



Request For Bid

St. Charles City-County Library District

Roof Replacement at

Deer Run Branch

July 8, 2026

St. Charles City-County Library District

Roof Replacement at Deer Run Branch

Request for Bid Schedule

Issue Date:	July 8, 2026
Description:	The St. Charles City-County Library District (“Library”) seeks bids to replace the roof at its Deer Run Branch, 1300 North Main, O’Fallon, MO 63366
Web site address:	https://www.stchlibrary.org/bids-and-rfps
Bid Delivery Address:	Ms. Chris Donnelly Purchasing & Buildings Project Manager St. Charles City-County Library District Central Services Building 77 Boone Hills Drive St. Peters, MO 63376 <i>Note: Hand-delivered bids are to be placed in the package bin located on the Central Services Building loading dock.</i>
Bid Administrator:	Ms. Chris Donnelly Purchasing & Building Projects Manager 636-441-2300 x1564 cdonnelly@stchlibrary.org
Mandatory Pre-bid Meeting:*	Thursday, July 16, 2026 at 1:00 pm, CT 1300 North Main, O’Fallon, MO 63366 <i>*Bids will only be accepted from vendors who attend the mandatory pre-bid meeting.</i>
Written Questions Due:	Tuesday, July 21, 2026 by 2:00 pm, CT Email questions to: Tauquincy Logan, Facilities Manager at purchasing@stchlibrary.org
Response to Questions Issued by Addendum:	Tuesday, July 28, 2026 by 2:00 pm, CT https://www.stchlibrary.org/bids-and-rfps
Bids Due:	Wednesday, August 5, 2026 by 10:00 am, CT
Public Bid Opening:	Wednesday, August 5, 2026 at 10:15 am, CT St. Charles City-County Library District Central Services Building 77 Boone Hills Drive Saint Peters, MO 63376
Notice of Award:	Upon Board of Trustees Approval

Request For Bid
St. Charles City-County Library District
Roof Replacement at
Deer Run Branch

July 8, 2026

The Board of Trustees of the St. Charles City-County Library (the “Library”) requests the submission of Bids (“Bid” or “Bids”) in response to this Request for Bid from qualified businesses for roof replacement (the "Project") for the following location: Deer Run Branch, 1300 North Main, O’Fallon, MO 63366 (the “Project Locations”). All Bids must be received no later than 10:00 a.m. CT, on Wednesday, August 5, 2026, by:

Ms. Chris Donnelly
Purchasing & Buildings Project Manager
St. Charles City-County Library
Central Services Building
77 Boone Hills Drive
St. Peters, Missouri 63376

Bidders are responsible for examination of all the documents and requirements for the Project. A Bidder shall complete the Bid as required in this Request for Bids and deliver the completed Bid in a sealed envelope marked “**Roof Replacement at Deer Run Branch RFB.**”

To preserve the integrity of the selection process, questions regarding this Request for Bid should only be directed to Ms. Tauquincy Logan by email at purchasing@stchlibrary.org. The email subject line should be “**Roof Replacement at Deer Run Branch RFB - Inquiry**”.

A **Mandatory Pre-Bid Meeting** will be held on **Thursday, July 16, 2026 at 1:00 pm CT at the Deer Run Branch, 1300 North Main, O’Fallon, MO 63366**. The deadline for questions is 2:00 pm. CT, Tuesday, July 21, 2026. Questions will be answered in an addendum posted on the Library’s website <https://www.stchlibrary.org/bids-and-rfps> by 2:00 pm CT on Tuesday, July 28, 2026.

The Library reserves the right to reject any and all Bids and to waive formalities in the best interest of the Library.

BACKGROUND

The Library is a political subdivision of the State of Missouri. The Board of Trustees (“Board of Trustees”) of the Library is a body corporate with all the powers and rights of like or similar corporations serving more than 430,000 Library residents.

All management and control of the Library is vested in a Board of Trustees consisting of nine Trustees appointed by the County Executive of St. Charles County or Mayor of the City of St. Charles. The Trustees serve staggered three-year terms.

The Board of Trustees appoints the Chief Executive Officer (“CEO”).

- Missouri law prohibits all employers from employing aliens unlawfully present in the United States to perform work within the State of Missouri, including the Project, and Bidders must comply with the provisions relating thereto in Section 285.530 RSMo, as amended.
- State law also requires all employees working on the site of public works projects, including the Project, to have received safety training pursuant to Section 292.675 RSMo, as amended.
- The successful Bidder(s) (contractor and subcontractors) must require all on-site employees to complete the ten-hour construction safety training program required under Section 292.675 RSMo, as amended, if they have not previously completed the program and have documentation of having done so. The successful Bidder(s) will forfeit as a penalty to the Library \$2,500 plus an additional \$100 for each employee employed by the successful Bidder (contractor or subcontractor) for each calendar day or portion thereof, such employee is employed without the required training.
- In accordance with Section 290.250 RSMo, as amended, not less than the prevailing hourly rate of wages, as set out in Annual Wage Order No. 33 attached hereto and made a part of this Request for Bid, must be paid to all workers performing work on the Project. The successful Bidder(s) shall forfeit as a penalty to the Library \$100 per day (or portion of a day) for each worker that is paid less than the prevailing rate by the successful Bidder(s) (contractor or any subcontractor).
- Every transient employer must comply with Sections 285.230 through 285.234 RSMo, as amended, when applicable.

- Pursuant to Sections 34.070 and 34.073, the Library prefers to purchase those materials, products and supplies which are produced, manufactured, compounded, made or grown, within the State of Missouri when they are found in marketable quantities and are of a quality suited to the purpose intended, and can be secured without additional cost over out-of-state products. Quality and fitness of articles will be considered in making purchases or letting contracts. Similarly, in letting contracts for the performance of any job or services, the Library prefers Missouri firms, corporations or individuals, or firms, corporations or individuals which maintain Missouri offices, when the quality of performance promised is equal and the price quoted is the same or less.

Public entities, as well as the successful Bidder(s), shall comply with these laws. Failure to comply with many of these laws constitutes a misdemeanor for the successful Bidder(s). The purpose of these laws is to protect the tax base, keep workers safe and ensure that construction remains a high-skilled enterprise.

The Library is a Tax Exempt entity and the submitted Bid is to be without Missouri sales tax. The Library will supply the successful Bidder(s) with a Certificate of Exemption from the Missouri Sales Tax.

In addition to the general requirements listed above, the successful Bidder(s) shall comply with all laws, ordinances, regulations, applicable zoning and building requirements, and orders of federal, state, county, and local governing authorities pertaining and applicable to each Project Location, the successful Bidder(s) and/or the Library.

Applicable insurance coverage must be provided by the successful Bidder before any work can be started on the Project.

Contractor shall have full continuing responsibility to expedite and ensure delivery as required, receive, store and install materials and equipment in accordance with the Contract Documents, protect and maintain them in proper condition and repair, replace and make good any damage thereto without cost to the Library until the work is accepted.

These general requirements, this Request to Bid, the Bid Form, attached hereto as Exhibit A and the specifications, drawings, schedules and instructions of the Project shall be incorporated in the contract and/or purchase order signed by the parties should the Bidder be awarded a contract under this Request for Bid. The successful bidder is expected to enter into a written contract with the Library.

SCOPE OF WORK

The following Scope of Work provides an overview of the terms and conditions being sought by the Library for the Project:

Roof Replacement at Deer Run Branch

GENERAL NOTES:

- All work and services are to be performed by fully insured, qualified and trained journeyman workers with extensive experience of roof assembly and accessory replacements of this type, size and magnitude.
- All work and the workplace (site) shall be kept neat and clean throughout the execution of this project. All work shall be performed continuously by fully staffed crews until completion.
- Proper and continuous communications with the owner's representatives is paramount and required.
- Contractor to verify field dimensions and suitability.
- All specialty work, masonry, electrical, mechanical, lightening protection and plumbing to be performed by a licensed technician as part of the contract.
- Dispose of materials legally per OSHA, EPA and NESHAP regulations.
(Provide waste manifest when asbestos is involved).
- Examine substrate and verify conditions are satisfactory to receive the new roof system.
- Advise Owner's representative of any areas unsuitable prior to commencement of installation.
- Install new treated wood as necessary.
- Fastener pullout testing as necessary to comply with manufacturer's published requirements. Perform and record pull tests according to ANSI/SPRI FX-1.
- Night seals shall be installed daily and removed prior to the commencement of work.
- Contractor shall protect the building and roofing components during all phases of construction. At no time shall the building be left in an un-watertight condition overnight.
- Nails penetrating treated wood shall be hot-dipped galvanized annular nails conforming to ASTM A-153.
- Screws installed in treated wood shall be stainless steel self-tapping screws, compatible with the metal being fastened.
- National Roofing Contractor Association thermoset roof details are the basis of design.
- Owner to authorize hours for construction activity.

SCOPE OF WORK:

Base Bid for adhered EPDM roof system, approximately 13,268 square feet at the main roof area. (See Detail A)

1. Remove existing gravel, wall flashing & curb base flashings and dispose of legally.
2. Owner's representative and Contractor shall inspect insulation substrate and designate any areas where existing 4.75" insulation is wet or damaged. Remove and replace as detected.
3. Furnish and install new 4'x8'x1/2" polyisocyanurate HD coverboard, mechanically attached to the steel deck. Fastening pattern shall comply with Manufacturer's I-90 wind uplift requirements and corner and perimeter fastening shall be enhanced to meet ASCE-7 design criteria. All polyisocyanurate insulation shall be glass facer meeting ASTM C 1289-06, Type II, Class 4, Grade 1 (20 psi).
4. Polyisocyanurate crickets and saddles need to be installed at the high sides of units and between water outlets. All polyisocyanurate insulation shall be glass facer meeting ASTM C 1289-06, Type II, Class 1 Grade 2 (20 psi). Reuse of dry crickets & saddles at the scuppers is permissible.
5. Install one layer of 1/2"x4'x4' HD iso cover board, Type II Class 4, Grade 1, in two-part urethane adhesive. Attachment pattern shall comply with Manufacturer's I-90 wind uplift requirements and corner and perimeter fastening shall be enhanced to meet ASCE-7 design criteria.
6. Form 4' sump at all scupper locations. Furnish and install tapered edge strip to create 1/2' to zero smooth transition.
7. Furnish and install .060 Fully Adhered EPDM Class A fire rated roof system according to manufacturers' published specifications and requirements. Adhesive shall be aerosol or other low odor material.
8. Furnish & install 3/4" plywood at all masonry walls. Fasten plywood 1 every square foot.
9. Furnish and install new ES-1 rated coping cap metal as specified at perimeters. No shop fabricated coping.
10. Furnish and install new scuppers, collector boxes and downspouts.
11. Aluminize goose neck vent.
12. Furnish manufacturer's Twenty-year material & workmanship warranty with 72mph wind coverage. Manufacturer's warranty must include coping cap.

SHEET METAL:

- Furnish and install new coping cap, scuppers, collector boxes and downspouts fabricated from 24 gauge Kynar coated steel. Color to be selected by owner from manufacturer's standard color offering.
- Slip flash standing seam wall with Kynar coated steel.
- All sheet metal design, fabrication and installation to be performed by a qualified sheet metal contractor who employees fully insured journeyman "sheet metal workers" with extensive experience in the design and installation of commercial/industrial systems.

- All sheet metal fabrication and work to be performed in accordance with the SMACNA sheet metal manuals, manufacturer's specifications, local building codes (sheet metal, drainage and plumbing), whichever is more stringent.

BID REQUIREMENTS

1. The Bid must arrive no later than **10:00 am CT on Wednesday, August 5, 2026**. No bids will be accepted after this time and any Bid arriving after this time will be returned unopened.

** (No Bid will be accepted from a contractor who has not attended the mandatory pre-bid meeting held at 1:00 pm CT on Thursday, July 16, 2026.)*

2. The Bid shall be delivered by mail, overnight delivery, or in-person** to:

Ms. Chris Donnelly
Purchasing & Buildings Project Manager
St. Charles City-County Library
Central Services Building
77 Boone Hills Drive
St. Peters, Missouri 63376

**Note: In-person deliveries are to be placed in the package bin located on the Central Services Building loading dock.

3. The Bid shall bear the following legend:

Roof Replacement at Deer Run Branch RFB

4. Each Bidder shall submit one complete copy of the Bid and one “public/press” copy of the Bid from which the individual or firm should redact any information which it deems confidential or proprietary. The Bid must clearly and easily identify the individual or firm and contain the name, address, and a telephone number of its principal spokesperson, which may be released by the Library as public information as required by applicable law and/or Library policy.
5. Any Bidder desiring an explanation or interpretation of this Request for Bid must request it in writing no later than **2:00 pm CT on Tuesday, July 21, 2026**, and such request should be emailed only to Tauquincy Logan, Facilities and Logistics Manager, at purchasing@stchlibrary.org.
6. Oral explanations or instructions given before the award of the contract will not be binding. Any information given to a Bidder concerning a solicitation will be furnished promptly to all other Bidders as an addendum of this Request for Bid, if that information is necessary in submitting Bids or if the lack of it would be prejudicial to any other prospective Bidders. It is the responsibility of all Bidders to check the Library website

<https://www.stchlibrary.org/bids-and-rfps> for all issued Addenda prior to responding to this RFB.

7. If this Request for Bid is amended, then all terms and conditions which are not modified shall remain unchanged. Bidders shall acknowledge receipt of addendums to this Request for Bids by identifying the addendum number and date in Section A of the Bid Form.
8. No Bid shall be withdrawn for a period of 90 days subsequent to the opening of the Bid without prior written consent of the Library.
9. The **COVER LETTER** must indicate that the signer is authorized to bind the Bidder contractually and must identify the title or position of the signer. The **COVER LETTER** shall also contain the following:
 - (i) The Bidder's name, address, telephone number and email address;
 - (ii) A statement that (a) the Bidder is willing and able to provide the goods and services required for a successful engagement; (b) the Bidder has read and understands the Request for Bid; (c) the Bidder has visited and examined the Project Location; and (d) the Bid is made in accordance with the Request for Bid and is based upon the materials, products, systems and equipment required by the Request for Bid;
 - (iii) The name of the individual within the Bidder, who will be the primary contact concerning this engagement;
 - (iv) Copies of all license(s) from any applicable governing authority to do business at the Project Location and certificate of good standing from the State of Missouri, as applicable;
 - (v) Bid security in the form of a bid bond or cashier's check of not less than 5% of the Bid amount; and
 - (vi) Documentation and sworn affidavit with respect to employees working in connection with the Bid, affirming enrollment in a Federal Work Authorization Program.
10. Any unsigned submission shall be rejected.

11. Provide a Labor Rate Work Sheet for each applicable trade that clearly breaks down how the values of straight, overtime and double time are derived. Provide any terms of premium time and the rate effective dates. These rates may be used for Add Services.
12. The Library is not liable for any cost incurred by the Bidder prior to issuance of a legally executed contract by the Library and/or purchase order authorized by the Library.
13. RFB Responses – All materials submitted by the Bidder in response to this RFB become the sole property of the Library upon receipt. The material contained in the Bids will be appended to the final contract, further defining the contractual responsibilities of the successful Bidder.
14. The Contractor shall obtain and execute a performance & payment bond in the amount of 100% of the contract price.

SELECTION PROCEDURES

1. **Bids will be accepted by mail, overnight delivery, or in-person by 10:00 am CT on Wednesday, August 5, 2026.**
2. A Public Bid Opening will be conducted at **10:15 am CT on Wednesday, August 5, 2026**, at the St. Charles City-County Library District's Central Services Building located at 77 Boone Hills Drive, Saint Peters, Missouri, 63376. The Bid Opening will be documented and the results, once complete, will be posted on the website for viewing.
3. Bids shall be referred to and reviewed by a Selection Committee composed of members selected by the CEO.
4. Bids that fail to adhere to the requirements of this Request for Bid may result in the Bid being disqualified as non-responsive.
5. The Selection Committee will determine the lowest and best Bid. In determining the best Bid, among other factors, the Library may consider all factors in this Request for Bid including, but not limited to, the location of the Bidder and prior performance.
6. The Selection Committee will make a recommendation to the CEO, who will make a recommendation to the Board of Trustees.

AWARD

1. The Board of Trustees reserves the right to cancel this Request for Bid or to reject any and all Bids and to waive formalities in the best interest of the Library.
2. The Board of Trustees reserves the right to split awards, make multiple awards and to reject any and all Bids.
3. Subject to the rights reserved by the Library, an award will be made by the Board of Trustees to the Bidder(s) determined to be the lowest and best Bid.
4. All Bidders will be notified of the Library's selection as soon as possible.
5. The successful Bidder(s) will be issued a Notice of Award. Within five (5) business days, the successful Bidder(s) shall provide the following minimum documentation:

VENDOR shall maintain and have in effect throughout the duration of this Agreement the following insurance coverage:

(a) Proof of the appropriate insurance coverage:

i. General Liability – Commercial general liability insurance must include bodily injury and property damage liability, independent contractor's liability, and contractual liability.

a. \$1,000,000 each occurrence/\$2,000,000 million general aggregate

ii. Worker's Compensation and Employee Liability – Missouri statutory amount (mandatory)

iii. Auto

a. \$1,000,000 combined single limits

iv. Professional Liability insurance with limits no less than \$1,000,000 per occurrence (pertains to consultants/architects/accountants - professional services)

v. Umbrella Liability Insurance with limits no less than \$2,000,000 per occurrence.

iv. Additional Endorsement: Additional Named Insured*:

St. Charles City-County Library District
77 Boone Hills Drive
Saint Peters, MO 63376

* Vendors and Contractors shall name the St. Charles City-County Library as an additional insured on their general and auto liability insurance policies. Certificate of Liability Insurance (COLI) must be emailed to finance@stchlibrary.org AND contracts@stchlibrary.org, and be on file **before** a vendor is allowed access to Library facilities.

(b) Federal Identification Number.

(c) Evidence that the Bidder is authorized to do business in Missouri and at each Project Location.

EXHIBIT A

BID FORM

Base Bid for Replacement with EPDM ~13,268 sq.'	\$ _____
Unit cost for metal deck replacement/repair	\$ _____
Unit cost for 4.75" polyiso insulation over 1,000sq.'	\$ _____
Unit cost for dimensional lumber/board foot	\$ _____

Bidder Acknowledges Receipt of Addenda:

Yes / No 1. _____ 2. _____

Bids need to be submitted to:

**Ms. Chris Donnelly, Purchasing & Buildings Project Manager
St. Charles City-County Library District
Central Services Building
77 Boone Hills Drive
St. Peters, MO 63376
See RFB for more hand delivery instructions**

Due date: Wednesday, August 5, 2026 by 10:00am CT

The undersigned further agrees and understands that the Owner has the right to reject all bids, to waive technicalities or other requirements for its benefits, and to accept the bid that is genuine and is not made in the interest of or on behalf of any undisclosed person, firm, or corporation, and is not submitted in conformity with any agreement or rule of any group, association or corporation;

The bid is firm and cannot be withdrawn for a period of thirty (30) calendar days;

That there has been no attempt on its part to directly or indirectly induce or solicit any other vendor to submit a false or sham bid;

That there has been no attempt on its part to solicit or induce any person, firm, or corporation to refrain from submitting a bid;

And that it has not sought by collusion or otherwise to obtain for it any advantage over any other bidder or over the Owner.

In submitting this Bid the Bidder agrees:

- A. To hold its bid open for thirty (30) calendar days after the bid date.
- B. To accept the provisions of the Bid Documents.
- C. To enter into and execute an Agreement in the form in the Bid Documents.
- D. To provide its services in accord with the Contract Documents, including all submittals.
- E. To complete its services within the time specified.
- F. To comply with laws and regulations.

The Bidder certifies the following to induce the Owner to receive and consider its Bid:

- A. Neither it nor its subcontractors and suppliers are currently debarred, suspended or otherwise ineligible for public work.
- B. It has all current licenses to perform its work.
- C. If it is a corporation, it is currently in good standing in its state of incorporation and is authorized to do business in the State of Missouri.
- D. It has sufficient insurance coverage to satisfy the requirements in the Contract Documents.
- E. To its best knowledge and belief, it will self-perform _____% of the Work.

Name: _____

Company: _____

Date: _____

Signature: _____

Supporting Documents:

Drawing – Page 17

Detail A – Page 18

075300 EPDM – Pages 19-27

07710 Metals - Pages 28-31

Pipe Boot - Page 32

Scupper - Page 33

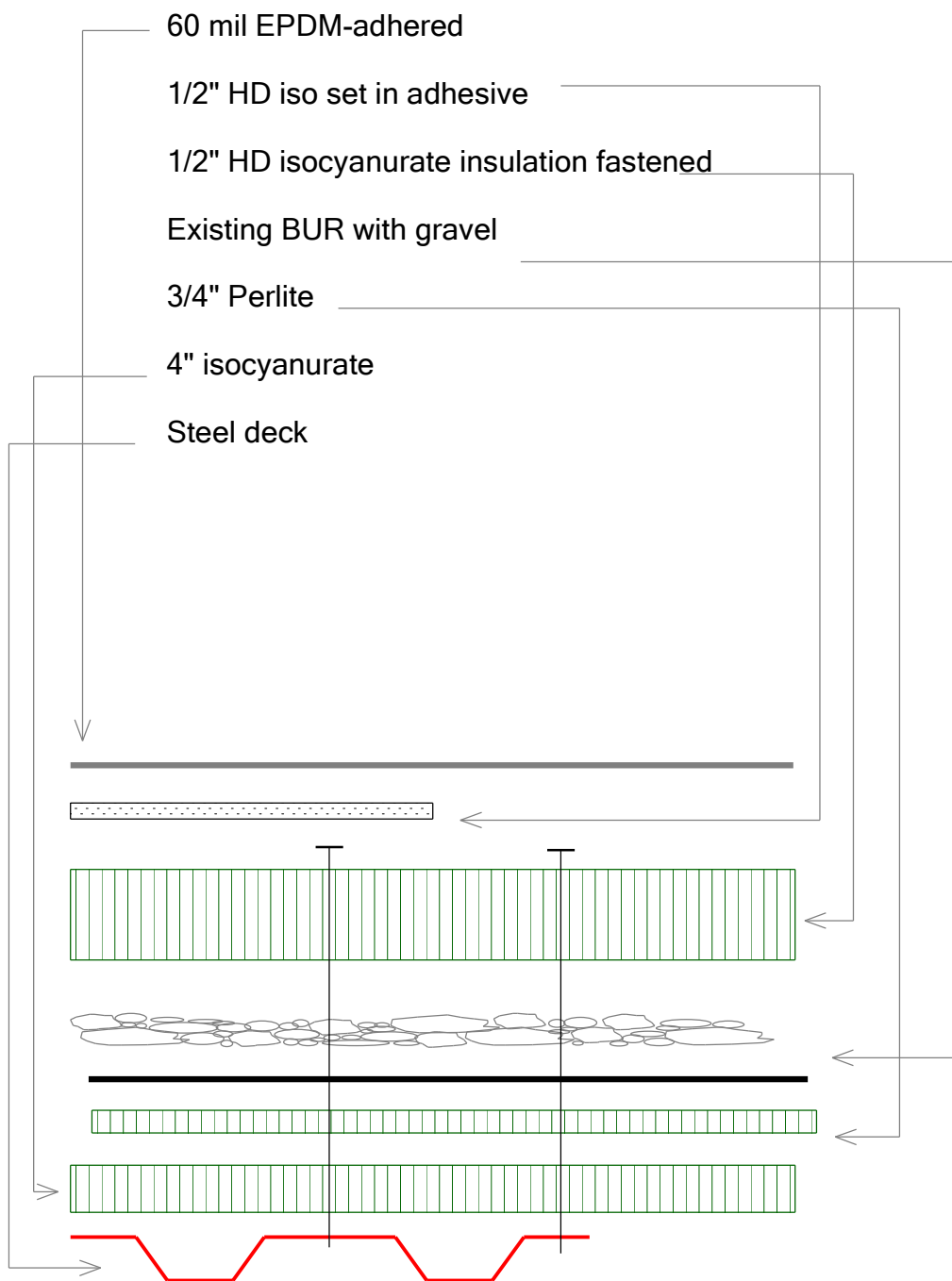
EPDM Field Fab Stack – Page 34-42

Coping Cap - Page 43

Photo Report - Pages 44-48

Precise Aerial Measurement Report - Pages 49-61

RCA - Pages 62-63



DETAIL NUMBER: A	DATE: 5/17/2025	COMPANY: CSRC
	Drawn By: JM	
	SCALE: NTS	PROJECT: 1300 N. Main Street aka Deer Run Branch

SECTION 07530

THERMOSET (EPDM) MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Thermoset Membrane Roofing.
- B. Membrane Flashings.
- C. Metal Flashings.
- D. Roof Insulation.

1.2 RELATED SECTIONS

- A. Section 07710 - Sheet Metal Flashing and Trim: Metal flashing and counter flashing installation and requirements.

1.3 REFERENCES

- A. American Society of Civil Engineers (ASCE) - ASCE 7 - Minimum Design Loads for Buildings and Other Structures, Current Revision.
- B. ASTM International (ASTM):
 - 1. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - 2. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - 3. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
 - 4. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
 - 5. ASTM D 816 - Standard Test Methods for Rubber Cements.
 - 6. ASTM D 4637 - Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane.
 - 7. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- C. Factory Mutual (FM Global):
 - 1. Approval Guide.
 - a. Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.
 - b. Loss Prevention Data Sheets 1-28, 1-29.
- D. International Code Council (ICC):
 - 1. International Building Code (IBC).
- E. National Roofing Contractors Association (NRCA) - Low Slope Roofing and Waterproofing Manual, Current Edition.
- F. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) -

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Architectural Sheet Metal Manual.

- G. Underwriters Laboratories (UL):
 - 1. TGFU R1306 - "Roofing Systems and Materials Guide".
 - 2. UL-790 - Standard Test Method for Fire Tests of Roof Coverings.

1.4 DESIGN CRITERIA

- A. Wind Uplift Performance:
 - 1. Roof system is designed to withstand wind uplift forces as calculated using the current revision of ASCE-7.
 - 2. Roof system is designed to achieve 30 psf of uplift resistance in the field.
 - 3. Comply with Manufacturer's 72 mph wind warranty requirements.
- B. Fire Resistance Performance:
 - 1. Roof system will achieve a UL Class A rating when tested in accordance with UL-790.
- C. Thermal Performance: Roof system will achieve a minimum R value not less than 28 consisting of existing and new polyisocyanurate.
- D. Drainage: Provide a roof system with positive drainage where all standing water dissipates within 48 hours after precipitation ends.
- E. Building Codes:
 - 1. Roof system will meet the requirements of all federal, state and local code bodies having jurisdiction

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Detail Drawings:
 - 1. Submit approved plan, section, elevation or isometric drawings which detail the appropriate methods for all flashing conditions found on the project.
 - 2. Coordinate approved drawings with locations found on the Contract Drawings.
- C. Selection Samples: For each finish product specified, two complete sets of chips representing manufacturer's full range of available colors, membranes, and thicknesses.
- D. Verification Samples: For each finish product specified, two samples, minimum size 4 inches (100 mm) square representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of twenty (20) years experience.
- B. Installer Qualifications:
 - 1. All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
 - 2. Installer must be capable of extending the Manufacturer's No Dollar Limit

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guarantee.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's Total-System warranty, outlining its terms, conditions, and exclusions from coverage.
 - 1. 20 years.
 - 2. Coverage to be extended to include wind resistance up to 72 mph.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Carlisle SynTec, which is located at: P. O. Box 7000; Carlisle, PA 17013.
- B. Firestone Building Products, 250 West 96th Street, Indianapolis, IN.
- C. Johns Manville Roof Systems: 717 17th Street, Denver, CO
- D. Versico LLC P.O. Box 1289 Carlisle, PA 17013

2.2 SCOPE / APPLICATION

- A. Roof System: Provide a waterproof roof system, capable of withstanding uplift forces as specified in this section.
 - 1. Membrane Attachment: Fully Adhered.
- B. Base Flashing: Provide a waterproof, fully adhered base flashing system at all penetrations, plane transitions and terminations.
- C. Insulation: Provide a roof insulation system beneath the finish membrane.

2.3 INSULATION

- A. Polyisocyanurate HP-H: Rigid board with fiber reinforced facers on sides, meeting or exceeding the requirements of ASTM C 1289-06 Type II, Class 1, and Grade 2.
 - 1. Compressive Strength: 20 psi.
 - 2. Density: 2 lb per cubic foot (24 kg/cu m) minimum.
- B. Water-resistant and silicone treated gypsum panel with embedded fiberglass facer on both sides, and pre-primed on one side. GP Gypsum Dens-Deck Prime,

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distributed by Carlisle.

1. Board Thickness: 1/2 inch over insulation
- C. Moisture-, mold- and impact-resistant, nonstructural fiber-reinforced gypsum panel made from 95 percent recycled materials. Securock.
 1. Board Thickness: 1/2 inch over insulation

2.4 INSULATION ADHESIVE

- A. A spray or extruded applied, two-component polyurethane, low-rise expanding foam adhesive used for attaching approved insulations to compatible substrates (concrete, cellular lightweight insulating concrete, gypsum, cementitious wood fiber, wood or steel) or existing smooth or gravel surfaced BUR, modified bitumen or cap sheets.
- B. OlyBond 500 BA - A two-component, polyurethane, low-rise expanding adhesive used to bond insulation to various substrates using a mechanical dispenser system.

2.5 ETHYLENE, PROPYLENE, DIENE TERPOLYMER (EPDM) MEMBRANE

- A. Non-Reinforced Membrane: Cured, non-reinforced EPDM membrane meeting the requirements of ASTM D 4637 Type I.
 1. Color: Black.
 2. Membrane Thickness: 60 mil nominal.
 3. Sheet Dimensions:
 - a. Width: 20 feet (3.05 m) maximum.
 - b. Length: 100 feet (30.5 m) maximum.
 4. Performance:
 - a. Tensile Strength: 1550 psi (10.7 MPa) minimum.
 - b. Tear Resistance: 200 lbf/in (35 kN/m) minimum.
 - c. Elongation: 480 percent.

2.6 FLASHING ACCESSORIES

- A. Pressure-Sensitive Pipe Seals with Factory-Applied TAPE on the deck flange are available for use with roofing systems.
- B. Pourable Sealer Pocket: Pre-fabricated Pourable Sealer Pocket consisting of a 2 inch (51 mm) wide plastic support strip with Factory-Applied, adhesive backed uncured Flashing.
- C. Inside/Outside Corner: A 7" by 9" precut 60-mil thick Flashing with a 35-mil Factory-Applied TAPE.
- D. Pressure-Sensitive Curb Flashing - A 60-mil thick, 20 inch (508mm) wide cured EPDM membrane with 5 inch (126 mm) wide Factory-Applied TAPE along one edge to be used to flash curbs/skylights, etc.
- E. Pressure-Sensitive Overlayment Strip: A nominal 40-mil black, semi-cured EPDM membrane laminated to a nominal 35-mil cured, Factory-Applied TAPE for flashing gravel stops, metal edgings and Seam Fastening Plates..
- F. Pressure-Sensitive "T" Joint Covers: A factory cut 6 inch by 6 inch (152mm x 152mm) uncured 60-mil thick EPDM flashing laminated to a nominal 35-mil Factory-Applied TAPE, used to overlay field splice intersections and to cover field splices at angle changes.
- G. Uncured EPDM Flashing: Formable 60-mil thick.

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- H. Pressure-Sensitive Flashing: 60-mil thick uncured EPDM Flashing laminated to a 35-mil Factory-Applied TAPE used in conjunction with Primer as an option to Flashing.

2.7 CLEANERS, PRIMERS, ADHESIVES AND SEALANTS

- A. Weathered Membrane Cleaner: Clear, solvent-based cleaner used to loosen and remove contaminants from the surface of exposed EPDM membrane prior to applying Sure-Seal Splice Cleaner or Primer.
- B. TAPE: 3 inch wide by 100 foot long splice tape used for splicing adjoining sections of EPDM membrane. Complies with the South Coast Air Quality Management District Rule 1168.
- C. Sure-Seal HP-250 Primer: A solvent-based primer used to prepare the surface of EPDM membrane for application of Splice Tape or Pressure-Sensitive products.
- D. Splicing Cement: A high-strength, butyl-based contact cement which is used for splicing adjoining sections of EPDM membrane (cured or uncured).
 - 1. Splicing Cement: Black splicing cement for use with (black) Roofing Systems.
- E. Lap Sealant: A heavy-bodied material (trowel or gun-consistency) used to seal the exposed edges of a membrane splice. A pre-formed Lap Sealant tool is included in each carton of Lap Sealant.
 - 1. Sure-Seal Lap Sealant: Black sealant for use with Sure-Seal (black) Roofing Systems.
- F. Cav-Grip aerosol Bonding Adhesive
- G. Water Cut-Off Mastic: A one-component, low viscosity, self wetting, Butyl blend mastic used as a compression sealing agent between EPDM membranes and applicable substrates.
- H. Pourable Sealer: A black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects such as clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.

2.8 FASTENING COMPONENTS

- A. Pressure-Sensitive RUSS (Reinforced Universal Securement Strip): Nominal 45-mil thick clean, cured reinforced EPDM black membrane with 3 inch (76mm) wide Factory-Applied TAPE laminated along one edge for the 6 inch wide RUSS and along both edges for the 9 inch wide RUSS.
 - 1. 6" RUSS: 6 inch wide, 100 foot long, strip of Sure-Seal (black) reinforced EPDM membrane for additional membrane securement on Adhered, Ballasted, and Mechanically Fastened Roofing Systems.
- B. Seam Fastening Plate: 2 inch diameter metal plate for insulation, membrane and RUSS attachment.
- C. Insulation Fastening Plate: Nominal 3 inch diameter FM approved metal plate used for insulation attachment.
- D. Fasteners:
 - 1. HP Fastener: Threaded, black epoxy electro-deposition coated (E-Coat) fastener for use with steel, wood plank or oriented strand board (OSB).
 - 2. InsulFast Fasteners: Threaded, #12 fastener with #3 Phillips head used with 3

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inch (76mm) diameter Insulation Plates. For insulation attachment into steel or wood decks.

3. HP Term Bar Nail-In: A 1 1/4 inch long expansion anchor with threaded drive pin used for fastening Sure-Seal Termination Bar or Seam Fastening Plates to concrete, brick or block walls.

2.9 EDGINGS AND TERMINATIONS

- A. Termination Bar: 1 inch wide, .098 inch thick extruded aluminum bar pre-punched 6 inches on center with sealant ledge to support Lap Sealant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Do not commence work until all other work trades have completed jobs that require them to traverse the deck on foot or with equipment.

3.3 SUBSTRATE PREPARATION

- A. Steel Decks:
 1. Steel decks must be a minimum thickness of 22 gauge (0.8 mm) and shall have a G-90 galvanized finish.
- B. All surface corrosion must be removed, and repairs to and severely corroded areas made. Fasten any loose or inadequately secured decking and replace irreparable decking

C. INSULATION - SYSTEM DESIGN

- D. Base Layer:
 1. Type: Polyisocyanurate.
 2. Thickness: 1/2 inch.
 3. Attachment Method: Fastened
- E. Top Layer:
 1. Type: Gypsum.
 2. Thickness: .5 inches
 3. Attachment Method: Adhesive applied as a cover board,

3.4 INSULATION PLACEMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.

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- B. Secure base layer of insulation to the substrate with the required mechanical fasteners or insulation adhesive in accordance with the manufacturer's current application guidelines.
- C. Do not install wet, damaged or warped insulation boards.
- D. Stagger joints in one direction unless joints are to be taped. Install insulation boards snug. Gaps between board joints shall not exceed 1/4 inch. Fill all gaps in excess of 1/4 inch with same insulation material.
- E. Wood nailers must be at least 3 1/2 inches wide or 1 inch wider than adjacent metal flange. Thickness must equal that of insulation but not less than 1 inch thickness.
- F. Miter and fill the edges of the insulation boards at ridges, valleys and other changes in plane to prevent open joints or irregular surfaces. Avoid breaking or crushing of the insulation at the corners.
- G. Do not install any more insulation than will be completely waterproofed each day.

3.5 INSULATION ATTACHMENT

- A. Securely attach insulation to the roof deck for Adhered Roofing Systems. Attachment must have been successfully tested to meet or exceed the calculated uplift pressure required by the International Building Code (ASCE-7) or ANSI/SPRI WD-1.
- B. Enhance the perimeter and corner areas in accordance with FM Loss Prevention Data Sheet 1-29.
- C. Install insulation layers applied with hot asphalt, maximum 4 feet by 4 feet board size, in a full and uniform mopping of hot asphalt applied at the rate of 25 lb/square. Stagger the joints of additional layers in relation to the insulation joints in the layer(s) below by a minimum of 6 inches.
- D. Install insulation layers applied with adhesive, coverage rate as necessary to achieve the specified attachment and uplift rating. Press each board firmly into place after adhesive develops strings when touched, typically 1-1/2 to 2 minutes after adhesive was applied, and roll with a weighted roller. Add temporary weight and use relief cuts to ensure boards are well adhered. Stagger the joints of additional layers by a minimum of 6 inches.

3.6 MEMBRANE PLACEMENT AND ATTACHMENT (Fully Adhered)

- A. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour before bonding. Fold the sheet back onto itself so half the underside of the membrane is exposed.
- B. Apply the Aerosol Bonding Adhesive in accordance with the manufacturer's published instructions, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
- C. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.

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- D. Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.
- E. Install adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum splice width. It is recommended that all splices be shingled to avoid bucking of water.
- F. When positioning membrane along the length for tape or adhesive splices, allow the fleece backing to extend approximately 1/2 inch above adjoining membrane to avoid direct contact between EPDM membrane and hot asphalt.

3.7 MEMBRANE SPLICING (Tape Splice)

- A. Overlap adjacent sheets and mark a line 1/2 inch out from the top sheet.
- B. Fold the top sheet back and clean the dry splice area minimum 2 1/2 inches of both membrane sheets with Sure-Seal Primer as required by the membrane manufacturer.
- C. Where Splice Tape is not Factory-Applied, apply Splice Tape to bottom sheet with the edge of the release film along the marked line. Press tape onto the sheet using hand pressure. Overlap tape roll ends a minimum of 1 inch.
- D. Remove the release film and press the top sheet onto the tape using hand pressure.
- E. Roll the seam toward the splice edge with a 2 inch wide steel roller.
- F. Install Pressure-Sensitive "T" Joint Cover, a 6 inch wide section of Pressure-Sensitive Flashing or Flashing over all field splice intersections.
- G. When using non-Pressure-Sensitive Flashing, seal edges of flashing with Lap Sealant.
- H. The use of Lap Sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane where Lap Sealant is required.

3.8 FLASHING

- A. Wall and curb flashing shall be cured EPDM membrane. Continue the deck membrane as wall flashing where practicable.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.9 DAILY SEALS

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Use Sure-Seal Pourable Sealer or other acceptable membrane seal in accordance with the manufacturer's requirements.

3.10 CLEAN UP

- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other

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debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.11 PROTECTION

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

END OF SECTION

SECTION 07710 - MANUFACTURED ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Roof edge flashings.
 - 2. Roof edge drainage systems.
 - 3. Counterflashings.

1.2 PERFORMANCE REQUIREMENTS

- A. FMG Listing: Manufacture and install copings and roof edge flashings that are listed in FMG's "Approval Guide" capable of resisting the following forces according to the recommendations in FMF I-49 Loss Prevention Data Sheet for Windstorm Classification, Class 1-90. Identify materials with FMG markings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show layouts of manufactured roof specialties, including plans and elevations. Identify factory- vs. field-assembled work.
- C. Samples: For each type of manufactured roof specialty indicated with factory-applied color finishes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 - 2. Products: Subject to compliance with requirements, provide one of the products specified.
 - 3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 4. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 EXPOSED METALS

- A. Aluminum Sheet: ASTM B 209 , alloy and temper recommended by manufacturer for use and finish indicated, finished as follows:
 - 1. Surface: Smooth, flat finish.
 - 2. High-Performance Organic Finish: Two-coat, thermocured system with color coats containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604.
- B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by manufacturer for type of use and finish indicated, finished as follows:
 - 1. High-Performance Organic Finish: Two-coat, thermocured system with color coats containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604.

2.3 CONCEALED METALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.

2.4 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt nonperforated.
- B. Self-Adhering, High Temperature Sheet: Minimum 40 mils thick, consisting of SBS modified bitumen, with self-adhering application. Primer when recommended by underlayment manufacturer.
- C. Slip Sheet: Building Paper, 3lb/100 sq.ft. minimum, rosin sized.

2.5 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
 - 1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
 - 2. Blind Fasteners: High Strength aluminum or stainless-steel rivets suitable for metal being fastened
 - 3. Fasteners for Copper Sheet: Copper, hardware bronze or Series 300 stainless steel.

4. Fasteners for Stainless-Steel: Series 300 stainless steel.
5. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A153M or Series 300 stainless steel.
- C. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- D. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.

2.6 ROOF EDGE FLASHINGS

- A. Canted Roof Edge Fascia: Manufactured, two-piece, roof edge fascia consisting of compression-clamped metal fascia cover in section lengths not exceeding 12 feet and a continuous formed galvanized steel sheet cant dam, 0.028 inch thick, minimum, with integral drip edge cleat. Provide matching mitered and welded corner units.
 1. Available Manufacturers:
 - a. Johns Manville Presto Lock & Presto-Tite
 - b. Carlisle SecurEdge 200
 - c. Firestone Una-Edge
 - d. Versico-Vesitrim One Edge
 2. Fascia Cover: Fabricated from the following exposed metal:
 - a. Prepainted, Zinc-Coated Steel: 0.034 inch thick.
 3. Fascia Cover Color: As selected by Architect from manufacturer's full range.
 4. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.

2.7 COUNTERFLASHINGS

- A. Counterflashings: Manufactured units in lengths not exceeding 12 feet designed to be surface mounted over a primary termination bar and sealant mechanical attachment, with joints lapped, from the following exposed metal in thickness indicated:
 1. Prepainted, Zinc-Coated Steel: 0.034 inch thick

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install manufactured roof specialties according to manufacturer's written instructions. Anchor manufactured roof specialties securely in place and capable of resisting forces specified in performance requirements. Use fasteners, separators,

sealants, and other miscellaneous items as required to complete manufactured roof specialty systems.

1. Install manufactured roof specialties with provisions for thermal and structural movement.
 2. Torch cutting of manufactured roof specialties is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
- C. Install manufactured roof specialties level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil-canning, buckling, or tool marks.
- D. Install manufactured roof specialties to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
- E. Expansion Provisions: Provide for thermal expansion of exposed manufactured roof specialties. Space movement joints at a maximum of 12 feet with no unplanned joints within 18 inches of corners or intersections.
- F. Fasteners: Use fasteners of type and size recommended by manufacturer but of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- G. Seal joints with elastomeric sealant as required by manufacturer of roofing specialties.

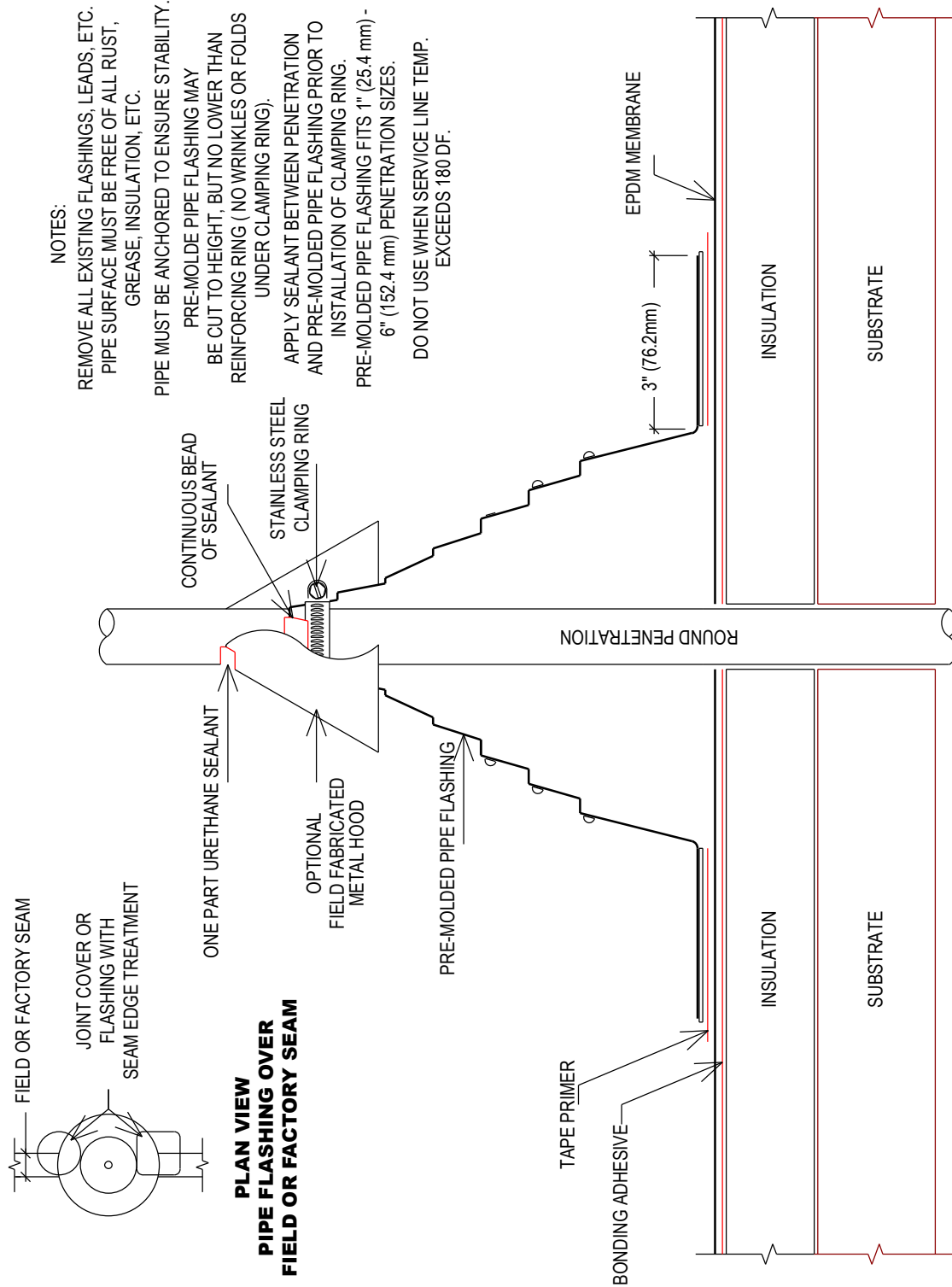
3.2 ROOF EDGE FLASHING INSTALLATION

- A. Install cleats, cant dams, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edgings to resist uplift and outward forces according to performance requirements.

3.3 COUNTERFLASHING AND REGLET INSTALLATION

- A. Counterflashings: Coordinate installation of counterflashings with installation of base flashings and termination bar. Extend counterflashings 4 inches over base flashings. Lap counterflashing joints a minimum of 4 inches and bed with elastomeric sealant.

END OF SECTION 07710



PENETRATION WITH TAPE PIPE FLASHING

NOTES:

REMOVE ALL EXISTING FLASHINGS, LEADS, ETC.
PIPE SURFACE MUST BE FREE OF ALL RUST,
GREASE, INSULATION, ETC.

PIPE MUST BE ANCHORED TO ENSURE STABILITY.

PRE-MOLDED PIPE FLASHING MAY

BE CUT TO HEIGHT, BUT NO LOWER THAN

REINFORCING RING (NO WRINKLES OR FOLDS
UNDER CLAMPING RING).

APPLY SEALANT BETWEEN PENETRATION
AND PRE-MOLDED PIPE FLASHING PRIOR TO
INSTALLATION OF CLAMPING RING.

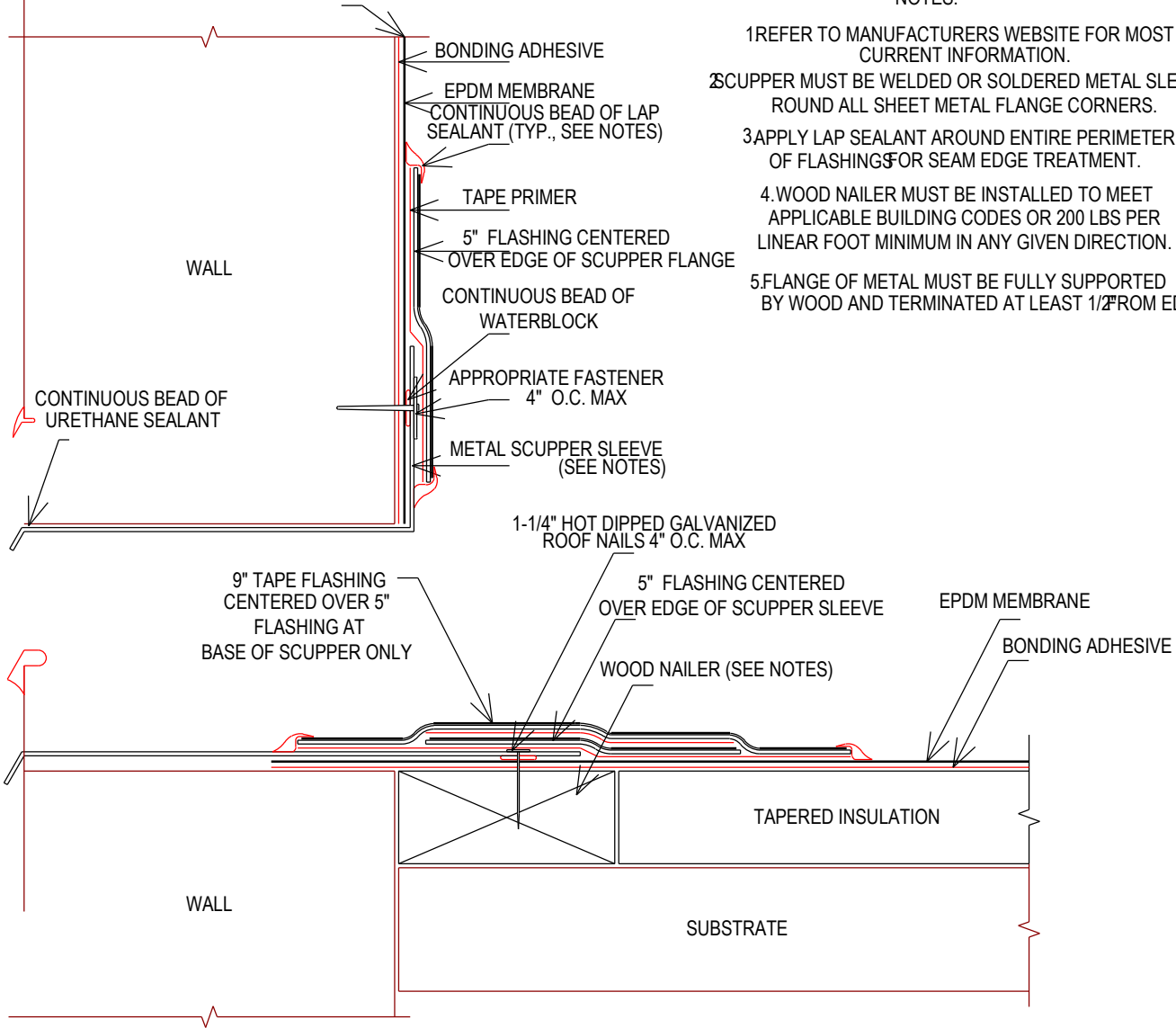
PRE-MOLDED PIPE FLASHING FITS 1" (25.4 mm) -
6" (152.4 mm) PENETRATION SIZES.

DO NOT USE WHEN SERVICE LINE TEMP.
EXCEEDS 180 DF.

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DETAIL NUMBER: 2	DATE: 12/8/2020	COMPANY: Central States Roof Consulting
	Drawn By: JM	PROJECT: St Charles City-County Library
	SCALE: NTS	

USE APPROPRIATE TERMINATION



NOTES:

1. REFER TO MANUFACTURERS WEBSITE FOR MOST CURRENT INFORMATION.
2. SCUPPER MUST BE WELDED OR SOLDERED METAL SLEEVE. ROUND ALL SHEET METAL FLANGE CORNERS.
3. APPLY LAP SEALANT AROUND ENTIRE PERIMETER OF FLASHING FOR SEAM EDGE TREATMENT.
4. WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LBS PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION.
5. FLANGE OF METAL MUST BE FULLY SUPPORTED BY WOOD AND TERMINATED AT LEAST 1/2\" FROM EDGE OF WOOD.

THRU-WALL SCUPPER (WELDED OR SOLDERED SLEEVE)

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DETAIL NUMBER: 9	DATE: 5/10/2021	COMPANY: CENTRAL STATES ROOF CONSULTING
	Drawn By: JM	PROJECT: St Charles City-County Library
	SCALE: NTS	

SECTION 07530

THERMOSET (EPDM) MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Thermoset Membrane Roofing.
- B. Membrane Flashings.
- C. Metal Flashings.
- D. Roof Insulation.

1.2 RELATED SECTIONS

- A. Section 07710 - Sheet Metal Flashing and Trim: Metal flashing and counter flashing installation and requirements.

1.3 REFERENCES

- A. American Society of Civil Engineers (ASCE) - ASCE 7 - Minimum Design Loads for Buildings and Other Structures, Current Revision.
- B. ASTM International (ASTM):
 - 1. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - 2. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - 3. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
 - 4. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
 - 5. ASTM D 816 - Standard Test Methods for Rubber Cements.
 - 6. ASTM D 4637 - Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane.
 - 7. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- C. Factory Mutual (FM Global):
 - 1. Approval Guide.
 - a. Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.
 - b. Loss Prevention Data Sheets 1-28, 1-29.
- D. International Code Council (ICC):
 - 1. International Building Code (IBC).
- E. National Roofing Contractors Association (NRCA) - Low Slope Roofing and Waterproofing Manual, Current Edition.
- F. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) -

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Architectural Sheet Metal Manual.

- G. Underwriters Laboratories (UL):
 - 1. TGFU R1306 - "Roofing Systems and Materials Guide".
 - 2. UL-790 - Standard Test Method for Fire Tests of Roof Coverings.

1.4 DESIGN CRITERIA

- A. Wind Uplift Performance:
 - 1. Roof system is designed to withstand wind uplift forces as calculated using the current revision of ASCE-7.
 - 2. Roof system is designed to achieve 30 psf of uplift resistance in the field.
 - 3. Comply with Manufacturer's 72 mph wind warranty requirements.
- B. Fire Resistance Performance:
 - 1. Roof system will achieve a UL Class A rating when tested in accordance with UL-790.
- C. Thermal Performance: Roof system will achieve a minimum R value not less than 28 consisting of existing and new polyisocyanurate.
- D. Drainage: Provide a roof system with positive drainage where all standing water dissipates within 48 hours after precipitation ends.
- E. Building Codes:
 - 1. Roof system will meet the requirements of all federal, state and local code bodies having jurisdiction

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Detail Drawings:
 - 1. Submit approved plan, section, elevation or isometric drawings which detail the appropriate methods for all flashing conditions found on the project.
 - 2. Coordinate approved drawings with locations found on the Contract Drawings.
- C. Selection Samples: For each finish product specified, two complete sets of chips representing manufacturer's full range of available colors, membranes, and thicknesses.
- D. Verification Samples: For each finish product specified, two samples, minimum size 4 inches (100 mm) square representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of twenty (20) years experience.
- B. Installer Qualifications:
 - 1. All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
 - 2. Installer must be capable of extending the Manufacturer's No Dollar Limit

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guarantee.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's Total-System warranty, outlining its terms, conditions, and exclusions from coverage.
 - 1. 20 years.
 - 2. Coverage to be extended to include wind resistance up to 72 mph.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Carlisle SynTec, which is located at: P. O. Box 7000; Carlisle, PA 17013.
- B. Firestone Building Products, 250 West 96th Street, Indianapolis, IN.
- C. Johns Manville Roof Systems: 717 17th Street, Denver, CO
- D. Versico LLC P.O. Box 1289 Carlisle, PA 17013

2.2 SCOPE / APPLICATION

- A. Roof System: Provide a waterproof roof system, capable of withstanding uplift forces as specified in this section.
 - 1. Membrane Attachment: Fully Adhered.
- B. Base Flashing: Provide a waterproof, fully adhered base flashing system at all penetrations, plane transitions and terminations.
- C. Insulation: Provide a roof insulation system beneath the finish membrane.

2.3 INSULATION

- A. Polyisocyanurate HP-H: Rigid board with fiber reinforced facers on sides, meeting or exceeding the requirements of ASTM C 1289-06 Type II, Class 1, and Grade 2.
 - 1. Compressive Strength: 20 psi.
 - 2. Density: 2 lb per cubic foot (24 kg/cu m) minimum.
- B. Water-resistant and silicone treated gypsum panel with embedded fiberglass facer on both sides, and pre-primed on one side. GP Gypsum Dens-Deck Prime,

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distributed by Carlisle.

1. Board Thickness: 1/2 inch over insulation
- C. Moisture-, mold- and impact-resistant, nonstructural fiber-reinforced gypsum panel made from 95 percent recycled materials. Securock.
1. Board Thickness: 1/2 inch over insulation

2.4 INSULATION ADHESIVE

- A. A spray or extruded applied, two-component polyurethane, low-rise expanding foam adhesive used for attaching approved insulations to compatible substrates (concrete, cellular lightweight insulating concrete, gypsum, cementitious wood fiber, wood or steel) or existing smooth or gravel surfaced BUR, modified bitumen or cap sheets.
- B. OlyBond 500 BA - A two-component, polyurethane, low-rise expanding adhesive used to bond insulation to various substrates using a mechanical dispenser system.

2.5 ETHYLENE, PROPYLENE, DIENE TERPOLYMER (EPDM) MEMBRANE

- A. Non-Reinforced Membrane: Cured, non-reinforced EPDM membrane meeting the requirements of ASTM D 4637 Type I.
1. Color: Black.
 2. Membrane Thickness: 60 mil nominal.
 3. Sheet Dimensions:
 - a. Width: 20 feet (3.05 m) maximum.
 - b. Length: 100 feet (30.5 m) maximum.
 4. Performance:
 - a. Tensile Strength: 1550 psi (10.7 MPa) minimum.
 - b. Tear Resistance: 200 lbf/in (35 kN/m) minimum.
 - c. Elongation: 480 percent.

2.6 FLASHING ACCESSORIES

- A. Pressure-Sensitive Pipe Seals with Factory-Applied TAPE on the deck flange are available for use with roofing systems.
- B. Pourable Sealer Pocket: Pre-fabricated Pourable Sealer Pocket consisting of a 2 inch (51 mm) wide plastic support strip with Factory-Applied, adhesive backed uncured Flashing.
- C. Inside/Outside Corner: A 7" by 9" precut 60-mil thick Flashing with a 35-mil Factory-Applied TAPE.
- D. Pressure-Sensitive Curb Flashing - A 60-mil thick, 20 inch (508mm) wide cured EPDM membrane with 5 inch (126 mm) wide Factory-Applied TAPE along one edge to be used to flash curbs/skylights, etc.
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- D. Splicing Cement: A high-strength, butyl-based contact cement which is used for splicing adjoining sections of EPDM membrane (cured or uncured).
 - 1. Splicing Cement: Black splicing cement for use with (black) Roofing Systems.
- E. Lap Sealant: A heavy-bodied material (trowel or gun-consistency) used to seal the exposed edges of a membrane splice. A pre-formed Lap Sealant tool is included in each carton of Lap Sealant.
 - 1. Sure-Seal Lap Sealant: Black sealant for use with Sure-Seal (black) Roofing Systems.
- F. Cav-Grip aerosol Bonding Adhesive
- G. Water Cut-Off Mastic: A one-component, low viscosity, self wetting, Butyl blend mastic used as a compression sealing agent between EPDM membranes and applicable substrates.
- H. Pourable Sealer: A black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects such as clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.

2.8 FASTENING COMPONENTS

- A. Pressure-Sensitive RUSS (Reinforced Universal Securement Strip): Nominal 45-mil thick clean, cured reinforced EPDM black membrane with 3 inch (76mm) wide Factory-Applied TAPE laminated along one edge for the 6 inch wide RUSS and along both edges for the 9 inch wide RUSS.
 - 1. 6" RUSS: 6 inch wide, 100 foot long, strip of Sure-Seal (black) reinforced EPDM membrane for additional membrane securement on Adhered, Ballasted, and Mechanically Fastened Roofing Systems.
- B. Seam Fastening Plate: 2 inch diameter metal plate for insulation, membrane and RUSS attachment.
- C. Insulation Fastening Plate: Nominal 3 inch diameter FM approved metal plate used for insulation attachment.
- D. Fasteners:
 - 1. HP Fastener: Threaded, black epoxy electro-deposition coated (E-Coat) fastener for use with steel, wood plank or oriented strand board (OSB).
 - 2. InsulFast Fasteners: Threaded, #12 fastener with #3 Phillips head used with 3

St Charles City & County Library

inch (76mm) diameter Insulation Plates. For insulation attachment into steel or wood decks.

3. HP Term Bar Nail-In: A 1 1/4 inch long expansion anchor with threaded drive pin used for fastening Sure-Seal Termination Bar or Seam Fastening Plates to concrete, brick or block walls.

2.9 EDGINGS AND TERMINATIONS

- A. Termination Bar: 1 inch wide, .098 inch thick extruded aluminum bar pre-punched 6 inches on center with sealant ledge to support Lap Sealant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Do not commence work until all other work trades have completed jobs that require them to traverse the deck on foot or with equipment.

3.3 SUBSTRATE PREPARATION

- A. Steel Decks:
 1. Steel decks must be a minimum thickness of 22 gauge (0.8 mm) and shall have a G-90 galvanized finish.
- B. All surface corrosion must be removed, and repairs to and severely corroded areas made. Fasten any loose or inadequately secured decking and replace irreparable decking

C. INSULATION - SYSTEM DESIGN

- D. Base Layer:
 1. Type: _Polyisocyanurate.
 2. Thickness: 1/2 inch.
 3. Attachment Method: Fastened
- E. Top Layer:
 1. Type: Gypsum.
 2. Thickness: .5 inches
 3. Attachment Method: Adhesive applied as a cover board,

3.4 INSULATION PLACEMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.

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- B. Secure base layer of insulation to the substrate with the required mechanical fasteners or insulation adhesive in accordance with the manufacturer's current application guidelines.
- C. Do not install wet, damaged or warped insulation boards.
- D. Stagger joints in one direction unless joints are to be taped. Install insulation boards snug. Gaps between board joints shall not exceed 1/4 inch. Fill all gaps in excess of 1/4 inch with same insulation material.
- E. Wood nailers must be at least 3 1/2 inches wide or 1 inch wider than adjacent metal flange. Thickness must equal that of insulation but not less than 1 inch thickness.
- F. Miter and fill the edges of the insulation boards at ridges, valleys and other changes in plane to prevent open joints or irregular surfaces. Avoid breaking or crushing of the insulation at the corners.
- G. Do not install any more insulation than will be completely waterproofed each day.

3.5 INSULATION ATTACHMENT

- A. Securely attach insulation to the roof deck for Adhered Roofing Systems. Attachment must have been successfully tested to meet or exceed the calculated uplift pressure required by the International Building Code (ASCE-7) or ANSI/SPRI WD-1.
- B. Enhance the perimeter and corner areas in accordance with FM Loss Prevention Data Sheet 1-29.
- C. Install insulation layers applied with hot asphalt, maximum 4 feet by 4 feet board size, in a full and uniform mopping of hot asphalt applied at the rate of 25 lb/square. Stagger the joints of additional layers in relation to the insulation joints in the layer(s) below by a minimum of 6 inches.
- D. Install insulation layers applied with adhesive, coverage rate as necessary to achieve the specified attachment and uplift rating. Press each board firmly into place after adhesive develops strings when touched, typically 1-1/2 to 2 minutes after adhesive was applied, and roll with a weighted roller. Add temporary weight and use relief cuts to ensure boards are well adhered. Stagger the joints of additional layers by a minimum of 6 inches.

3.6 MEMBRANE PLACEMENT AND ATTACHMENT (Fully Adhered)

- A. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour before bonding. Fold the sheet back onto itself so half the underside of the membrane is exposed.
- B. Apply the Aerosol Bonding Adhesive in accordance with the manufacturer's published instructions, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
- C. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.

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- D. Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.
- E. Install adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum splice width. It is recommended that all splices be shingled to avoid bucking of water.
- F. When positioning membrane along the length for tape or adhesive splices, allow the fleece backing to extend approximately 1/2 inch above adjoining membrane to avoid direct contact between EPDM membrane and hot asphalt.

3.7 MEMBRANE SPLICING (Tape Splice)

- A. Overlap adjacent sheets and mark a line 1/2 inch out from the top sheet.
- B. Fold the top sheet back and clean the dry splice area minimum 2 1/2 inches of both membrane sheets with Sure-Seal Primer as required by the membrane manufacturer.
- C. Where Splice Tape is not Factory-Applied, apply Splice Tape to bottom sheet with the edge of the release film along the marked line. Press tape onto the sheet using hand pressure. Overlap tape roll ends a minimum of 1 inch.
- D. Remove the release film and press the top sheet onto the tape using hand pressure.
- E. Roll the seam toward the splice edge with a 2 inch wide steel roller.
- F. Install Pressure-Sensitive "T" Joint Cover, a 6 inch wide section of Pressure-Sensitive Flashing or Flashing over all field splice intersections.
- G. When using non-Pressure-Sensitive Flashing, seal edges of flashing with Lap Sealant.
- H. The use of Lap Sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane where Lap Sealant is required.

3.8 FLASHING

- A. Wall and curb flashing shall be cured EPDM membrane. Continue the deck membrane as wall flashing where practicable.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.9 DAILY SEALS

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Use Sure-Seal Pourable Sealer or other acceptable membrane seal in accordance with the manufacturer's requirements.

3.10 CLEAN UP

- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other

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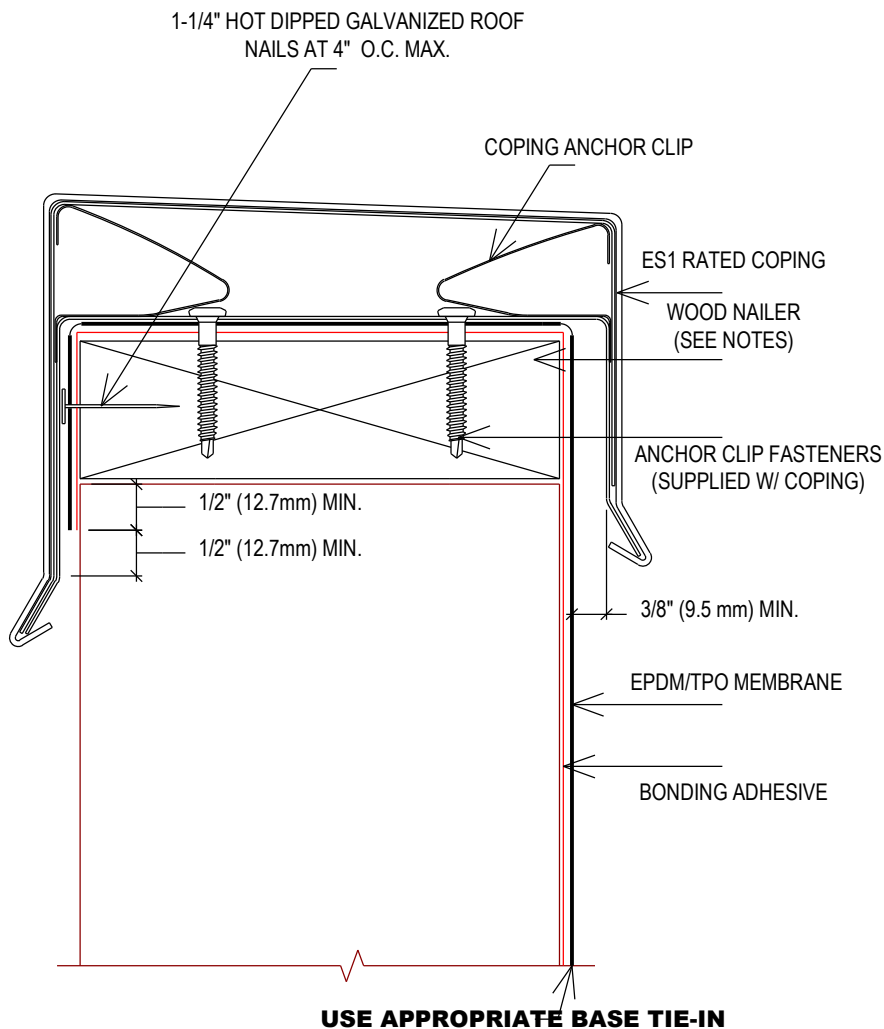
debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.11 PROTECTION

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

END OF SECTION



NOTES:

1. REFER TO MANUFACTURERS WEBSITE FOR MOST CURRENT INFORMATION.
2. ANY ES1 RATED METAL COPING IS ACCEPTABLE FOR USE IN THIS DETAIL PROVIDED FABRICATION AND INSTALLATION IS IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS. WATERTIGHT INTEGRITY OF WALL AND METAL COPING SHALL BE ENSURED BY MEMBRANE MANUFACTURER AN INCLUDED IN WARRANTY
3. WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LBS PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION.
4. FASTEN COPING CLEAT AS PER SUPPLIED INSTRUCTIONS.

This drawing is the property of CSRC. It may not be reproduced without consent.

DETAIL NUMBER: 8	DATE: 5/9/2021	COMPANY: CENTRAL STATES ROOF CONSULTING
	Drawn By: JM	PROJECT: St Charles City-County Library
	SCALE: NTS	

1



2



Photo 1 is the building identification. Photos 2-6 find stained ceiling tiles.

3



4

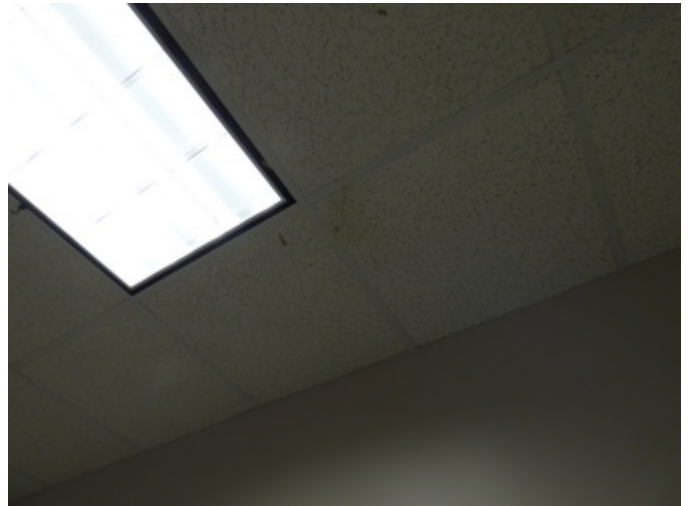


Photo 3 shows drywall damage. Photo 4 is dark, indicating a fresh leak.

5



6



The stains shown in photos 5 & 6 are not near the perimeter of the building.

7



8



Photos 7 & 8 show metal panel roofing over the east entranceway and west side of the building respectively. Photo 9 is an overview of the east perimeter.

9



10



Photo 10 is a recent repair to wall flashing side lap seam.

11



12



Photo 11 finds another seam that is distressed. Photo 12 shows loose wall flashing.

13



14



Photo 13 is an overview of the west perimeter. Note: the coping cap is in good condition. Photo 14 is an overview of the roof area.

15



16



We extracted one core cut to verify the roof construction. The steel deck had one layer of 4" isocyanurate foam insulation and 1" perlite coverboard under the Built up Roof.

17



18



Photos 17 & 18 document the core was restored to a watertight condition.

16209 Pepper View Court, Chesterfield MO 63005 (P) 314-560-3038 (F) 636-216-0096 miletij@sbcglobal.net

19



The roof drains adequately to scuppers as shown in photo 19. Photo 20 is the collector box and downspouts on the north perimeter.

20



21



22



Photo 21 shows loose wall flashing next to a recent repair. Photo 22 is one of the few protrusions on this roof system. Photo 23 is the only plumbing vent protrusion.

23



24



Photo 24 is the east entranceway and building identification.

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Precise Aerial Measurement Report

Prepared for you by Central States Roof Consulting



1300 N Main St, O Fallon, MO 63366

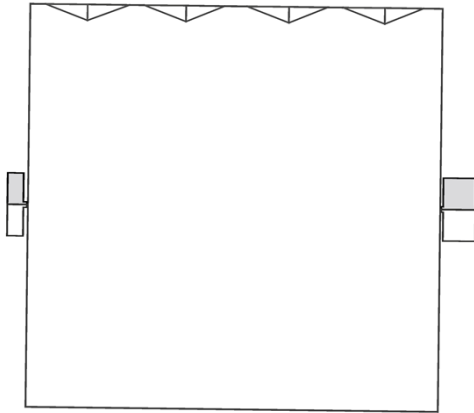


Central States Roof Consulting
16209 Pepper View CT
Chesterfield, MO 63005

Joseph Mileti
tel. 314-560-3038
email: miletij@sbcglobal.net
www.centralstatesroofconsulting.com

1300 N Main St, O Fallon, MO 63366

Report: 62758562



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Joseph Mileti
Company:	Central States Roof Consulting
Address:	16209 Pepper View CT Chesterfield, MO 63005
Phone:	314-560-3038

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MEASUREMENTS

Total Roof Area =12,032 sq ft
 Total Roof Facets =13
 Predominant Pitch =1/12
 Number of Stories <=1
 Total Ridges/Hips =32 ft
 Total Valleys =92 ft
 Total Rakes =47 ft
 Total Eaves =26 ft
 Total Penetrations =1
 Total Penetrations Perimeter = 5 ft
 Total Penetrations Area = 2 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

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Report: 62758562

IMAGES

The following aerial images show different angles of this structure for your reference.

Top View



IMAGES

North Side



South Side



1300 N Main St, O Fallon, MO 63366

Report: 62758562

IMAGES

East Side



West Side



LENGTH DIAGRAM

Total Line Lengths:

Ridges = 15 ft

Hips = 17 ft

Valleys = 92 ft

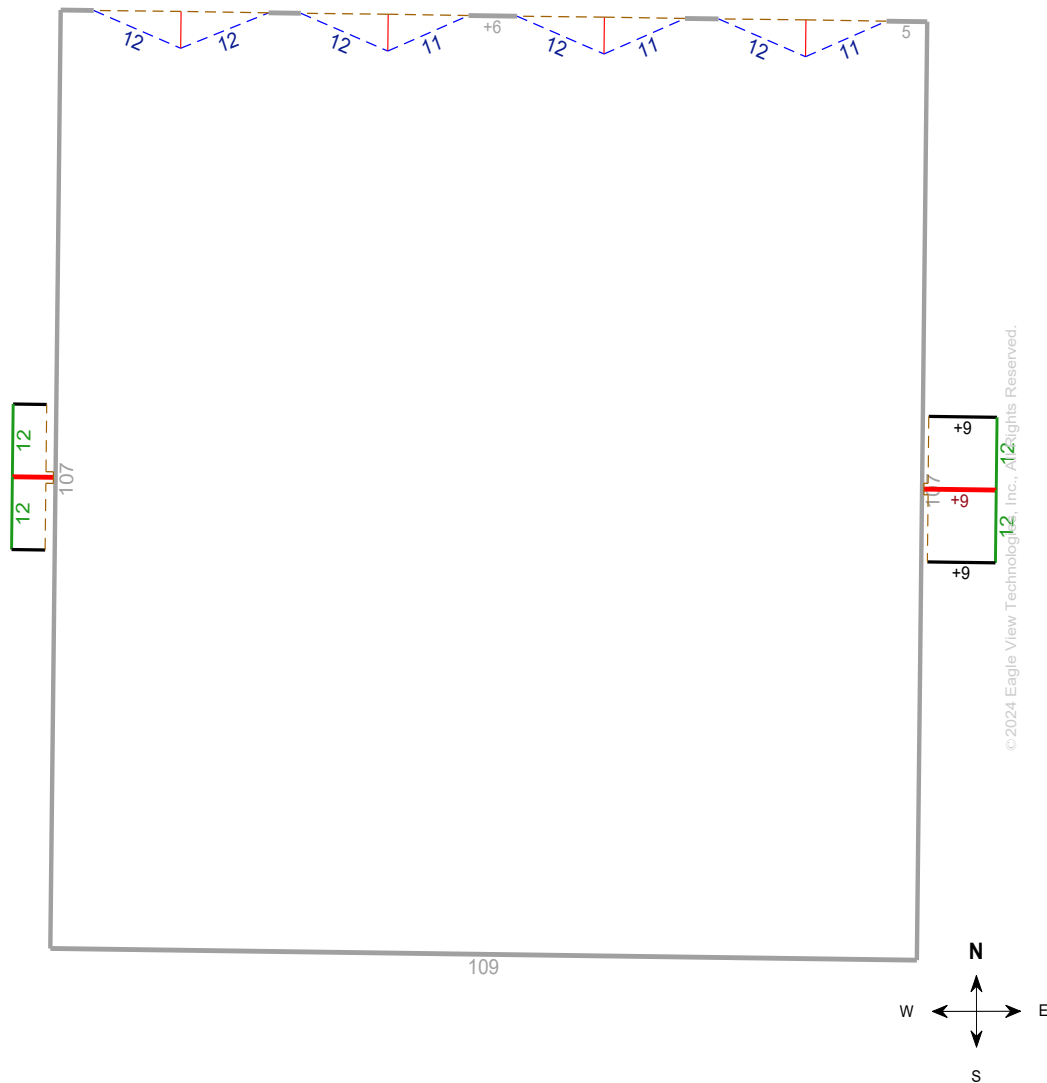
Rakes = 47 ft

Eaves = 26 ft

Flashing = 3 ft

Step flashing = 140 ft

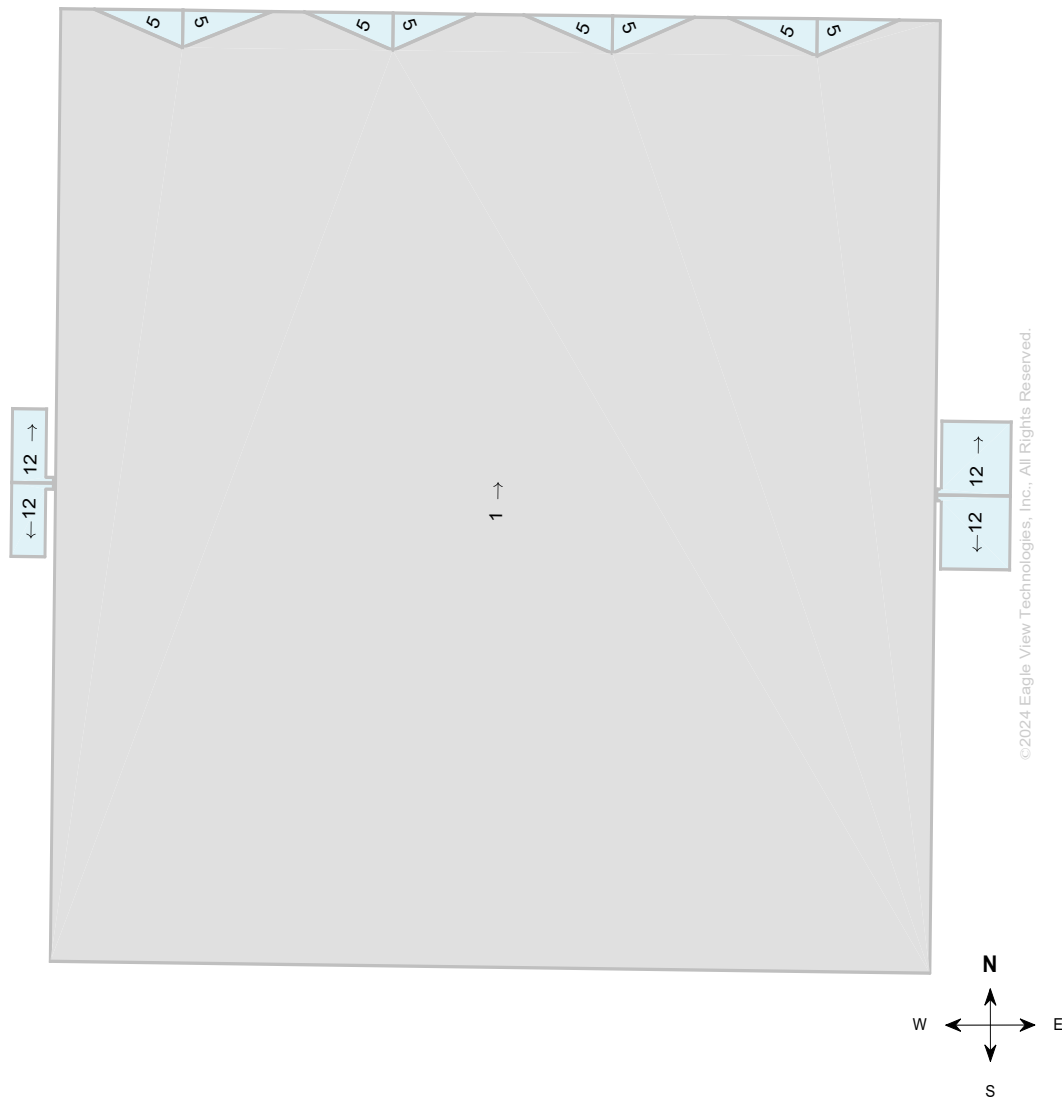
Parapets = 349 ft



Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 1/12



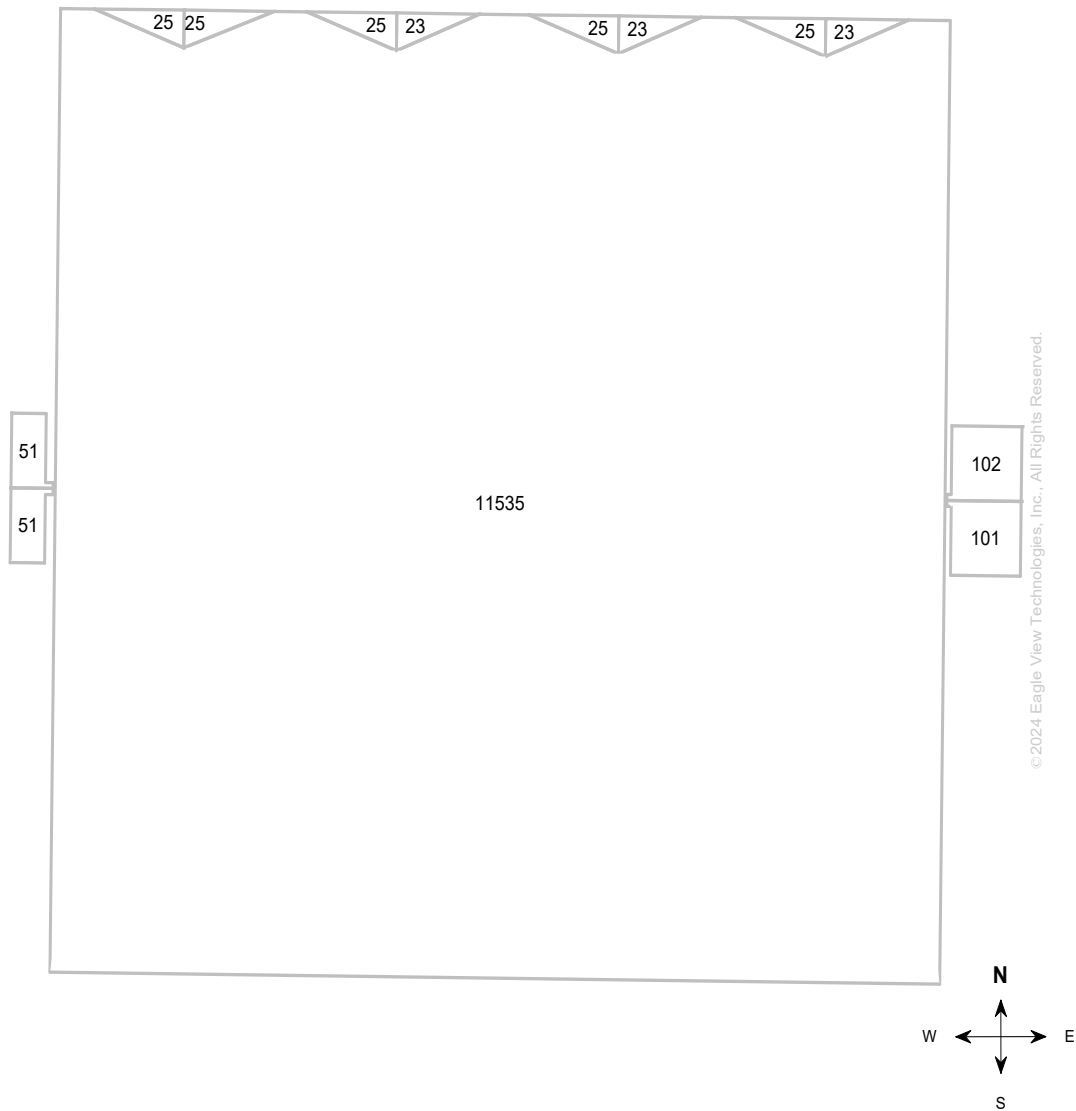
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

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AREA DIAGRAM

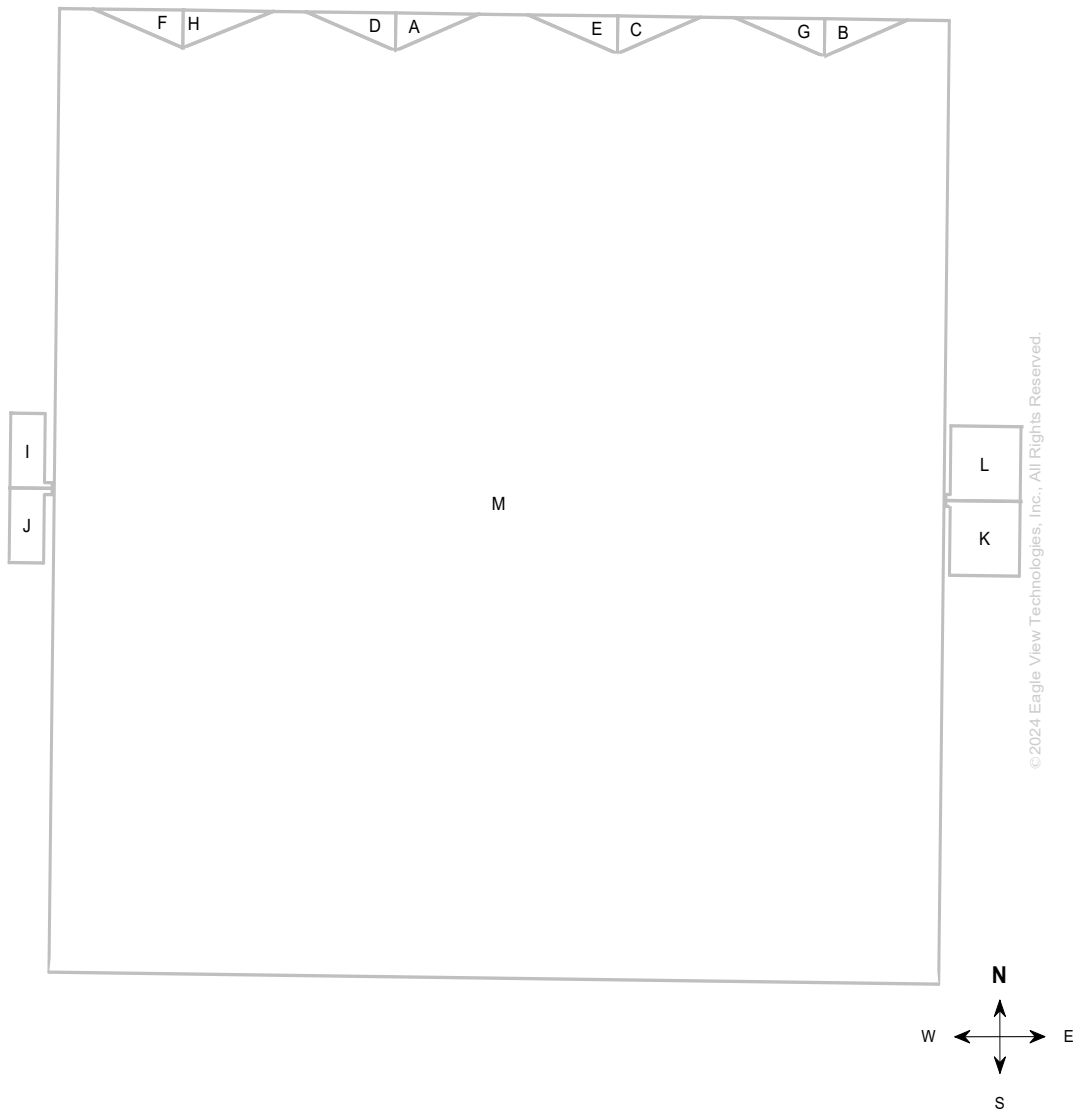
Total Area = 12,032 sq ft, with 13 facets.



Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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PENETRATIONS NOTES DIAGRAM

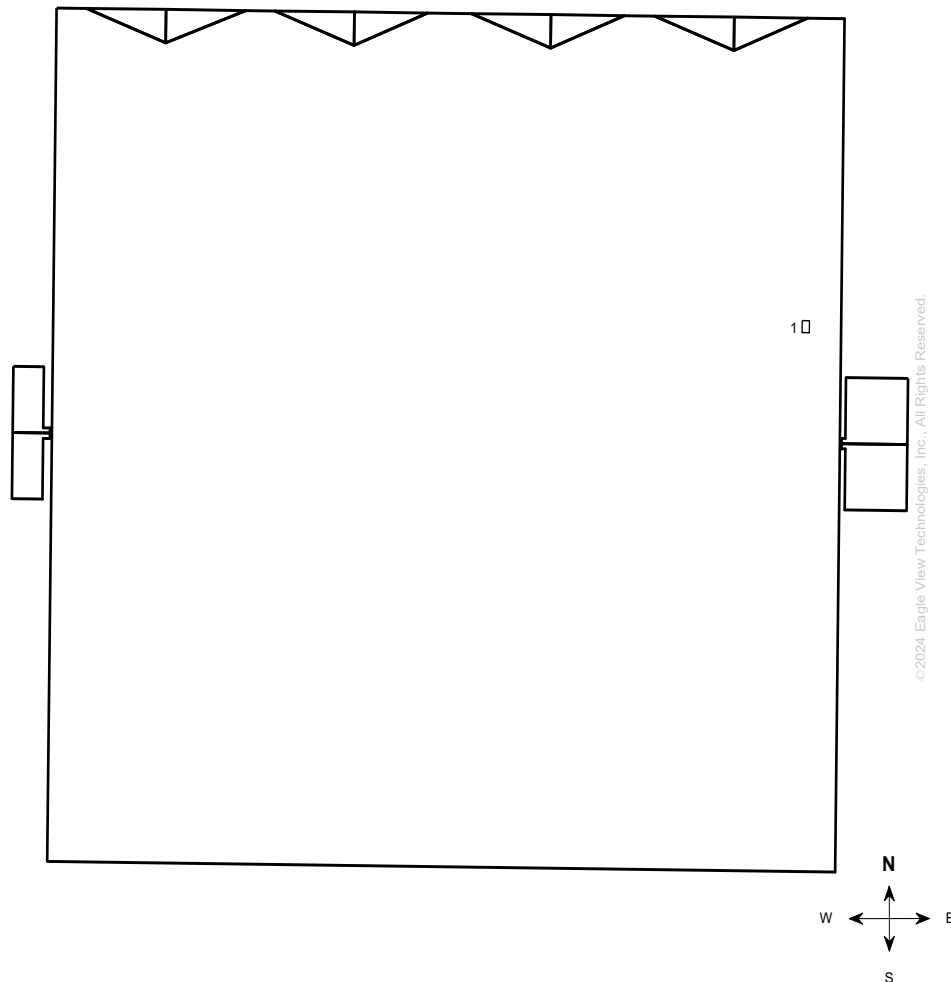
Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 1

Total Penetrations Area = 2 sq ft

Total Penetrations Perimeter = 5 ft

Total Roof Area Less Penetrations = 12,030 sq ft



1300 N Main St, O Fallon, MO 63366

Report: 62758562

REPORT SUMMARY

All Structures

Areas per Pitch

Roof Pitches	1/12	5/12	12/12
Area (sq ft)	11534.9	192.8	304.2
% of Roof	95.9%	1.6%	2.5%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Structure Complexity

Simple	Normal	Complex
--------	--------	---------

Waste Calculation

NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	21%	26%	31%	36%	39%	41%	43%	46%
Area (Sq ft)	497	602	627	652	676	691	701	711	726
Squares *	5.00	6.33	6.33	6.66	7.00	7.00	7.33	7.33	7.33
	Measured						Suggested		

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

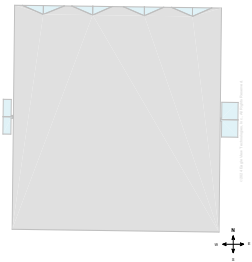
Penetrations	1									
Area (sq ft)	1.5									
Perimeter (ft)	5									

Any measured penetration smaller than 3.0x3.0 Feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

1300 N Main St, O Fallon, MO 63366

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All Structures Totals



Total Roof Facets = 13
Total Penetrations = 1

Lengths, Areas and Pitches

Ridges = 15 ft (2 Ridges)
Hips = 17 ft (4 Hips).
Valleys = 92 ft (8 Valleys)
Rakes[†] = 47 ft (4 Rakes)
Eaves/Starter[‡] = 26 ft (4 Eaves)
Drip Edge (Eaves + Rakes) = 73 ft (8 Lengths)
Parapet Walls = 349 (8 Lengths).
Flashing = 3 ft (4 Lengths)
Step flashing = 140 ft (16 Lengths)
Total Penetrations Area = 2 sq ft
Total Roof Area Less Penetrations = 12,030 sq ft
Total Penetrations Perimeter = 5 ft
Predominant Pitch = 1/12
Total Area (All Pitches) = 12,032 sq ft

Property Location

Longitude = -90.6990937
Latitude = 38.8284614

Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

Parapet Wall Area Table

Wall Height (ft)	1	2	3	4	5	6	7
Vertical Wall Area	349	698	1047	1396	1745	2094	2443

This table provides common parapet wall heights to aid you in calculating the total vertical area of these walls. Note that these values assume a 90 degree angle at the base of the wall. Allow for extra materials to cover cant strips and tapered edges.

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1300+N+Main+St,O+Fallon,MO,63366

Directions from Central States Roof Consulting to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=16209+Pepper+View+CT,Chesterfield,MO,63005&daddr=1300+N+Main+St,O+Fallon,MO,63366

† Rakes are defined as roof edges that are sloped (not level).
‡ Eaves are defined as roof edges that are not sloped and level.

1300 N Main St, O Fallon, MO 63366

Report: 62758562

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Principal - Joseph Mileti RRC, RRO

Executive Summary

At the request of Tauquincy Logan, Facilities Manager for the St. Charles City-County Library District, Central States Roof Consulting was hired to assess the roof conditions at the Deer Run Branch. The building is located at 1300 N. Main Street in O'Fallon, Missouri. We have included satellite measurements under separate cover as this mitigates the cost of field measuring for an inspection of this type.

On Tuesday December 10, Joseph Mileti and Brian Swyndro accessed the roof. We were provided with photos of recent roof repairs on 11/22/24. We canvassed on site staff with respect to active water leaks and documented several locations where ceiling tile were stained or drywall damage was evident. (See photos 2-6)

Satellite imagery was used to estimate the age of this roof and we believe it was installed in March 1996. We contacted Johns Manville Roof Systems and they indicated no record of a warranty for this address was on file.

We use the following guidelines to categorize roofs and plan:

<i>Condition</i>	<i>Action Plan</i>
<i>Good roofs and those that have not exceeded their design service life.</i>	Perform regular maintenance and spot repairs.
<i>Fair condition and roofs that have not exceeded design service life.</i>	Perform restorative repairs with the intent of getting the roof in a condition where regular annual maintenance can be executed.
<i>Old roofs that have exceeded design service life and/or roofs that have been restored previously.</i>	Repair as needed to stop water leaks until funds are budgeted for replacement.
<i>Poor & Failing</i>	Replace as funds are available.

Inspection Findings

The building has approximately 12,000 square feet under roof. The predominate roof system is a four-ply asphalt Built up Roof system with gravel surfacing. Roof systems of this type have a design service life of 20-25 years, provided regular proper maintenance is performed.

Drainage is adequate to perimeter scuppers. The slope is built into the structural deck with tapered insulation saddles between the water outlets. No overflow provisions were detected. The modified bitumen wall flashing was found to be loose in several locations and recent repairs were completed to seal vertical flashing seams that had opened. (See photos 9-14 & 19-23) The field of the roof was not blistered and no bare spots were found.



Principal - Joseph Miletì RRC, RRO

Sheet Metal components consist of coping cap, scuppers, collector boxes & downspouts. The sheet metal is found to be in fair to good condition but should be replaced at the time of roof replacement.

Standing seam metal panels are found over the east entranceway and at the west perimeter. The metal is Kynar coated steel and is in good condition. (See photos 7&8) These two areas total 305 square feet.

We extracted one core cut to verify the roof assembly construction. We found:

- Steel Deck
- One layer of 4" isocyanurate foam insulation, R=23.6 if dry
- 1" perlite cover board, R=2.78 if dry
- Four ply glass felt BUR

(See photos 15-18)

Conclusions & Recommendations

This roof has been in service for over 28 years and has exceeded the design service life. It is our professional recommendation to apply mastic and fabric to the wall flashing seams as a preventative measure. Outside of this recommendation, this roof should be repaired as needed until funds are available for roof replacement. At this point in time, a retrofit assembly is viable and would mitigate the cost of total tear-off and disposal.

We also recommend monitor the roof performance after rainfall to verify the recent repairs were comprehensive and functional.

The standing seam metal panels have a design service life of over 35 years and the paint finish is fade resistant for 30 years. These roofs should be monitored but do not require any repair.

I affirm, under penalties for lying under oath, that the opinions and representations in this report are true.



Prepared by Joseph Miletì, RRC#449, December 12, 2024