

CHATHAM COUNTY PURCHASING DEPARTMENT

ADDENDUM NO. 1 TO BID # 15-0010-7

**FOR: Replace Asphalt Shingle Roof at the Administrative/Legislative Courthouse**

---

**PLEASE SEE THE FOLLOWING ADDITIONS, CLARIFICATIONS AND/OR CHANGES:**

1. Reference Specification Section 075216, Modified Bituminous Membrane Roofing – Replace entire section with new section dated 02/24/15. (Attached)

---

**BID DUE DATE REMAINS TO 2:00PM  
FEBRUARY 26, 2015.**


---

**BIDDER IS RESPONSIBLE FOR MAKING THE NECESSARY CHANGES AND**

**MUST ACKNOWLEDGE RECEIPT OF ADDENDUM.\*\*\***

February 23, 2015

DATE

  
MARGARET H. JOYNER  
PURCHASING AGENT  
CHATHAM COUNTY

## SECTION 07 52 16 - MODIFIED BITUMINOUS MEMBRANE ROOFING

### PART 1 - GENERAL

#### 1.1 SUBMITTALS

- A. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
- B. Acceptance Certification (see end of this spec section).
- C. Warranties:
  - 1. Manufacturer's standard or customized form, without monetary limitation, signed by roofing manufacturer agreeing to repair leaks due to defects in materials or workmanship for period of 20 years.
  - 2. Provide installer's (5) year weather-tightness warranty. The installer shall repair any roof leaks within the warranty period, due to failure of material or workmanship. The warranty coverage shall include:
    - a. New roofing associated with this project. Warranty shall not include existing roofing to remain (such as tile roofing at tower).
    - b. Warranty shall include all new and existing flashings, penetrations, underlayment, and edge details associated with new roofing.
- D. Roofing manufacturer's standard details.
- E. Project specific details, approved by roofing manufacturer:
  - 1. Provide detail of parapet where new roofing material will overlap the existing copper cap. If the existing roofing cannot be fully removed from the copper cap, without damaging the copper, then the existing roofing shall remain on the copper and the new roofing shall overlap the old roofing and extend 2", onto the copper, beyond the edge of the old roofing.
  - 2. Provide detail of parapet where it 'dies' into the existing brick wall. Extent of new flashing shall not exceed existing (to maintain appearance from street level). New flashing visible from street level shall be either copper or a color compatible with the existing beige bricks.
  - 3. Provide flashing detail at door threshold to create a weather-tight condition. Existing metal threshold to be reused.
  - 4. Provide flashing detail at thru wall scupper. New roofing material shall not be readily visible from street level.
  - 5. Provide flashing details at all penetrations such as steel beams, pipe penetrations, etc.

## PART 2 - PRODUCTS

2.1 Acceptable roofing products include Siplast products, (in accordance with these specifications).  
Contact: Wes Burton (803) 984-0169, wburton@siplast.com

### 2.2 PERFORMANCE REQUIREMENTS

- A. Energy Performance: Initial Solar Reflectance not less than 0.70 and Thermal Emittance not less than 0.75 when tested according to CRRC-1.
- B. Exterior Fire-Test Exposure: ASTM E 108, Class A

### 2.3 ROOFING MATERIALS

- A. Glass-Fiber Base-Ply Sheet: ASTM D 2178, asphalt-impregnated, glass-fiber felt.
- B. Roofing Membrane Sheet: ASTM D 6163, Grade S, Type I, SBS-modified asphalt sheet (reinforced with glass fibers).
- C. Granule-Surface Roofing Membrane Cap Sheet: ASTM D 6163, Grade G, Type I, SBS-modified asphalt sheet (reinforced with glass fibers).
- D. Auxiliary Materials: Recommended by roofing system manufacturer for intended use and as follows:
  - 1. Base Sheet: ASTM D 4601, Type II, SBS-modified, asphalt-impregnated and -coated, glass-fiber-reinforced sheet.
  - 2. Base Sheet: ASTM D 4601, nonperforated, asphalt-impregnated and -coated, glass-fiber sheet.
  - 3. Flashing Backer Sheet: ASTM D 6163, Grade S, Type I, SBS-modified asphalt sheet (reinforced with glass fibers); smooth surfaced.
  - 4. Flashing Backer Sheet: ASTM D 4601, asphalt-impregnated and -coated, glass-fiber sheet.
  - 5. Base Flashing: Manufacturer's standard SBS-modified bituminous sheet, aluminum-foil surfaced.
  - 6. Substrate Board: Type X, 1/2 inch thick to achieve Class A.

### 2.4 ROOFING INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II.
- B. Fabricate tapered insulation with slope of 1/4 inch per 12 inches unless otherwise indicated, (average thickness to achieve R-20).
- C. Cover Board: Dens Deck Prime, 1/2" thick, mechanically attached.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to new roofing materials.
  - 1. Remove existing roofing materials down to acceptable existing substrate. Examine substrate for any detrimental conditions. Replace/repair and prepare the existing substrate in accordance with roofing manufacturer's recommendations.
  - 2. Verify that existing substrate provides proper and positive slope to drainage system.
- B. Install substrate board with long joints continuous and perpendicular to roof slopes with end joints staggered. Tightly butt substrate boards together and fasten to deck.
- C. Mechanically fasten insulation per FM I- 120 uplift. Install cover boards over insulation with long joints continuous and perpendicular to roof slopes with end joints staggered. Loosely butt cover boards together and fasten to deck.
- D. Install and secure cant strips and nailer strips.
- E. Install roofing membrane system according to roofing system manufacturer's written instructions, applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing," and as follows:
  - 1. Number of SBS-Modified Asphalt Sheets: Two.
  - 2. Surfacing Type: M (mineral-granule-surfaced cap sheet).
- F. Maintain uniform side and staggered end laps. Bond and seal laps, leaving no voids.
- G. Flashing: Extend 8 inches above roof and 4 inches onto roof and secure to substrate.

ACCEPTANCE CERTIFICATION

Project: \_\_\_\_\_

A. Project Address: \_\_\_\_\_

B. Material and/or Product: \_\_\_\_\_

C. Project Specification Section: \_\_\_\_\_

General Contractor:

A. Company Name: \_\_\_\_\_

B. Company Representative's Name \_\_\_\_\_:

C. Signature and Date: \_\_\_\_\_

Subcontractor / Installer:

A. Company Name: \_\_\_\_\_

B. Company Representative's Name \_\_\_\_\_:

C. Signature and Date: \_\_\_\_\_

Material and/or Product Manufacturer:

A. Company Name: \_\_\_\_\_

B. Company Representative's Name \_\_\_\_\_:

C. Signature and Date: \_\_\_\_\_

1. I have fully examined and understand the drawings and specifications and the site conditions which are relevant to this work. To the best of my ability and knowledge, I believe the material/products herein submitted are in full compliance with the drawings and specifications. Further, I have confirmed that the site conditions and the material/products herein submitted comply with requirements for installation tolerances, applicable codes, and other conditions affecting performance of this material/product and its incorporation into the work.
2. Attached are any conditions detrimental to the performance of this material/product and its incorporation into the work. Also attached are any requirements or provisions of the drawings and specifications which in my opinion are inconsistent, incompatible, or otherwise inappropriate for the performance of this material/product and its incorporation into the work. If there are no comments below, or if this form is not submitted, then the General Contractor accepts responsibility for the statement in paragraph 1 above.

END OF SECTION 07 52 16

1. Section 2.3, items A, B & C: Replace roofing product, with products noted below (auxiliary materials as recommended by roofing system manufacturer for intended use):

Roofing Membrane Assembly:

1. A roof membrane assembly consisting of one ply of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane applied over a prepared substrate, covered with a liquid applied, flexible, PMMA-based monolithic membrane formed by the combination of resin and fleece fabric. The reinforcement mats in the SBS ply shall be impregnated/saturated and coated each side with an SBS modified bitumen blend. The cross sectional area of the SBS sheet material shall contain no oxidized or non-SBS modified bitumen. The back of the modified bitumen base ply shall be coated with factory applied polymer modified asphalt self-adhesive coating covered with a removable film. The top surface of the modified bitumen ply sheet shall be coated with a white acrylic coating to enhance resin bond and to minimize surface temperatures.
2. The composite roof system, including SBS modified bitumen ply sheet and reinforced PMMA, shall pass 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14F (-10C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147.
3. Siplast Parapro Roof Membrane System with Paradiene 20 SA P base ply, or approved equal. Self-Adhesive Modified Bitumen Base Ply
  - a) Thickness (avg): 102 mils (2.6 mm) (ASTM D 5147)
  - b) Thickness (min): 98 mils (2.5 mm) (ASTM D 5147)
  - c) Weight (min per 100 ft<sup>2</sup> of coverage): 69 lb (3.4 kg/m<sup>2</sup>)
  - d) Maximum filler content in elastomeric blend: 35% by weight
  - e) Low temperature flexibility @ -15 F (-26 C) - PASS (ASTM D 5147)
  - f) Peak Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
  - g) Peak Load (avg) @ 0F (-18C): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
  - h) Ultimate Elongation (avg.) @ 73F (23C): 50% (ASTM D 5147)
  - i) Dimensional Stability (max): 0.1% (ASTM D 5147)
  - j) Compound Stability (min - sheet): 250F (121C) (ASTM D 5147)
  - k) Compound Stability (min – adhesive coating): 212F (100C) (ASTM D 5147)
  - l) Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
  - m) Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
  - n) Back Surfacing: polyolefin release film
  - o) Top Surfacing: factory applied acrylic coating
  - p) Paradiene 20 SA P by Siplast; Irving, TX
4. Resin for Field Membrane Construction: A flexible, PMMA-based resin for use in combination with fleece fabric to form a monolithic, reinforced roofing membrane.. The values listed below are based upon a 90 mil (2.3 mm) resin thickness.
  - a) Thickness (avg): 90 mils (2.3 mm) at 0.31 kg/ft<sup>2</sup> (3.3 kg/m<sup>2</sup>) coverage rate (ASTM D 5147, section 5).
  - b) Weight (min per 100 ft<sup>2</sup> of coverage): 68.4 lb (3.3 kg/m<sup>2</sup>)
  - c) Peak Load (avg) @ 73°F (23C): 70 lbf/in (12.3 kN/m) (ASTM D 5147 section 6)
  - d) Peak Load (avg) @ 73°F (23C): 90 lbf/inch (15.8 kN/m) (ASTM D 412, dumbbell)
  - e) Elongation at Peak Load (avg) @ 73°F: 35% (ASTM D 5147, section 6)

- f) Elongation at Peak Load (avg) @ 73°F: 35% (ASTM D 412, dumbbell)
  - g) Shore A Hardness (avg): 81 (ASTM D 2240)
  - h) Water Absorption, Method I (24h @ 73°F): 0.8% (ASTM D 570)
  - i) Water Absorption, Method II (48h @ 122°F): 1.2% (ASTM D 570)
  - j) Low temperature flexibility @ 23 F (-5°C): PASS (ASTM D 5147, section 11)
  - k) Dimensional Stability (max): 0.15% (ASTM D 5147, section 10)
  - l) Tear Strength (avg): 90 lbf (0.4 kN) (ASTM D 5147, section 7)
  - m) Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
5. Fleece for Membrane Reinforcement: A non-woven, 110 g/m<sup>2</sup>, needle-punched polyester fabric reinforcement as supplied by the membrane system manufacturer.

END OF ADDENDUM