Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ONE CAPITOL HILL
PROVIDENCE RI 02908

CREATION DATE : 14-JAN-13
BID NUMBER: 7459242
TITLE: REPLACEMENT OF NINE ROOFS - MURRY CENTER

BLANKET START : 22-MAY-13
BLANKET END : 24-DEC-13
BID CLOSING DATE AND TIME:13-FEB-2013 11:00:00

BUYER: Mosca, Gary
PHONE #: 401-574-8124

BILL TO
RIC SPECIAL INSTRUCTIONS
SEE BELOW
SEE BELOW, RI N/A
US

SHIP TO
RIC-PURCHASING
600 MOUNT PLEASANT AVENUE
PROVIDENCE, RI 02908
US

Requistion Number: 1297912

Note to Bidders: Questions concerning this solicitation may be emailed to gary.mosca@purchasing.ri.gov no later than 1/29/13 @ 8:00 AM (EST). Questions should be submitted in a Microsoft word attachment. Please reference the RFQ # on all correspondence. Questions received if any, will be posted on the internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

Line	Description	Quantity	Unit	Unit Price	Total
1	REPLACEMENT OF NINE ROOFS - MURRAY CENTER - CONTRACT PERIOD: 5/22/13 - 8/16/13 - RHODE ISLAND COLLEGE THERE WILL BE A NON MANDATORY PRE-BID CONFERENCE HELD FRIDAY JANUARY 25TH, 2013 @ 10:00 AM (EST). PRE-BID LOCATION: RHODE ISLAND COLLEGE CAMPUS 600 MT. PLEASANT AVE. PROVIDENCE, RI 02908 PLEASE REPORT TO PHYSICAL PLANT CONFERENCE ROOM. IT IS ADVISED THAT ALL VENDORS CHECK IN WITH SECURITY FOR A GUEST PARKING PASS. **ALLOWANCE - WE HAVE INCLUDED AN ALLOWANCE OF $48,000.00IN THE BASE BID TO COVER THE COSTS INDICATED IN SECTION (5), (PAGE 15) ALLOWANCES, OF THE BID SPECIFICATIONS.** NOTICE TO VENDORS Effective January 1, 2013 all public works project related bids or proposals exceeding five hundred thousand ($500,000) dollars are required to include a public copy. All agency contract solicitations and invitations for bids, etc. shall state that any bid or proposal that exceeds five hundred thousand ($500,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of five hundred thousand ($500,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive. For further information, please see R. I. Gen. Laws □37-2-18(j) (P.L. 342).	1.00	Each		

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

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Line	Description	Quantity	Unit	Unit Price	Total
	http://www.rilin.state.ri.us/PublicLaws/law11/law11342.htm .				
2	ADD ALTERNATE 1	1.00	Each		
3	ADD ALTERNATE 2	1.00	Each		
4	ADD ALTERNATE 3	1.00	Each		
5	ADD ALTERNATE 4	1.00	Each		

Delivery: _____

Terms of Payment: _____

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

NOTICE TO VENDORS

Effective **January 1, 2013** all *public works project* related bids or proposals exceeding **Five Hundred Thousand ($500,000) dollars** are required to include a "public copy." All agency contract solicitations and invitations for bids, etc. shall state that any bid or proposal that exceeds Five Hundred Thousand ($500,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of Five Hundred Thousand ($500,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive. For further information, please see R. I. Gen. Laws §37-2-18(j)..

Dated: December 11, 2012

State of Rhode Island Department of Administration
Division of Purchases

REVISED
December 11, 2012

NOTICE TO CONTRACTORS AND VENDORS BIDDING ON PUBLIC WORKS PROJECTS

Effective **January 1, 2013** all Public Works related project proposals exceeding Five Hundred Thousand ($500,000) dollars are required to include a "public copy." All agency contract solicitations, requests for proposals, invitations for bids, etc. shall state that any bid or proposal that exceeds Five Hundred Thousand ($500,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of Five Hundred Thousand ($500,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive. Additionally, proposals submitted for a Master Price Agreement, when the total amount potentially may exceed Five Hundred Thousand ($500,000) and the solicitation expressly requires any or all vendors to submit a public copy, must include a copy to be available for public inspection.

For further information, see R.I. Gen. Laws Section 37-2-18(j) and State Procurement Regulations at www.purchasing.ri.gov. This requirement applies to all public works projects (vertical and horizontal) exceeding Five Hundred Thousand ($500,000) dollars and any combination of base bid plus all alternates.

In accordance to the State Procurement Regulations the following conditions are required:

1. All bid proposals shall be opened publicly and read aloud.
2. Each bid, together with the name of the bidder, shall be recorded and an abstract made available "immediately" for public inspection.
3. Copy of the redacted bid proposal shall be available for public inspection by the close of the business the day the subject bid(s) and/or contract(s) is opened by the Division of Purchases.

4. The burden to identify and withhold from the public copy that is released at the bid opening any trade secrets, commercial or financial information, or other information the bidder deems not subject to public disclosure pursuant to Chapter 38-2, the Access to Public Records Act, shall rest solely and exclusively with the bidder submitting the bid proposal.

5. At the time that a proposal is submitted, a bidder must submit a redacted copy of the bid proposal in a PDF (Portable Document File) file format on a read only CD-R Media Disk (hereinafter referred to as a "CD"). Vendors are required to provide all documents submitted in response to the bid solicitation on the CD.
    a. The acceptable media is a CD-R. Media that is read/writable (CD RW) will not be accepted.
    b. Only readable, not writeable media is acceptable.
    c. Vendor is responsible for supplying their own CD-R media.
    d. Vendor is responsible for the integrity of the CD.

6. Failure of the bidder to submit a public copy on a readable CD, as required by RIGL 37-2-18 as amended, shall result in the disqualification of said bid.

7. CD must be enclosed in a protective cover and the protective cover clearly labeled with the following:
    a. Marked "Public Copy"
    b. Title of Solicitation as it appears on the RIVIP cover letter.
    c. Name of Company and Vendor ID as it appears on the RIVIP cover letter.
    d. Bid Response Number as it appears on the RIVIP cover letter.
    e. Date of Bid as it appears on the RIVIP cover letter.
8. Bid response on CD-R to be in a PDF (Portable Document Format).
    a. One PDF file will be on the CD-R. File to meet the following requirements:
        i. Only one file will contain all documents in response to the bid. If you have more than one document for the response, the documents must be concatenated or merged into one PDF document. Failure to submit only one PDF file may result in disqualification of bid.
        ii. File should be named in the following manner:
            1. BidNumber_DateofBid_VendorName_VendorID.pdf. Where:
                1. Bid Number is the bid number for which the response is for as it appears on the RIVIP cover sheet.
                2. Dateofbid is date of bid using the format (mm-dd-yyyy).
                3. VendorName is the name of the vendor as one word – no spaces or punctuation.
                4. Vendor ID as it appears on the RIVIP vendor cover sheet.

Note: you must use underscores in separating the fields. Do not use underscores anywhere else in the filename other than to separate the fields.

Example: 1234567_06-01-2011_Vendor1_9876.pdf

9. Purchasing staff will officially conclude the bid opening and all loaded proposals will be posted to the Purchasing web site. All proposals will be available immediately after bid opening www.purchasing.ri.gov .

For technical assistance, contact the Division of Purchases office at 574-8100.

RHODE ISLAND COLLEGE

REPLACEMENT OF NINE ROOFS, MURRAY CENTER

SPECIFICATIONS

1. GENERAL.

1.1 Contract Purpose. The eight existing flat (slightly sloped) roofs and the arched ribbed-steel roof on the Murray Center have deteriorated and are no longer functioning satisfactorily. Accordingly, the purpose of this Contract is to completely replace:
(a) these eight existing flat roofs using the 3-ply, TORCH-down modified-bitumen mineral-surfaced built-up roofing system 3PID-HW of Johns Manville over uniform-thickness (and, in designated areas, tapered) polyisocyanurate insulation plus a 3/4"-thick Duraboard; designed and guaranteed (by Johns Manville Roofing Systems Division, with NO DOLLAR LIMIT) to last 20 years.
(b) the existing arched ribbed-steel roof with the ZIP-RIB Brand Arched Ribbed-Aluminum Roof as manufactured by Merchant & Evans, Incorporated of Burlington, NJ (800-257-6215 or 609-387-3033); designed and guaranteed (by Merchant & Evans, with NO DOLLAR LIMIT) to last 20 years.

1.2 Pre-Bid-Submittal Site Inspection. Each Contractor submitting a bid is to survey these nine existing roofs on the Murray Center. Contractor is also to verify pertinent measurement data; and the type of deck for these roofs. The Bid Announcement distributed by the RI Division of Purchases will indicate the date, time and location of a pre-bid conference for all bidders. Attendance at this meeting with the College Engineer (Mr. Vickers) is not mandatory but is highly recommended.

1.3 Contractor Qualifications. Each Contractor submitting a bid must be designated as an Approved NDL (No-Dollar-Limit) Guarantee Roofing Contractor by Manville Roofing Systems; AND must be an Authorized Zip-Rib Brand Arched Ribbed-Aluminum Roof Installer who is approved by Merchant & Evans, Inc. The Contractor's site supervisor must be skilled and experienced in the removal and installation of BOTH Torched Built-Up Roofs and Arched Ribbed-Aluminum Roofs (as manufactured by Merchant & Evans, Inc.).

1.4 Pre-Construction Planning and Schedule. Contractor is not to start layout nor actual roof replacement work without first reporting to the Engineer at Rhode Island College. At this pre-construction meeting, Contractor is to furnish any specified submittals as well as a thorough briefing on the planned roof replacement procedures. The roof replacement is to be completed in the summer of 2013 during the period between Graduation (19 May) and our Fall Semester (16 August). The roof replacement is to be scheduled to the mutual agreement of the College

and the Contractor, and so as to eliminate the possibility of roof leaks during installation.

1.5 Laws, Permits. Contractor is to comply with all applicable federal and state laws, regulations and codes. The Contractor DOES need to obtain a permit for this work from the State Building Commissioner's Office, One Capitol Hill (222-3032).

1.6 Materials and Workmanship. Materials specified shall be supplied by Johns Manville Roofing Systems Division and Merchant & Evans, Inc.; substitutions will be permitted provided we still obtain our Manville and Merchant & Evans 20-Year No-Dollar-Limit Warranties. Please comply with Paragraph 1.7 Substitution of Materials and Paragraph 1.13 Guarantee. Materials and workmanship shall be the best of their respective kinds; work will be accomplished in a neat and workmanlike manner in full accord with modern construction methods, and with any applicable State Codes.

PLEASE NOTE: Contractor is to submit, for College Engineer approval, a Shop Drawing indicating (with dimensions) the Cross-Sections of: the Arched Ribbed-Aluminum Roof and Vertical-Panel Wall Junction Flashing System. **Comply with Note 55 and with the SECTIONS for the Gravel-Stop System and Roof Drain on the attached PLANS; and with the ADDITIONAL SECTIONS drawing**. Furnish and install the approved flashing systems.

1.6.1 Adhesive for the flat roofs' insulation and duraboard layers will be Manville's Two-Part Urethane Insulation Adhesive. All flashings, roofing plies and (SBS-modified) modified-bitumen mineral-surfaced JM Dynaweld FR Cap Sheet (with white granules surface) will be secured by using the approved torch-down system.

1.6.2 Deleted.

1.6.3 Ply Sheets for the flat roofs are specified on the PLANS, to include the JM Dynaweld Base Sheets and the Dynaweld FR Granular (granule-coated) Cap Sheet..

1.6.4 Deleted.

1.6.5. Flashing Nails shall be 11-gauge, barbed, galvanized with 5/8-inch diameter heads and of sufficient length to penetrate the full depth of the wooden nailer strip (flashings) For masonry walls, case-hardened nails specially designed may be used in lieu of nailers. However, tin caps (flat discs or caps of 28-gauge or 30-gauge sheet metal, 1-3/8 inches or more in diameter) must be used with these nails.

1.6.6 Metal Work, such as for the scuppers and pitch pans, shall be 20-ounce lead-coated copper. Fascia-cladding and gravel stops components shall be .050" thick, POST-painted aluminum, color to match the existing. ALL OF THE EXISTING GRAVEL STOPS & COPINGS SHALL BE REPLACED; and gravel stops of increased lengths may be needed due to the thicker insulation and the varying numbers of layers of 2" x 6" perimeter lumber requirements. All counter-flashings (EXCEPT where otherwise noted) shall be replaced; use 040" thick POST-painted aluminum, color to match the existing. Raise counter-flashings to the required 10" (approximate) elevation above the adjacent roof surface and re-incorporate them into the roofing system as necessary. **(CAUTION: Ensure that no flashings are installed that hinder the function or operation of weep-holes in masonry walls.)** The replacement scuppers (and pitch pans, if any are found) shall be 20-ounce lead-coated copper. This scuppers shall match the existing scuppers.

1.6.7 Flashing Material for the flat roofs shall be Manville Dynaweld; this flashing shall be applied, using the torched-down system. The flashings are to be installed using the Manville Dynaweld base sheets; and are to have a minimum 8" height. The flashing assembly consists of 2 base piles and 1 granulated cap sheet.
Flashing materials for the ribbed-aluminum roof(s) shall be those specified by Merchant & Evans: this Company's Manufacturer's representative will be on-site whenever ribbed-aluminum roof systems are being installed.

1.6.8 Insulation for the flat roofs shall be: Manville tapered polyisocyanurate (1/8" per foot; but ONLY in designated areas) atop 4" uniform-thickness polyisocyanurate (Ultraguard) rigid board insulations, each top-surfaced with reinforced fiberglass mat facer. A top layer of 3/4" thick (Manville) DuraBoard shall also be installed. Taken together, the two layers of insulation will have an average R exceeding 24. The tapered insulation (1/8" per foot) is to be installed per the tapered insulation plan; this plan will be developed by Manville, approved by the College Engineer and furnished in 2 copies to the successful Contractor at the pre-construction meeting. (Point of Contact is Mr. N. Keating (or J. Hunt), Manville Roofing Systems Division, Reading, MA, 413-478-6836 or 617-901-3497; the uniform-thickness and tapered insulations are already being cost-estimated by Mr. Keating.) In addition to the Manville tapered insulation, as already indicated, Contractor must furnish and install an underlayment layer of 4" thick polyisocyanurate roof insulation over the entire areas of all 8 flat roofs. All insulation being installed must satisfy Manville 20-Year Guarantee requirements. The existing insulation will be retained for the replacement arched ribbed-aluminum roof; and also for the sloped

arched ribbed-aluminum roof (if the College decides to accomplish ADD ALTERNATE FOUR).

1.6.9 Mechanical Fasteners. To the best of our knowledge, this roof has a concrete deck. Accordingly, Contractor is to furnish and install the Manville Ultrafast #12 mechanical fasteners, which are Factory-Mutual-Approved (FMA), **staggered and in the number and spacing specified by the applicable Code** (Note 17 on the PLANS) to secure the bottom 2" x 6" lumber member (perimeter and equipment curbs) and to secure the bottom insulation layer to the roof deck. Refer to and comply with Notes 16 and 20 on the enclosed PLANS.

1.6.10 Lumber; Cants. All wooden members used for sleepers; and to raise the heights of perimeter blocking (and gravel stops), of the equipment curbs; and to support the drains: are to be CCA-treated (or equivalent). Contractor is to use perlite cants (such as FesCant) or treated-lumber material to satisfy all cant requirements.

AS MENTIONED ON THE PLANS (Note 33): AS PART OF THE BASE BID, CONTRACTOR IS TO FURNISH AND INSTALL ¾" THICK EXTERIOR-GRADE PLYWOOD (ABOVE ANY EXISTING FASCIA BOARD) **AND EXTERIOR TO THE PERIMETER BLOCKING IN ORDER TO OBTAIN A FULL-HEIGHT FLAT AND LEVEL SURFACE TO SUPPORT THE REPLACEMENT GRAVEL-STOP-AND-CLADDING SYSTEM.**

1.6.11 Caulking. Use 2-component polysulfide caulking, mixed on the site, to satisfy all caulking requirements, except: use GE silicone (Silpruf) sealants for metal-to-metal joints.

1.6.12 Roof Drains. Use Jason or Smith Original-Roof-Type 4" diameter (or in one or two locations, 3" diameter) roof drains with cast-iron bowls to replace the existing drains: to match the roof drain system indicated on the attached SECTION: Roof Drain.

1.6.13 Fasteners; Miscellaneous Materials. Provide sizes and types of fasteners and anchors as indicated and as recommended by applicable standards, complying with applicable Federal specifications for nails, staples, bolts, nuts, washers, and anchoring devices. Furnish and install 3/8" diameter galvanized-steel lag screws to secure the roof-top equipment and the access hatch to the replacement built-up curbs. The lack of indications in these Plans and Specifications of items obviously needed to properly perform the Work of the Project [such as attachments, bolts, hangers, and other fastening and similar materials], SHALL NOT RELIEVE THE

CONTRACTOR FROM FURNISHING AND INSTALLING THESE ITEMS. For the **arched ribbed-aluminum roof** (and for the sloped ribbed-aluminum roof, if we accept ADD ALTERNATE FOUR), **use ONLY the Merchant & Evans manufactured and specified fasteners, anchor-type clips, and similar type hardware**.

1.6.14 Electric Conduits and Cables. Certain electric service and controls wiring cables and conduits MAY have to be altered and extended for the raised exhaust fans. All electric service cable furnished and installed (in order to provide electric service to rooftop equipment that was raised because of the thicker insulation) is to be copper (THHN insulation) of the same gauge and capacity as the existing cable to which each added cable segment will connect; all splices are to be in boxes and fully comply with all applicable code provisions. All electric conduit furnished and installed (to provide electric service to raised exhaust fans, **if required**) is to be standard rigid conduit, of galvanized steel; and of diameter to match the existing. Waterproof flexible conduits may be used where permitted by the code.

1.6.15 Piping. Deleted.

1.7 Substitution of Materials. Materials specified by Manufacturer and Trade name for installation under this Contract are not to be substituted for "equal" or "equivalent" materials without State Purchasing Office approval. However, any contractor proposing to supply and install "equal" materials will so notify the State Purchasing Officer, in writing, at least 6 days prior to bid submittal. This Officer will consult with the College Engineer to determine **whether such materials are, in fact, equal products** before awarding the contract to such low bidder [who is offering the "equal" product(s)].

1.8 Storage of Materials. Throughout the project, all of the contract's materials are to be kept completely dry prior to and during application. This requirement includes the stacking of materials on 4-inch high pallets and covering them with waterproof tarpaulins until they are used.

1.9 Protection of Work and Property. The Contractor shall safely protect the personnel and property of the College and all adjacent property (as well as the Contractor's materials, equipment and employees) from loss, injury or damage; and shall repair, replace and/or compensate any damage, injury or loss resulting from this project. The College shall not be responsible for Contractor equipment nor security.

1.10 Manufacturer's Directions. All manufacturer's articles, materials and other equipment shall be supplied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer's instructions unless otherwise approved by the Engineer (J. Vickers).

1.11 Clean-Up. During and after completion of this project, the Contractor shall leave the area in a clean and orderly condition - which is acceptable to the College. Any damaged grounds shall be repaired by raking, fertilizing, seeding and watering. Damaged pavements shall be repaired only by a paving contractor Approved by the College Engineer. Excess and unsuitable materials and debris will be removed from Campus by the Contractor. Contractor is to coordinate the locations of materials storage areas and roll-off trash containers with the Engineer.

1.12 Payment. Partial payments may be negotiated; **10% retentions apply**; unless Advance Engineer (J. Vickers) approval has been obtained, the College may not process invoices. Please use the AIA (Architect's) payment documents and an Engineer-approved Schedule of Values. Upon work completion, the Engineer is to be notified, and will conduct with the Contractor's representative a joint physical check of the quality and extent of the roof replacement work. This is necessary to insure prompt payment. Final acceptance of the roof is contingent upon receipt of the manufacturer's signed guarantee.

1.13 Guarantee. The Contractor shall leave the facility in proper working order and shall replace any work, material, or equipment provided by him (or her) under this contract which develops defects, except those caused by vandalism, within 20 years from the date of final acceptance by the College, without additional expense to the College. This No-Dollar-Limit guarantee is to be furnished by Manville Roofing Systems.

The Guarantee supplier shall, as part of this warranty, provide one maintenance visit per year for the length of the warranty period AT NO ADDITIONAL COST TO THE COLLEGE. Documentation of the maintenance visits will be provided. Each maintenance visit will include Inspections, Housekeeping, Routine and Preventive Maintenance.

2. SCOPE OF WORK

Furnish all labor, materials, services, equipment, staging and supervision to accomplish ALL requirements identified on the ELEVEN attached PLANS (all eleven of which are officially incorporated into these Specifications). Accomplish also all requirements indicated in the ribbed-aluminum manufacturer's instructions and on the manufacturer's tapered-insulation Plans as well as those included in these Specifications:

For the Base Bid, furnish and install replacement roof materials, insulation, flashings, and miscellaneous materials on the eight flat roofs of the Murray Center; and also the ribbed-aluminum sheets, anchor clips, fasteners, flashings, and miscellaneous materials for the replacement arched ribbed-aluminum roof. The

cumulative area of flat roofs being replaced amounts to about 177 squares; the arched ribbed-aluminum roof has an area of (159' x 134' =) 21,306 SF. However, Contractor is to verify all dimensions. For the flat roofs, remove existing roofing, insulation, flashing and related metal components down to the steel decks. Notify the Engineer if any deck repairs will be required. Secure the 2" thick lower layer of constant-thickness polyisocyanurate insulation to the deck with Ultrafast #12 (screw and 3" diameter steel plate) fasteners, per Note 16 of the PLANS. Furnish and install the 2" thick upper layer of constant-thickness polyisocyanurate insulation, using beads of the specified adhesive spaced at: 12" center-to-center in the field of the roof; 6" center-to-center near the edges; and 4" center-to-center in the corners of the roof as per the PLANS and these Specifications. Adhere the tapered (1/8" per foot) polyisocyanurate (in its designated areas only) using the specified adhesive and linear- beads spacings. Adhere the 3/4" thick Manville DuraBoard using the specified adhesive and linear-beads spacings. Install the TWO specified Dynaweld base sheets using the torched system per the manufacturer's instructions. Fully adhere these 2 plies of specified felts over the entire Duraboard-covered roof per the PLANS. Install new cant strips at all vertical walls and the roof's perimeter per the PLANS.

Prior to replacing any of the individual roofs, remove the existing lightning-protection system for that roof; and re-install same to match the existing as the replacement of each roof is completed.

Remove the existing arched ribbed-steel roof and its anchors, fasteners, the 79 existing (134'-long) mid-panel sheet-metal supports; BUT RETAIN the existing insulation, perimeter ice-&-water shield membrane, existing Z-shaped channels or purlins, existing perimeter lumber for this arched roof. Furnish and install the specified perimeter ice-&-water shield membrane; the Merchant&Evans' cable clips (north and south edges), the Zip-Rib sliding hook panel clips (fastened to the existing Z-shaped channels or purlins) and their fasteners; and the specified ribbed-aluminum panels, using the sealants and manufacturer's mechanical zipper-tool to crimp all panel-to-panel connections. Furnish and install the specified flashings on the arched ribbed-aluminum roof's north and south edges.

Install new tapered edge strips at the perimeter gravel stops to promote positive slope to drains. At all base flashings, apply 2 felt piles and 1 granulated cap sheet, as specified.

Furnish and install new wood blocking (mechanically fastened) at the flat roofs' perimeters, per the PLANS. Install new metal components, to include but not limited to: fascia, counter-flashing, equipment and wall flashings, gravel stops, scuppers. Furnish and install the new specified cast iron roof drains at the existing drains' locations, per the PLANS; include tapered sumps. Install new 4-pound lead at all roof drains. Install flashings in accordance with Manville Roofing Systems Division instructions (and the attached SECTIONS).

Surface the entire flat roof systems using the approved torched system to secure the Manville DynaWeld (SBS modified-bitumen) granule-coated (white) FR Cap Sheet as the final surface of the roofing membrane. Comply with the requirements described on the PLANS.

All roof areas will be secured in a watertight condition each day before the Contractor vacates the site.

Regardless of any errors or inadvertent omissions in these PLANS and Specifications, Contractor is to furnish and install all equipment, hardware and materials required to provide the College with fully operational and leak-proof replacement roof systems: which complies with all RI Building Code requirements and with modern Engineering standards and practices for such systems.

The following is the COMPLETE List of PLANS for this Contract:

1. PLAN: Roof System Dimensions & Flat Roofs Requirements
2. PLAN: GENERAL & North Roof Requirements
3. PLAN: GENERAL & Western Roof Requirements
4. PLAN: FIVE Eastern Roofs' Requirements

5. PLAN: GENERAL & South Roof Requirements
6. PLAN: ADDITIONAL GENERAL & South Roof Requirements
7. SECTIONS: Roofing Layers & Certain Flashing Requirements.
8. PLAN: Arched Ribbed-Aluminum Replacement Roof Requirements

9. PLAN: ADDITIONAL Arched Ribbed-Aluminum Replacement Roof Requirements
10. PLAN: STILL MORE Arched Ribbed-Aluminum Replacement Roof Requirements
11. PLAN: Sloped Ribbed-Aluminum Replacement Roof Requirements

ADD ALTERNATE ONE: Indicate the additional costs (to be added to the BASE BID price) which apply when the College directs the Contractor to: Replace damaged steel deck panels on a flat roof. The contractor will be paid for properly replacing these deck panels on a unit-cost basis. Therefore, on the **Bid Documents,** please indicate the per-square-foot cost and total cost of replacing the following estimated quantity of damaged steel roof deck:

Estimated Quantity	Per-Square-Foot Cost	Total Cost
Replace 500 Square Feet of Damaged Steel Roof Deck	$_____	$_____

ADD ALTERNATE TWO: Indicate the additional costs (to be added to the BASE BID price) which apply when the College directs the Contractor to: Replace deteriorated perimeter lumber for the arched ribbed-aluminum roof. The contractor will be paid for removing the existing and properly installing TWO 2"x 6" treated-wood members (atop each other) on a unit-cost basis. Therefore, on the **Bid Documents,** please indicate the per-linear-foot cost and total cost of replacing the following estimated quantity of perimeter lumber:

Estimated Quantity	Per-Linear-Foot Cost	Total Cost
Replace 80 Linear Feet of Deteriorated Perimeter Lumber	$_____	$_____

ADD ALTERNATE THREE: Indicate the additional costs (to be added to the BASE BID price) which apply when the College directs the Contractor to: Replace deteriorated polyisocyanurate insulation for the arched ribbed-aluminum roof. The contractor will be paid for removing the existing and properly installing TWO 1-1/2" thick polyisocyanurate insulation layers (atop each other) on a unit-cost basis. Therefore, on the **Bid Documents,** please indicate the per-square-foot cost and total cost of replacing the following estimated quantity of polyisocyanurate insulation:

Estimated Quantity	Per-Square-Foot Cost	Total Cost
Replace 3000 Square Feet of Deteriorated Polyisocyanurate Insulation	$_____	$_____

ADD ALTERNATE FOUR: Indicate the additional costs (to be added to the BASE BID price) which apply when the College directs the Contractor to: Replace the existing sloped ribbed-aluminum roof. Therefore, on the Bid Documents, please indicate the total cost to furnish and install a complete sloped ribbed-aluminum replacement roof. All of the requirements of Notes 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 56 and 57 on the PLANS apply to the replacement of this sloped ribbed-aluminum roof. Because this roof is 138'- 0" wide, the Contractor is to provide Shop Drawings, or have the Panel Manufacturer provide Shop Drawings, for College Engineer approval that indicate the edge details and required flashings that accommodate the additional 4" of width at the roof's north and south edges.

3. DETAILED REQUIREMENTS FOR FLAT ROOFS

3.1 Roofing Removal. Remove all existing roofing and insulation down to the deck. Our inspections indicate that all Murray Center roofs have steel decks. (The Contractor is responsible for verifying the deck's composition and construction type.) However, only as much existing roofing, flashings, insulation and other components are to be removed as can be replaced during that day with the insulation layers; and by any other required components needed to preclude roof

leaks; and by additional components (such as Duraboard, felts, tapered insulation in designated areas) if that is consistent with good roofing procedures. Our objective is to preclude the occurrence of roof leaks in the event of an unexpected or overnight shower.

After all removal operations in a given area are completed, sweep and vacuum the deck completely clean. If the existing steel deck is damaged, contact the Engineer concerning the processing of the required Change Order.

Install the treated 2" x 6" lumber sleepers to raise the equipment and hatch curbs, to provide the raised roof perimeter blocking; attaching each bottom member to the roof deck using the specified Ultrafast #12 mechanical fasteners, which are Factory-Mutual-Approved (FMA), **staggered and in the number and spacing specified by the applicable Code** (Notes 16 and 20 on the PLANS). These curbs are to be solid (no shims), secured to the deck, and 6" wide. The heights of the curbs are also to exceed the highest adjacent roof surface by 8"; use cants to surround the curbs; and cover each curb installation with roofing felts and flashings so that EACH entire system, after anchoring down the equipment or access hatch frame, is identical to the sleeper support system for the air-handlers atop Whipple Hall roof.

3.2 Deleted.

3.3 Replacement of Drain. After the existing roofing systems are removed, the drains are to be replaced, as follows. Furnish the specified parts (Paragraph 1.6.12) and replace all existing roof drains, ALL to match, or improve upon, the system shown on the attached SECTION: Roof Drain. Replace all treated wood nailers for the drains. Mechanically clean (rotary snake) and flush out (with water hose) all drain lines and inlets. Have a College representative present when these drains are being scoured.

3.4 Perimeter and Roof Openings Blocking. Around the outside perimeters of the roofs, install treated wood members mechanically fastened to the roof deck (in accordance with Notes 16 and 20 on the PLANS) about 6" wide and of total thickness equal to that specified, to act as an insulation stop and support for the gravel stops. Similarly, furnish and install the required treated wood sleepers, per Notes 16 and 20. The roof's perimeter may require the installation of the two-piece gravel-stop system per Note 33 on the PLANS. Comply with all requirements of the SECTION: Gravel-Stop System.

For the transition from the constant edge perimeter to adjacent tapered insulation where thicknesses differ, the Contractor is to use FesCant (or treated lumber) cant material, fastened atop the two insulation layers and Dura-Board after they are installed and secured. Along certain roof edges, the insulation thickness will change constantly; and therefore, the dimensions of the cants are to vary accordingly. Around all roof openings (including the equipment curbs), additional

treated wood nailers shall be provided and secured in place for nailing cants, and to secure flashings. Sufficient additional wood members will be installed to raise curbs and equipment so that the affected curbs and equipment will exceed the height above the adjacent top roof surface by 8". Cants must also be installed for the raised curbs; and along higher adjacent walls which abut a particular roof.

3.5 Polyisocyanurate and Fiberglass Insulation. Onto the steel deck, furnish and install the 2" thick lower layer of constant-thickness polyisocyanurate insulation using Ultrafast #12 (screw and 3" diameter steel plate) fasteners, per Note 16 of the PLANS. Furnish and install the 2" thick upper layer of constant-thickness polyisocyanurate insulation, by embedding or "walking in" the individual insulation boards into the linear beads of the specified Manville Urethane Insulation Adhesive spaced at: 12" center-to-center in the field of the roof; 6" center-to-center near the edges; and 4" center-to-center in the corners of the roof as per the PLANS and these Specifications. Adhere the tapered (1/8" per foot) polyisocyanurate (in its designated areas only) using the specified adhesive and linear- beads spacings. Adhere the 3/4" thick Manville DuraBoard using the specified adhesive and linear-beads spacings.

The insulation is available at the manufacturer's representative specified in Paragraph 1.6.8. For these roof systems, all outer edge insulation thickness will be 4" **plus** the thickness shown on the Tapered Insulation Plans, all per Paragraph 1.6.8. The tapered polyisocyanurate layer of insulation is to be secured to the underlying insulation layer by embedding or "walking in" the individual insulation boards into the linear beads of Manville Urethane Insulation Adhesive. Offset all joints by 6" minimum. The Contractor and the College's Engineer are to mutually agree on the Tapered Insulation Plan at the pre-construction meeting. Where necessary (during installation), the specified tapered insulation will be cut at 45° angles so as to form 90° turns.

Atop the tapered insulation, install the specified final 3/4" thick Manville Duraboard layer; this layer is also to be secured by embedding or "walking in" the individual boards into the linear beads of Manville Urethane Insulation Adhesive. Offset all joints by 6" minimum.

3.6 Prior to Built-Up Roofing Application. FesCant (Perlite) Cants are to be furnished and installed on top of the insulation at the intersections of the roof (or insulation) and vertical surfaces to be flashed (including walls supporting higher level roofs and all equipment curbs). Cants are also to be installed atop the insulation wherever the top of the constant thickness perimeter blocking exceeds the tapered insulation thickness. Secure all cants to the vertical surface and to the underlying layer with an approved method.

3.7 Built-Up Roofing Plies. The surface-membrane felts or plies shall be unrolled, weighted down at each end of the roll and allowed to relax prior to application. In each layer, end laps of 6" are required.

Base Sheet Installation: Starting at the roof drains (or scuppers) and **using the approved torch-down system**, apply the specified Dynaweld Base Sheets atop the DuraBoard from this lowest point and up over the entire roof. Carefully align the rolls with the edges of the roof and with the required ply lines. (Follow the NRCA guidelines for starter sheets, insulation stops and back-nailing.)

With this procedure, install over the DuraBoard: 2 layers of Manville Dynaweld Base Sheets or roofing felts, each ply torched solid to the underlying layer using the approved system. Starter sheets are required, and thereafter laps will be 24" wide.

Asphalt is the built-up roof waterproofing, not the roofing felt. Thus, the full width of each felt must be embedded in a solid bed of the hot bitumen released by the torching. Each ply must be rolled into the hot asphalt produced by the torching. It shall be shingled in, free of buckles and fish mouths. Lay each ply so that the flow of water is over or parallel to (but never against) the exposed edge or lap. Brooming-in is essential to eliminate voids and obtain total adhesion; pull the broom walking off (not on) the felts. HOLD FOOT AND EQUIPMENT TRAFFIC OVER FELTS TO A MINIMUM DURING APPLICATION AND FOR A PERIOD OF TIME AFTERWARDS TO MINIMIZE ASPHALT DISPLACEMENT (i.e., VOIDS). End laps shall be 6" (minimum) and staggered from adjacent end laps by at least 12". All plies at cants will extend over the cant and adhere to the vertical wall, curb, stack or projection surfaces about 8" above the cant; these ends will be protected by flashings per the attached Flashing Details.

Membrane Installation Requirements: Follow warranty supplier's recommendations for back-nailing requirements. When using the torching system, ply should never touch ply even at roof edges, laps, tapered edge strips, and cants. Avoid traffic on all newly installed membranes. Overlap the pervious day's work by 24 inches.

For the replacement drains, fit the plies into the roof drain rims, install the metal flashing and finishing plies, secure the clamping collars, and install the domes. Cut out fish-mouths and side laps that are not completely sealed. Replace all sheets that are not fully and continuously bonded. Roof is to be inspected and approved by the representative from Manville before the final surfacing (granulated cap sheet) is installed.

Daily Waterstops and Tie-Ins: Install "deadman" insulation filler at insulation staggers. Extend roof plies at least twelve inches onto the prepared area of adjacent roofing. Strip edges with a twelve-inch-wide ply sheet properly torched to adhere to its underlying surface. At the beginning of the next day's work, remove the temporary connection by cutting felts evenly along the edges of the existing roof system. Remove the "deadman" insulation fillers.

Adjusting and Cleaning; Repair of Deficiencies: Installations or details noted as deficient during inspections must be repaired and corrected by the Contractor; and

made ready for re-inspection within five working days. Clean-up: Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of debris.

Membrane Surface Installation: Follow the same 2-ply membrane installation procedures (described earlier in this paragraph for the base sheet installation and the overlying felts) – and torch-down the final component of the roofing membrane: the specified Manville DynaWeld FR (SBS modified-bitumen) granule-coated (white) Cap Sheet.

3.8 Gravel Stops and Base Flashings:

Preparation: Remove the existing flashing materials to substrate. Replace damaged material in kind. Prime vertical substrates with concrete primer at the approximate rate of one gallon per 125-150 SF. Install new roofing plies two inches beyond the top edge of each cant.

Install the Specified Replacement GRAVEL STOPS on the roof's perimeter (Paragraph 1.6.6; and Note 33 on the PLANS). Comply with all requirements of the SECTION: Gravel-Stop System. Accomplish this by installing: both the perimeter wood nailers and, where appropriate, the tapered edging strip; and (nailing) the ¾" exterior-grade plywood filler over the outside edges of the perimeter 2" x 6" to provide a flat surface.

Base Plies: Fully adhere two plies of the specified base flashing to the flashing substrate, cant, and roofing. Flashing should extend a minimum of 8" and a maximum of 14" above the finished roof membrane.

Reattach all equipment atop the raised curbs. Additional galvanized-steel duct inserts (gauge to match the existing) may also be required so that the fresh-air intakes, air-handling units and exhaust fans can be raised as required.

Flash ALL walls supporting higher level roofs (refer to Note 32 on the PLANS), as well as equipment curbs, gravel stops; and the replacement roof drains and scuppers in accordance with manufacturer's recommendations, the attached Plans and SECTIONS specifying flashing details, and as follows: (install necessary cants and) install a DynaWeld Base Sheet of GlasPly Premier roofing felt nailed (through 1-3/8" minimum diameter metal caps) to the underlying surface, using nails 9" center-to-center in both directions; OR attach the base sheet, for example to a stack, by the methods shown on Manville-approved FLASHINGS DETAILS Sheets. Then install 1 layer of Manville DynaWeld flashings using the Torching System in accordance with manufacturer's recommendations and the Flashing Details of these specifications. DynaWeld flashings are to be pressed into place. The vertical joints are to be lapped 4" and are to be coated with a thin layer of MBR Flashing Cement. Mechanically fasten the DynaWeld 6" on-center along the top edge. As counterflashing, cover the top edge of the DynaWeld and the mechanical fasteners with .040" thick aluminum counter-flashing, installed according to the

manufacturer's specifications; overlap the wall surface at least 4". In all cases, the flashing membrane and laps must be 100% bonded.

Roof drain flashings consist of the metal sheet and DynaWeld Base Sheet and DynaWeld FR Cap Sheet roofing felts, 39" x 39", centered and applied over the drain pan with ample material left for clamping (per the attached SECTION: Roof Drain and as described above). The 3 built-up roofing plies then extend over the flashings (and flashing metal). Extend all elements (plies, flashings) into the drain pan/bowl and mechanically secure with the clamping ring, all per the FLASHINGS DETAILS and Specifications.

Scupper flashings consist of the DynaWeld Base Sheet and DynaWeld FR Cap Sheet roofing felts, 39" x 39", centered and applied (as described above) at the scupper. The 3 built-up roofing plies then extend over the flashings (and flashing metal, if any). Extend all elements (plies, flashings) onto the copper scupper.

Install the new, full-height Gravel-Stop 2-Component System: with unusually long exposed legs or lengths so that the lips of the gravel stops for these roofs will cover all insulation, flashings and roofing felts plus extend down the building's exterior walls to completely cover all masonry that was not previously exposed with the specified post-painted aluminum (to include any exterior-grade plywood's bottom surface and ¾" up its reverse side, which faces the masonry wall).

Cap Ply: Fully adhere the flashing top ply of DynaWeld (SBS modified-bitumen) granule-coated (white) Cap Sheet over the base plies. Mechanically fasten the top of the DynaWeld flashing to the substrate; fasten a minimum of 8 inches on center. Seal the top edge with a 4-inch-wide stripping membrane embedded in alternating courses of the specified asphalt mastic. Install the specified counter-flashing system. For some flashings, the top surface will be the counter-flashing.

Metal counter-flashings are to be re-used (if in satisfactory condition) or replaced at the proper raised location: bent up before the flashings are installed, and then bent down over the top of the flashing material. Flashing material should extend up the surface below the counter-flashing to the level of the counter-flashing top or at least 4" above the bottom lip of the counter-flashing. Adjacent pieces (ends) of flashing should lap at least 4". Flashings should extend up vertical surfaces at least 8" above the tops of cants; the counter-flashings are to be raised accordingly. Flashings should also extend onto the finished roofing plies at least 4" beyond the toes of cants. Tops of flashings should also be nailed to the nailers (e.g., on curbs, nails being located under counter-flashings).

3.9 Granule-Coated Cap Sheet Layer: Comply with Note 35 on the attached PLANS.

3.10 Sealing of Counter-Flashings. After the counter-flashings have been bent down or repositioned, sealed or replaced, all seams in the counter-flashings are to be soldered (or re-soldered) and resealed.

3.11 Caulking. Satisfy all caulking and masonry requirements identified on the PLANS.

4. **DETAILED REQUIREMENTS FOR THE RIBBED-ALUMINUM ROOFS**

These requirements are adequately defined and described in the Notes and Drawings on the attached PLANS; and in the Merchant&Evans "Manufacturer's Instructions". Accordingly, they are not repeated in these Specifications.

5. **ALLOWANCES**. EACH CONTRACTOR SUBMITTING A BID IS TO INCLUDE AN ALLOWANCE OF $48,000 IN THE BID TO COVER THE COST OF PERFORMING STRUCTURAL OR DECK OR DRAIN SYSTEM OR OTHER UNFORESEEN REPAIRS TO THE EXISTING FACILITY WHICH MAY BE NEEDED TO OBTAIN THE COMPLETE AND USABLE 20-YEAR GUARANTEED ROOF SYSTEMS AS DESCRIBED IN PARAGRAPH 2. SCOPE OF WORK AND PARAGRAPH 3. DETAILED REQUIREMENTS; and which may be required as a result of the State Building Commissioner reviews of these PLANS and Specifications.

Compensation for accomplishing these repairs or improvements, and for making any other necessary changes or additional equipment installation required, will be based on actual labor and materials costs. On work by the contractor's own personnel and workers, a combined overhead and profit of 10% is the maximum that will be approved. On work by a subcontractor, a combined overhead and profit (i.e., mark-up) of 10% for the prime contractor is the maximum that will be approved.

ANY PART OF THE $48,000 ALLOWANCE NOT SPENT WILL BE CREDITED TO THE COLLEGE AT THE TIME OF FINAL BILLING. IF NO SYSTEMS REPAIRS NOR ADDITIONAL EQUIPMENT INSTALLATION NOR IMPROVEMENTS ARE REQUIRED, THE ENTIRE $48,000 WILL BE CREDITED TO THE COLLEGE AT THE TIME OF FINAL BILLING.

Whenever requested, proceed to cost-estimate all required (BUT UNANTICIPATED) repairs, improvements and additional equipment installation as requested by the College Engineer. **Use the Rhode Island College Standard Change Order Document (Sample Attached) to submit each proposed Change Order**. Attach the following to EACH Contract Change Order Request document submitted: the estimated personnel hours and applicable (prevailing) wage rate for each trade or skill required to complete the proposed change order; and the detailed list of materials (and unit costs) required. ONLY UPON RECEIPT OF ENGINEER APPROVAL for specific repairs and equipment installation, proceed to accomplish same.

6. **FIRE SAFETY REQUIREMENTS**. Whenever open flames or propane tanks or torches are being used during this roof replacement contract, Contractor will have TWO 10-Pound ABC Fire Extinguishers on the roof, accompanied by a roofer trained and qualified in their usage.

7. **ASBESTOS**. If the Contractor encounters any asbestos, the College will have another contractor remove and properly dispose of all asbestos-containing materials AT NO COST TO THIS ROOFING CONTRACTOR.

C\MyDocuments\JHVES-11\:Roofs-Murray Center

CONTRACT CHANGE ORDER

P.O. No. _____ **Change Order No. _____**

Project: (as identified at the start of the Specifications)

To: _____
_____
_____

In accordance with Specifications Paragraph _____ of the above named contract, the following change is made and incorporated into said contract:

(See Attached Detailed Increased "Time and Materials" Requirements)

The Contract Price is changed as follows: _____

The Contract Performance Dates and/or Duration are changed as follows:

All other terms and conditions of subject contract remain in full force and effect.

Submitted by: _____ _____
(Contractor) (date)

Approved by: _____ _____
(College Engineer) (date)

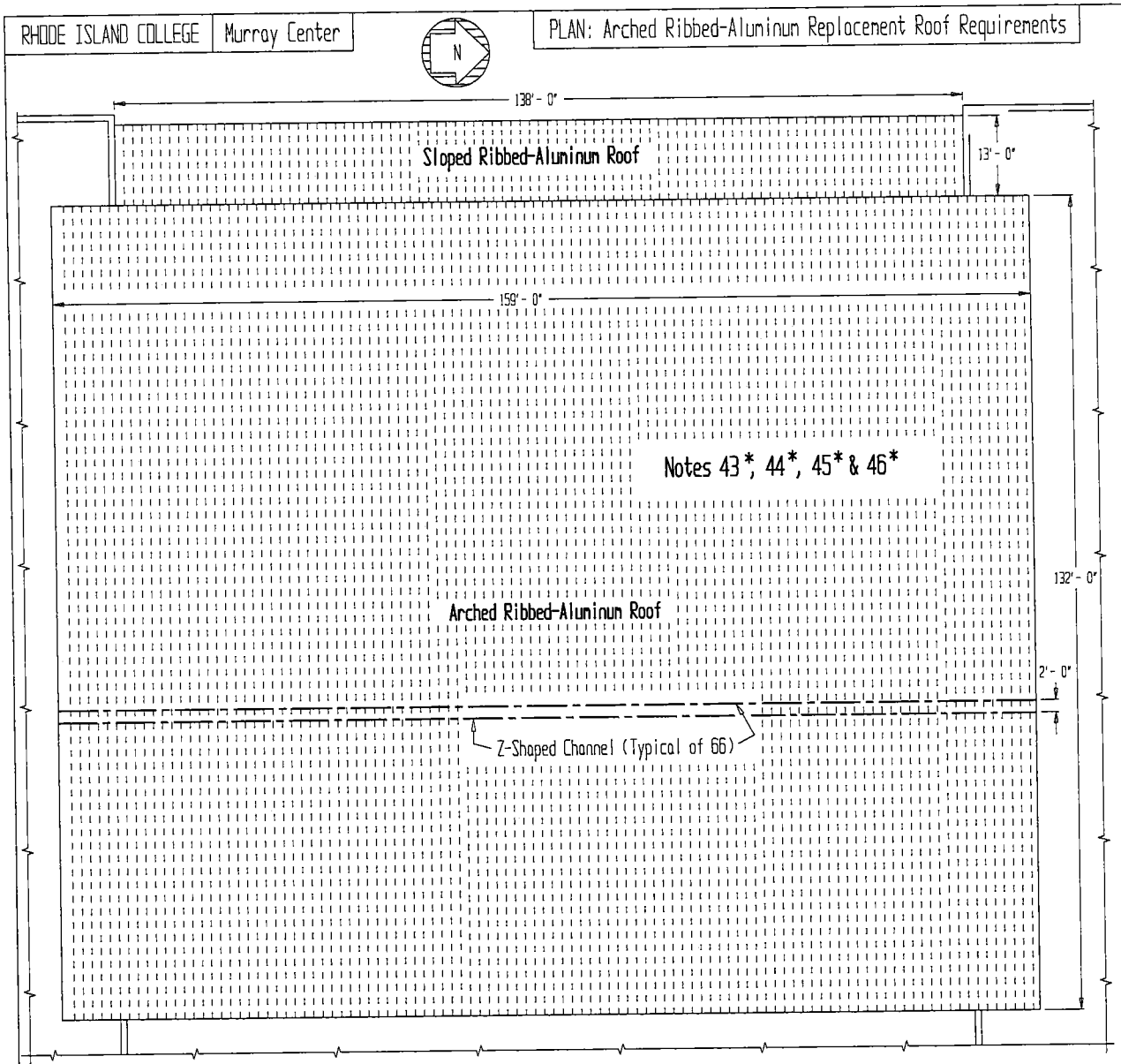
Accepted by: _____ _____
(Contractor) (date)

FOR OWNER USE ONLY

Original Contract Price (Excluding Allowance) _____
Current Contract Price (Including Obligated Portion of Allowance) _____

RHODE ISLAND COLLEGE | Murray Center

PLAN: Arched Ribbed-Aluminum Replacement Roof Requirements



Abbreviation:
* = Typical

Notes:

43. Remove the Existing Arched Ribbed-Steel Roof to Include the Fasteners that Secure Same to the Existing North-South-Oriented, Z-Shaped Sheet-Metal Channels that are Installed 2' - 0" C-C over the Entire Circumference of the 134' - 0" (Actual Length) Arch. Schedule this Removal so that EACH Replacement Ribbed-Aluminum Arch Member is F&I Soon After EACH Existing Steel...

43. CONTINUED...Steel Arch Member is Removed: in order to Minimize the Time & Roof Area that a Segment of the Arched Roof is Exposed to the Weather at Workday's End, over a Weekend or when a Storm is Approaching. EACH such "Construction Joint" is to have a Standard Water-and-Ice Shield Roofing Ply or Layer F&I to COMPLETELY COVER All Exposed Roof Insulation of this "Joint". All of the Arched Ribbed-Steel Roof's Flashings are Also to be Removed; & Replacement Flashings F&I that are Compatible with the Replacement ZIP-RIB-Brand Arched Ribbed-Aluminum Roof (as Manufactured by Merchant & Evans, Inc. of NJ).

44. Remove Also 79 Existing Flanged Sheet-Metal (Inverted C-Shaped) Supports (Each about 134' Long) that Lie atop the Insulation & under the Centerline of Each 2' - 0" Wide Arched Ribbed-Steel Member being Replaced. Fasteners Secure Each Such Support to the Z-Shaped Channels being Retained & Re-Used. However, NO Such Centerline Sheet-Metal Supports of any kind are Required for the Replacement Arched Ribbed-Aluminum Roof.

45. GENERAL: From the Arched Ribbed-Steel Roof & from All B Flat Roofs, Remove the Existing Lightning-Protection System & Re-Install Same to Match the Existing as the Replacement of EACH Roof is Completed.

46. Contractor is to Retain & Re-Use All of the Arched Ribbed Roof's Existing Perimeter Lumber & Existing Board-Type Insulation.

47. ADD ALTERNATE TWO: Indicate the Additional Costs (to be Added to the BASE BID Price) which Apply when the College Directs the Contractor to: Replace Deteriorated Perimeter Lumber on this Arched Ribbed Roof. The Contractor will be Paid for Removing the Existing & Properly Installing TWO 2"x 6" Treated Wood Members (atop each other) on a Unit Cost Basis. Thus, on the Bid Documents, Contractor is to Indicate the Per-LINEAR-Foot Cost & Total Cost of Replacing the Following Estimated Quantity of Perimeter Lumber: Replace 80 Linear Feet of Deteriorated Perimeter Lumber.

47A. ADD ALTERNATE THREE: Indicate the Additional Costs (to be Added to the BASE BID Price) which Apply when the College Directs the Contractor to: Replace Deteriorated Polyisocyanurate Insulation on this Arched Ribbed Roof. Contractor will be Paid for Removing the Existing & Properly Installing TWO 1-1/2" Thick Polyisocyanurate Layers (atop each other) on a Unit Cost Basis. Thus, on the Bid Documents, Contractor is to Indicate the Per-SQUARE-Foot Cost & Total Cost of Replacing the Following Estimated Quantity of Insulation: Replace 3000 Square Feet of Insulation.

Scale:

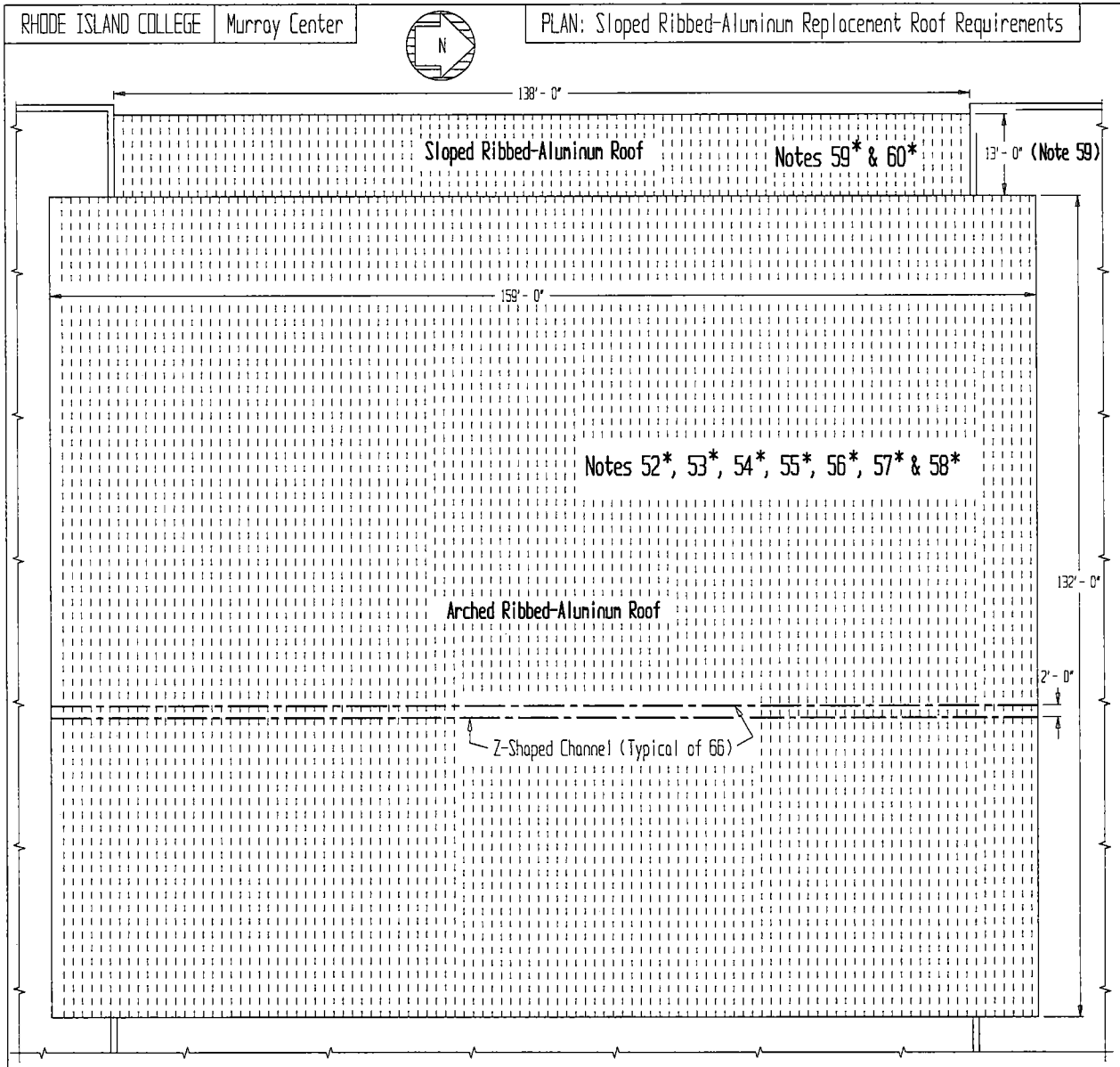
0 Feet 40'

23 November 2012
Arched-AL-Roof Rpts

J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: Sloped Ribbed-Aluminum Replacement Roof Requirements



Notes:

57. CONTINUED...Joints shall Allow for Expansion & Contraction from Temperature Changes without Distortion or Elongation of Fastener Holes. Flashings shall be F&I in accordance with AA, NRCA & SMACNA Architectural Sheet-Metal Manuals: with NO End Laps & Isolated from Dissimilar Materials. Contractor is to be Extremely Careful ...

57. CONTINUED...when RAISING Each Panel from Grade to Its Roof Position to AVOID Bending, Warping, Scraping, Denting or Damaging the Panel in Any Way. The Completed Arched Ribbed-Aluminum Roof is to be Plumb & True, Free of Scrapes & Dents. Excess Sealant shall be Removed & Touch-Up Paint Applied to any Areas where Paint Scrapes Occur. Any PANELS which are Badly DAMAGED & in the OPINION of the College Engineer cannot be Repaired shall be REMOVED & REPLACED.

58. On the Newly F&I Flat Roof Surfaces Directly Below the Eastern Drip Edge of the Replaced Arched Ribbed-Aluminum Roof, F&I an (approx.) Three-Foot-Wide Layer (x 159' Long) of Standard 3/8"-Thick Walk Pads having a Granulated Top Surface. F&I Same Immediately Adjacent to the Walls Supporting the Arched Roof's East Edge. The Purpose is to Provide Additional Protection against the Impact of Snowing Dropping fron the Edge of the Arched Roof.

57. ADDED: The Use of the Zipper Tool is Essential to Achieve the Truly Weathertight Joints Required for this Roof.

59. The Horizontal or Plan Distance from the East Edge of the Sloped Roof is 13' - 0" as Depicted on this PLAN. The ACTUAL LENGTH of EACH Sloped Ribbed-Aluminum Roof Replacement Panel is 14' - 6".

60. ADD ALTERNATE FOUR: Indicate the Additional Costs (to be Added to the BASE BID Price) which Apply when the College Directs the Contractor to: Replace the Existing Sloped Ribbed-Steel Roof with a Sloped Ribbed-Aluminum Roof. Thus, on the Bid Documents, Contractor is to Indicate the Total Cost to F&I a Complete Sloped Ribbed-Aluminum Replacement Roof. All of the Requirements of Notes 43, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 56, 57 Apply to the Replacement of this Sloped Ribbed-Aluminum Roof. Because this Roof is 138' - 0" (NOT 140') Wide, the Contractor is to Provide Shop Drawings, or have the Panel Manufacturer Provide Shop Drawings, for College Engineer Approval that Indicate the Edge Details & Required Flashings that Accomodate the Additional FOUR INCHES of Width at the Roof's North & South Edges.

Scale:

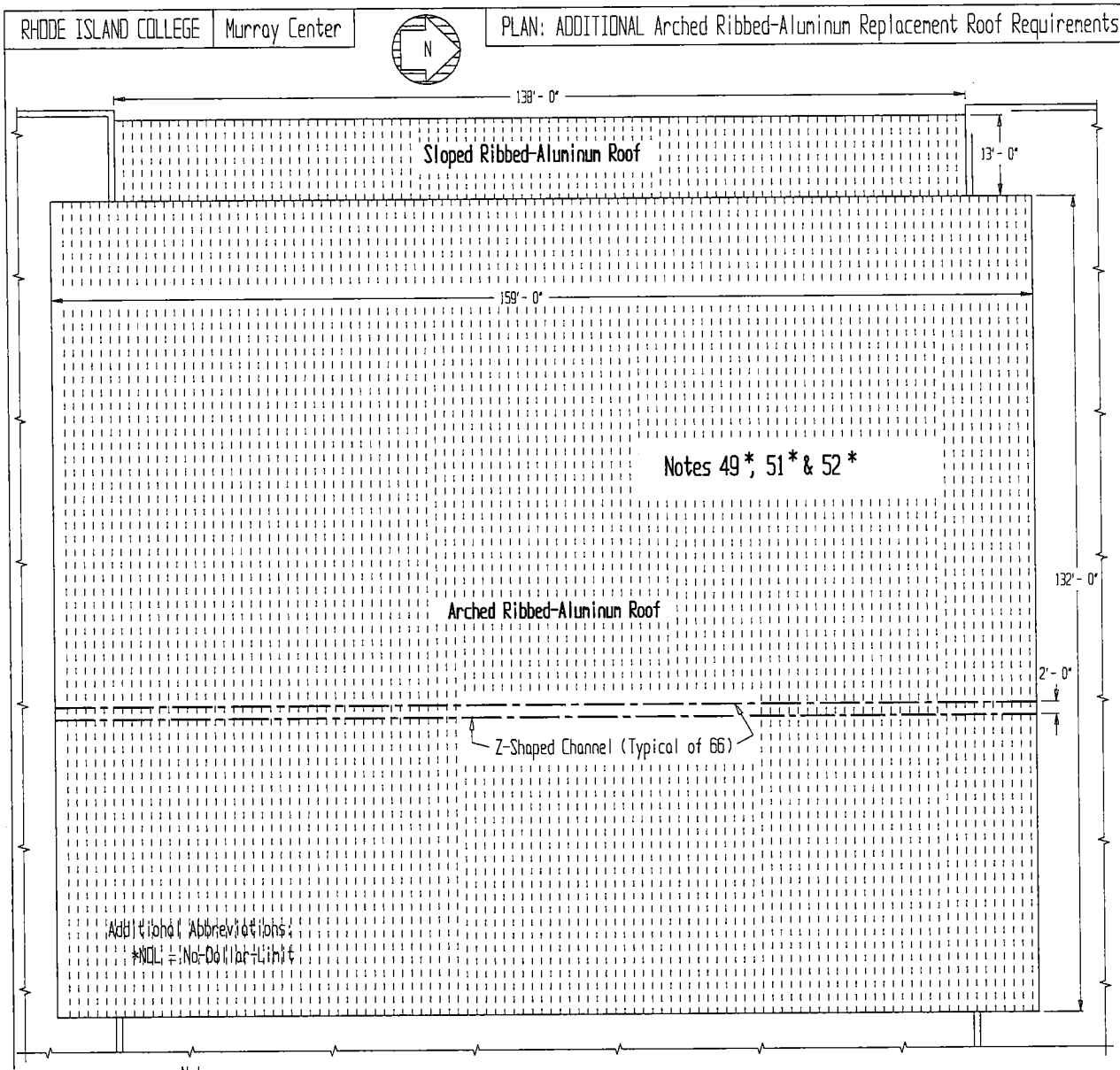
0 Feet 40'

28 November 2012
Sloped-AL-Roof Rqts-SM

J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: ADDITIONAL Arched Ribbed-Aluminum Replacement Roof Requirements



Notes:

48. For the Arched Ribbed-Aluminum Replacement Roof, Remove the Existing Aluminum Gutters & Downspouts. After the Replacement Arched Ribbed-Aluminum Roof has been F&I, Re-Install & Resecure the Gutters & Downspouts, Using Replacement Sturdy Aluminum Brackets & Fasteners; Modify the Slopes so that the Gutters Actually Drain to Downspouts.

49. F&I the Replacement ZIP-RIB-Brand Arched Ribbed-Aluminum Roof (as Manufactured by Merchant & Evans, Inc. of NJ). The Replacement Roof is to have both a 20-Year *NDL Weathertight Warranty and a 115-MPH Wind Uplift Resistance Warranty (for Uplift Pressures of 39 PSF in the Field, 67 PSF on the Perimeter, 93 PSF at the Corners). The Weathertightness Warranty is to Include All Flashings, Protection against Structural Defects & Corrosion; & Ensure Finish Durability. The Replacement Roof is to be Composed of .040"-Thick High-Strength 3004-H274 Alloy 3/4-Hard Aluminum Panels that are 134' - 0" Long & 16" Wide. Panels are to be Manufactured on Site; have 2-1/2"-High Edge Seams that are Mechanically Crimped with an Electric Seamer; & Contain TWO Intermediate Stiffener Ribs 3/8"-High & Located in the Flat Pan to Minimize Oil-Canning & Telegraphing of Structural Members.

50. Submit to the Engineer: Copies of the Following Merchant & Evans Documentation: Independent Lab Tests, Mill Certifications Certifying Structural Performance of the Specified Aluminum Panels, Anchor Clips & Fasteners; Uniform Load Capacity Tests & Tests to Failure with Strength Exceeding a Safety Factor of 2.5; Weather Tightness Tests (No Leaks at 70-MPH Winds & Heavy Rain); Resistance to Wear-Through; Factory Color Finish Retention; Salt Spray Test; Formability Test; Accelerated Weathering Test; Abrasion Resistance Test; Humidity Test.

51. Fastener Requirements: Anchor Clips shall be Aluminum Coated with Nylon to Minimize Wear from Thermal Movement. Fasteners in Supports & Screws Installed in Clips Shall be Recessed so that No Sharp Edges come in Contact with the Aluminum Panels. Screws Holding Anchor Clips to the Steel Z-shaped Channels shall be Stainless-Steel Cadmium-Plated Self-Tapping Screws F&I into PRE-DRILLED Holes.
Exposed Fasteners shall Match the Finish of the Panels & shall be Stainless-Steel with Separate Washers having Bonded-Neoprene Faces; Pop Rivets shall be Set in Wet Sealant. Minimum Sizes are #14 (Screws) & 3/16" D (Rivets).

52. After the Existing Ribbed-Steel Roof Panels are Removed, F&I 40-Mil HI-TEMP Peel-&-Stick Ice-&-Water Roofing Membrane 6' - 0" In from All Perimeters Over the Existing (Insulation or Ice-&-Water Membrane) Substrate Layer's Surface. F&I this Ice-&-Water Roofing Membrane beneath Any Metal Flashings along the Perimeter & Overlap a Minimum of 4" Onto the Edge's Vertical Surface.

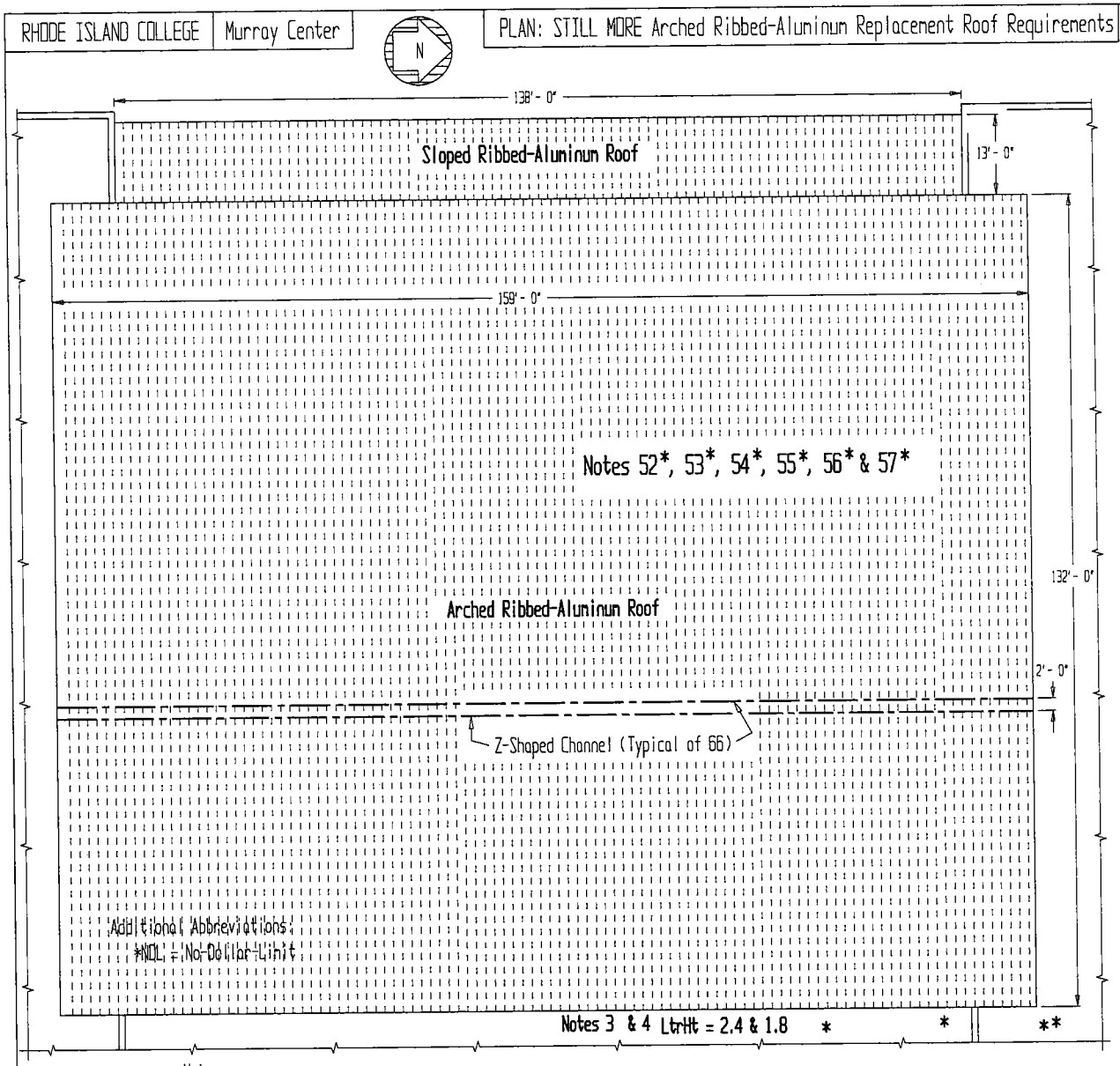
Scale: 0 Feet 40'

23 November 2012
Arched-AL-Roof Rqts-ADD

J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: STILL MORE Arched Ribbed-Aluminum Replacement Roof Requirements



Notes:

53. During Assembly of the Arched Ribbed-Aluminum Roof Panels, F&I Sealant between Surfaces while Mininiizing the Amount Exposed on the Panels' Surface. For Concealed Sealant, F&I a Non-Curing, Non-Skinning Butyl, Polyisobutylene or Polybutane Tape of Sufficient Thickness to Make Full Contact with Both Surfaces. If the ...

53. CONTINUED...If the Use of Exposed Sealant is Required, F&I a Curing-Type with Excellent Weatkher & Sunlight Resistance that is Recommended by the On-Site Zip-Rib Representative. Apply Same in Accordance with the Sealant Manufacturer's & the On-Site Representative's Instructions

52. ADDED: Contractor will have to Chalk (or Spray-Paint) Lines atop the Ice-&-Spray Shield that Identify the Exact Locations of the Z-Shaped Channels that are Covered by that Shield.

54. Refer to Note 43. Contractor will Start at Either the Roof's North or South Edge. Along EACH of the North & South Edges of this Roof, F&I a Total of 68 ZIP-RIB Cable Clips: at 2' - 0" C-C & at the Intersection of Each Z-Shaped Channel or Purlin with the Roof's Edge Support. F&I THREE ZIP-RIB Manufacturer-Furnished or Manufacturer-Specified Screws to Secure Each Cable Clip to this Edge Support.

55. Because this Roof is 159' - 0" (NOT 160') Wide, the Contractor is to Provide Shop Drawings, or have the Panel Manufacturer Provide Shop Drawings, for College Engineer Approval that Indicate the Edge Details & Required Flashings that Accomnodate the Additional TWO INCHES of Width at the Roof's North & South Edges.

56. Commencing 18" South fron (& PARALLEL to) the North Edge, F&I 117 Lines of Fasteners (at 16" C-C): with EACH Line Containing 68 ZIP-RIB Sliding Hook Panel Clips F&I at 2' - 0" C-C in the East-West Direction. F&I ONE ZIP-RIB Manufacturer-Furnished or Manufacturer-Specified Screw through an Existing Hole in Each Panel Clip to Secure Each Panel Clip to One of the 66 Z-Shaped Channels or Purlins. In Addition, Include in the Base Bid the Cost to F&I a SECOND 3/16" D x 3/4" Long Stainless-Steel or Aluminum Screw through a CONTRACTOR-DRILLED Hole ((Offset by about 3/4" fron the Existing) & into Each Z-Shaped Channel or Purlin in order to Further Secure & Stabilize Each Panel Clip.

57. All Zip-Rib 134'x 16" Ribbed-Aluminum Panels for this Contract are to be Manufactured On-Site; & shall be F&I in accord with the Approved Shop Drawings & Details under Direct Supervision of an Experienced Zip-Rib Installer Job-Site Superintendent. Use the Manufacturer's Zipper Tool to Mechanically Crinp Both 134' Edges of Each Panel to the Two Lines of Sliding Hook Panel Clips & the Adjacent Panel. Joints shall Allow for Expansion & Contraction from Tenperature Changes... CONTINUED on PLAN: Sloped Ribbed-Aluminum Replacement Roof Requirements

Scale:

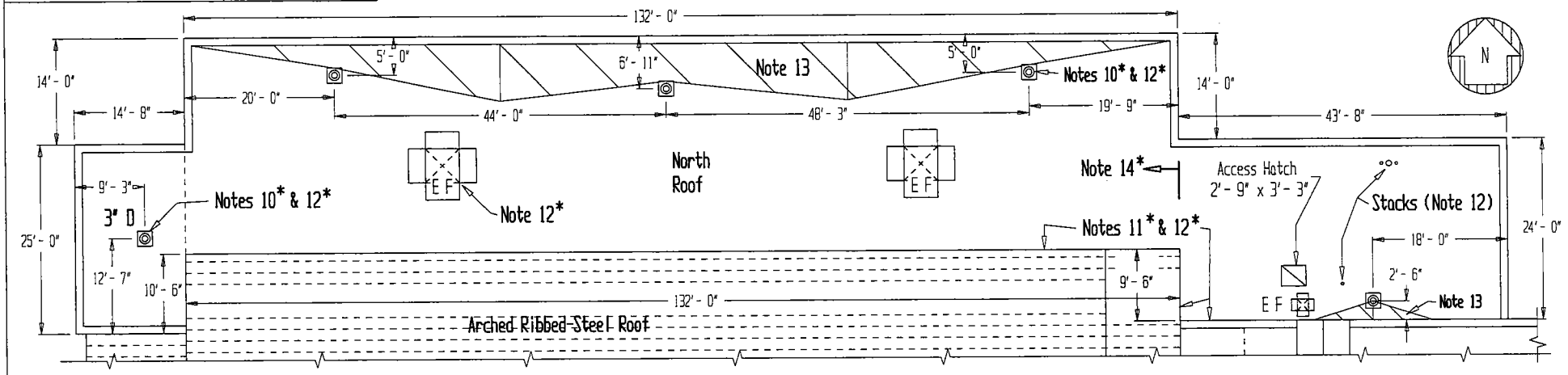
0 Feet 40'

27 November 2012
Arched-AL-Roof Rqts-SM

J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: GENERAL & North Roof Requirements



Notes:

6. The Purposes of this PLAN are to Provide the Locations of the Drains & to Identify the Flashing Requirements for the North Roof. To Inprove the Clarity of this PLAN, the North Roof has been Rotated fron Its Orientation on the Previous PLAN; Its North Edge is now at the Top of the PLAN.
7. GENERAL: After All Renoval Operations in a Given Area are Completed, Sweep the Deck Completely Clean. Inspect & Repair or Replace Any Steel Deck Areas Damaged by Weather or during Roofing Renoval Operations; Deck Repair & Replacement Payments will be in accordance with ADD ALTERNATE ONE. In addition, the College Engineer MUST First be Notified so that he can & the Contractor's Site Superintendent can Jointly Measure the Damaged Areas BEFORE They are Replaced. Replace the Significantly Damaged Steel Panels (Match Existing Panels' Gauge & Configuration); F&I Steel-Deck Overlay Sections for Small Areas with Minor Damage.
8. ALL GENERAL Notes on ALL PLANS Apply to All Work of this Contract, Regardless of the PLAN on which the Note Appears.
9. ADD ALTERNATE ONE: Indicate the Additional Costs (to be Added to the BASE BID Price) which Apply when the College Directs the Contractor to: Replace Damaged Steel Deck Panels on a Flat Roof. The Contractor will be Paid for Properly Replacing these Deck Panels on a Unit Cost Basis. Thus, on the Bid Documents, Contractor is to Indicate the Per-Square-Foot Cost & Total Cost of Replacing the Following Estimated Quantity of Damaged Roof Deck: Replace 500 Square Feet (SF) of Damaged Steel Roof Deck.
10. GENERAL: Renove All Existing Roof Drains. F&I SEVENTEEN 4" D & TWO 3" D Replacement Roof Drains. Verify Each Drain's Dianeter before Ordering the Replacements. Using Only Smith or Josan Original-Roof-Type Drains, F&I Nineteen Replacement Roof Drains, EACH with a Cast-Iron Sump. Retrofit Drains are NOT Acceptable. Use a Rotary Snake to Mechanically Clean Every Existing Drain Pipe. Satisfy All Flashing (& Similar) Requirements Specified on the Roof Drain Section.
11. GENERAL: These are Walls with Insulated-Metal Panels which Support Higher-Level Roofs. The Existing Counter-Flashngs must be Bent-Up (& LATER Bent Down to Match Existing) so that the North Roof's Flashings can be F&I.
12. Flashing Requirements for the North Roof Include: 5 Roof Drains; 3 Exhaust Fans (Two with 4' - 6" x 4' - 6" Curbs; One with 1' - 6" x 1' - 6" Curb); 4 Stacks or Vent Pipes (One @ 4" D; One @ 3" D; & Two @ 2" D); the Access Hatch; about 196 Lineal Feet of Note 11 Walls; & All of the Outside Perineter Gravel Stops.
13. GENERAL: The Cross-Hatching on Any PLAN Indicates Roof Areas where 1/8" per Foot Tapered Polyisocyanurate Insulation must be F&I Atop the Upper (of Two) 2" Uniform-Thickness Polyisocyanurate Layers.
14. For the Parts of the North & South Roofs Located West of the Eastern Edge of the Arched Steel-Ribbed Roof, F&I Replacement Batt-Type (Fibrous, NOT Board) Fiberglass Insulation in All the Flutes (about 2" x 1-1/2") of the Steel Deck (the Existing was Acoustical).
15. GENERAL: All Wooden (Lumber) Members F&I for this Contract are to be CCA-Treated. Unless Otherwise Specified, All Aluminum F&I for this Contract (such as for Gravel Stops & Counter-Flashings) shall be .050"-Thick & Painted to Match Existing Flashings of that Type.
16. GENERAL: Based on the Flat Roofs' Elevation above the Surrounding Grade, Wind Speed & the Roughness of the Surrounding Terrain, we Determined that a Roof Systen "UpLift" Classification...CONTINUED on PLAN: GENERAL & Western Roof Reequirements.

Additional Abbreviations:
E F = Exhaust Fan

Scale:

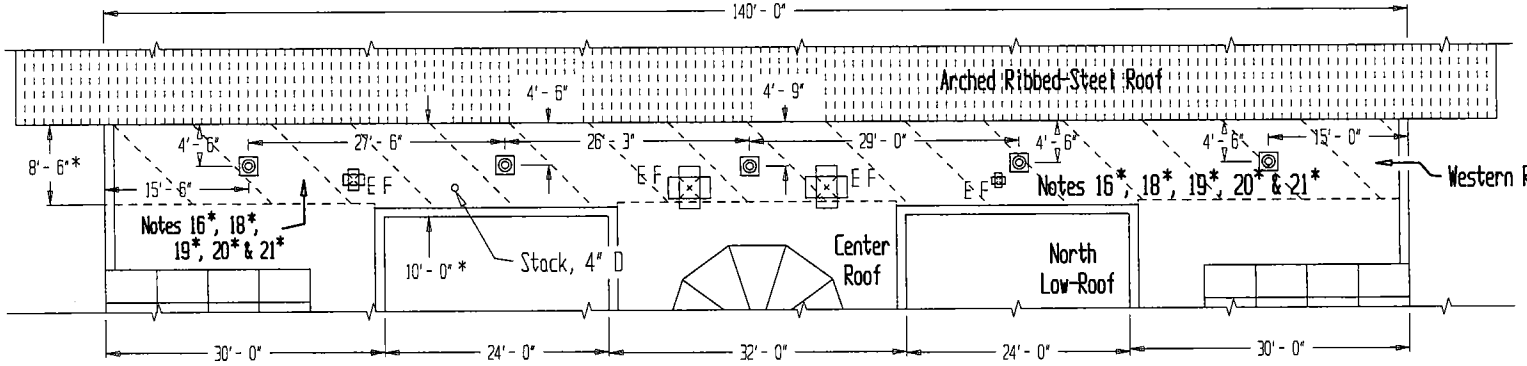
0 Feet 50'

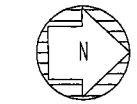
PLAN-FlatRf-Rqts-A
19 October 2012

J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: GENERAL & Western Roof Requirements

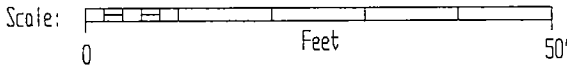




Additional Abbreviations:

E F = Exhaust Fan

FMA = Factory-Mutual-Approved



Notes:

17. The Purposes of this PLAN are to Provide the Locations of the Drains & to Identify the Flashing Requirements for the Western Roof. Please Note that the Western Roof Retains the Orientation that It had on the First PLAN; Its Western Edge is now near the Top of the PLAN.

18. The Entire Roof Area of the Western Roof is to have 1/8" per Foot Tapered Polyisocyanurate Insulation F&I Atop the Upper (of Two) 2" Uniform-Thickness Polyisocyanurate Layers.

13. ADDED: Flashings' Aluminum F&I for this Contract (such as for Gravel Stops & Counter-Flashings) shall be .050"-Thick; & POST-PAINTED (after All Bending is Completed) with 70% KYNAR to Match Both the Color & Also (Except for the Gravel Stops) the Shape of All Existing Flashings of that Type.

19. Flashing Requirements for the Western Roof Include: 5 Roof Drains; 4 Exhaust Fans (Two with 4' - 6' x 4' - 6" Curbs; One with 1' - 6" x 1' - 6" Curb; & One with 2' x 2' Curb; 1 Stack or Vent Pipe (4" D); about 48 Lineal Feet of Outside Perimeter Gravel Stops. F&I also a Replacement Manville Expansion Joint 140' Long along this Roof's West Edge; But, if Manville does Not Provide their Own Expansion Joints, F&I a 140' Long Expansion Joint that Satisfies All Manville Requirements.

16. GENERAL - CONTINUED... We have Determined Determined that a Roof System "UpLift" Classification of 1A-60 for the Field of the Roof is Required. Also, the Roof Perimeter will Require a Class 1A-105 System & Each Corner will Require a Class 1A-150 System. The Corresponding Pressures for the Field, Perimeter & Corner of the Roof Surface are Equal to 29.5 PSF, 49 PSF & 74 PSF Respectively. Since All Flat Roofs have Steel Decks, Vapor Barriers are NOT Required. For ALL FLAT Roofs, F&I Johns Manville Ultrafast #12 (Screw & 3" D Steel Plate) Fasteners, which are FMA (Staggered; & in the Number & Spacing Specified by the Applicable Code) to Secure the LOWER Constant-Thickness (2") Polyisocyanurate Insulation Layer to EACH Steel Deck. The Specified Fastener Patterns Required for Insulation Boards Installed in Corners, on the Perimeter & in Field Areas of the Replacement Roofs will be Provided to the Successful Bidder. Perform an Uplift Test on the Specified Mechanical Fastener Used to Secure Both the Bottom Insulation Board to the Steel Deck & the Bottom 2" x 6" Lumber Member to the Steel Deck.

20. GENERAL: Around the Entire Perimeters of All Flat Roofs, F&I a Designated Number of 2"x 6" Lumber Members Atop Each Other. For ALL Such Lumber Stacks, Use the Specified Ultrafast #12 Mechanical Fasteners (Spaced per Class 1A-105 (Note 16) Requirements) to Secure the Bottom 2"x 6" to the Deck. Drill Holes in the Bottom of EACH Second-Lowest Member to Accommodate (Bridge-Over) the Heads of the Bottom-Member's Mechanical Fasteners. Nail Each Additional 2"x 6" to the Underlying Member. Use this Same 2"x 6" System to Raise the Existing Curbs of ALL Exhaust Fans & of the Roof Hatch & Similar RoofTop Equipment.

    Atop or Onto the Stack of 2"x 6", F&I (Nail) the Required Perlite Cants: All to Attain the Curb, Equipment & Perimeter Elevations & Cross-Sections Required to Satisfy Johns Manville Flashing Specifications. Extend the Galvanized-Steel Ductwork (Gauge to Match Existing) & Electric Service as Required (for the EF); Re-Attach All Equipment to their Raised Curbs. Comply Also with ALL Requirements Identified on the Attached SECTIONS. The DESIGNATED NUMBER of 2"x 6" for the North Roof is FIVE; & for the Western Roof is FOUR.

16. GENERAL - ADDED: For ONLY the Parts of the North & South Roofs Located West of the Eastern Edge of the Arched Steel-Ribbed Roof: To Protect the Appearance of the Gym's Ceiling, F&I ONLY Ultrafast #12 Fasteners for the Lower Insulation Layer that are about 2-1/2" or 3" Long & Unable to Penetrate Any Flutes of the Steel Decking.

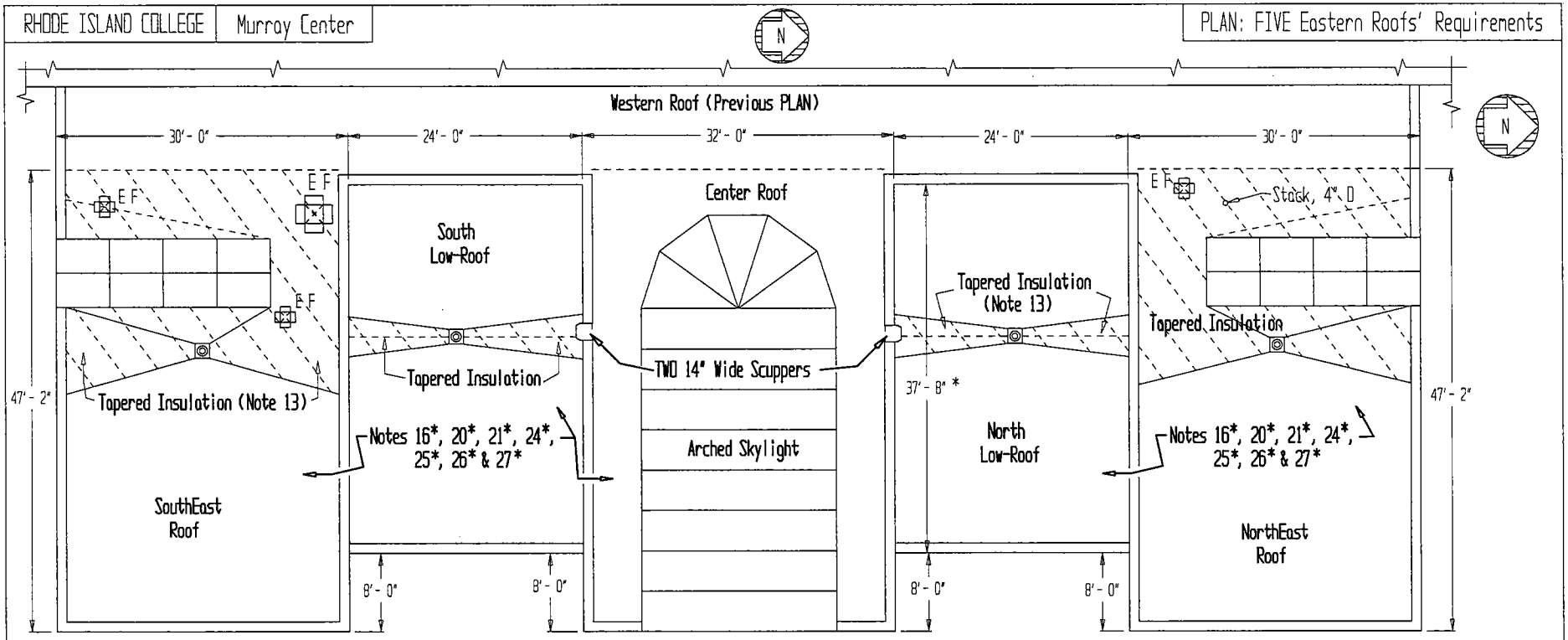
21. GENERAL (for All Flat Roofs): Atop the LOWER Constant-Thickness Insulation Layer, F&I the UPPER 2" Thick Polyisocyanurate Insulation Layer; Onto the UPPER 2" Thick Insulation Layer & ONLY in Roof Areas Indicated on the PLANS, F&I the Tapered Polyisocyanurate Insulation Layer, 1/8" Per Foot; Covered by Manville's 1/2"-Thick Duraboard. F&I Manville's TWO-Part Urethane Insulation Adhesive (in the Manufacturer's Recommended Quantities) to Adhere EACH of the Constant-Thickness Insulation, Tapered Insulation & Duraboard Layers to the Underlying Surface.

26 October 2012

PLAN-FlatRf-Rqts-B | J Vickers, College Engineer

RHODE ISLAND COLLEGE | Murray Center

PLAN: FIVE Eastern Roofs' Requirements



Notes:

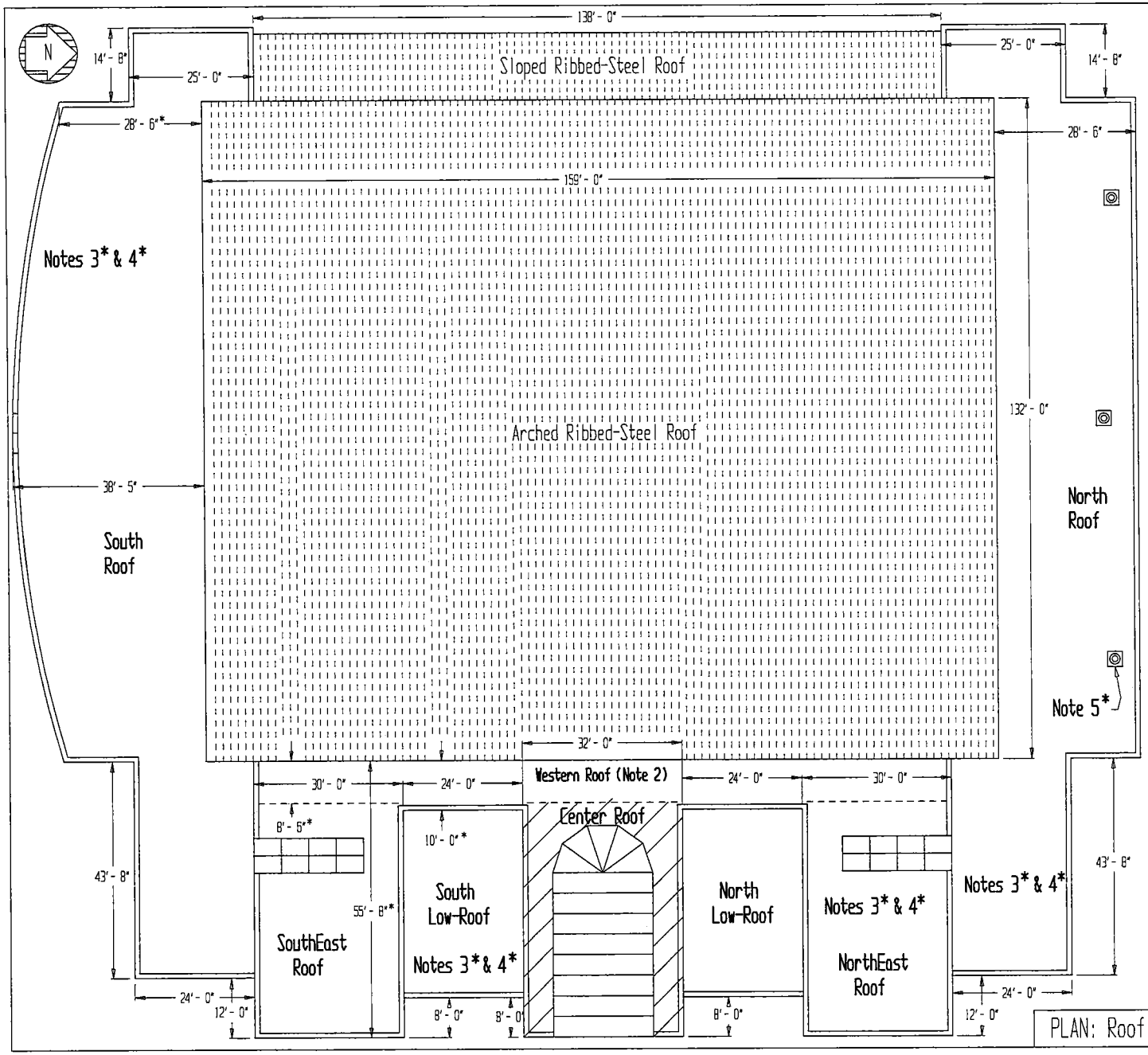
22. The Purposes of this PLAN are to Provide the Locations of the Drains & to Identify the Flashing Requirements for the Five Eastern Roofs. Please Note that the Five Eastern Roofs Retain the Orientation that They had on the First PLAN; Their Western Edges are now near the Top of this PLAN.
23. GENERAL: Because All Roofs will have 4" Thickness of Polyisocyanurate Insulation, their R-Value will = 25. In addition, Certain Roofs will Also have Tapered Insulation (1/8" per Foot) Installed over Part of their Area, Increasing the Average Insulation Thickness in those Areas by about 1" & therefore Increasing the R-Value.
20. CORRECTION: The DESIGNATED NUMBER of 2"x 6" for the North Roof is SIX, NOT Five; the DESIGNATED NUMBER of 2"x 6" for the Western Roof is FIVE, NOT Four.
21. CORRECTION: F&I Manville's 3/4" THICK (NOT 1/2" Thick) Duraboard Atop the Top Layer of Polyisocyanurate Insulation Over the ENTIRE Roof Area of All Flat Roofs, Regardless of whether this Top Layer is Tapered or Constant-Thickness Insulation. As stated in Note 21 on the previous PLAN, F&I Manville's TWO-Part Urethane Insulation Adhesive (in the Manufacturer's Recommended Quantities) to Adhere EACH of the UPPER (NOT Botton) Constant-Thickness Insulation, Tapered Insulation & Duraboard Layers to the Underlying Surface.
24. GENERAL: In All Valleys (due to the Tapered Insulation), F&I an Extra Layer of Manville Dynaweld Felt to Extend-Up EACH Incline about 9"; Torch-Down Same Solid to the Duraboard Surface.
25. The DESIGNATED NUMBER of 2"x 6" for the Center Roof is FOUR; the DESIGNATED NUMBER of 2"x 6" for BOTH the North Low Roof & the South Low Roof Roof is FIVE; the DESIGNATED NUMBER of 2"x 6" for BOTH the...CONTINUED
25. CONTINUED... for BOTH the NorthEast Roof & the SouthEast Roof is SIX.
26. F&I TWO 14" X 4" Replacement 20-Ounce Lead-Coated Copper Scuppers to Match the Existing & F&I Same to Drain the Center Roof at the Same Locations as the Existing Scuppers; F&I Openings to Accommodate the Scuppers in this Roof's North & South Perimeter 2"x 6" Lumber Stacks (that Comprise Its North & South Edges).
27. Flashing Requirements for the Five Eastern Roofs Include: 4 Roof Drains; 2 Scuppers; 4 Exhaust Fans (One with a 2'- 6' x 2'- 6" Curb; & Three with 1'- 6" x 1'- 6" Curbs); 1 Stack or Vent Pipe (4" D); about 450 Lineal Feet of Outside Perimeter Gravel Stops; 3 Skylights (Two @ 22' x 7'; One @ 42' x 20' - Irregular Shape); about 196' of Walls Supporting Higher-Elevation Roofs.
28. GENERAL: During Construction, All of the Steel Roof Decks were F&I with a Pitch or Slope toward the Drains. Therefore, Tapered Insulation must ONLY be F&I in Designated Areas to Create Crickets that Slope toward the Drains.

Scale:

0 Feet 40'

2 November 2012 PLAN-FlatRf-Rqts-East3

J Vickers, College Engineer



RHODE ISLAND COLLEGE | Murray Center

Notes:

1. The Main Purpose of this PLAN is to Provide the Dimensions, Names & Orientations of the EIGHT Flat Roofs & TWO Ribbed-Steel Roofs that Constitute the Murray Center Roof System.
2. To Improve the Clarity of this PLAN, the Center Roof is Shown Cross-Hatched. The N-S Dimension of the Western Roof is 140' - 0"; Its E-W Dimension Varies between 8' - 6" & 10' - 0".
3. Completely Remove All Roofing Materials from the EIGHT Existing Murray Center Flat Roofs Down to their Steel Decks, to Include: the 1/2" Thick Built-Up Roof Membrane (with Gravel Cover); & All of the Polyisocyanurate Insulation Layers (having a Total Thickness of about 3" in Most Areas, But having a Total Thickness Exceeding 6" in Certain Areas where Tapered Insulation was Applied; & the Acoustical Fiberglass Material.
4. Completely Replace 8 Murray Center Flat Roofs: Furnish & Install (F&I) the Johns Manville 3PID-HW Twenty-Year *NDL Guaranteed, 3-Ply Torch-Down Modified-Bitumen Built-Up Roof System that Includes the Mineral-Surfaced (White Granules) Cap Sheet.
5. ◎ = the Symbol for a Roof Drain; All Roof Drains are 4" D Unless Otherwise Noted.

Scale:

0 Feet 50'

Abbreviations:

* = Typical
*NDL = No-Dollar-Limit
D = Diameter
F&I = Furnish & Install

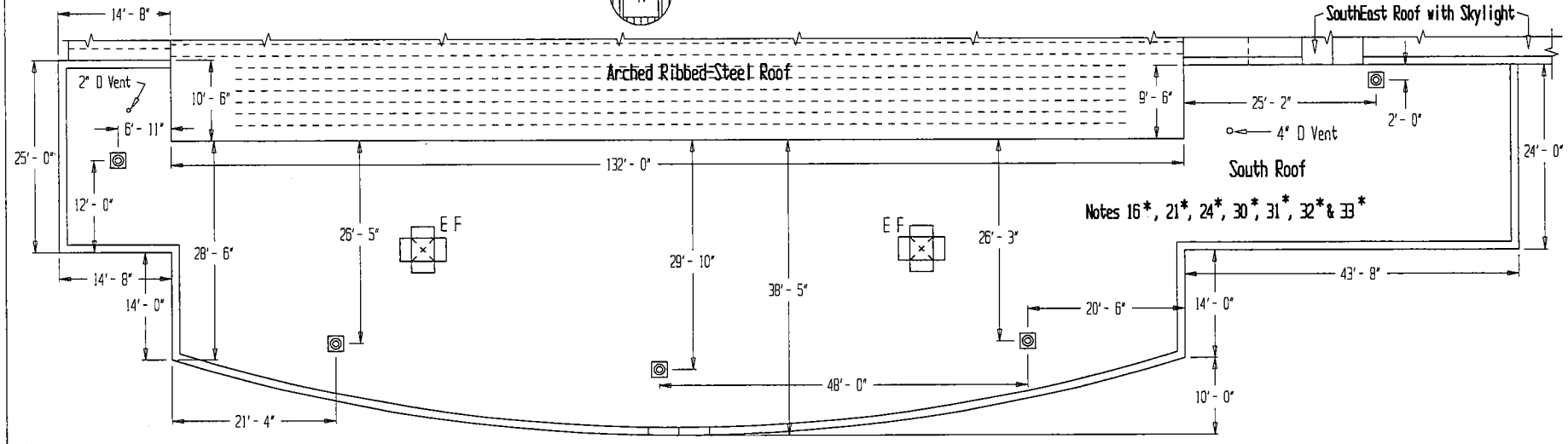
5 October 2012 PLAN-Rfs

J Vickers, College Engineer

PLAN: Roof System Dimensions & Flat Roofs Requirements

RHODE ISLAND COLLEGE | Murray Center

PLAN: GENERAL & South Roof Requirements



Notes:

29. One Purpose of this PLAN is to Provide the Locations of the Drains & to Identify the Flashing Requirements for the South Roof. To Inprove the Clarity of this PLAN, the South Roof has been Rotated from Its Orientation on the PLAN: Roof Systen Dimensions & Flat Roofs Requirements; Its North Edge is now at the Top of this PLAN.

11. GENERAL - CORRECTED: Most of the Walls Supporting Higher-Level Roofs Consist of Insulated-Metal Panels; However, the Walls Supporting the Higher-Level NorthEast, Center & SouthEast Roofs are Brick-Masonry. The Existing Counter-Flashngs (ONLY at Insulated-Metal Panel Walls) nust be Bent-Up (& LATER Bent Down to Match Existing) so that the Flashings at these Insulated-Metal Panel Walls Supporting Higher-Level Roofs can be F&I.

30. Flashing Requirements for the South Roof Include: 5 Roof Drains; 2 Exhaust Fans (Each with a 4' - 6" x 4' - 6" Curb); 2 Stocks or Vent Pipes (One @ 4" D; One @ 2" D); about 152 Lineal Feet of Note 11 Insulated-Panel Walls; 44' Lineal Feet of Brick-Masonry Wall Syupporting a Higher-Level Roof; & All of the Outside Perineter Gravel Stops.

31. GENERAL: Starting at EACH (of the 19) Roof Drain & at EACH (of the 2) Scupper, F&I the Manville DynaWeld Base Sheet to have One-Sheet Coverage over the Entire Roof Area (for EACH of the EIGHT Roofs); Include the Side & End Laps Specified by the Manufacturer's Representative (If Not Specified, Use 4" Side & 6" End Laps). TORCH this Base Sheet Solid to the 3/4" Thick Duraboard (or Valley Plies) Surface Using the Manville-Specified Torching Method. Atop the Base Sheet Layer, & Starting at EACH Roof Drain or Scupper, F&I the Second Ply of the Manville DynaWeld Base Sheet to have TWO-Sheet Coverage over Each Entire Roof. F&I Starter Sheets per the NRCA Guidelines; After the Starter Sheets: Use 24" Side Laps & 6" End Laps; Stagger End Laps 12" MIN. Torch Each Ply Layer Solid to the Underlying Surface. At Each Roof Drain: Fit the Plies into EACH Roof-Drain's Rin; F&I the Metal Flashing & Finishing Plies; Secure the Collar; F&I the Done. At Each Scupper, Fit the Plies over the Inboard Part of the Copper Drip-Edge; Flash Each Scupper's Side-Walls or Flanges per the Specifications.

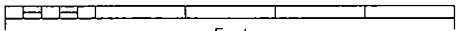
32. GENERAL: At ALL Locations where the Replacement Roof Abuts a Brick-Masonry Wall (Supporting a...CONTINUED

32. GENERAL - CONTINUED...(Supporting a Higher-Level Roof), Contractor is to Cut a Proper-Sized Slot into a Horizontal Mortar Joint that is Located BELOW the Lowest Weep-Hole; &, into this Slot, F&I a Continuous .040"-Thick Aluminum Reglet, Using a Permanent-Type Adhesive or Grout (Designed for this Purpose) to Secure the Reglet. F&I this Type Systen to Fasten & Secure the Tops of Flashings being F&I on these Walls. Replacement Counter-Flashings (.040"-Thick Aluminum) are Also Required. Cut this Same Type of Slot & F&I the Counter-Flashing to Bend Down over the Tops of Flashings being F&I on these Masonry Walls. **The DESIGNATED NUMBER of Perineter 2" x 6" for the South Roof is SIX.**

33. GENERAL: In Addition to the 2"x 6" Perineter Lumber & as Part of the Base Bid: Be Prepared to F&I Vertical-Oriented Pieces of 3/4" Thick Exterior-Grade Plywood Nailed onto the 2"x 6" Outside Edges to Cover Same - IF this becones Necessary to Provide Adequte Support to the Outside-Edge Segnent of the 1-Piece or 2-Piece .050" Thick GRAVEL-STOP Systen Members. Match the Gravel Stop Systens Installed on our Whipple & Browne Hall Roofs. F&I a 1-Piece or 2-Piece Combination GRAVEL STOP & Fascia Systen around the Perimeters of All EIGHT Roofs... CONTINUED on PLAN: ADDITIONAL GENERAL & South Roof Requirements.

PLAN-SouthRf-Rqts
2 November 2012

Scale:



J Vickers, College Engineer

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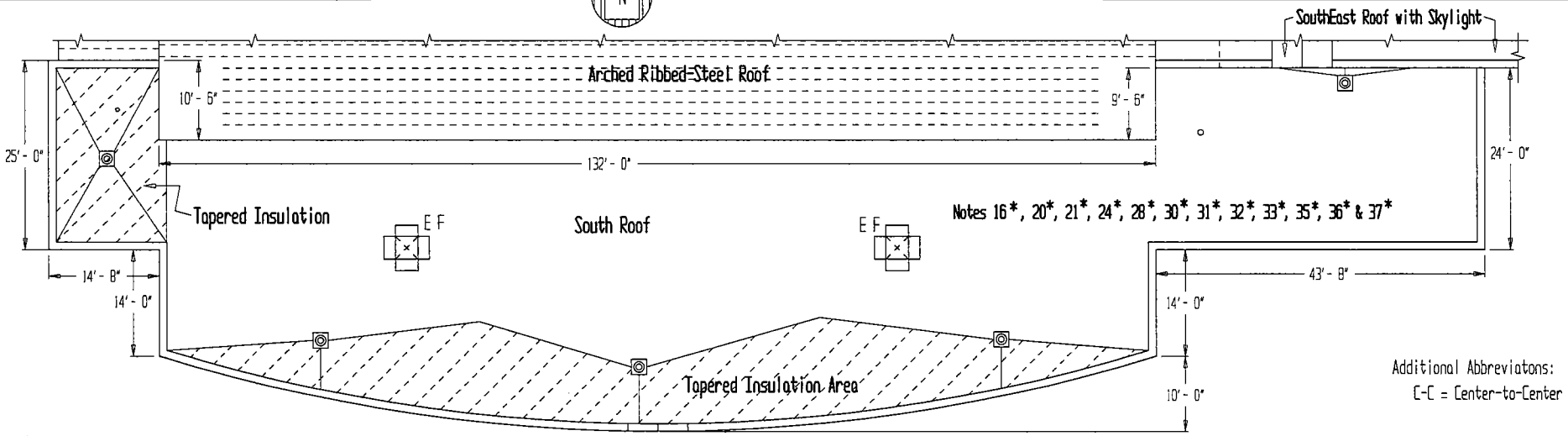
PLAN: ADDITIONAL GENERAL & South Roof Requirements



Notes:

34. One Purpose of this PLAN is to Provide the Locations where Tapered Insulation is to be F&I on the South Roof. To Inprove the Clarity of this PLAN, Most of the Dinensional Information Provided on the Previous PLAN: GENERAL & South Roof Requirements is NOT Depicted. The South Roof is again Shown Rotated fron Its Orientation on the PLAN: Roof Systen Dinensions & Flat Roofs Requirenents; Its North Edge is Also Shown at the Top of this PLAN.

33. GENERAL - CONTINUED: F&I a 1-Piece or 2-Piece Combination GRAVEL STOP & Fascia Systen around the Perineters of All EIGHT Roofs: Use ONLY .050" Thick POST-PAINTED Aluninun for this Requirenent. (EACH GravelStop & Fascia Nenber is to be Painted with 70% Kynar according to Nanufacturer's Instructions ONLY After All Bending of that Conponent is Completed - Color to be Determined.) In addition to the Cleat Nailed to the Botton of the Perineter's Exterior Plywood Face: F&I the Lower Nenber as a Continuous Clip Strip (around All Perineters without a Higher Masonry or Insulated-Metal Panel Wall) with a Cleat at Its Top; Nail Sane into the Exterior Plywood Face Using Nails (Designed for this Purpose) at 9" C-C. Conply with the Attached SECTIONS. The Replacenent Gravel-Stop Systen is to Extend Vertically Down the Building's Outside Masonry Face to the Sane Elevation Above Grade as the Existing Gravel Stop; so that No Masonry is Exposed that was Not Previously Visible. F&I the Replacenent Gravel Stop (Upper Nenber) to Interlock with the Lower Nenber Cleat & to Satisfy All Johns Nanville NDL 20-Year Warranty Gravel Stop Requirenents. F&I (Torch-Down Systen) TWO Nanville DynaWeld Base Sheets (the Second Atop the First) to Flash the Gravel Stop onto the Built-Up Roofing Nenbrane.

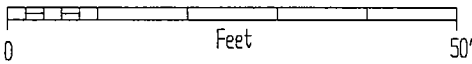
35. GENERAL: After ALL Flashings have been Completed (Except for EACH Flashing's Final DynaWeld Cap Sheet), F&I the Final Conponent of the Roof Nenbrane: F&I the Johns Nanville SBS Nodified-Bitunen DYNA-WELD FR Cap Sheet (with White Granules) Surfacing Nenbrane Atop the 2-Ply Base (of DynaWeld Base Sheets) & over the Entire Area of EACH of the 8 Roofs: Using the Nanville-Approved Torching Systen. Proceed according to the Nanufacturer's Instructions in order to Naximize the Bonding of this Nodified-Bitunen DynaWeld Cap Sheet.

33. (CLARIFICATION) If the Combination Gravel Stop & Fascia-Cover is F&I per the attached SECTION, this Systen will be Conprised of FOUR Separate Nenbers: TWO Continuous Cleats, a Lower Fascia-Covering Nenber & the Top Gravel-Stop-Shaped Nenber that also Covers Part of the Existing Fascia. BUT Contractor does have the Option of Bending Over the Top of the Lower Fascia-Covering Nenber to Form a Cleat: which Eliminates the Need for the Upper Continuous Cleat.

36. GENERAL: After the Roofing Nenbrane's Final Cap Sheet is Completely F&I (Note 35): F&I All Flashings' Cap Sheets & All Other Flashing Conponents that nust be Installed onto the Roofing Nenbrane's Cap Sheet. F&I All Required Kynar-Painted (.040" Thick Aluninun) Replacenent Counter-Flashings; Bend All Counter-Flashings Down to Cover the Nails near the Tops of the Flashings. Solder & Seal All Seans & Joints in the Counter-Flashings.

37. GENERAL: In order to Ensure that Our Nanville 3FID-HW 3-Ply Torch-Down Nodified-Bitunen Built-Up Roof Systens are able to Withstand Uplift Pressures up to 350 PSF in the Field Areas of the 8 Flat Roofs: F&I Nanville's Two-Part Urethane Adhesive (in the Nanufacturer's Specified Cross-Section) as Linear Adhesive Beads at 12" C-C to Secure Each Upper-Insulation & Tapered-Insulation & Duraboard Layer to Its Underlying Surface. F&I Such Adhesive Beads at 6" and 4" C-C on the Edges & in the Corners.

Scale:

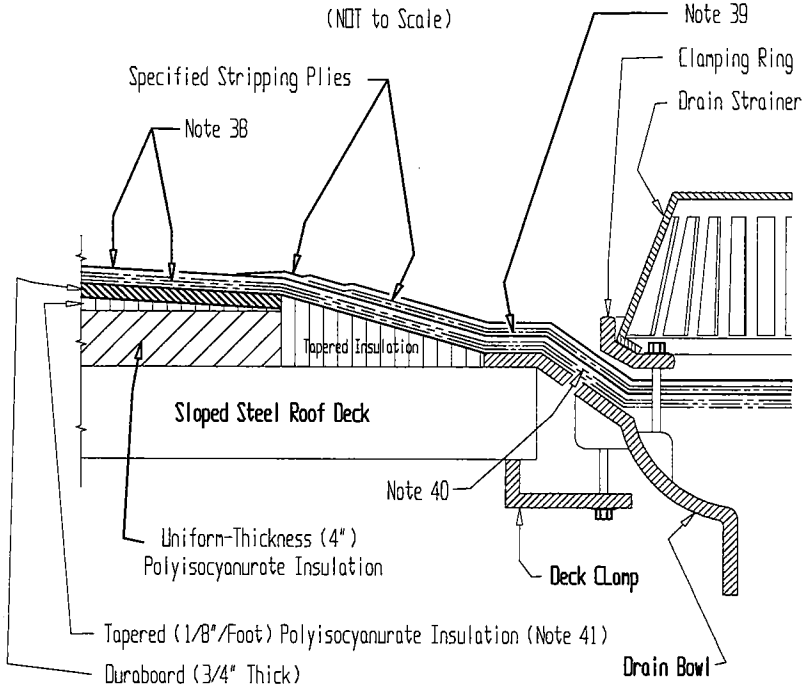


7 November 2012 PLAN-SouthRf-Rqts-ADD

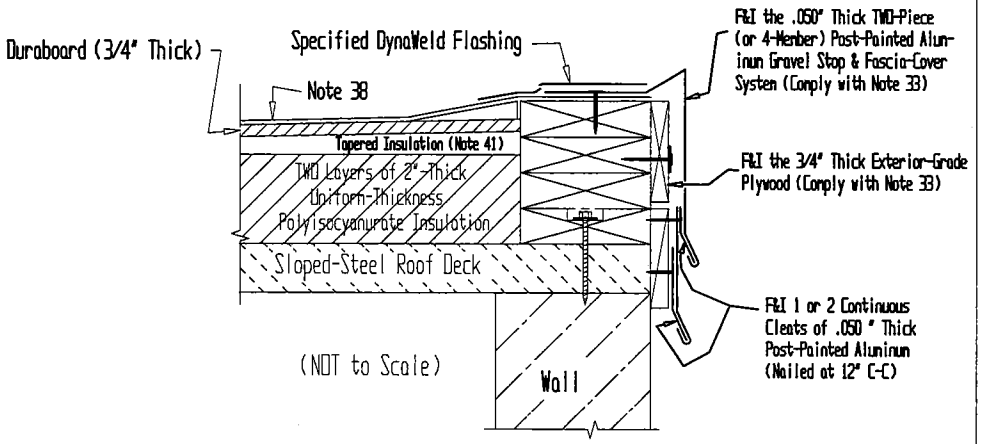
J Vickers, College Engineer

SECTION: Roof Drain

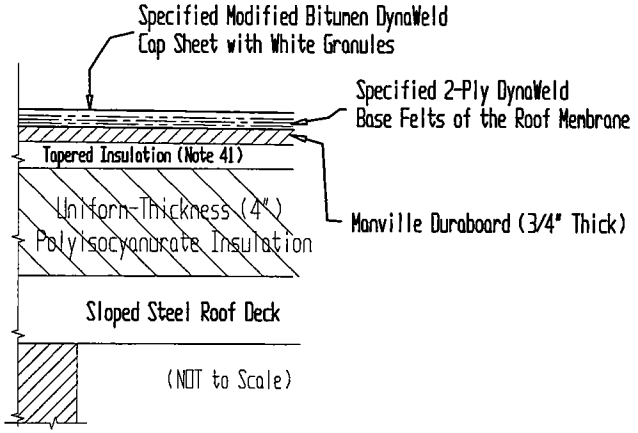
(NOT to Scale)



SECTION: Gravel-Stop System (Flat Roofs Only)



SECTION: Typical Flat Roof System



Notes:

38. These 2 Plies of DynaWeld Base Sheets and this SBS Modified-Bitumen DynaWeld FR Cap Sheet (with White Granules Cover) Constitute the Specified Roofing Membrane.

39. This Specified Metal Flashing (30" Square Minimum) is to be F&I on the Finished Roof in Manville 2-Part Urethane Insulation Adhesive. Prime Its Top Surface before Applying the Stripping Plies (Manville Base & Cap Sheets).

40. F&I the Roofing Membrane, Metal Flashing & Stripping Plies to Extend Under the Clamping Ring.

10. (ADDED) The Replacement Roof Drains are also to Comply ith the Requirements of this SECTION.

41. F&I Tapered Insulation ONLY in the Designated Areas of the Eight Flat Roofs.

42. GENERAL: Prior to Final Acceptance of this Replacement Roof, Contractor is to Conduct 3 Uplift Tests. Acceptance is Contingent upon the Roof's Successfully Passing these Tests.

RFS-SECTs
21 November 2012

J Vickers, College Engineer

SECTIONS: Roofing Layers & Certain Flashing Requirements

BID STANDARD TERMS AND CONDITIONS

TERMS AND CONDITIONS FOR THIS BID

SURETY REQUIREMENTS
BIDDER IS REQUIRED TO PROVIDE A BID SURETY IN THE FORM OF A BID BOND, OR A CERTIFIED CHECK PAYABLE TO THE STATE OF RHODE ISLAND, IN THE AMOUNT OF A SUM NOT LESS THAN FIVE PERCENT (5%) OF THE BID PRICE. BID SURETY MUST BE ATTACHED TO THE BID FORM. THE SUCCESSFUL BIDDER WILL ALSO BE REQUIRED TO FURNISH PERFORMANCE AND LABOR AND PAYMENT BONDS AT TIME OF TENTATIVE CONTRACT AWARD.

START DATE
STARTING DATE _____ NO. OF WORKING DAYS REQUIRED FOR COMPLETION _____

WAGE REQUIREMENTS
BIDDERS ARE ADVISED THAT ALL PROVISIONS OF TITLE 37 CHAPTER 13 OF THE GENERAL LAWS OF RHODE ISLAND APPLY TO THE WORK COVERED BY THIS REQUEST, AND THAT PAYMENT OF THE GENERAL PREVAILING RATE OF PER DIEM WAGES AND THE GENERAL PREVAILING RATE FOR REGULAR, OVERTIME, AND OTHER WORKING CONDITIONS EXISTING IN THE LOCALITY FOR EACH CRAFT, MECHANIC, TEAMSTER, OR TYPE OF WORKMAN NEEDED TO EXECUTE THIS WORK IS A REQUIREMENT FOR BOTH CONTRACTORS AND SUBCONTRACTORS. THE PREVAILING WAGE TABLE MAY BE OBTAINED AT THE RI DIVISION OF PURCHASES HOME PAGE BY INTERNET at www.purchasing.state.ri.us. SELECT "INFORMATION" AND THEN SELECT "PREVAILING WAGE TABLE". THE STATE OF RHODE ISLAND USES THE GENERAL DECISION NUMBER RI20100001. PRINTING THE ENTIRE DOCUMENT AVERAGES APPROXIMATELY ONE MINUTE PER PAGE - YOU MAY WANT TO PRINT ONLY THE PAGES APPLICABLE TO YOUR BID. BIDDERS NOTE: IN THE EVENT THIS BID SPECIFIES PRICE OFFERS ON A TIME-AND-MATERIALS BASIS, i.e., AN HOURLY RATE, ANY OR ALL BIDS SUBMITTED IN AN AMOUNT LESS THAN THE PREVAILING RATE IN EFFECT FOR THE WORK COVERED BY THIS REQUEST AS OF THE DATE OF BID ISSUANCE SHALL BE REJECTED BY THE DIVISION OF PURCHASES.

INSPECTION REQUIREMENTS
BIDDERS ARE RESPONSIBLE FOR INSPECTION OF EQUIPMENT AND/OR LOCATION, TAKING MEASUREMENTS* WHEN REQUIRED, AND MAKING THEMSELVES AWARE OF THE TOTAL REQUIREMENT BEFORE SUBMITTING A BID. *MEASUREMENTS PROVIDED WITH ANY BID ARE FOR REFERENCE PURPOSES AND ARE NOT GUARANTEED TO BE COMPLETELY ACCURATE.

TERMS CONTINUED:

INSURANCE REQUIREMENTS

AN INSURANCE CERTIFICATE IN COMPLIANCE WITH PROVISIONS OF ITEM 31 (INSURANCE) OF THE GENERAL CONDITIONS OF PURCHASE IS REQUIRED FOR COMPREHENSIVE GENERAL LIABILITY, AUTOMOBILE LIABILITY, AND WORKERS' COMPENSATION AND MUST BE SUBMITTED BY THE SUCCESSFUL BIDDER(S) TO THE DIVISION OF PURCHASES PRIOR TO AWARD. THE INSURANCE CERTIFICATE MUST NAME THE STATE OF RHODE ISLAND AS CERTIFICATE HOLDER AND AS AN ADDITIONAL INSURED. FAILURE TO COMPLY WITH THESE PROVISIONS MAY RESULT IN REJECTION OF THE OFFEROR'S BID. ANNUAL RENEWAL CERTIFICATES MUST BE SUBMITTED TO THE AGENCY IDENTIFIED ON THE PURCHASE ORDER. FAILURE TO DO SO MAY BE GROUNDS FOR CANCELLATION OF CONTRACT.

NOTE: IF THIS BID COVERS CONSTRUCTION, SCHOOL BUSING, HAZARDOUS WASTE, OR VESSEL OPERATION, APPLICABLE COVERAGES FROM THE FOLLOWING LIST MUST ALSO BE SUBMITTED TO THE DIVISION OF PURCHASES PRIOR TO AWARD: * PROFESSIONAL LIABILITY INSURANCE (AKA ERRORS & OMISSIONS) - $1 MILLION OR 5% OF ESTIMATED PROJECT COST, WHICHEVER IS GREATER. * BUILDER'S RISK INSURANCE - COVERAGE EQUAL TO FACE AMOUNT OF CONTRACT FOR CONSTRUCTION. * SCHOOL BUSING - AUTO LIABILITY COVERAGE IN THE AMOUNT OF $5 MILLION. * ENVIRONMENTAL IMPAIRMENT (AKA POLLUTION CONTROL) - $1 MILLION OR 5% OF FACE AMOUNT OF CONTRACT, WHICHEVER IS GREATER. * VESSEL OPERATION - (MARINE OR AIRCRAFT) - PROTECTION & INDEMNITY COVERAGE REQUIRED IN THE AMOUNT OF $1 MILLION.

RIVIP INFO - BID SUBMISSION REQUIREMENTS

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer. When delivering offers in person to One Capitol Hill, vendors are advised to allow at least one hour additional time for clearance through security checkpoints.

AWARD

THE STATE, AT ITS SOLE DISCRETION, SHALL RESERVE THE RIGHT TO MAKE ONE OR MULTIPLE AWARDS FOR THIS REQUIREMENT AND/OR TO REJECT ANY OR ALL BIDS.

TERMS CONTINUED:

SUBSTITUTION TERMS

A) THE MATERIALS, PRODUCTS, AND EQUIPMENT DESCRIBED IN THE BIDDING DOCUMENTS ESTABLISH A STANDARD OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, AND QUALITY TO BE MET BY ANY PROPOSED SUBSTITUTION. B) NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL HAS BEEN RECEIVED BY THE ARCHITECT AT LEAST 10 DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. SUCH REQUESTS SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSITUTION INCLUDING DRAWINGS, PERFORMANCE, AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT, OR OTHER PORTIONS OF THE WORK, INCLUDING CHANGES IN THE WORK OF OTHER CONTRACTS THAT INCORPORATION OF THE PROPOSED SUBSTITUTION WOULD REQUIRE, SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTION IS UPON THE PROPOSER. THE ARCHITECT'S DESIGION OF APPROVAL OR DISAPPROVAL OF A PROPOSED SUBSTITUTION SHALL BE FINAL. C) IF THE ARCHITECT APPROVES A PROPOSED SUBSTITUTION PRIOR TO RECEIPT OF BIDS, SUCH APPROVAL WILL BE SET FORTH IN AN ADDENDUM. BIDDERS SHALL NOT RELY UPON APPROVALS MADE IN ANY OTHER MANNER. D) NO SUBSTITUTIONS WILL BE CONSIDERED AFTER THE CONTRACT AWARD UNLESS SPECIFICALLY PROVIDED FOR IN THE CONTRACT DOCUMENTS.

LICENSE REQUIREMENTS

VENDOR (OWNER OF COMPANY) IS RESPONSIBLE TO COMPLY WITH ALL LICENSING OR STATE PERMITS REQUIRED FOR THIS TYPE OF SERVICE. A COPY OF LICENSE/PERMIT SHOULD BE SUBMITTED WITH THIS BID. IN ADDITION TO THESE LICENSE REQUIREMENTS, BIDDER, BY SUBMISSION OF THIS BID, CERTIFIES THAT ANY/ALL WORK RELATED TO THIS BID, AND ANY SUBSEQUENT AWARD WHICH REQUIRES A RHODE ISLAND LICENSE(S), SHALL BE PERFORMED BY AN INDIVIDUAL(S) HOLDING A VALID RHODE ISLAND LICENSE.

END DOCUMENT