete the project within _____ calendar days thereafter (see SIB-1, 1.1.B) but no later than _____, 2021.

Total Cost for PV Installation Only):

Mansfield Middle School Photovoltaic Project for a Total Cost of:

\$ _____ Dollars (\$) _____ .00).
written figure

We will commence work on the project _____ calendar days after receipt of "Notice to Proceed" or signing of Contract (whichever is earlier). We will be able to substantially complete the project within _____ calendar days thereafter (see SIB-1, 1.1.B) but no later than _____, 2021.

Allowances: (See Section 012100)

- Allowance No. 1: Metal Deck Repair/Replacement (part of Base Bid) \$ _____
- Allowance No. 2: Tectum Deck Repair/Replacement (part of Base Bid) \$ _____
- Allowance No. 3: Pressure/Fire Treated Wood Blocking (part of Base Bid) \$ _____

Unit Prices:

As required by the Base Bid, should deteriorated or damaged materials be required to be removed as determined by the Architect or Owner, the cost to remove and replace the referenced material, (or credit for specified material not provided or installed) including all labor, material, equipment and related furnishings is as follows:

- 1. Add Metal Deck Repair/Replacement, as specified, cut to fit around roof structure and systems and installed \$ _____/sf
- 2. Deduct Metal Deck Repair/Replacement, as specified, cut to fit around roof structure and systems and installed \$ _____/sf
- 3. Add Tectum Deck Repair/Replacement, as specified, cut to fit around roof structure and systems and installed \$ _____/sf
- 4. Deduct Tectum Deck Repair/Replacement, as specified, cut to fit around roof structure and systems and installed \$ _____/sf
- 5. Add pressure treated wood blocking, as specified, cut to fit around roof structure and systems and installed \$ _____/bf
- 6. Deduct pressure treated wood blocking, as specified, cut to fit around roof structure and systems and installed \$ _____/bf

Alternates

ADD ALTERNATE NO. 1: New Roof Hatch: For the work, methods, procedures and materials (See Section 012300 and the Construction Documents), we propose to Add to the Base Bid a total of _____ Dollars (\$) _____ .00)

Written figure

The project schedule will be increased by _____ calendar days to complete the work indicated under Alternate 1.

Exceptions: _____

If written notice of the acceptance of this Bid is mailed, telegraphed or delivered to the undersigned at the Address designated below, within ninety (90) days after the date of Bid Opening, or any time thereafter before this Bid is withdrawn, the undersigned will, within ten (10) days after the date of mailing, telegraphing or delivering of the notice, execute and deliver a contract in the Standard Form of Agreement Between the Owner and Contractor, AIA Document A101, or similar contract modified as may be mutually agreed upon.

The undersigned acknowledges that he has examined the documents, visited and examined the site as required under "Instructions to Bidders", examined the availability of labor and materials and further agrees to comply with all the requirements as to the conditions of employment and wage rates set forth by the Department of Labor.

Addenda:

The undersigned acknowledges receipt of the following addenda to the Contract Documents, listed by number and date:

Number , Dated: _____ Number , Dated: _____
Number , Dated: _____ Number , Dated: _____

Exceptions: _____

ATTACHMENTS – Attached hereto (by Contractor) is:

- 1. **Bid Bond**
- 2. **Contractor Prequalification Statement**
- 3. **Update Bid Statement**
- 4. **CHRO Bidder Contract Compliance Monitoring Report**
- 5. **Attachment A – Insurance Requirements**
- 6. **Attachment B – Questionnaire Concerning Occupational Health and Safety**
- 7. **Attachment C – Summary of Work Experience**

NON-COLLUSIVE BID STATEMENT

The undersigned bidder certifies that his bid is made independently and without collusion, agreement, understanding or planned course of action with any other bidder and that the contents of his bid shall not be disclosed to anyone other than his employees, agents or sureties prior to the official bid opening.

Date: _____

Signature: _____

Printed Name and Title
of Agent submitting bid: _____

Name of Company: _____

Address: _____

Telephone Number: _____ Fax Number: _____

E-mail: _____

This Bid may be withdrawn prior to the scheduled Bid Opening or any postponement thereof.