

ADDENDUM NUMBER ONE

MOCCASIN BEND MAINTENANCE BUILDING RE-ROOFING PROJECT CONTRACT NO. W-17-012-201

CITY OF CHATTANOOGA, TENNESSEE

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

1. The following changes shall be made to the Contract Documents, Specifications, and Drawings:
 - a. Revised Section 01010, Summary of Work, is revised and should replace the original.
 - b. Added specification 086200, Skylights.
2. To aid the City of Chattanooga in evaluating the bidder's qualifications, each bidder should include with the bid a list of three (3) projects completed in the past five (5) years that highlight and showcase their ability to perform work of a similar nature to this project, including the following components:
 - a. Removal of existing roofing material
 - b. Steel deck repair
 - c. Installation of new roofing insulation, tapered insulation, and TPO membrane
 - d. Replacement of flashings, gutters, downspouts, and fascia
 - e. Replacement or installation of new curbing at expansion joints
 - f. Installation of new metal supporting members

If individual projects do not include all aspects, multiple projects can be listed, as long as three project are identified for each aspect listed.

Please include project name, address, customer name, and contact information for each project.

3. One sample of the existing roofing material was taken during the initial roof inspection. The location is indicated on the attached Figure 1. The existing sample was approximately 5-1/2" in thickness, composed of built-up roofing. Much of the existing ballast was removed during a high-wind event in the past, and the remaining ballast has been treated with a spray-on material designed to cause it to adhere together, rather than be loose, to avoid the potential of having it blow off in the future.
4. The sign-in sheet from the pre-bid meeting is attached.
5. The questions and comments below were received. Answers and responses are listed in bold-faced letters.
 - a. I would like to submit Versico's VersiWeld TPO as an equal alternative to the specified roof system for the above Project located in Chattanooga, TN. I have attached a completed Substitution Request Form, and Product Data Sheet with some additional information regarding our VersiWeld product. Please contact me if you have any questions.

The request to use the Versico VersaWeld as a substitute is approved, subject to all other provisions of the contract and specification.

SECTION 01010
SUMMARY OF WORK

PART 1 – GENERAL

1.1 Section Includes

- A. Description of Work
- B. Items regulating the execution of the Work

1.2 Description of the Work

- A. Remove existing roof down to metal deck and inspect for damage or deterioration.
- B. Existing flashings, metal edging, gutters, downspouts, fascia and fascia extension to be removed and replaced with new 24 gauge Kynar finished metal in color of owner's choice. Color samples are required to be submitted prior to installation.
- C. Remove and replace skylights including curbs to meet required flashing height of manufacturer.
- D. Extend pipes and curbs to meet 8" minimum above finished roof elevation as required by manufacturer.
- E. Add wood blocking at roof perimeter to match new insulation heights.
- F. Install new base layer, tapered, crickets and cover-board insulation to metal deck with adhesive. NO mechanical fastening due to electrical lines near bottom of metal decking.
- G. Fully adhere new 60 mil TPO roof membrane.
- H. Area where roof joins walls of upper elevation will need to remove approximately 12" of insulated metal wall panels, fabricate and install 18 ga. metal support from roof deck up behind wall panels attached to wall girt, back of panels and roof deck. Insulate 18 gauge metal and allow for correct membrane flashing around base of upper building. See specification drawings.
- I. Construct new curbs where noted to facilitate new manufactures expansion joint covers and eliminate the expansion joint as currently on roof. Details will follow manufactures requirement for curbs, and flashing.
- J. Supply and install a steel fixed ladder with walk thru handrails as specified, including wall supports as needed.
- K. All work must be done during operating hours of plant.
- L. Owner will conduct a pre-construction meeting before work will be able to start. Owner will establish at pre-construction meeting where construction dumpsters and lay-down areas will be placed.
- M. All bidders must attend a mandatory pre bid meeting, schedule by owner.
- N. All bidders are to abide by all specification requirements.
- O. Provide a Manufactures NDL warranty for 20 years, including all products.

- P. The City Engineer reserves the right to substitute, add, delete, increase, decrease in any form or fashion as necessary the scope of work under the provisions of this Contract, including the projects noted above.
- Q. This project shall be assigned a unique project number by the Engineer. The Contractor shall execute this project in complete compliance with the requirements of this contract. All records of the Contractor shall conspicuously identify them to be associated with the unique project number assigned by the Engineer.
- R. The Engineer shall provide a set of standard City details, as needed, which shall be applicable to this project. The Contractor shall be called in for a Pre-Construction meeting at which time the Engineer shall issue notice to proceed. The Contractor shall have ten (10) days or an agreed to start date to start construction.

1.3 Items regulating the Execution of the Work.

- A. Attention to Work
For this project, the Contractor shall give his personal attention to and shall supervise the work to the end that it shall be prosecuted faithfully; and, when he is not personally present on the work, he shall at all times be represented by a competent superintendent or foreman who shall be present at the work and who shall receive and obey all instruction or orders given under this Contract, and who shall have full authority to execute the same, and to supply materials, tools and labor without delay, and who shall be the legal representative of the Contractor. The Contractor shall be liable for the faithful observance of any instructions delivered to him or to his authorized representatives.
- B. Access to Work
The Contractor shall at all times provide proper facilities for access and inspection of the work by representatives of the Owner and of such official Governmental agencies as may be designated by the Owner as having jurisdictional rights to inspect the work.
- C. No Parking Signs
The Contractor shall place "NO PARKING" signs 48 hours prior to beginning work at a project location. The Contractor shall notify the City's designated Inspector/ Project Manager when the signs have been placed and if vehicles have not been moved at such time as work is scheduled to begin. No additional cost shall be paid to the Contractor while the Owner is making arrangements to get the vehicle moved or towed.
- D. Work on Private Property
Where the work on this project encroaches upon private property, the Owner shall provide easements and/or right-of-entry in or onto said property. Work performed in such easements is subject to the provisions of the easement agreement on file with the City of Chattanooga Engineering Department.

The Contractor shall be responsible for obtaining any additional agreements which may be deemed necessary for the storage of equipment or materials outside of public easements or rights of ways for this project. The Contractor shall obtain a written agreement between the Contractor and Land Owner and forward it to the Engineer prior to use of said property.

The Contractor shall be responsible for the preservation of and shall use every precaution to prevent damage to all trees, shrubbery, fences, culverts, mailboxes, bridges, pavements, driveways, sidewalks, houses or building and all water, sewer, gas, telephone and electric lines thereto and all other private and public property along or adjacent to the work.

Any damage that occurs will be restored to a like condition as existed prior to construction, in the Contract Documents, unless otherwise indicated or specified.

Forty-eight (48) hours prior to construction on any easement or streets the Contractor shall notify in writing the affected property owners in the area. This notification shall include the Contractor's name and the name and phone number of the contact person.

E. Monthly Job Site Meetings

Once a month, on a date mutually agreed upon by the Contractor and the Engineer, a job site meeting shall be held for review of the Project, including, but not limited to: The construction schedule, traffic control, pending submittals, and any other issues that may arise. This meeting shall be used to review the contractor's monthly applications for payment.

F. Contract Working Hours

All work shall be performed during regular working hours unless mutually agreed upon and approved in writing by the City Engineer. The Contractor will not permit overtime work or the performance of work on Sunday or any legal holiday without the Owner's written consent given after prior 24 hour written notice to the Engineer. Saturday work shall also require prior 24 hour written notice. Regular working hours are Monday through Saturday from 7:00 A.M. to 8:00 P.M. The actual costs of the Owner's and Engineer's inspection of the work performed outside of regular working hours will be billed to the Contractor and deducted from the Contractor's application for payment as they occur.

END OF DOCUMENT

**SUNWAVE™ UNIT SKYLIGHTS
FIRESTONE BUILDING PRODUCTS, LLC
OR APPROVED EQUAL**

PART 1 GENERAL

The project, Moccasin Bend Maintenance Building Re-Roofing Project, located in Chattanooga, TN, includes the provision of Firestone Building Products SunWave™ Unit Skylights, Fixed, or approved equal.

1.01 SUMMARY

- A. Furnish and install manufactured unit skylight assembly, including:
 - 1. Skylight manufacturer's requirements for the specified warranty.
 - 2. Curb assemblies and blocking for skylight attachment.
 - 3. Accessories and supplemental flashing.
 - 4. Metal edging and trim.
 - 5. Other roofing-related items specified or indicated on the drawings or otherwise necessary to provide a complete weather tight skylight system.
- A. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- B. Comply with the published recommendations and instructions of the unit skylight manufacturer found at www.firestonebpco.com.
- C. Commencement of work by the Contractor shall constitute acknowledgement by the Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by the manufacturer. No modification of the Contract Sum will be made for failure to adequately examine the Contract Documents or the project conditions.

1.02 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers associated with roofing and roof insulation.
- B. Section 07 54 23 - TPO Roofing System
- C. Section 07 62 00 - Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.
- D. Section 07 72 00 - Roof Accessories: Roof hatches, vents, and manufactured curbs.

1.03 REFERENCES

- A. Referenced Standards: These standards form part of this specification only to the extent they are referenced as specification requirements.
 - 1. Aluminum Association (AA):
 - a. Specifications for Aluminum Structures.
 - 2. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
 - a. ASHRAE 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings.
 - 3. Factory Mutual System (FM):
 - a. FM - Approval Guide, Chapter 18 - Building Materials.
 - b. FM Standard 4430 - Test Criteria for Heat and Smoke Vents
 - 4. National Fenestration Rating Council (NFRC)
 - a. NFRC 100 - Procedure for Determining Fenestration Product U-Factors.
 - b. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance of Normal Incidence.
 - 5. North American Fenestration Standard (NAFS)

- a. AAMA\WDMA\CSA\101\I.S.2\A440 - The Voluntary Performance Specification for Windows, Skylights, and Glass Doors.

1.04 SUBMITTALS

- A. Product Data:
 - 1. Provide manufacturer's printed data sufficient to show that all components of unit skylight, including accessories and fasteners, comply with the specified requirements and with the manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with unit skylight.
 - 2. Where UL or FM requirements are specified, provide documentation that shows that the unit skylight to be installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
 - 3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.
- B. Shop Drawings: Provide:
 - 1. The manufacturer's standard details customized for this project for all relevant conditions, including supplemental framing, flashings and penetration conditions.
- C. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.
- D. Executed Warranty.
- E. Specimen Warranty: Submit prior to starting work.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Installer shall have the following:
 - 1. Firestone Master Contractor status, current or within the past five years, or suitable comparable status from "or equal" product manufacturer.
 - 2. At least five years' experience in installing specified units.
- B. Pre-Installation Conference: Before start of unit installation, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - 1. Require attendance with all parties directly influencing the quality of the work or affected by the performance of the work.
 - 2. Notify Architect well in advance of meeting.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources and the reverse.

1.07 WARRANTY

- A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- B. Warranty: Firestone 20 year commensurate with the Red Shield Limited Warranty covering membrane, roof insulation, and membrane accessories, or comparable warranty from "or equal" roofing material manufacturer.

Consult the manufacturer's design guidelines for further information at www.firestoneebp.com.

- 1. Limit of Liability: No dollar limitation.
- 2. Scope of Coverage: [Refer to Division 07 Firestone Roofing System specification.]

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer – Unit Skylights: Firestone Building Products Co., Carmel, IN. www.firestonebpco.com, or approved equal.
- B. Manufacturer of Roofing System and Accessories: Same manufacturer as unit skylight.
- C. Unit skylights manufactured by others may be acceptable provided the unit is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
 - 1. Specializing in manufacturing the unit skylights to be provided.
 - 2. Minimum ten years of experience manufacturing the unit skylights to be provided.
 - 3. Able to provide a no dollar limit, single source roof system warranty that is backed by corporate assets in excess of one billion dollars.
 - 4. ISO 9002 certified.
 - 5. Able to provide single source warranty comprehensively covering the entire roofing system.
- D. Substitution Procedures: See Instructions to Bidders.
 - 1. Substitution without written consent of the Owner or authorized agent is not permitted.
 - 2. Submit evidence that the proposed substitution complies with the specified requirements.
 - 3. Requests for substitutions will be considered only in accordance with provisions of the Instructions to Bidders.

2.02 UNIT SKYLIGHT DESCRIPTION

- A. Description: Factory fabricated aluminum framed with plastic thermal break, sealed and insulated, double glazed dome skylights with no exposed metal to the interior to protect from condensation.
- B. Type I - Glazing Panels: High Visible Light Transmittance
 - 1. Outer Lens: 100% impact modified clear prismatic acrylic of sufficient thickness recommended to meet the specified performance requirements. Minimum hail resistance level of Class 1 as tested by certified engineering firm. Class 3 hail resistance units shall be presented as option in high hail risk zones.
 - a. Outer Lens: SR 40 - 100 percent impact modified clear prismatic acrylic of sufficient thickness recommended to meet the specified performance requirements.
 - 1. Inner lens: High diffusing white prismatic.
 - b. Inner lens: SR25 White Prismatic Acrylic Lens.
- A. Energy Requirements: Glazing material shall have a maximum light distribution characteristic that maximizes the shading factor. Per Addendum D of ASHRAE 90.1 – 2007, the diffusing qualities of glazing shall have a minimum haze factor of 90% or greater. The combined inner/outer lens target values shall be as follows:
 - 1. Light Transmittance: 67.8 percent minimum.
 - 2. Diffusion / Haze Factor: 100 percent min.
 - 3. Solar Heat Gain Coefficient: 0.42 maximum. NFRC 200
 - 4. "U" Value: .74 or lower (glazing and framing) in accordance with NFRC 100 or "unlabeled skylight" default requirements of ASHRAE 90.1 - 2004

2.03 UNIT SKYLIGHT PERFORMANCE REQUIREMENTS

- A. Plastic unit skylights shall conform to recommendations of the AA Specifications for Aluminum Structures.
- B. Clear Skylight Glazing Panel: Factory fabricated aluminum framed with plastic thermal break, sealed and insulated, double glazed dome skylights with no exposed metal to the interior to protect from condensation.
- C. Skylights shall be designed to carry a minimum 30 psf tributary roof load or greater per site as specified in the current International Building Code or prevailing model code.
- D. Skylights shall be tested and labeled in accordance with AAMA\WDMA\CSA\101\I.S.2\A440 as required by the International Building Code.

1. Test laboratory shall perform a 200 lb. drop test from a height of 24" above the center (highest point) of dome shape and at mid points of both the length and width sides. 200 lb. load shall be contained within a flexible bladder or sack having approximate dimensions no larger than 30" long, 20" wide, and 8" high, filled with course sand or pea gravel. The dome must withstand the sack drop impact without inverting or breaking.
 2. Finished skylight domes sealed in frame must resist 500 lb. on 1 square foot point loading without inverting. Drop test shall be witnessed and certified by the test laboratory which provides the NAFS certification.
- E. REGULATORY REQUIREMENTS – Provider shall be certified by the NFRC and listed as an approved manufacturer with verified product performance on the NFRC website (<http://www.nfrc.org>).
- F. Manufacturer to provide third party testing reports certifying Visible Light Transmittance (VLT) and Haze properties of glazing type and levels as required for ASHRAE 90.1 under ASTM D1003.
- G. Frame Requirements:
1. ASTM B 221 alloy 6063-T5 extruded aluminum frame with extruded aluminum dome retaining angle, Insulated thermal break, and integral condensate gutter.
 2. Finish: Manufacturer's standard mill finish.
 3. Provide pre-installed 1-1/2" x 1/4" foam rubber gasket between frame and curb.
 4. Provide weather sweep attached to frame.
 5. Curb Dimensions: Determined by skylight manufacturers inside dimension of extruded aluminum. Recommend a 1/2" surround around finished and final flashed curb.

2.04 ROOF CURBS

- A. Curb Dimensions: Determined by skylight manufacturers inside dimension of extruded aluminum. Recommend a 1/2" surround around finished and final flashed curb.
- B. Metal Roof Curb Assembly
1. Galvalume steel construction with liners.
 2. Full height mitered and welded corners.
 3. Factory installed 3/16" (4.7 mm) galvanized steel Safe-Security Guard 4" x 4" (101.6 x 101.6 mm) grid pattern.
 4. Lined with 1 1/2" (38 mm) thick 3 lb (1.3 kg) density fiberglass insulation.
- C. Wood Roof Curb Assembly
1. Douglas fir #2 and better.
 2. Mechanically attached corners.
 3. Safe-Security Guard may be attached to the inside of the curb.
 4. 1 1/2" (38 mm) polyisocyanurate insulation board attached to the exterior of the curb with adhesive.
- D. Acceptable Product: SunWave Roof Curb by Firestone, or approved equal.
Safe-Security Guard fall protection screens are pre-installed with SunWave Roof Curbs. Safe-Security Guard fall protection screens are available separately for retro-fit applications.

2.04 ACCESSORIES

- A. Fasteners (For anchorage of skylight to roof curb): screws with washers furnished by Manufacturer and provided in sufficient quantity for complete installation.
- B. Washers: Neoprene/stainless steel bonded washers furnished by Manufacturer.

PART 3 INSTALLATION

3.01 GENERAL

- A. Skylights shall be assembled and glazed ready for installation
- B. Exterior drip / counter flashing and drainage ports shall be protected from weather and air-borne debris.
- C. Corners of curb and retaining frames shall be mitered and full penetration welded.
- D. Retaining frames that secure the glazing panels along each side under spring tension need not be welded and must be sealed with a silicone sealant along the full perimeter of the retaining frame.

- E. Utilize only pre-drilled skylight frame hole for anchorage to roof curbs.
- F. Seal glazing panels to base frame allowing for sufficient expansion and contraction. Provide exterior weeping hole arrangement.

3.02 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Do not commence with work until an accepted Pre-Installation has been produced and delivered to the Contractor

3.03 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

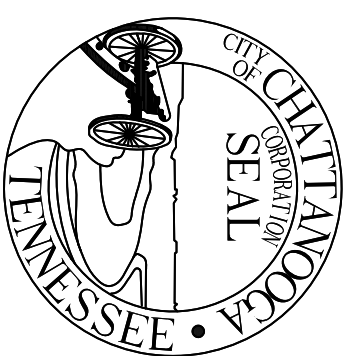
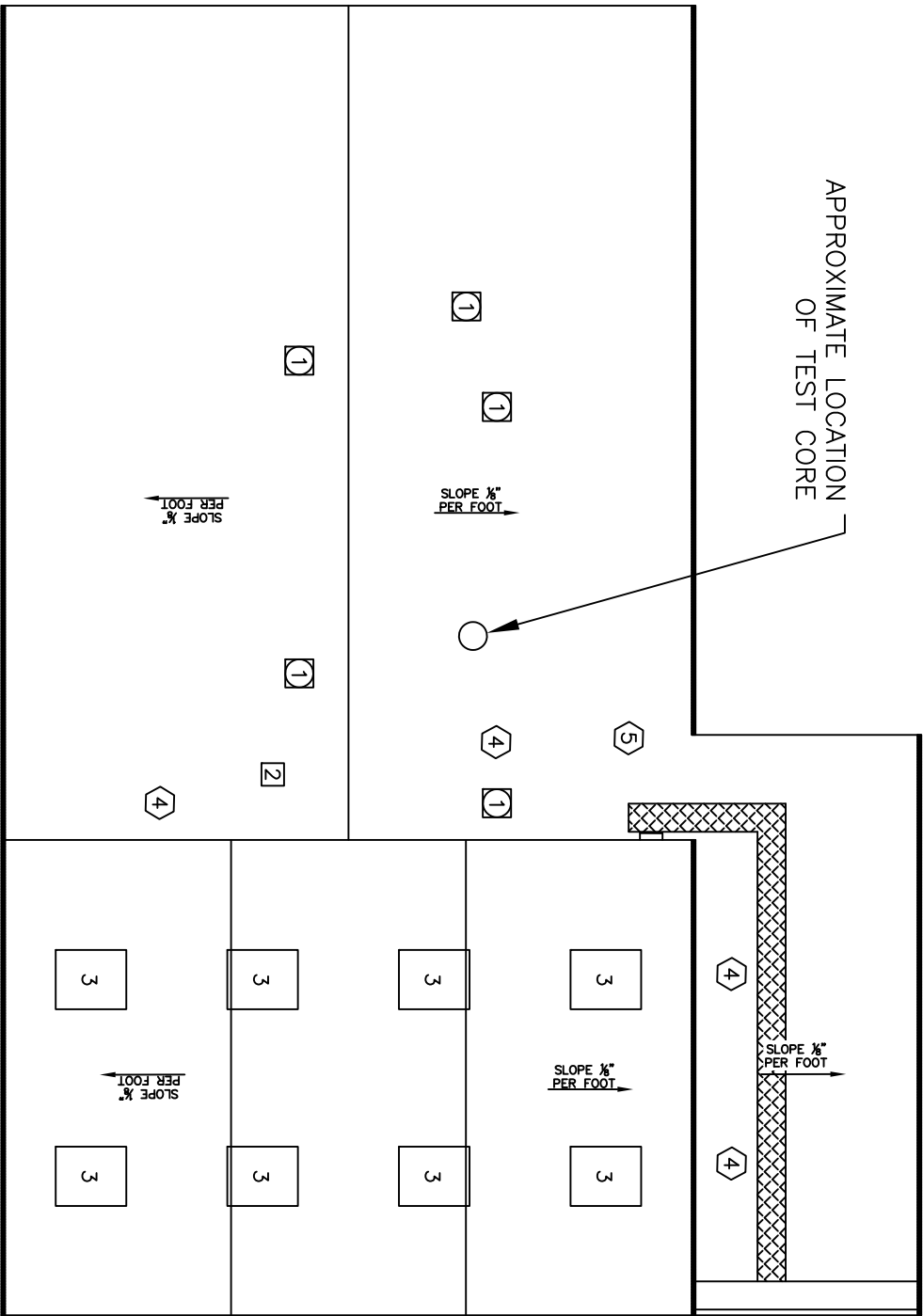
3.04 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Coordinate with work performed as the scope of the roof installation per division 7.
- C. Install in accordance with current Firestone specifications, details, and workmanship requirements.
- D. Use fasteners packaged with the SunWave Dome or only those provided by the Manufacturer. These may include stainless steel screws with neoprene/stainless steel bonded washers.
- E. Substrates must be clean, dry, smooth, and free of sharp edges, fins, loose or foreign materials, oil, and grease.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



**CITY OF
CHATTANOOGA**
**DEPARTMENT OF
PUBLIC WORKS**

ADMINISTRATOR: _____

CITY ENGINEER: _____

CITY ENGINEER: _____

NO. DATE REVISION DES. SIG.

0 10/3/17 _____

MBWTP MAINTENANCE
BUILDING RE-ROOF
TEST CORE LOCATION

CONTRACT# W-17-012

SCALE: NTS

DRAWN: AWO

DESIGN: AWO

CHECKED: AWO

FIGURE: ONE

City of Chattanooga

MBWWTP Maintenance Building RE-Roofing Project

Pre-Bid Meeting

September 26, 2017, 2:00 PM

MBWWTP O & C Conference Room, 455 Moccasin Bend Road, Chattanooga, TN 37405

ATTENDEES

Name	Organization	Email	Phone
Scott O'Neil	Anderson Lumber Co	CSO244@gmail.com	865-233-7444
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Brian Hehan	Carlisle	brian@pexgraph.com	423/991-0062
Chris Feltty	Tn-Sino Rtg	chris@tstroofing.com	423-362-2640
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