

DATE: 30 April 2012

FROM: WALLER, TODD & SADLER ARCHITECTS, INC.
1909 CYPRESS AVENUE
VIRGINIA BEACH, VA 23451

TO: ALL PROSPECTIVE BIDDERS

RE: **ADDENDUM NO. 2**
TO THE REQUEST FOR PROPOSAL DOCUMENTS FOR:
MUNICIPAL / E911 BUILDING
SUFFOLK, VIRGINIA

This Addendum forms a part of the Contract Documents and modifies the original Request for Proposal Documents dated March 14, 2012 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

PERTAINING TO RFP

RFP Document

All references to overall square footage of the building within the RFP document shall read 110,000 sf.

PART 1: D/B Request for Proposal with List of Attachments

Page 6 Para. VI.A.1 : After the first sentence, **ADD** the following sentence “OFFEROR SHALL INCLUDE IN THE TECHNICAL PROPOSAL (PART ONE), THE FOLLOWING DOCUMENTS: 1) ANTICOLLUSION/ NONDISCRIMINATION/DRUG-FREE WORKPLACE FORM AND 2) PROOF OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA.”

PART 2: PROJECT PROGRAM AND DESCRIPTIONS – Table of Contents

In the Table of Contents **INSERT** the following after “Building Performance Requirements” and before “Site Performance Requirements”

ROOM MATRIX – SPECIAL SYSTEMS REQUIREMENTS	1 THROUGH 14
SPECIAL SYSTEMS ROOM MATRIX LEGEND	
DOOR CONDUIT DETAILS	
SECURITY SYSTEM DRAWINGS	SK-101 AND SK-102

PART 2: Typical Office Layouts:

DELETE SKA-2 dated Nov 18, 2011 and **REPLACE** with SKA-2 dated April 20, 2012.

PART 2: Space Requirements Data Sheets:

Room IT-106 Under Equipment section, the Grounded Workbench shall be NIC.

PART 2: Building Performance Requirements:

Page 1 Para. 1.b. Building Code Analysis
DELETE the first paragraph in its entirety and **REPLACE** with the following
“THE NEW FACILITY IS DESIGNED TO MEET THE REQUIREMENTS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2009 VERSION. THE BUILDING USE GROUP IS B (BUSINESS) AND CONSTRUCTION TYPE IIB, PROTECTED; PROTECTED BY EITHER WET SPRINKLER OR FM 220 SYSTEMS. THE FM 220 SYSTEM SHALL BE REQUIRED IN THE E-

911 CALL CENTER AND IN THE DATA CENTER, ROOM TI-108. PROVIDE AIR-TIGHT CONSTRUCTION AROUND THE PERIMETER OF THE SPACES PROTECTED BY THE FM 220 SYSTEMS. THE PORTION OF THE BUILDING CONTAINING THE E-911 CALL CENTER IS CONSIDERED AN ESSENTIAL FACILITY UNDER IBC, AND ALSO REQUIRES A 2 HOUR FIRE SEPARATION FOR WALLS AND FLOOR/CEILING ASSEMBLIES PER NFPA 1221.”

In the second paragraph **DELETE** the last sentence and **REPLACE** with “ACTUAL SQUARE FOOTAGE IS A TOTAL OF 110,000 SF, (APPROXIMATELY 66,500 SF/FIRST FLOOR AND 43,500 SF/SECOND FLOOR).”

- Page 2 Para. 2.b.(1) Exterior Wall Closure Options – General Requirements
In the first sentence of this paragraph, **DELETE** “CONCRETE MASONRY UNITS” and **REPLACE** with “CAST STONE, PHENOL WALL PANELS,”.
- Page 8 Para. 5.b.(1) Steep Slope Roofing Systems
After the words “GWB SHEATHING” **INSERT** “ON METAL DECKING,” .
- Page 9 Para. 5.b.(2). (c)
DELETE the paragraph in its entirety and **REPLACE** with “A TWO PLY SBS MODIFIED SYSTEM CONSISTING OF MODIFIED BASE SHEET, MODIFIED BITUMEN INTERPLY SHEET, AND WHITE FLEECE-BACKED TPO CAP SHEET IS THE SYSTEM OF CHOICE FOR NEW LOW SLOPED ROOFING.”
- Page 10 Para. 7.a Standard Interior Doors
DELETE the second paragraph its entirety and **REPLACE** with the following:
“ALL STANDARD INTERIOR DOORS SHALL BE WOOD, EXCEPT WHERE HOLLOW METAL DOORS ARE REQUIRED TO MEET FIRE RATING, OR AS OTHERWISE INDICATED. PROVIDE ALUMINUM STOREFRONT DOORS AT ENTRANCE VESTIBULES AND AT OTHER LOCATIONS WHERE GOOD VISUAL CONTROL IS DESIRABLE. ALL INTERIOR DOOR FRAMES SHALL BE GALVANIZED HOLLOW METAL OR ALUMINUM STOREFRONT.”
- Page 12 Para. 8.k. Ornamental Metal Work
DELETE the first paragraph its entirety and **REPLACE** with the following:
“PROVIDE ORNAMENTAL STAIR HANDRAILS AND GUARDRAILS AT STAIRS AND AT SECOND FLOOR CORRIDOR OVERLOOKING THE MAIN LOBBY. MATERIALS OTHER THAN METAL THAT ARE DURABLE AND LOW-MAINTENANCE MAY BE USED FOR THE STAIR OR GUARDRAIL PANELS, UPON APPROVAL.”
- Page 12 Para. 10.1.(2) Stair Handrails, Guardrails, and Accessories
DELETE the first paragraph in its entirety and **REPLACE** with the following:
“HANDRAILS AND GUARDRAILS SHALL BE PAINTED STEEL, STAINLESS STEEL OR PREFINISHED ALUMINUM, EXCEPT AS NOTED OTHERWISE, SUCH AS PARAGRAPH 8.K (ORNAMENTAL METAL WORK). HANDRAILS AND GUARDRAILS SHALL PRESENT A SMOOTH, UNBROKEN SURFACE THROUGHOUT THE LENGTH OF THE STAIR.”
- After Page 43 Room Matrix - Special Systems Requirements
On Page 6, Room PA-107 In the first three columns, **DELETE** the reference to “3” and **REPLACE** in each column the number “8”.

PART 3: Division 1 – General Requirements

- 01 10 00 PERMITS, FEES AND CHARGES
Para. B.1 - **DELETE** the first paragraph in its entirety and **REPLACE** with:

“THE OWNER SHALL PAY FOR THE FOLLOWING FEES AND PERMITS RELATED TO THE CONSTRUCTION OF THE PROJECT INCLUDING: BUILDING PERMIT AND PLAN REVIEW FEES, WATER AND SEWER FEES, HRSD FEES, EASEMENTS, RIGHTS-OF-WAY, BMP AND EROSION CONTROL (E&S) FEES, AND BUILDING REQUIRED SPECIAL INSPECTIONS. THE DESIGN/BUILDER SHALL PAY FOR ALL REMAINING FEES AND PERMITS RELATED TO THE CONSTRUCTION OF THE PROJECT INCLUDING, BUT NOT LIMITED TO: PLUMBING, MECHANICAL AND ELECTRICAL PERMITS. THE DESIGN/BUILDER SHALL BE RESPONSIBLE FOR MAKING APPLICATION FOR AND OBTAINING ALL PERMITS.”

PART 4: Technical Specifications

- 03 30 00 CAST-IN-PLACE CONCRETE
After paragraph B.4 **ADD** the following paragraph:
“5. VAPOR RETARDER: POLYETHYLENE, 15-MIL- THICK SHEET.”
- 04 72 00 CAST STONE
Paragraph A.1 – At the end of the sentence **DELETE** “ROCKCAST” and **REPLACE** with “OR EQUAL”
- 06 10 50 WOOD BLOCKING
After paragraph A.1 **ADD** the following paragraph:
“2. ALL CONCEALED WOOD FRAMING, BLOCKING, BACKING, SLEEPERS, FURRING, FIRESTOPS AND PLYWOOD EXCEPT WOOD BLOCKING IN CONNECTION WITH ROOFING AND FLASHING SHALL BE FIRE-RETARDANT-TREATED. PRESSURE IMPREGNATE LUMBER AND PLYWOOD WITH FIRE-RETARDANT CHEMICALS TO COMPLY WITH AWPA C20 AND C27 RESPECTIVELY, FOR TREATMENT TYPE INDICATED.”
- 07 22 00-1 ROOF INSULATION
In Para. C.1.b **DELETE** “R-20, MINIMUM 3.25 INCHES.” and **REPLACE** with “R-29, MINIMUM 4.75 INCHES.”
- 07 52 00 MODIFIED BITUMEN MEMBRANE ROOFING (3-PLY COLD PROCESS)
DELETE specification section 075200 in its entirety.
- 07 54 23 TPO ROOFING MEMBRANE W/ 2 PLY BASE
ADD specification section 075423 in its entirety. See attachment.
- 07 81 00 SPRAYED FIRE-RESISTIVE MATERIALS
ADD specification section 078100 in its entirety. See attachment.
- 09 52 10 ACOUSTICAL CEILING DIFFUSERS, WALL DIFFUSERS, AND WALL PANELS
In Paragraph H.1.a **DELETE** the last sentence and **REPLACE** with “ACCEPTABLE MANUFACTURES INCLUDE, BUT ARE NOT LIMITED TO: ARMSTRONG WORLD INDUSTRIES, INC., SOUND SOAK ACOUSTICAL WALL SYSTEMS.”

PERTAINING TO RFP DRAWINGS

SHEET CU101 and CU102

- The water main labeled “Baseline B” (and all associated fittings) shall be **REVISED** from an 8” to 12” water main.

RFI QUESTIONS AND RESPONSES

1. What Type & Size of Water Quality Structure Will Be Required For Structure C2, C5 & C7, There are a Few Different Types With a Wide Range of Cost. The Few I Have Personally Used in The Past are Filterra's, Contech Stormfilters, Hydroguards & Stormceptors. Depending on The Type Chosen These Three Structures Will Have a Substantial Cost Associated With Them.

RESPONSE: The DB is expected to propose a system that will meet the water quality requirements. A performance specification is included in the RFP.

2. Need Size & Type of Pipe For Pipe Lines Listed Below: Need Type & Invert of Structures Listed Below:

- | | |
|--------------|--------|
| a. B2 / B9 | a. B9 |
| b. B9 / B10 | b. B10 |
| c. B10 / B11 | c. B11 |
| d. B9 / B12 | d. B12 |
| e. C10 / C12 | e. C12 |
| f. C12 / C13 | f. C13 |
| g. C13 / C14 | g. C14 |
| h. C14 / C15 | h. C15 |
| i. C12 / C16 | i. C16 |

RESPONSE: The DB's civil engineer will need to provide this. The RFP design is a guideline not a completed permitted set of drawings. DB is to rely upon their civil partner for ALL storm sewer design not just these structures.

3. Architectural Drawing or Count Supplied For Roof Drain Connections, Location, Type of Downspout Connection Required and Size & Type of Pipe Required From The Mainline To The Building.

RESPONSE: DB is responsible for the design. Refer to the specifications for acceptable materials.

4. Will There Be a Site Demolition Plan Issued Showing What Underground Utilities are To Be Removed or Abandon in Place and Site Features That Will Have To Be Removed.

RESPONSE: The DB's civil engineer will need to provide a drawing if needed. The city will not issue a drawing. Specification 24116 is clear on performance requirement; refer to Part 3.

5. The RFP, 1 of 2 Section (Site Performance Requirements) Page 6, States 12" Ductile Iron Waterline is To Be Installed To The Human Resource Building. The Civil Plan Shows 8" Ductile Iron Which is Correct.

RESPONSE: Waterline shall be 12" ductile iron, see revisions to civil drawings.

6. Bid Alternate # 3 Identifies 12" Waterline as Baseline A & B From Henley Place To Market Street and Connecting To The Existing Around North Avenue, Also From The Tee @ Station 16+00 To The Human Resource Building, The 8" Line of Pipe @ Station 18+50 Running up To The Proposed

Fire Hydrant is Not Designated as Baseline A or B. Is This Line of Pipe To Be Included In Alternate # 3?

RESPONSE: Baseline A and B are noted on the utility sheets CU101, and CU102 and are both intended to be part of Bid Alternate #3.

7. Reference CS101 - Construction of retaining wall will encroach on LOT 34 Owner: D. Russell and Gayle S Mosser. How much if any of this parcel is the City acquiring?

RESPONSE: The plans do not indicate encroachment and none is intended. If the DB feels that a temporary construction easement is required, it should be stipulated. The City would work with the land owner to acquire that easement. After award, additional topo will be provided to the DB by the City as needed to complete the design.

8. What if any other parcels along the east side of the site will the City be acquiring adjacent to the site?

RESPONSE: The DB should assume that no additional acquisitions are planned at this time.

9. The West Washington Street Plans show utility easements. Does the City intend for the contractor to provide utility easement plats/exhibits as part of the scope?

RESPONSE: The City will be responsible for preparing easements and plats associated with the project (refer to Standard General Conditions at 8.01(4)(b)). The DB will be responsible for coordination and incorporation into their design all private public utility work associated with the project, including but not limited to all required utility ducts, underground conduit, pole relocation, and similar utility adjustments (refer to Spec Section 260543 and Site Performance Requirements paragraph 3(a), 11 and 12).

10. Spec Section 011000 – Summary – States that we are to include all fees and permits related to the construction of the project. Does that include the Water Availability Charge (Commercial) of \$43,120 and the Sewer Availability Charge (Commercial) of \$47,100?

RESPONSE: The City will be responsible for the cost of the water and sewer fees, the Design/Builder is not to include these costs in the proposals. Same is true with the building permit and plan review fees.

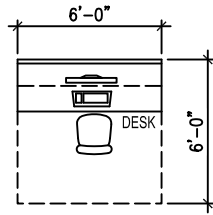
11. Spec Section 011000 – Summary – States that we are to include all DFU fees for the project. Can you please provide the DFU fee structure and provide the DFU fee credit that we will receive for the demolition of the Buildings on site.

RESPONSE: The City of Suffolk does not charge DFU fees. This requirement has been removed from the RFP.

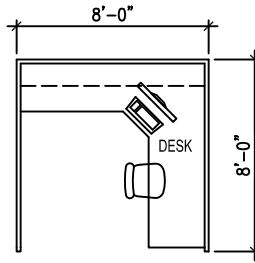
ATTACHMENTS

- a. SKA-2 dated April 20, 2012.
- b. Specification 07 81 00 - SPRAYED FIRE-RESISTIVE MATERIALS
- c. Specification 07 54 23 - TPO ROOFING MEMBRANE W/ 2 PLY BASE

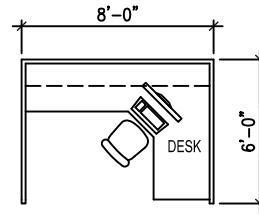
END OF ADDENDUM NO. 2



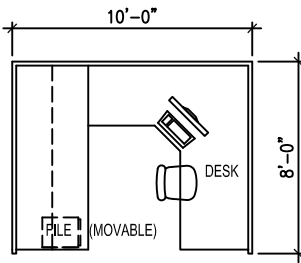
OPEN PLAN WORKSTATION
36 SF
OP1



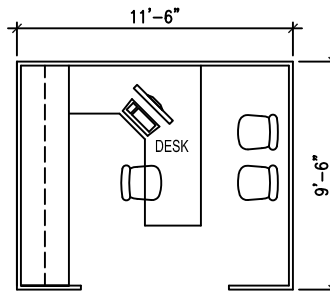
OPEN PLAN WORKSTATION
64 SF
OP2



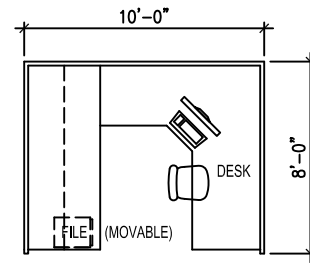
OPEN PLAN WORKSTATION
48 SF
OP2R



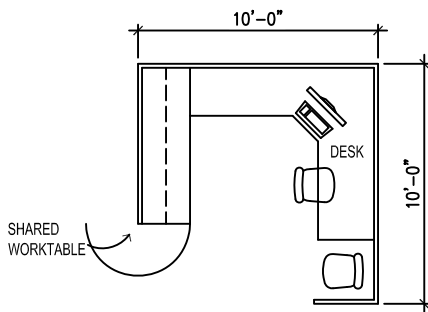
OPEN PLAN WORKSTATION
80 SF
OP3



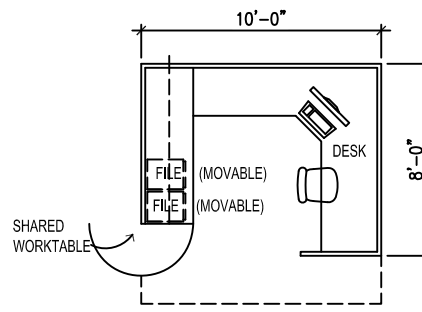
OPEN PLAN WORKSTATION
110 SF
OP4



OPEN PLAN WORKSTATION
80 SF
OP4R



OPEN PLAN WORKSTATION
120 SF
OP5



OPEN PLAN WORKSTATION
100 SF
OP5R

SUFFOLK MUNICIPAL
CENTER/911 CALL CENTER
SUFFOLK, VIRGINIA

TYPICAL OPEN PLAN
WORKSTATION LAYOUTS

DATE ISSUED
APRIL 20, 2012

DRAWN BY KHS SCALE
1/8" = 1'-0"

SKETCH NUMBER
SKA-2

**WALLER
TODD &
SADLER
ARCHITECTS**

07 54 23 TPO ROOFING MEMBRANE W/ 2 PLY BASE

A. WORK INCLUDES

1. New Work Includes But Is Not Limited To
 - a. Roof Membrane System. TPO Roofing membrane with 2 ply base.
 - b. Board and tapered roofing insulation
 - c. Roof drains, drain sumps, and lead flashings.
 - d. Roof expansion joints
 - e. Metal Pitch Pockets and Metal Flashing

B. PERFORMANCE REQUIREMENTS

1. General: Provide installed roof membrane and base flashings that remain watertight; do not permit the passage of water; and resist calculated uplift pressures, thermally induced movement, and exposure to weather without failure.
2. Material Compatibility: Provide roof materials that are compatible with one another under conditions of service and application required, as demonstrated by roof manufacturer based on testing and field experience.
3. Roof System Design: Provide a roof system that:
 - a. Complies with roof system manufacturer's written design instructions.
 - b. Complies with SPRI's "Wind Design Guide for Adhered Roofing Systems."
 - c. Is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressures required to achieve a minimum FM 1-90 wind rating in a hurricane prone region, exposure category C as determined by FM Global Property Loss Prevention Data Sheets 1-28R and 1-29.

C. QUALITY ASSURANCE

1. The roofing contractor shall have at least five (5) years of experience in providing and installing TPO roofing membrane with 2 ply base systems as detailed and specified in the contract documents and submit evidence of same and have all the necessary resources to perform the contract. The roofing contractor shall be pre-qualified prior to the bidding by the roofing manufacturer and will be required to submit evidence of such pre-qualification. As herein indicated.
 - a. A current certified letter of approval from the roofing manufacturer which states that the roofing contractor is approved to install the specified roofing system(s) including all components.
 - b. A current notarized letter from the roofing contractor or roofing manufacturer stating that the roofing contractor is experienced in the installation of the "specified" roofing system(s) and a list of successfully completed projects of the "specified" system within one hundred (100) miles of the project site and dating back for a period of five (5) years.
2. Source Limitations: Obtain components for roof system from roof system manufacturer.
3. The roofing membrane manufacturer shall provide a qualified technical roofing inspector on the job site during installation of the fully adhered flexible sheet roofing. The technical roofing inspector shall be present for the pre-installation conference, a minimum of two (2) times per week during the roofing membrane and flashing installation, and shall accompany the Architect/Engineer during the Substantial Completion inspection for the project.

4. Roofing Membrane Manufacturer must be a Partner in the United States Environmental Protection Agency Energy Star Roof Products Program. Roof Membrane Manufacturer and Product must be listed on the Energy Star Roof Products Program Compliant Product List.
5. Roofing Membrane Manufacturer must have current approval with SBCCI.

D. INFRARED MOISTURE SURVEY

1. Upon substantial completion of the project the roofing contractor will engage the services of an independent roof consultant to perform an infrared moisture survey over the entire new roof system to include a 24" x 36" dated roof plan along with a report. This will be a condition of, but not limited to, final acceptance by the Owner of the roof project.
2. The Owner requires seven (7) copies of the survey and report be submitted along with the final application for payment.
3. The survey / report must indicate the presence of no detrimental amount of moisture in the roof system.
4. If the survey / report indicates detrimental amounts of moisture, the roofing contractor will immediately undertake, after coordinating with the Owner, all necessary steps to correct such deficiencies to include removal and replacement with new materials the affected areas. Having done so, a new infrared moisture survey of the affected areas will be performed by the same independent roofing consultant and will include a report. All additional work to correct deficiencies shall be at no cost to the Owner. This process will continue until a satisfactory moisture survey is achieved.

E. WARRANTY

1. General Warranty: The warranties specified in this article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
2. Manufacturer's Water-Tightness Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to promptly repair or replace components of roof system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 - a. Warranty includes roof membrane, base flashings, roof membrane accessories, roof insulation, fasteners, substrate boards, fascia, counter-flashings, and items specified to be installed in conjunction with the roof. Warranty will include coverage of wind speeds up to and including 74MPH.
 - b. Warranty Period: Twenty (20) years from date of Substantial Completion.
3. Special Project Warranty: Submit roof system manufacturers Installers Warranty, on warranty form, signed by Installer, covering Work of this Section, including all components of roof system such as roof membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, fascias, and counter-flashings for the following warranty period:
 - a. Make repairs or replacement of any defect or non-conforming work.
 - b. Replacement of any materials found not to conform to the specifications.
 - c. Provide a two (2) year warranty from the date of Substantial Completion.

F. ROOF SYSTEM

1. The Roof System is a TPO Membrane fleece-backed w/ 2-ply SBS modified bitumen base.
2. Manufacturers: Subject to compliance with requirements of ASTM D6878, provide products by one of the following:

- a. Carlisle Syntec.
- b. Johns Manville
- c. Firestone
- d. GAF

G. ROOF INSULATION AND COVER BOARDS

1. General: Provide pre-formed roof insulation, tapered insulation, cants, and cover boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes, and of thicknesses indicated. For tapered insulation, provide the base thickness and slopes required to prohibit water from ponding and provide positive drainage to roof drainage systems.
 - a. Roof Insulation: Polyisocyanurate board with facer (thickness per details drawings)
 - b. Cover Board: 1/2" Dens Deck Prime or approved equal.
2. Provide pre-formed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated, unless noted otherwise on the drawings.

H. ROOFING MEMBRANE

1. Base Ply: SBS 80 S/S (2 Ply): General Specifications:

Technical Data:

Thickness	0.080 inches (2.0 mm) ±10%
Tensile Strength @ 0°F	
Machine Direction	135 lbf / inch
Cross Machine Direction	117 lbf / inch
Elongation @ 0°F	
Machine Direction	4%
Cross Machine Direction	4%
Tensile Tear	
Machine Direction	80 lbf / inch
Cross Machine Direction	75 lbf / inch
Low Temperature Flexibility	
Machine Direction	-10° F
Cross Machine Direction	-10° F
Dimensional Stability	
Machine Direction	≤ 0.1%
Cross Machine Direction	≤ 0.1%

2. Cap Sheet (Finish Ply): FB/TPO – White.
 - a. Type: TPO fleece-backed, fully adhered in hot asphalt or cold adhesive as recommended by the manufacturer.
 - b. Thickness: 120 mil minimum for membrane with fleece-backing.
 - c. Underwriters Laboratory: Roof assembly shall be a U.L Class "A" roof.
 - d. Membrane shall meet or exceed all requirements of ASTM D6878 "Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing".
 - e. Color: White, as selected by the Architect.

I. BASE FLASHING SYSTEM

1. Base Ply: SBS 80 S/S

2. Cap Sheet: FB/TPO – White

J. AUXILIARY ROOF MEMBRANE MATERIALS

1. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roof membrane.
2. Cold-Applied Adhesive: Roofing system manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and flashings.
3. Asphalt Primer: ASTM D 41.
4. Roofing Asphalt: ASTM D 312, Type III or IV as recommended by roof system manufacturer for application.
5. Substrate Adhesive: As recommended by roof system manufacturer for application.
6. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roof system manufacturer for application
7. Mastic Sealant: Polyisobutylene, plain or modified bitumen, non-hardening, non-migrating, non-skinning, and non-drying.
8. Bonding Adhesive: As recommended by roof system manufacturer for application.
9. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening base sheets, base-ply felts, and base flashings and for back nailing modified bituminous membrane to substrate; tested by manufacturer for required pullout strength, and acceptable to roof system manufacturer.
10. Metal Flashing Sheet
11. Cants and Wood Nailer Strips
12. Glass-Fiber Fabric: Woven glass cloth, treated with asphalt; complying with ASTM D 1668, Type 1.
13. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roof system manufacturer for intended use.

K. INSULATION ACCESSORIES

1. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
2. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer. Manufacturer recommended fastener varies per roof deck type.
3. Fluid-Applied Adhesive: Manufacturer's standard bead applied two-component low rise polyurethane insulation adhesive (or approved equal) formulated to adhere roof insulation to substrate.
4. Wood Nailer Strips
5. Walkway Pads: Walkway Pad is designed to be used as a traffic-bearing roof top walkway on roofing system and as a protection layer around rooftop equipment to protect the roofing membrane from damage.
 - a. Physical Properties:

Color:	Yellow
Size:	36" wide X 60' long
Slip-Resistant Membrane Thickness:	80 mils (nominal)
Reinforcement:	1000 denier polyester
Tear Strength:	100 lbs X 100 lbs
Puncture Resistant:	65 pounds
Shore A Durometer:	80
Cold Resistance :	-40°F
Hydrostatic Resistance:	400 psi

Dimensional Stability:	0.3% or less
U.V. Stability:	12,000 hrs. Excellent

6. Rooftop Supports/Sleepers: Provide Cooper B-Line Dura-Block complete rooftop support system, or approved equal. System shall include, but may not be limited to, HVAC supports, pipe supports, ductwork supports, conduit supports, and sleepers made from 100% recycled rubber.

END OF SECTION 07 54 23

07 81 00 SPRAYED FIRE-RESISTIVE MATERIALS

A. Provide sprayed fire-resistive materials (SFRM) as indicated or as required by code and in the following areas, including:

1. Structural components concealed from view behind other construction when work is complete shall receive concealed cementitious SFRM.
2. Structural components exposed to view when work is complete shall receive intumescent mastic fire-resistive coating.

B. CONCEALED SFRM

1. Manufacturer Products: Provide products from one or more of the following manufacturers according to the suitability of the product for the intended purpose.
 - a. W.R. GRACE, Construction Products Div.
 - b. MONOKOTE TYPE MK-6, MK-6/HY, and MK-6s
 - c. Approved equal.
2. Physical Properties: Minimum values, unless otherwise indicated, or higher values required to attain designated fire-resistance ratings, measured per standard test methods referenced with each property as follows:
 - a. Dry Density: 14 lb/cu. ft. for average and individual densities, or greater if required to attain fire-resistance ratings indicated, per ASTM E 605 or AWC Technical Manual 12-A, Section 5.4.5, "Displacement Method."
 - b. Thickness: Minimum average thickness required for fire-resistance design indicated but not less than 0.375 inch (9 mm), per ASTM E 605.
3. Bond Strength: 80 lbf/sq. ft. minimum per ASTM E 736 based on laboratory testing of 0.75-inch (19-mm) minimum thickness of SFRM.
4. Compressive Strength: 3.47 lbf/sq. in. minimum per ASTM E 761. Minimum thickness of SFRM tested shall be 0.75 inch (19 mm) and minimum dry density shall be as specified but not less than 15 lb/cu. ft. (240 kg/cu. m).
5. Corrosion Resistance: No evidence of corrosion per ASTM E 937.
6. Deflection: No cracking, spalling, or delamination per ASTM E 759.
7. Effect of Impact on Bonding: No cracking, spalling, or delamination per ASTM E 760.
8. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. in 24 hours per ASTM E 859. For laboratory tests, minimum thickness of SFRM is 0.75 inch (19 mm), maximum dry density is 15 lb/cu. ft., test specimens are not prepurged by mechanically induced air velocities, and tests are terminated after 24 hours.
9. Fire-Test-Response Characteristics: Provide SFRM with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - a. Flame-Spread Index: 10 or less.
 - b. Smoke-Developed Index: 0.
 - c. Fungal Resistance: No observed growth on specimens per ASTM G 21.

C. EXPOSED INTUMESCENT MASTIC FIRE-RESISTIVE COATINGS

1. Manufacturer Products: Provide products from one or more of the following manufacturers according to the suitability of the product for the intended purpose.
 - a. Nu-Chem, Inc.
 - b. Thermo-Sorb
 - c. Approved equal.

D. AUXILIARY FIRE-RESISTIVE MATERIALS

1. General: Provide auxiliary fire-resistive materials that are compatible with SFRM and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.
2. Substrate Primers: For use on each substrate and with each sprayed fire-resistive product, provide primer that complies with one or more of the following requirements:
 - a. Primer's bond strength complies with requirements specified in UL's "Fire Resistance Directory" for coating materials based on a series of bond tests per ASTM E 736.
 - b. Primer is identical to those used in assemblies tested for fire-test-response characteristics of SFRM per ASTM E 119 by UL.
3. Adhesive for Bonding Fire-Resistive Material: Product approved by manufacturer of SFRM.
4. Veneer-Plaster Topcoat: Factory-mixed formulation of a latex-modified, portland cement-based veneer plaster recommended in writing by manufacturer of SFRM for trowel or spray application over concealed SFRM.
 - a. Product: Subject to compliance with requirements, provide "Topkrete Type TK-610L" by Grace, W. R. & Co.--Conn.; Construction Products Div.

END OF SECTION 07 81 10