

BID ADDENDUM		
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State Project No: H27-6080-CA-B	PROJECT NAME: Discovery 1 Roof Upfit	ADDENDUM NO.: One ADDENDUM ISSUE DATE: February 22, 2017
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TO ALL BIDDERS: This addendum is issued for the purposes of modifying or interpreting the project manual, including any specifications or drawings, through addition, deletion, clarification or correction as outlined herein. The information provided in this addendum supersedes any information previously provided in the referenced documents and sections of the project manual or in any separate specifications or drawings incorporated into the project manual. This addendum and the information contained herein shall be used in the preparation of any bid submitted by the Bidder and shall become an integral part of the contract documents for any contract awarded for the project specified.

CHANGES TO PRIOR ADDENDA: NA

CHANGES TO BIDDING REQUIREMENTS: NA

CHANGES TO CONDITIONS OF THE CONTRACT: NA

CHANGES TO SPECIFICATIONS:

DELETE "Section 07 54 00-Thermoplastic Single Ply Roofing" and **ADD** "Section 07 54 00-Thermoplastic Single Ply Roofing rev 2-22-17."

CHANGES TO DRAWINGS: NA

INFORMATION TO BIDDERS:

Mandatory Pre Bid Meeting Minutes and Sign in Sheet

ALL OTHER REQUIREMENTS AND PROVISIONS OF THE BIDDING DOCUMENTS REMAIN UNCHANGED. ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON THE BID FORM. FAILURE TO DO SO MAY BE CAUSE FOR REJECTION OF THE BID.

END OF ADDENDUM

SECTION 07 54 00

THERMOPLASTIC SINGLE-PLY ROOFING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Install a fully adhered felt-back thermoplastic membrane and flashings to provide a permanently watertight system.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

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|----|-------------------------------|------------------|
| 1. | Rough Carpentry | Section 06 10 00 |
| 2. | Preparation for Reroofing | Section 07 01 50 |
| 3. | Roof Insulation | Section 07 22 16 |
| 4. | Metal Wall Panels | Section 07 42 13 |
| 5. | Sheet Metal Flashing and Trim | Section 07 62 00 |

1.03 REFERENCES

- A. Refer to the following references, current edition for specification compliance:

1. 2015 International Building Code with SC Modifications
2. 2015 International Fire Code with SC Modifications
3. ASTM International
4. National Roofing Contractors Association (NRCA)
5. Underwriters Laboratory (UL)
6. FM Global
7. Single Ply Roofing Institute

1.04 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures for Submittals.
- B. Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- D. Submit documentation of approved, tested roof system to meet the specified requirements for the following:
 1. Wind uplift pressures
 2. UL Fire Resistance Rating

1.05 DELIVERY, STORAGE AND HANDLING

- A. All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.

- B. Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.
- C. Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability.
- D. All adhesives shall be stored at temperatures approved for the product.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.
- F. All materials which are determined to be damaged by the Engineer or membrane manufacturer are to be removed from the job site and replaced at no cost to the Owner.

1.06 PROJECT CONDITIONS

- A. Roofing shall not be applied during precipitation. Contractor assumes all responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be cleaned and heat welded before leaving the job site that day.
- C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.
- D. All surfaces to receive new insulation, membrane or flashings shall be dry. Should surface moisture occur, the Applicator shall provide the necessary equipment to dry the surface prior to application.
- E. All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- F. Uninterrupted waterstops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.
- G. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A protection layer of plywood over insulation board shall be provided for all new and existing roof areas that receive rooftop traffic during construction.
- H. Prior to and during application, all dirt, debris and dust shall be removed from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- I. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the roofing membrane. All rooftop contamination that is anticipated or that is occurring shall be reported to the Engineer and membrane manufacturer to determine the

corrective steps to be taken.

- J. If any unusual or concealed condition is discovered, the contractor shall stop work, notify Owner of such condition immediately, and in writing within 24 hours.
- K. The roofing membrane shall not be installed under the following conditions without consulting the membrane manufacturer's technical department for precautionary steps:
 - 1. The roof assembly permits interior air to pressurize the membrane underside.
 - 2. Any exterior wall has 10% or more of the surface area comprised of opening doors or windows.
 - 3. The wall/deck intersection permits air entry into the wall flashing area.
- L. Precautions shall be taken when using membrane adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate the operation of vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building. Keep lids on unused cans at all times.

1.07 QUALITY ASSURANCE

- A. Manufacturer Requirements:
 - 1. Manufacturer must have written contractor/installer approval program.
 - 2. Products manufactured by other manufacturers and private labeled are not acceptable.
 - 3. See materials section for general product description and specified requirements.
- B. Contractor Requirements:
 - 1. This roofing system shall be applied only by a Contractor authorized by the membrane manufacturer prior to bid.
 - 2. Application of the roofing system shall be accomplished by a primary roofing contractor, his roofing foreman, and sufficient applicator technicians who all have been trained and approved by the manufacturer of the single ply roofing system. Contractor to submit evidence of qualification from the manufacturer.
- C. Upon completion of the installation an inspection shall be made by a representative of the membrane manufacturer to review the installed roof system and list all deficiencies.
- D. There shall be no deviation made from the Contract Documents or the approved shop drawings without prior written approval by the Engineer.
- E. All work shall be completed by personnel trained and authorized by the membrane manufacturer.
- F. Contractor to provide manufacturer written verification indicating all seams have been probed and are watertight.
- G. Install roofing system to meet UL 790 Class A Fire Rating.
- H. Wind Design:
 - 1. Install roofing system to meet or exceed the requirements of the current adopted version of ASCE-7, and shall be an approved assembly tested to the wind uplift pressures listed below:

- a. Field of Roof: - 33 psf.
- b. Perimeter and Corner of Roof: - 52 psf.

1.08 WARRANTIES

- A. **Manufacturer's Guarantee:** Manufacturer's standard form, non pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility). Warranty to remain in effect for wind speeds up to 72 mph. Warranties requiring the Owner's signature will not be acceptable.
 1. Warranty to include but not be limited to membrane, insulation, adhesives, fasteners, sealants, flashings, polymer clad sheet metal, fluid applied flashing, etc.
 2. Warranty Period: Twenty years from date of Substantial Completion.
 3. Manufacturer's Representative shall attend two post construction field inspections: the first no earlier than twenty-three (23) months and no later than twenty-four (24) months after the date of Substantial Completion and the second no earlier than fifty-nine (59) months and no later than sixty (60) months. Submit a written report within seven (7) days of the site visits to the Engineer listing observations, conditions and any recommended repairs or remedial action.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Membrane materials shall be manufactured by the following:
 1. Sika Sarnafil
 2. Fibertite
 3. Flex
 4. Carlisle

2.02 MEMBRANE MATERIALS

- A. Fully Adhered Membrane and Components:
 1. Membrane
 - a. Sarnafil G410-15 feltback, 60 mil
 - b. FiberTite-SM-FB 45 mil
 - c. Flex Fleeceback PVC 60 mil
 - d. Carlisle Fleeceback PVC FRS 60 mil
 2. Membrane Adhesive: Shall be membrane manufacturer's water based adhesive.
 - a. Sika Sarnafil Sarnacol 2121
 - b. Fibertite FTR 490
 - c. Flex FA 636 Water Based Adhesive
 - d. Carlisle Sure-Flex PVC Hydrobond Water Based Adhesive
- B. Fluid Applied Flashing System: Shall be membrane manufacturer's approved PMMA based resin with polyester fleece flashing system.

1. Sarnafil Liquid Flashing SW
2. Siplast Parapro
3. Flex RS 230 LFM
4. Engineer accepted equivalent

2.03 RELATED MATERIALS

- A. Flashing/Stripping Membrane: Shall be a non fleeceback, thermoplastic membrane reinforced with fiberglass. Utilize asphalt resistant flashing membrane where in contact with residual asphaltic materials or as required by the manufacturer. Color to match roof membrane.
1. Sika Sarnafil minimum 60 mil G410
 2. Fibertite minimum 45 mil SM
 3. Engineer accepted equivalent
- B. Flashing Adhesive: Shall be membrane manufacturer's solvent based reactivating-type adhesive.
- C. T-joint Patch: Shall be membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.
- D. Corner Flashing: Shall be membrane manufacturer's pre-formed inside and outside flashing corners that are heat-welded to membrane or polymer clad metal base flashings.
- E. Pipe Flashing: Shall be membrane manufacturer's pre-formed pipe boot flashing that is heat-welded to membrane and secured with a stainless steel draw band and sealant.
- F. Termination Bar: Shall be manufacturer's 1/8" by 1" mill finish extruded aluminum bar with pre-punched slotted holes.
- G. Sealant: Shall be manufacturer's multi-purpose sealant.
- H. Fasteners:
1. Flashing Membrane Termination Screws: #12 hot dipped galvanized or stainless steel hex or pan head screws with length to penetrate substrate a minimum of 1-1/2".
 2. Concrete and Masonry Flashing Membrane Termination Anchors:
 - a. 1/4" diameter metal based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2".
 - b. Masonry screws, approved by membrane manufacturer, 1/4 inch minimum diameter, corrosion resistant, with Phillips flat head. Length to provide minimum 1-1/2" embedment into substrate.
 3. Solid Concrete Deck Fasteners and Plates:
 - a. Shall be a #14 corrosion-resistant fastener used with approved plates for membrane attachment. Fastener shall have a shank diameter of 0.190 inch (4.8 mm), a thread diameter of 0.245 inch (6.2 mm) and a #3 Phillips drive head with a diameter of 0.435 inch (11 mm).
 - b. Shall be nail-in, non-threaded fasteners with split bulb tip designed for securement of membrane and insulation to structural concrete roof decks, length to penetrate deck a minimum of 1" with plates as approved by roof

membrane manufacturer.

- I. Primary Membrane Cleaner: Shall be a high quality solvent cleaner provided by membrane manufacturer and approved by engineer for use as a general membrane cleaner.
- J. Pre-weld Cleaner: Shall be a high quality solvent based seam cleaner with moderate evaporation rate provided by membrane manufacturer.
- K. Walkway Pad: Shall be walkway pad by manufacturer of membrane. Color to be selected by Owner from manufacturer's full color selection. Approved Products:
 - 1. Sarnafil Sarnatred
 - 2. FiberTite Walkway Pad
 - 3. Flex Walkway Pad
 - 4. Carlisle Sure-Flex PVC Walkway Roll
- L. Polymer Clad Metal: Refer to Section 07 62 00-Sheet Metal Flashing and Trim.

PART 3 EXECUTION

3.01 SUBSTRATE PREPARATION

- A. Verify that the substrate is dry, clean, smooth, and free of loose material, oil, grease, or other foreign matter. Sharp ridges and other projections and accumulations of bitumen shall be removed to ensure a smooth surface before roofing.
- B. Asphalt roofing substrates shall be removed, covered, or flashed using compatible, approved materials. PVC shall not come in contact with substrates containing asphalt materials.
- C. Any deteriorated substrate shall be repaired.
- D. Beginning installation means acceptance of prepared substrate.
- E. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.02 MEMBRANE INSTALLATION

- A. The surface of the insulation or substrate shall be inspected prior to installation of the roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.
- B. Over the properly installed and prepared substrate, membrane adhesive shall be-spread in accordance with the manufacturer's instructions and application rates utilizing equipment as required by the manufacturer.
 - 1. Do not allow adhesive to skin-over or surface-dry prior to installation of roof membrane.
 - 2. Water based membrane adhesive shall not be used if temperatures below 40° F (5° C) are expected during application or subsequent drying time.
 - 3. Adhesive application rates shall comply with the manufacturer's published requirements.
 - 4. The Applicator shall count the amount of pails of adhesive used per area per day to

- verify conformance to the specified adhesive rate.
5. No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.
 6. Notched squeegees shall be replaced each day or as notches are reduced below ¼”.
- C. The roof membrane shall be unrolled into the adhesive. Adjacent rolls overlap previous rolls by 3 inches (75 mm). This process is repeated throughout the roof area. Immediately after placement of membrane, each roll shall be pressed firmly into place with the manufacturer’s recommended roller by frequent rolling in two directions.
- D. Weld membrane coverstrips at all fleeceback membrane seams without a factory selvage edge.

3.03 MEMBRANE TERMINATION

- A. Terminate membrane at all walls as shown in the Contract Drawings.
1. Roof Deck: Membrane shall be mechanically terminated using approved fasteners and plates six (6) inches on center.
 2. Wood Wall Substrate: Membrane shall be turned up wall two inches and mechanically terminated using approved screws eight (8) inches on center with flat termination bar.
 3. Concrete/Masonry Wall Substrate: Membrane shall be turned up wall two inches and mechanically terminated using approved anchors eight (8) inches on center with flat termination bar.
- B. Terminate membrane at all penetrations as shown in the contract drawings.
1. Membrane shall be fastened six inches on center or a minimum of four (4) fasteners per penetration into the structural deck using fasteners and plates as approved by the membrane manufacturer for the deck substrate.
- C. Membrane shall extend over roof edge a minimum of 2” below the perimeter wood blocking.

3.04 FLASHING INSTALLATION

- A. General
1. All flashings shall be installed concurrently with the roof membrane as the job progresses.
 2. No temporary flashings shall be allowed without the prior written approval of the Engineer and Manufacturer. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Contractor's expense.
 3. Seams shall not be “taped” as temporary measure but shall be fully completed before the end of each day.
 4. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces.
 5. Where substrates are incompatible with adhesives and PVC materials, the Contractor shall remove the incompatible materials and replace it with a compatible substrate, or install compatible PVC flashing materials.
 6. Use caution to ensure adhesive fumes are not drawn into the building.
- B. Adhesive for Flashing Membrane

1. Over the properly installed and prepared flashing substrate, flashing adhesive shall be applied according to instructions found on the Product Data Sheet. The membrane adhesive shall be applied in smooth, even coats with no gaps, globs or similar inconsistencies.
 2. Only an area which can be completely covered in the same day's operations shall be flashed. The bonded sheet shall be pressed firmly in place with a hand roller.
 3. No adhesive shall be applied in seam areas that are to be welded.
- C. All flashings shall mechanically terminated a minimum of 8 inches above the finished roofing surface using approved fasteners and counterflashing bar unless otherwise indicated in the Contract Drawings. Utilize fluid applied flashing for heights less than 8".
- D. All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the (roof) membrane.
- E. All flashings shall be hot-air welded at their joints and at their connections with the (roof) membrane.
- F. All flashings that exceed 30 inches (0.75 m) in height shall receive additional securement. Consult Manufacturer's Technical Department for securement methods.
- G. Corners shall be flashed using the membrane manufacturer's pre-formed corners.
- H. Polymer Clad sheet metal incorporated into the roofing system shall be sealed off with a heat welded stripping ply. The stripping ply shall extend four inches beyond sheet metal onto roof membrane and fit closely to edge of sheet metal.
- I. Circular Pipe Penetration:
1. Provide manufacturer's pre-fabricated pipe boot as shown in detail drawing.
 2. Apply aluminum tape to penetration if asphalt contamination is present.
 3. Extend existing pipe to obtain a minimum 8" finished flashing height. Refer to Section 07 01 50-Preparation for Reroofing.
 4. Cut existing pipe to obtain a maximum 12" finished flashing height.
 5. Horizontal flashing membrane shall be hot-air welded a minimum of four inches onto the membrane.
 6. Vertical flashing membrane shall be fully adhered to pipe penetration and extend a minimum of 1.5" horizontal at the base of penetration. Hot-air weld vertical flashing membrane to horizontal flashing membrane.
 7. Install stainless steel draw band and sealant or hot-air weld flashing cap to terminate top edge of pipe flashing.
- J. Fluid Applied Flashing Application
1. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set.
 2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
 3. Refer to manufacturer's installation instructions for application rates and additional installation information.
- K. Roof Drain:

1. Mechanically attach membrane 6" on center into structural deck around drain sump. Fully adhere flashing membrane and hot-air weld to membrane a minimum of 4 inches.
2. Flashing membrane shall be set in a full bed of sealant under the clamping ring.
3. Provide new cast iron strainer dome and clamping ring and provide new stainless steel clamping ring bolts.
4. Clamping rings shall be secured in place with all bolts at the end of each work day. Contractor shall water test roof drains after every instance the clamping ring is removed and reinstalled. The Contractor shall notify the Engineer and Owner of the water test schedule

3.05 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

1. All seams shall be hot-air welded. Seam overlaps should be 3 inches (75 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details.
2. Welding equipment shall be provided by or approved by the membrane manufacturer. All mechanics intending to use the equipment shall have successfully completed a training course provided by a membrane manufacturer's technical representative prior to welding.
3. All membrane to be welded shall be clean and dry.

B. Hand-Welding

1. Hand-welded seams shall be completed in two stages. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.
2. The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.
3. The nozzle shall be inserted into the seam at a 45 degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1½ inch (40 mm) wide nozzle is recommended for use. For corners and compound connections, the ¾ inch (20 mm) wide nozzle shall be used.

C. Machine Welding

1. Machine welded seams are achieved by the use of automatic welding equipment. When using this equipment, instructions from the manufacturer shall be followed and local codes for electric supply, grounding and over current protection observed. Dedicated circuit house power or a dedicated portable generator is recommended. No other equipment shall be operated off the generator.
2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Welded Seams

1. The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator to locations as directed by

the Engineer or membrane manufacturer's representative. One inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

3.06 WALKWAY PAD INSTALLATION

- A. Provide Walkway Pad where indicated on Drawing R-104 and at rooftop access locations (ladder, hatch, steps), under rooftop equipment supports, under splash pan and on four sides of roof drain sump. Engineer to locate walkway pads at drain sumps prior to installation.
- B. Provide walkpad in lengths of thirty six inches with 2 inch clearance between adjacent walkpads.
- C. Roofing membrane to receive walkway pad shall be clean and dry.
- D. Place chalk lines on sheet to indicate location of Walkway.
- E. Apply a continuous coat of membrane adhesive to the sheet and the back of walkway pad in accordance with membrane manufacturer's technical requirements and press walkway pad into place with a water-filled, foam-covered lawn roller.
- F. Clean the membrane in areas to be welded. Hot-air weld the entire perimeter of the walkway to the roofing membrane.
- G. Check all welds with a rounded screwdriver. Re-weld any inconsistencies.
- H. Important: Check all existing membrane seams that are to be covered by walkway with rounded screwdriver and re-weld any inconsistencies before walkway installation.

3.07 TEMPORARY CUT-OFF

- A. All flashings shall be installed concurrently, with the membrane in order to maintain a watertight condition as the work progresses.
- B. When a break in the day's work occurs in the central area of the project install a temporary watertight seal. An 8" strip of flashing membrane shall be welded 4" to the new field membrane. The remaining 4" of flashing membrane shall be sealed to the deck and/or the substrate so that water will not be allowed to travel under the new or existing membrane. The edge of the membrane shall be sealed in a continuous heavy application of pourable sealer of 6 inch width. When work resumes, the contaminated membrane shall be removed and disposed of. None of these materials shall be reused in the new work.
- C. If inclement weather occurs while a temporary water stop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.
- D. If any water is allowed to enter under the newly-completed system, the affected area shall be removed and replaced at the Contractor's expense.

3.08 CLEANING AND PROTECTION

- A. The Contractor shall be responsible for protecting the roof from construction related damages during the Work.
- B. The Contractor shall ensure trash and debris is removed from the roof daily.

- C. Metal scraps, nails, screws and other sharp damaging debris shall be kept off of the roof membrane surface during construction.
- D. The Contractor shall clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.
- E. The Contractor shall repair or remove and replace damaged membrane, flashings and other membrane components. Repairs shall be approved by the Engineer and be in accordance with the membrane manufacturers repair instruction to comply with the specified warranty.
- F. The Contractor shall remove temporary coverings and masking protection from adjacent work areas upon completion.

END OF SECTION 07 54 00

Pre-Bid Meeting Minutes from February 14, 2017
Discovery 1 Roof Upfit
University of South Carolina
State Project No. H27-6080-CA-B

REI Engineers Project No. 16CHS-061

Juaquana Brookins with USC Procurement discussed the following:

It was stated that this Pre-Bid Meeting is mandatory. Sign-in sheet is included with these minutes.

Bid Documents and any addendum may be obtained from <http://purchasing.sc.edu> (See Facilities Construction Solicitations & Awards).

Bid closing date is February 28, 2017 at 2:00pm.

Contact Juaquana Brookins with USC Procurement for instructions if not hand delivering your Bid.

Requirements of Form SE-310 were discussed.

It is the bidder's responsibility to check the University website for any updates or addenda.

Questions – All questions must be submitted in writing to kparker@reiengineers.com, attention Keith Parker. No oral interpretation or clarification will be made. Last day for interpretation or clarification is February 21, 2017 at 5:00pm. The last day for issuance of an addendum is 120 hours prior to the bid opening.

Base Bid offering shall be indicated in figures only. All Alternates for this Project must be bid.

Substitution requests must be received no later than ten days prior to the bid opening.

Dale Branham with USC Facilities discussed the following:

Project is ready to be awarded if in budget following the bid protest period.

Complexity and tight access to work areas was discussed due to numerous rooftop penetrations present.

It was stated that the requirements of USC are more stringent than DHEC and OSHA in many circumstances.

The Building Managers will be involved in this project and coordination is required.

Refer to USC Supplementary Conditions for Materials Storage and Fencing requirements and USC Tobacco policies.

A site specific Hot Work Permit will be required of the Contractor.

The building opens at 7am and closes at 5pm. Bidders should consider the building occupied 24 hours a day and seven days a week.

Kelly Bergeran with USC Environmental Health and Safety discussed the following:

Keep in mind the requirements for Fall Protection if required by OSHA for project conditions.

A site specific and company safety plan and crane plan will be required of the Contractor.

Keith Parker with REI Engineers discussed the following.

Section 00 62 33: Must be executed by a representative from the membrane manufacturer and returned by Apparent Low Bidder within 24 hours of Bid Opening. Independent sales representatives will not suffice for this requirement.

Section 01 11 00: Summary of Work

BASE BID

Sector A (Approximately 6,872 square feet): Remove and dispose of the existing roof system including flashings and sheet metal

down to the existing concrete deck; adhere new base layer insulation in foam adhesive; adhere new tapered layer insulation in foam adhesive; fully adhere felt-back thermoplastic single ply membrane and provide new sheet metal flashings, and accessories to provide a complete, watertight, 20-year warrantable roof assembly.

Sector B (Approximately 12,130 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing concrete deck; adhere new base layer insulation in foam adhesive; adhere new second layer insulation in foam adhesive; fully adhere felt-back thermoplastic single ply membrane and provide new sheet metal flashings, and accessories to provide a complete, watertight, 20-year warrantable roof assembly.

Lightning Protection: Remove existing lightning protection system and store for reinstallation upon completion of the roofing work at Sectors A and B. Reinstall the lightning protection system prior to request for Final Inspection. The air terminals and cables may be reused if they are not damaged. Mounting plates that are set in adhesives shall be replaced with new materials. All labor, materials and other costs required to reinstall the lightning protection system shall be included in the Base Bid. Provide membrane manufacturer's pre formed or fluid applied flashing where cable penetrates roof membrane assembly and as required to obtain the specified Roof System Warranty. No mechanical re-securement of mounting brackets will be permitted through new horizontal roof membrane, membrane flashings or sheet metal components. Secure such brackets with lightning protection and membrane manufacturer approved adhesive sealant. Secure lightning protection system to sheet metal with waterproof washers set in a bed of sealant.

ALTERNATE ONE

ADD new overlayment insulation adhered to new second/tapered layer insulation. Refer to Section 07 22 16, 1.10.

ALTERNATE TWO

ADD provision of new metal wall panels where indicated on Drawing R-101.

Section 01 14 00:	Work Restrictions – Owner will occupy premises during duration of Project. Sequencing and Restrictions contained this Section.
Section 01 21 00:	Allowances – Include Cash Contingency and Quantity Allowances in Base Bid.
Section 01 22 00:	Unit Prices – Provide proposed Quote on Bid Form.
Section 01 23 00:	Alternates – Two for this project and bid offering is required.
Section 01 31 00:	Project Management and Coordination
Section 01 33 00:	Submittal Procedures – Use of AIA G702 and G703 for Applications for Payment.
Section 01 40 00:	Quality Requirements – Review for Contractor and Manufacturer requirements.
Section 01 42 00:	References
Section 01 50 00:	Temporary Facilities and Controls – 3.02 states Contractor shall provide own sanitary toilets and electrical power.
Section 01 73 29:	Cutting and Patching
Section 01 74 00:	Cleaning and Waste Management
Section 01 77 00:	Closeout Procedures
Section 01 78 23:	Operations and Maintenance Data
Section 01 78 36:	Warranties and Bonds
Section 01 78 39:	Project Record Documents
Section 06 10 00:	Rough Carpentry – Allowance for Wood Blocking is in addition to nailers shown on Detail drawings.
Section 07 01 50:	Preparation for Reroofing
Section 07 22 16:	Roof Insulation – Refer to 1.09 for Overview of Base Bid Insulation system and 1.10 for Overview of Alternate Two Insulation system.
Section 07 42 13:	Metal Wall Panels – Exposed fastener metal wall panel as part of Alternate Two where indicated on Bid Documents.

Pre-Bid Meeting Minutes from February 14, 2017

Discovery 1 Roof Upfit

University of South Carolina

State Project No. H27-6080-CA-B

- Section 07 54 00: Thermoplastic Single Ply Roofing – Refer to Part 2 for approved manufacturers and Addendum One.
- Section 07 62 00: Sheet Metal Flashing and Trim – Color shall match existing scupper face plate to be replaced and Manufacturer’s standard color to be selected for sheet metal flashing and trim. Review for polymer clad metal requirements.
- Section 07 72 00: Roof Accessories
- Section 09 91 13: Exterior Paint – Includes miscellaneous rooftop painting.
- Drawings:

REI Engineers

2090 Executive Hall Rd., Suite 115

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(843) 225-6272

(843) 225-6273 Fax

**University of South Carolina
Mandatory Pre Bid Sign In Sheet
Columbia, South Carolina**

Project Name: Discovery I Roof Upfit
 Project Number: H27-6080-CA
 Pre Bid Date & Time: February 14, 2017, 10:00 AM

SWMBE?	Name	Company Name	Address	Phone #	Email
Yes No	Juanaana Brookins	USC	743 Greene St., Columbia SC 29208	803.777.3596	jbrookin@fmc.sc.edu
Yes No	Wayne Berry	Berry Builders	51 Shoreline Dr. Columbia SC 29225	803.6003.637	wberry@sc.rr.com
Yes No	Justin White	Fiberlite	9333-F Forgyth Park Dr. Charlottesville, VA 22919	458-6934 (704)	justin@refersupplyinc.com
<input checked="" type="radio"/> Yes <input type="radio"/> No	BD Yarbrough	Southern Roofing Services	803 N W15th Darius Sanderlin SC	803.773-8221	BD@southernroofing.com
Yes No	Dana Neville	Aqua Seal Mfg Roofing, Inc	P.O. Box 72238 W. Columbia, SC 29171	(803) 932-0420	dana@aquaseal.com
Yes No	Greg Hedrick	USC		803.917-0754	Udhedrick@fmc.sc.edu
Yes No	John A. Gann	Roofco		843-289-2813	JohnA.Gann@yaho.com
Yes No	Carter Mullins	Southwark Crane	1784 Woodworth Rd, Lexington, SC 29073	803 309-8219	Carter@southwarkcrane.com
Yes No	Jim Brunson	Sika/Sarna Fil	632 Amanda Dr Mathews NC 28104	704 609-5987	Jimbrunson@carolina.rr.com

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**University of South Carolina
Mandatory Pre Bid Sign In Sheet
Columbia, South Carolina**

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SWMBE?	Name	Company Name	Address	Phone #	Email
Yes <input checked="" type="radio"/> No <input type="radio"/>	Steve Martin Sr	Watts and Assoc Roofing	7416 Fairfield Road Columbia SC 29205	803-786-4660	stevejr@wattsroofing.com
Yes <input type="radio"/> No <input checked="" type="radio"/>	ARREN CARVER	OSE			arcarver@mmo.sc.gov
Yes <input type="radio"/> No <input type="radio"/>	Bradley Waters	REI Engineers	2090 Executive Man Road Suite 115 Charleston SC, 29407	843-225-6272	bwaters@reiengineers.com
Yes <input type="radio"/> No <input type="radio"/>	Keith Parker	REI Engineers	"	"	kparker@reiengineers.com
Yes <input type="radio"/> No <input type="radio"/>	DAVE BRANNAN	USC	743 ARCADE	803-797-1288	BRANNAN@FMC.SC.GOV
Yes <input type="radio"/> No <input type="radio"/>	Brian Wood	USC	743 GREENE	803-492-5441	woodbl@mailbox.sc.edu
Yes <input type="radio"/> No <input type="radio"/>	Brett Dunn	BONE DRY ROOFING	4236 PATE ST ALBERT CHURCHES TOWN	843-614-1304	bdunn@bonedryroofing.net
Yes <input type="radio"/> No <input type="radio"/>	Neil HUTCHINS	HUTCHINSON CONSTRUCTION	2130 WOODBURN	704-827-2277	summitbse@aol.com
Yes <input type="radio"/> No <input type="radio"/>	Andrew Cleason	CARLISLE	1285 RITTON HWY CARLISLE, PA	570-439-3764	Andrew.Cleason@carlisle-shf.com

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SWMBER?	Name	Company Name	Address	Phone #	Email
Yes No	DAVID SNEED	TESTA AMERICAN	INDIAN TRAIL, NC 704-882	1200	dsneed@testaamERICAN.com
Yes No	Kelly Bergeron	USC EHS	803-760-0243		bergeronk@mailbox.sc.edu
Yes No	Greg Steele	Trulinn	309 Hillendale Dr Apartment, NC	704-770-3253	gsteele@trulinnrwy.com
Yes No					
Yes No					
Yes No					
Yes No					
Yes No					

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