

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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SANTA BARBARA • SANTA CRUZ

OFFICE OF DESIGN & CONSTRUCTION SERVICES and PHYSICAL FACILITIES

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- SENT VIA:** FAX ON THIS DATE
 HAND DELIVERY ON THIS DATE
 FEDERAL EXPRESS ON THIS DATE
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HOLDERS OF PLANS AND SPECIFICATIONS:

Harder Stadium Press Box Renovation Harder Stadium,
Bldg 580
Project No. FM100303S/987754
Addendum No. THREE

July 6, 2010

Enclosed is **ADDENDUM NO. THREE** to the Construction Documents on the above-captioned project.

Bid date is **2:30PM, Tuesday, July 13, 2010** to be held at:

CONTRACTING SERVICES
Facilities Management, Bldg. 439,
Door #E, Reception Counter
University of California, Santa Barbara
Santa Barbara, CA 93106-1030.

Late arrivals shall be disqualified. Please allow time for unforeseen traffic delays, securing a parking permit and potential parking problems.

A handwritten signature in black ink, appearing to read "Anna Galanis".

Anna Galanis
Director, Contracting Services

ADDENDUM NUMBER THREE

to the

CONSTRUCTION DOCUMENTS

July 6, 2010

GENERAL

The following changes, additions or deletions shall be made to the following document(s) as Indicated; all other conditions shall remain the same.

I. SPECIFICATIONS

Item No.

1. Table of Contents: **REPLACE** in it's entirety with Revised Table of Contents, Revised per Addendum Three.

Item No.

2. Section 01100, Alternates: **REPLACE** in it's entirety with Revised Section 01100, Alternates, Revised per Addendum Three.

Item No.

3. Section 07511, Built Up Asphalt Roofing, **DELETE** section 07511, Built-Up Asphalt Roofing in it's entirety.

Item No.

4. **ADD** attached section 07552 SBS Modified Bituminous Membrane Roofing in it's entirety.

II. DRAWINGS

Item No.

1. E1.0, General Notes, Symbols, Schedules, **REPLACE** in it's entirety with attached Revised E1.0, General Notes, Symbols, Schedules, dated 07/01/2010.

Item No.

2. E2.1, Power and Lighting Floor Plans, **REPLACE** in it's entirety with attached Revised E2.1, Power and Lighting Floor Plans, dated 07/01/2010.

Item No.

3. E2.2, Partial Stadium Electrical Plan, **REPLACE** in it's entirety with attached Revised E2.2, Partial Stadium Electrical Plan, dated 07/01/2010.

END OF ADDENDUM NO. 3

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SECTION 01100
REVISED ALTERNATES

PART 1. GENERAL

1.01 IDENTIFICATION OF ALTERNATES

- A. This Section identifies each Alternate and describes basic changes to the Work only when that Alternate is made a part of the Work by specific provision in the Agreement.
- B. The Lump Sum Base Bid and Alternates shall, unless otherwise specified, include the costs of products, materials, equipment, systems, installation and all supporting elements required, so that the combination of the Lump Sum Base Bid and any Alternates shall be complete. The scope of Work for all Alternates shall be in accordance with applicable Drawings and Specifications.
 - 1. Except as otherwise specifically provided by the University, the Work described in Alternates shall be completed with no increase in Contract Time.
- C. This Section includes only the non-technical descriptions of the Alternates. Refer to the specific Sections of DIVISIONS 2 - 16 of the Specifications for technical descriptions of the Alternates.
- D. Coordinate related Work and modify surrounding Work as required to properly and completely integrate the Alternates into the Work.

PART 2. DESCRIPTION OF ALTERNATES

2.01 ALTERNATE NO. 1:

- A. Reroof entire low-slope roof, see Specification Section **07552 SBS MODIFIED BITUMINOUS MEMBRANE ROOFING**, see Drawing 3/A2.1
 - 1. No extension of time will be granted if this Alternate is accepted
 - 2. University reserves the right to accept this Alternate within thirty (30) days after the date of the Agreement.

PART 3. PRODUCTS (NOT USED)

PART 4. EXECUTION (NOT USED)

END OF SECTION

SECTION 07552

SBS MODIFIED BITUMINOUS MEMBRANE ROOFING

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. This Section includes the following:
 - 1. SBS-modified bituminous membrane roofing.
 - 2. Base sheet.
- B. Related Sections include the following:
 - 1. Division 06 Section "Miscellaneous Carpentry" for wood nailers, cants, curbs, and blocking.
 - 2. Division 06 Section "Sheathing" for plywood decking.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 "Terminology Relating to Roofing and Waterproofing"; glossary of NRCA's "The NRCA Roofing and Waterproofing Manual"; and the Roof Consultants Institute "Glossary of Roofing Terms" for definition of terms related to roofing work in this Section.
- B. Sheet Metal Terminology and Techniques: SMACNA Architectural Sheet Metal Manual.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

- C. Jobsite Safety: Execute all operations and provide a safe work environment in accordance to OSHA standards and regulations. This requirement applies to all contractor personnel, associated subcontractors, workers in other trades, and jobsite visitors.
 - 1. Follow all industry fire prevention guidelines for storage of materials, staging areas, roof access, and application means and methods.
 - 2. Any applicable local fire codes supersede industry guidelines.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, details, and attachments to other Work.
 - 1. Base flashings, cants, and membrane terminations.
- C. Samples for Verification: For the following products:
 - 1. Manufacturer's standard sample size of mineral-granule-surfaced roofing membrane cap sheet and flashing sheet.
 - 2. Manufacturer's standard sample size of base-sheet.
- D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of meeting performance requirements.
- F. Qualification Data: For Installer and manufacturer.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
- H. Research/Evaluation Reports: For components of roofing system.
- I. Maintenance Data: Refer to manufacturer's latest published information.
- J. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

- A. **Installer Qualifications:** A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
- B. **Manufacturer Qualifications:** A qualified manufacturer that has UL listing or FMG approval for roofing system identical to that used for this Project.
- C. **Moisture Survey:**
 - 1. Submit prior to installation, results of a non-destructive moisture test of roof system completed by approved third party. Utilizing one of the approved methods:
 - a. Infrared Thermography
 - b. Nuclear Backscatter
- D. **Source Limitations:** Obtain all components from single source roofing manufacturer.
- E. **Fire-Test-Response Characteristics:** Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. **Exterior Fire-Test Exposure:** Class A; ASTM E 108, for application and roof slopes indicated.
 - 2. **Fire-Resistance Ratings:** ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.
- F. **Preinstallation Conference:** Conduct conference at Project site. Comply with requirements in Division 01 Section "Project Meetings" Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with University Representative, roofing Installer, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 GUARANTEE

- A. Furnish to University a written guarantee for roofing against all defects in materials and workmanship, for all roofing components and installation; including roofing membrane, base flashings, liquid applied flashing, roofing membrane accessories, fasteners, base-sheet and other single-source components of roofing system marketed by the manufacturer; for 15 years from date of acceptance. Refer to Section 01740, GUARANTEES, WARRANTIES, BONDS, SERVICE & MAINTENANCE CONTRACTS, for submittal form.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Johns Manville Roofing Systems, or equal

2.2 SBS-MODIFIED ASPHALT-SHEET MATERIALS

- A. Roofing Membrane Sheet: ASTM D 6162, Grade S, Type II, composite polyester- and glass-fiber-reinforced, SBS-modified asphalt sheet; smooth surfaced; suitable for application method specified.
- B. Roofing Membrane Cap Sheet: ASTM D 6162, Grade G, Type II, composite polyester- and glass-fiber-reinforced, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified.

2.3 BASE FLASHING SHEET MATERIALS

- A. Backer Sheet: ASTM D 4601, Type II, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.
- B. Liquid Applied Flashing: A liquid and fabric reinforced flashing system created with a stitchbonded polyester scrim and a two-component, moisture cured, elastomeric, liquid applied flashing material, consisting of an asphalt extended urethane base material and an activator.

2.4 AUXILIARY ROOFING MEMBRANE MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.
- B. Roofing Asphalt: ASTM D 312, Type IV.
- C. Cold-Applied Adhesive: Roofing system manufacturer's asphalt-based, two-component, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with membrane applications.
- D. Cold-Applied Flashing Adhesive: Roofing system manufacturer's asphalt-based, two-component, asbestos-free, trowel-grade, cold-applied adhesive specially formulated for compatibility and use with flashing applications.
- E. Mastic Sealant: As required by manufacturer.
- F. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing membrane components to substrate, tested by manufacturer for required pullout strength, and provided by the roofing system manufacturer.

2.5 BASE-SHEET MATERIALS

- A. Base-Sheet: ASTM D 4601, Type II, UL Class G2 rated, nonperforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.

- B. Base-Sheet Fasteners: Twin legged, factory-coated steel fasteners and Galvalume metal plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening base-sheet to substrate, tested by manufacturer for required pullout strength, and provided by the roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.
 - 2. Ensure general rigidity and proper slope for drainage.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 RE-ROOF PREPARATION

- A. Remove all roofing membrane, surfacing, coverboards, insulation, fasteners, asphalt, pitch, adhesives, etc.
 - 1. Remove an area no larger than can be re-roofed in one day.
- B. Tear out all base flashings, counterflashings, pitch pans, pipe flashings, vents and like components necessary for application of new membrane.
- C. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations.
 - 1. Install decking to match existing as directed by University Representative.
- D. Raise equipment supported by curbs to conform with the following:
 - 1. Modify curbs as required to provide a minimum 8" base flashing height measured from the surface of the new membrane to the top of the flashing membrane.

2. Nail top of flashing and install new metal counterflashing prior to re-installation of unit.
 3. Perimeter nailers must be elevated to match elevation of new roof.
- E. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.
- F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 BASE-SHEET INSTALLATION

- A. Install one lapped base sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.
1. Enhance fastening rate in perimeter and corner zones according to manufacturer.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.5 ROOFING MEMBRANE INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions, and requirements in this Section.
- B. Where roof slope exceeds 1/2 inch per 12 inches (1:24), contact the membrane manufacturer for installation instructions regarding installation direction and backnailing
- C. Coordinate installing roofing system so components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets with a course of coated felt set in roofing cement or hot roofing asphalt with joints and edges sealed.
 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.
- D. Substrate-Joint Penetrations: Prevent roofing asphalt from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.6 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

- A. Install modified bituminous roofing membrane sheet and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:
 - 1. Adhere to substrate in cold-applied adhesive.
 - 2. Unroll roofing membrane sheets and allow them to relax for minimum time period required by manufacturer.
- B. Laps: Accurately align roofing membrane sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 - 1. Repair tears and voids in laps and lapped seams not completely sealed.
 - 2. Apply roofing granules to cover exuded bead at laps while bead is hot.
- C. Install roofing membrane sheets so side and end laps shed water.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.7 FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:
 - 1. Prime substrates with asphalt primer if required by roofing system manufacturer.
 - 2. Backer Sheet Application: Mechanically fasten backer sheet to walls or parapets. Adhere backer sheet over roofing membrane at cants in cold-applied adhesive.
- B. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing membrane and 4 inches (100 mm) onto field of roofing membrane.
- C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.8 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to University Representative.

- B. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copy to University Representative.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION