ENGINEERING DEPARTMENT

ADDENDUM TO THE CONTRACT

for the

Mendenhall Valley Public Library
Contract No. E14-051

ADDENDUM NO.: **FOUR** **CURRENT DEADLINE FOR BIDS:** **April 2, 2014**

PREVIOUS ADDENDA: **THREE**

ISSUED BY: City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

DATE ADDENDUM ISSUED: **3/26/2014**

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online. Please refer to the CBJ Engineering Contracts Division webpage at: http://www.juneau.org/engineering_ftp/contracts/Contracts.php

PROJECT MANUAL:

Specification Changes:

Item No. 1 SECTION 00310 – BID SCHEDULE, ADDITIVE ALTERNATE NO. 9 – *NOT USED*:

Delete "$_____
(Price in Figures)"

Item No. 2 SECTION 00800 – SUPPLEMENTARY GENERAL CONDITIONS, GENERAL. ***Add*** the following to the end of the paragraph:

"Since state funding will be utilized by the project the Alaska Product Preference as identified in AS 36.15 applies to the project. Only timber, lumber, and manufactured lumber products originating in this state from local forests shall be used wherever practicable."

Item No. 3 SECTION 064100 – ARCHITECTURAL WOOD CASEWORK, PART 1 - GENERAL, ARTICLE 1.5 - QUALITY ASSURANCE: ***Delete*** Paragraphs "A" and "B" in their entirety, and ***Replace*** with:

"A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance

B. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
1. Min 5 years experience
2. Single Source"

Item No. 4 SECTION 064100 – ARCHITECTURAL WOOD CASEWORK, PART 2 - PRODUCTS, ARTICLE 2.9 - COUNTERTOPS (COUNTERTOP #):

Paragraph C - COUNTERTOP 4, subparagraph 1. ***Change*** "f." to "a." and ***Add*** "b. Thickness: 1 inch"

Paragraph D - COUNTERTOP 5, subparagraph 1. ***Change*** "f." to "a." and ***Add*** "b. Thickness: 1 inch"

Item No. 5 SECTION 064100 – ARCHITECTURAL WOOD CASEWORK, PART 2 – PRODUCTS:

Add Section 2.12 - PADDED UPHOLSTERY, as follows:

"2.12 PADDED UPHOLSTERY
A. Basis of Design: 2" seat cushion with Closed Cell ensolite Cell PVN foam with ¼" exterior piping, typ.

1. Compression resistance (PSI) at 25%: 1.5,-3.5
2. Shrinkage: 3-5%
3. Flammability: FMVSS-302 requirement

B. Schedule of Fabric

1. Padded upholstery fabric at 111 Periodical and 114 Alaska

a. Manufacturer: Design Tex
b. Style: Rocket2693-502
c. Color: Lime

2. Padded upholstery fabric at 116 Childrens

a. Manufacturer: Knoll
b. Style: Synth
c. Color: Waveform
d. Location: 116 Childrens"

Item No. 6 SECTION 064216– WOOD-VENEER PANELING, PART 1 - GENERAL, ARTICLE 1.6 - QUALITY ASSURANCE. ***Delete*** sections "A" and "B" in their entirety, and ***Replace*** with:

"A. Fabricator Qualifications: Shop that employs skilled workers who custom-

fabricate products similar to those required for this Project and whose products have a record of successful in-service performance

B. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.

1. Min 5 years experience
2. Single Source"

Item No. 7 SECTION 075419 – POLYVINYL-CHLORIDE (PVC) ROOFING. ***Delete*** in its entirety, and ***Replace*** with revised SECTION 075419 – POLYVINYL-CHLORIDE (PVC) ROOFING, labeled Addendum No. 4.

Item No. 8 SECTION 089100 – LOUVERS, PART 2- PRODUCTS, Article 2.2 - LOUVERS, Paragraph C. ***Delete*** in its entirety.

Item No. 9 SECTION 092116 – GYPSUM BOARD ASSEMBLIES, PART 2 - PRODUCT, Article 2.8 - TRIM ACCESSORIES, Paragraph B - Aluminum Trim, Subparagraph 3 - Drywall Reveals. ***Delete*** in their entirety and ***replace*** with the following:

"3. Drywall Reveals:
a. Reveals:
1) "Z" Reveal:
(a) Product: Fry Reglet or equal
(1) Type: DRMZ 675-675 (Basis of Design)
(2) Size: Depth 5/8 inch, Width 5/8" inch.
(3) Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.
(4) Color: Color varies in relation to location. See Drawings and Section 099000 - Paints and Coatings for specification of colors.
2) "F" Reveal:
(a) Product: Fry Reglet or equal
(1) Type: DRMF 625-625 (Basis of Design)
(2) Size: Depth 5/8 inch, Width 5/8" inch.
(3) Aluminum, extruded alloy 6063 T5, with chemical conversion coating
3) "J" Edge Molding:
(a) Product: Fry Reglet or equal
(1) Type: JDM-625 (Basis of Design)
(2) Size: Depth 5/8 inch, Width 5/8" inch.
(3) Aluminum, extruded alloy 6063 T5, with chemical conversion coating"

Item No. 10 SECTION 095426 – LINEAR WOOD CEILINGS AND WALLS, PART 2 – PRODUCTS, Article 2.1 – LINEAR WOOD CEILING. ***Delete*** in its entirety and ***replace*** with the following:

"2.1 LINEAR WOOD CEILING

A. Manufacturer:

1. Site Built
2. Or approved equal

B. WD SLAT CEILING SYSTEM: For Main Ceiling, Interior

1. Basis-of-Design Product: Subject to compliance with requirements, provide 9 Wood- Style 2314-3 continuous linear

   a. Configuration: 3-1/4" inch wide members
   b. Solid Lumber shall be of Premium grade with a clear satin finish.

      1) Depth: 3/4 inch
      2) Edge profile: Square, S3S

   c. Species: System shall consist of the following: Hemlock or Sitka Spruce solid clear, vertical grain.
   d. Grade: Superior Grade
   e. Reference 092100 for support system components
   f. Scrim: White Reveal Scrim

      1) Ecoustic Felt 681, Basis of design
      2) Color 96 white

C. WD SLAT CEILING SYSTEM: For Main Ceiling, Exterior Soffits

1. Channel shiplap

   a. Configuration: 3-1/4" inch wide members with lap to match interior spacing
   b. Solid Lumber shall be of Premium grade with a clear satin finish.

      1) Depth: 3/4 inch
      2) Edge profile: Square, S2S

   c. Species: System shall consist of the following: Hemlock or Sitka Spruce solid clear, vertical grain.
   d. Grade: Superior Grade
   e. Reference 092100 for support system components
   f. Special Fire Retardant Finish supplement: Flames Stop Inc. "Flame Stop II" post treatment exterior fire retardant and preservative for a Class A fire rating. Testing per ASTM E-84, NFPA 255, UL 723. Brush or Roll at a rate of 125 square feet per gallon. www.flamestop.com

Item No. 11 SECTION 097713 - STRETCHED FABRIC WALL SYSTEMS, PART 2 – PRODUCTS, Article 2.3 - SCHEDULE, Paragraph D. - AWS4: ***Delete*** "4. Location: 100 Vestibule, 102 Meeting" and ***replace*** with "*4. Location: 102 Meeting"*.

Item No. 12 SECTION 101100 – VISUAL DISPLAY SURFACES:

Delete "SECTION 101100 – VISUAL DISPLAY SURFACES" in its entirety.

Item No. 13 SECTION 102226 – OPERABLE GLASS PARTITIONS, HEADER AND FOOTER:

Change the section number ***from*** 102226 ***to*** 102626.

Item No. 14 SECTION 102800 – TOILET AND BATH ACCESSORIES, PART 2 - PRODUCTS, Article 2.1 - MANUFACTURERS, Paragraph A. ***Delete*** the following:

"Other Manufacturers: Submit Substitution Requests prior to bid date in accordance with Division 1 Section "Product Requirements." treatment."

Item No. 15 SECTION 102800 – TOILET AND BATH ACCESSORIES, 2.3 PART 3 – EXECUTION:

Delete "2.3 PART 3 EXECUTION". ***Replace*** with "PART 3 – EXECUTION".

Delete "2.4 INSTALLATION". ***Replace*** with "3.1 – INSTALLATION".

Item No. 16 SECTION 115116 – BOOK DEPOSITORIES, PART 2 - PRODUCTS, Article 2.1 – MANUFACTURERS, Paragraph B. ***Delete*** in its entirety.

Item No. 17 SECTION 115123 – LIBRARY SHELVING, PART 2 - PRODUCTS, Article 2.1 – MANUFACTURERS, Paragraph B. ***Delete*** in its entirety.

DRAWINGS:

Item No. 18 SHEET A1.1 – FURNITURE PLAN. ***Delete*** in its entirety and ***replace*** with the attached A1.1 – FURNITURE PLAN, labeled, Addendum 04, 3/24/14.

Item No. 19 SHEET A1.2 – REFERENCE FLOOR PLAN. ***Delete*** in its entirety and ***replace*** with the attached A1.2 – REFERENCE FLOOR PLAN, labeled, Addendum 04, 3/24/14.

Item No. 20 SHEET A2.1 – 2ND FLR/LOW ROOF PLAN. ***Delete*** in its entirety and ***replace*** with the attached A2.1 – 2nd FLR/LOW ROOF PLAN, labeled Addendum 04, 3/24/14.

Item No. 21 SHEET A4.1 – BUILDING SECTIONS. ***Delete*** in its entirety and ***replace*** with the attached SHEET A4.1 – BUILDING SECTIONS, labeled Addendum 04, 3/24/14.

Item No. 22 SHEET A5.1 – ENLARGED WC PLANS. ***Delete*** in its entirety and ***replace*** with the attached A5.1 – ENLARGED WC PLANS, labeled Addendum 04, 3/24/14.

Item No. 23 SHEETS A6.1-A6.7. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A6.1-A6.7, labeled Addendum 04, 3/24/14.

Item No. 24 SHEETS A7.1-A7.5. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A7.1-A7.5, labeled Addendum 04, 3/24/14.

Item No. 25 SHEETS A8.2-A8.3. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A8.2-A8.3, labeled Addendum 04, 3/24/14.

Item No. 26 SHEETS A8.5-A8.7. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A8.5-A8.7, labeled Addendum 04, 3/24/14.

Item No. 27 SHEETS A8.9-A8.17, ***Delete*** in their entirety and ***replace*** with the attached SHEETS A8.9-A8.17, labeled Addendum 04, 3/24/14.

Item No. 29 SHEETS A8.19-A20. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A8.19-A20, labeled Addendum 04, 3/24/14 revised.

Item No. 30 SHEETS A8.22-A8.24. ***Delete*** in their entirety and ***replace*** with the attached SHEETS A8.22-A8.24, labeled Addendum 04, 3/24/14.

Item No. 31 SHEETS A9.1-A9.10, EXT ROOF, SOFFIT AND WALL ASSEMBLIES, "METAL WALL PANEL ASSEMBLY 4Si".

Delete "MEMB WP 2" and ***replace*** with "MEMB WP 4".

Item No. 32 SHEET A9.3 – EXTERIOR DETAILS, Detail 1B. ***Delete*** in its entirety and ***replace*** with the attached detail 1B/A9.3, REVISED, labeled Addenda 04, 3/21/14.

Item No. 33 SHEET A9.8 – EXTERIOR OPENING DETAILS, Detail 1D. ***Delete*** in its entirety and ***replace*** with the attached detail 1D/A9.8, REVISED, labeled Addenda 04, 3/21/14.

Item No. 34 SHEET A9.9 – EXTERIOR DETAILS ENLARGED,

Detail 1B. ***Delete*** in its entirety and ***replace*** with the attached detail 1B/A9.9 REVISED, labeled Addenda 04, 3/21/14.

Detail 2B. ***Delete*** in its entirety and ***replace*** with the attached detail 2B/A9.9 REVISED, labeled Addenda 04, 3/21/14.

Item No. 35 SHEET A9.10, Detail 1A – FIREPLACE COPING. ***Delete*** in its entirety and ***replace*** with the attached detail 1A/A9.10, REVISED, labeled Addenda 04, 3/21/14.

Item No. 36 SHEET A10.1 - FINISH SCHEDULE.

First Floor
104 – Storage, Floor. ***Change*** from Lin-1/- ***to*** CONC/SLR.
120 – Break, Floor. ***Change*** from CPT-2/- ***to*** Lin-1/-.
107 - Open Library, Wall, North. ***Change*** from -/- ***to*** GWB/PT.

Item No. 37 SHEET A10.4 – GLAZING SYSTEMS & WINDOWS.

Window type 08 Base and 08 Alt. ***Change*** sill detail callout reference from"3A/A9.3" ***to*** "3D/A9.6 SIM".

Window type 10, right hand side, upper dimension. ***Change*** dimension from (9'-6 1/2") to (9'-5 1/4").

Window type 10, right hand side, lower dimension. ***Change*** dimension from (6'-10 3/4") to (6'-7").

By: _____
Greg Smith,
Contract Administrator

Total number of pages contained within this Addendum: 69

SECTION 075419 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Adhered polyvinyl-chloride (PVC) roofing system.
2. Adhered cover board.
3. Mechanically fastened polyisocyanurate high thermal insulation.
4. Mechanically Fastened Expanded Polystyrene Insulation (over unheated areas)
5. Self-adhered vapor retarder.
6. Fiberglass faced gypsum thermal barrier.

B. Section includes the installation of insulation strips in ribs of roof deck. Insulation strips are furnished under Section 053100 "Steel Decking."

C. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking; and for wood-based, structural-use roof deck panels.
2. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
3. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counter flashings.
4. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.
10. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
11. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
12. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
13. Review structural loading limitations of roof deck during and after roofing.
14. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
15. Review governing regulations and requirements for insurance and certificates if applicable.
16. Review temporary protection requirements for roofing system during and after installation.
17. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals:

1. Product Data for Credit SS 7.2: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirement.
2. Product Data for Credit IEQ 4.1: For adhesives and sealants used inside the weatherproofing system, documentation including printed statement of VOC content.
3. Laboratory Test Reports for Credit IEQ 4.1: For adhesives and sealant**s** used inside the weatherproofing system, documentation indicating that products comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:

1. Base flashings and membrane terminations.
2. Tapered insulation, including slopes.
3. Roof plan showing orientation of steel roof deck and orientation of roofing, fastener spacing, and layout of fully adhered PVC sheets.
4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
5. Prescribed layout of ribbon applied adhesive for cover board

D. Samples for Verification: For the following products:

1. Sheet roofing, of color required.
2. Cover board type
3. Roof Insulation
4. Vapor barrier
5. Thermal barrier
6. Fasteners
7. Extruded PVC Ribs

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of compliance with performance requirements.

C. Product Test Reports: For components of roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.

D. Field quality-control reports.

E. Sample roof system guarantee: For manufacturer's standard guarantee.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is UL listed or FM Global approved for roofing system identical to that used for this Project.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturers written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

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

1.11 ROOF SYSTEM GUARANTEE

A. Standard Guaranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Standard guarantee includes membrane roofing, base flashings, roof insulations, fasteners, cover boards, substrate board, roofing accessories, and other components of roofing system.
2. Guarantee Period: 20 years from date of Substantial Completion.

B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PVC MEMBRANE ROOFING

A. A smooth type, polyester scrim reinforced PVC membrane with a nominal 80-mil thickness, for use as a single ply roofing membrane. Membrane shall meet or exceed the minimum requirements of ASTM D-4434 Type III. UL Listed.

1. Products: Subject to compliance with requirements listed, provide the specified products, but are not limited to the following:

    a. Basis of Design is Johns Manville Elvaloy KEE PVC Membrane

2. Thickness: 60 mils nominal.
3. Exposed Face Color: Grey.

B. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

    a. Gypsum Board and Panel Adhesives: 50 g/L.
    b. Multipurpose Construction Adhesives: 70 g/L.
    c. Single-Ply Roof Membrane Adhesives: 250 g/L.
    d. PVC Welding Compounds: 510 g/L.
    e. Adhesive Primer for Plastic: 650 g/L
    f. Single-Ply Roof Membrane Sealants: 450 g/L.

3. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, and color as PVC sheet membrane. Thickness: 60 or 80 mil.

D. Bonding Adhesive: Manufacturers Standard Low VOC Bonding Adhesive

E. Metal Termination Bars: Manufacturer's standard, predrilled aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

F. PVC coated metal for flashings.

G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

H. Urethane Insulation Adhesive: Johns Manville two part urethane insulation adhesive.

I. PVC Ribs: Hot air weld-applied decorative rib profile to simulate the aesthetics of standing seam metal roof, provided and endorsed by roofing manufacturer for this application. Match roofing color.

J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories as required by manufacturer.

2.2 SUBSTRATE BOARDS

A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, Type X, 5/8 inch thick.

1. Products: Subject to compliance with requirements, provide the following:

a. Georgia-Pacific Corporation; Dens Deck Primed
b. Architect approved equal.

2.3 VAPOR BARRIER

A. Self-Adhered 40 mil vapor barrier: Johns Manville Vapor Barrier SA or Architect approved equal.

B. Vapor Barrier Primer: Johns Manville SA VB primer or Architect approved equal.

2.4 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by PVC membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, felt or glass-fiber mat facer on both major surfaces. R-Value required for project: 40 R-value based on manufacturers 2014 LTTR values.

C. Expanded-Polystyrene Board Insulation (EPS): ASTM C 578, of Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84. For use outside of Building exterior wall envelope at unheated areas under roofing and eaves, assembly to match thickness of adjacent Polyisocyanurate Board Insulation assembly per main roof insulation installation.

D. Cover Board: Manufactures approved cover board that meets requirements of specified roof system

1. Products: Subject to compliance with requirements, provide the following:

a. JM Invinsa Board, ¼" 150 psi high density board.

OR

b. Georgia Pacific DensDeck, Thickness as required to meet specified system requirements.

E. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches where indicated on drawings

F. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.5 INSULATION ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.

2.6 ROOF ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.

B. Surface applied contour Rib: PVC Profile Rib. Heat welded to membrane at 2'-0" o.c., typ on upper roof only. Color to match Roof single-ply membrane color.

C. Johns Manville Presto-Tite Fascia system. To match color of fascia metal.

D. Style Snow Guard, basis of design Alpine Snowguards #115R or approved Equal for rows of pipes as shown on plans. www.alpinesnowguards.com.

1. Components as recommended by manufacturer
2. Design requirements recommended by manufacturer and project structural criteria

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."
4. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
5. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
6. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 SUBSTRATE BOARD

A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

1. Fasten substrate board to top flanges of steel deck according to recommendations in FM Approvals' "RoofNav" and FM Global Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification.
2. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to membrane roofing system manufacturers' written instructions.

3.4 VAPOR-RETARDER INSTALLATION

A. Self-adhered vapor Barrier: Prime substrate board per manufacturer’s instructions. Adhere VB membrane as per installation guidelines of manufacturer.

B. Completely seal vapor retarder at terminations, perimeters, obstructions, and penetrations to prevent air movement into membrane roofing system.

3.5 INSULATION INSTALLATION

A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.

C. Install tapered insulation under area of roofing to conform to slopes indicated on drawings.

D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.

1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.

G. Mechanically fastened Insulation: Install insulation units over vapor barrier. Polyisocyanurate and EPS insulation to be fastened down to steel deck using manufacturer prescribed fasteners and spacing patterns.

1. EPS insulation at unheated perimeter assemblies may be fully adhered to substrate without vapor barrier, using insulation adhesive approved and tested by roofing manufacturer according to requirements in FM Approvals' "RoofNav" for specified Windstorm Resistance Classification, provided a suitable substrate board is mechanically fastened to the decking to meet uplift requirements. Alternative application to be designed by roofing system manufacturer, and warranted to meet all perimeter uplift requirements.

H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together and adhere to ISO insulation per manufactures adhered application pattern to meet specified system requirements.

1. Adhere cover boards over roof insulation using insulation adhesive approved and tested by roofing manufacturer according to requirements in FM Approvals' "RoofNav" for specified Windstorm Resistance Classification.

2. Adhere cover boards to resist uplift pressure at corners, perimeter, and field of roof as set fourth in specifications.

3.6 FULLY ADHERED MEMBRANE ROOFING INSTALLATION

A. Fully adhere membrane roofing over area to receive roofing and install according to roofing system manufacturer's written instructions.

1. Install PVC roof membrane per manufactures approved fully adhered installation instructions to meet specified system requirements.

B. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing where required.

D. Apply membrane roofing with side laps shingled with slope of roof deck where possible.

E. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane if required.
2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.

F. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings per manufactures approved methods.

F. Perimeter edge flashing: Install Johns Manville Presto-Tite fascia and low edge PVC metal drip flashing per JM instructions to meet specified wind load requirements.

3.8 RIB INSTALLATION

A. PVC Ribs: PVC ribs to be heat welded to PVC roof areas (main sloped roof described on sheet A2.2) utilizing instruction from manufacturer, and equal rib spacing no less than 15 inches and no greater than 24 inches. Coordinate with roofing membrane seam spacing. Show in shop drawings.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.

D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to architect and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.11 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner: <**Insert name of Owner**>.

2. Address: <**Insert address**>.
3. Building Name/Type: <**Insert information**>.
4. Address: <**Insert address**>.
5. Area of Work: <**Insert information**>.
6. Acceptance Date: _____.
7. Warranty Period: <**Insert time**>.
8. Expiration Date: _____.

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

    a. lightning;
    b. peak gust wind speed exceeding 110 mph;
    c. fire;
    d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
    e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
    f. vapor condensation on bottom of roofing; and
    g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature: _____.
2. Name: _____.
3. Title: _____.

END OF SECTION