BID # RFB-2022-16

ADDENDUM NO. 1 – SCHENECTADY CO. CORRECTIONAL FACILITY ROOF REPLACEMENT PROJECT – 2022

Please incorporate the following + attached into your submitted bid.

The COUNTY IS ALLOWING/PROVIDING FOR AN ALTERNATE TAPERED INSULATING SYSTEM, NAMELY, LIGHTWEIGHT INSULATING CONCRETE – i.e., ALTERNATE #1 AS PROVIDED FOR ON THE INCLUDED BID FORM. PLEASE PROVIDE BID FOR BASE BID/BASE DESIGN , COUPLED WITH A BID FOR ADDENDUM #1, AS REQUESTED ON THE PROVIDED BID FORM(S).

SEE ATTACHED LIGHTWEIGHT INSULATING CONCRETE SPECIFICATION - 07220

Namely; (ALTERNATE No. 1)

- **Replace 1.02.C with;**

A. Work to include the following:
   a. Once removals (daily) have been completed, sweep clean/remove all debris/bond-breakers from existing concrete deck.
   b. Apply specified primer to the prepared concrete substrate in preparation to receive the specified heat-fused vapor barrier. Allow to dry.
   c. Install the specified heat-fused, SBS vapor barrier/weatherproof membrane to the newly primed substrate. Completely roll-in as specified to ensure/promote positive adhesion. Probe all side/end laps daily to ensure secure nightly tie-ins.
   d. Install (see attached Spec. Section 07220) insulating lightweight concrete system as outlined. Slope requirement = 1/8" : 12'. Min. R = 30
   e. Adhere specified, fleece-backed, KEE Membrane direct to the newly installed lightweight insulated concrete system in the specified CR-20 spatter adhesive. All laps to be heat welded as specified.
   f. Specified elastomeric flashings, termination details and accessories. See detail drawing index.
   g. Remove + replace all clamping rings, washers, bolts and replace in-kind @ all drain location(s). In addition, contractor to also provide new, metal domes/strainers at each drain location.

- **DELETE 2.02.4 and replace as outlined above with lightweight insulating concrete.**

- **At Section 2.02.06, substitute "Elastophene SP 3.0", as provided by the specified primary manufacturer, in lieu of the self-adhering "Vapor-Tite" membrane.**
- **At Section 2.02.07, substitute "Blackhawk 5103 SP Primer" in lieu of "Vapor-Tite SA Primer"**

- **DELETE/OMIT Section 2.02.08**

- **Replace Section 3.04 with;**

3.04 VAPOR BARRIER INSTALLATION (SBS Heat-Fused Membrane)

A. Vapor retarder will be installed in a water tight manner, and, be used/serve as a temporary roof once installed.

B. No more roof shall be torn off than can be made water tight by the end of the day or the arrival of inclement weather, whichever comes first.

C. The roofing contractor shall perform all other work of preparing the substrate. When vapor retarder is applied, the deck shall be dry and free of dew, frost, ice, and snow.

D. Apply quick drying asphalt primer at the rate of 1 gallon per 150 sq.ft. minimum on smooth surfaces, 1 gallon per 100 sq.ft. on rough surfaces, by roller or spray application.

E. Align specified sheet roll with edge of roof in lowest area, melt bottom side of roll with propane torch evenly and sufficient for full adhesion, but not to the point that membrane is deformed or reinforcement is exposed.

F. Align on ply line of previously applied roll(s) and repeat above procedure.

G. **Run newly installed vapor barrier vertically up the newly installed wood blocking – ensuring complete coverage of the blocking – including all high points and low points and secure w/ 1" hex-head nails.**

Comments; Contactor to follow good roofing practices and ensure the temporary weatherproofing, and overnight tie-ins, of the specified vapor barrier/temporary roofing. Seal all curbs, walls, nail off perimeter edges, etc. etc. etc. **NO EXCEPTIONS**

- **DELETE/OMIT Section 3.05**

07220 LIGHTWEIGHT INSULATING CONCRETE ROOF INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES:

A. Lightweight Insulating Concrete Application to Prepared Substrate

1.02 RELATED SECTIONS

A. Section 07500 - Roofing

1.03 REFERENCE STANDARDS

References in these specifications to standards, test methods and codes, are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout this specification section.

ASTM American Society for Testing and Materials
Philadelphia, PA

FM Factory Mutual Engineering and Research
Norwood, MA

UL Underwriters Laboratories
Northbrook, IL

1.04 SUBMITTALS

All submittals which do not conform to the following requirements will be rejected.

1. Submit manufacturer's instructions for proper placement of the proposed lightweight insulating concrete roof insulation system.

2. Submit a letter from the supplier of the proposed lightweight insulating concrete system confirming that the expanded polystyrene used as a component in the lightweight insulating concrete system is to be furnished by the supplier of the proposed lightweight insulating concrete system.

3. Submit shop drawings including a roof plan, roof slopes, and thickness of insulation.

4. Submit a sample copy of the warranty covering the proposed lightweight insulating concrete system.

5. Submit a sample copy of the roof system guarantee covering the proposed lightweight insulating concrete system and roof membrane system.

6. Submit a letter from the proposed lightweight insulating concrete system supplier confirming that the Contractor is approved to install the proposed lightweight insulating concrete system.

1.05 QUALITY ASSURANCE

A. Acceptable Contractor: The contractor must be certified in writing prior to bid by the supplier to install the proposed lightweight insulating concrete system.

B. Agency Approvals: The proposed lightweight insulating concrete system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. **Underwriters Laboratories:** Tested by Underwriters Laboratories in accordance with the procedures of ASTM E 119 and listed in the most recent Underwriters Laboratories Fire Resistance Directory. Lightweight insulating concrete roof insulation components are defined by Underwriters Laboratories under sections CCVW for foamed plastic and CCOX for roofing applications - topping mixture in the latest edition of the Underwriters Laboratories Fire Resistance Directory.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the supplier's original unopened packages, fully identified as to manufacturer, brand or other identifying data and bearing the proper Underwriters Laboratories label.

B. Storage: Store Insulcel concentrate at temperatures between 52^{o}F and 80^{o}F (11^{o} - 27^{o} C). Expanded polystyrene board should not be stored in areas of standing water prior to application but can be exposed to rainwater before application. Boards must be clean and free from foreign substances.

1.07 PROJECT/SITE CONDITIONS

A. Requirements Prior to Job Start

1. **Notification:** Give a minimum of ten (10) days notice to Schenectady County Facilities Engineering and specified membrane manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

2. **Safety:** Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental Requirements

1. **Precipitation:** Do not apply materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials and building interiors are protected from possible moisture damage or contamination.

2. **Temperature Restrictions:** When air temperatures of 40ºF (4.4ºC) or above are predicted to occur within the first 24 hours after placement, normal mixing and application procedures may be used. When air temperatures of 32ºF to 40ºF (0ºC - 4.4ºC) are predicted to occur within the first 24 hours after placement, the Contractor may opt to increase the Portland cement quantity 15% by weight. Do not install the lightweight insulating concrete system when air temperatures are below 32ºF (0ºC).

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PART 2: PRODUCTS

2.01 MATERIALS

A. Acceptable Manufacturer: Provide a lightweight insulating concrete roof insulation system incorporating pregenerated foam and expanded polystyrene board supplied by a single manufacturer.

Elastizell Cellular Concrete, Ann Arbor, MI - (734) 761-6900 or accepted equal.

2.02 SYSTEM DESCRIPTION

A. Provide materials used in the lightweight concrete roof insulation system conforming to the following.

1. Portland Cement: Portland cement conforming to Type I, II, or III as defined by ASTM C 150.

2. Foam Concentrate: Protein based foam concentrate conforming to ASTM C 869 and ASTM C 796.

3. Expanded Polystyrene Insulation Board: Expanded polystyrene (EPS) insulation board having a nominal density of 1 pcf (16 kg/m^3) defined as Type I by ASTM C 578 and containing approximately 3% open area. Each bundle of board shall be delivered to the job site with clear identification as to manufacturer and shall carry the Factory Mutual approval label and the Underwriter's Laboratories Classified label on each bundle.

4. Water: Potable water that is clean and free of deleterious amounts of acid, alkali and organic materials.

2.03 MIX DESIGN

A. Density: Mix Portland cement and pregenerated foam with water to achieve a wet density ranging from 38 to 48 pcf (609 to 769 kg/m^3), resulting in a minimum dry density of 30 pcf (481 kg/m^3) and minimum compressive strength of 200 psi (1380 kPa).

PART 3: EXECUTION

3.01 EXAMINATION

A. General: Ensure that all surfaces to receive lightweight insulating concrete are free of oil, grease, paints/primers, loose mill scale, dirt, or other foreign substances. Where necessary,

cleaning or other corrections of surfaces to receive lightweight insulating concrete is the responsibility of the party causing the unacceptable condition of the substrate.

B. Substrate Acceptance: With the Roof Consultant and Schenectady County Facilities Engineering present, examine surfaces to receive the roof insulation system and determine that the surfaces are acceptable prior to placement of the lightweight insulating concrete system.

3.02 PREPARATION

A. General: Remove water or any other substance that would interfere with bonding of the lightweight concrete system.

3.03 APPLICATION

A. General: Provide equipment and application procedures conforming to the material supplier's application instructions.

B. When the specified expanded polystyrene insulation panels are to be incorporated into the lightweight insulating concrete system, place a 1/8 inch (3 mm) minimum thickness of insulating concrete slurry coat over top of the prepared substrate before embedding the expanded polystyrene insulation panels. Place the thickness of expanded polystyrene insulation panels shown in the approved shop drawings within 30 minutes of applying the insulating concrete slurry coat to the substrate. Place the expanded polystyrene insulation panels in a brick-like pattern. The maximum allowable panel step in a stair-step design is 1 inch (25 mm). Fill the holes in the expanded polystyrene insulation panels and place a 2 inch (51 mm) minimum thickness of insulating concrete over top of the expanded polystyrene insulation panels within the same day's application.

C. Thermal Resistance: Install the specified lightweight insulating concrete system to provide for a minimum thermal value of **R-30** or as shown on the architectural details/drawings.

D. Slope: Install the specified lightweight insulating concrete system to provide for a minimum finished positive roof slope of 1/8" inch per foot.

3.04 FIELD QUALITY CONTROL

A. Protection: Avoid roof-top traffic over the roof insulation system until one can walk over the surface without creating surface damage.

B. Compressive Strength Testing: Schenectady County Facilities Engineering + Roof Consultant has the option to select an independent testing laboratory to randomly sample the top placement of insulating concrete to verify the thickness and density, and to secure and test compressive strength cylinders in accordance with ASTM C 495. The Owner will be responsible for the cost and engagement of the independent testing laboratory services.

C. **Application Monitoring:** Monitor the thickness and wet density of the lightweight insulating concrete at the time of placement to determine conformance to the manufacturer's requirements. Monitor the placement of proper thickness of polystyrene insulation board in accordance with the contract documents.

3.05 PATCHING

A. **Patching:** Perform all patching and repairing of insulating concrete using Zono-Patch or other materials approved by the lightweight insulating concrete supplier.

BID PROPOSAL FORM

Date: _____

To:

For:

From:

BID DUE DATE:

The undersigned hereby proposes to furnish ***labor and materials*** necessary for re-roofing in full compliance with these contract documents.
The undersigned, as bidder, declares; that the parties in this contract proposal as principals are named herein; that this proposal is made without collusion with any other person, firm or corporation; that no officer or agent of the Owner is directly or indirectly interested in this proposal; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, the contract drawings, the specifications and other Contract Documents therein referred to; and he proposes and agrees that if the proposal is accepted, he will contract with the Owner in the form of the Contract attached hereby to construct completely, in the manner and time prescribed, the items bid upon, including all work incidental to such items as well as those in all addenda issued prior to the date of opening of proposals, according to the contract drawings and specifications, and that he will accept in full payment therefore the following sum:

Note: Bids shall be both written in words and shown in figures.

ROOF AREA(S) "A1" – "E" REPLACEMENT (*BASE BID***)**

_____ $ _____

Words Figures

ALTERNATE #1 - ROOF AREA(S) "A1" – "E" REPLACEMENT (*VIA ADDENDUM #1 UTILIZING LWIC SYSTEM***)**

_____ $ _____

Words Figures

Contractor Owner / Officer _____

Title _____

Address _____

City, State Zip _____

(AFFIX CORPORATE SEAL)

The bidder hereby acknowledges receipt of the following addenda:

Addendum No._____ Dated_____

Addendum No._____ Dated_____

Addendum No._____ Dated_____