

## SECTION 075419 - POLYVINYL-CHLORIDE (PVC/TPA) ROOFING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Mechanically fastened thermoplastic PVC/TPA roofing system on wood or metal deck, including:
- 2. Roof insulation.
- 3. Roof insulation cover board.
- 4. Walkway material.

- B. Transportation Warehouse Scope of Work:

- 1. Remove existing built-up roof systems to plywood deck. Remove and dispose of existing gutters as well. Leave downspouts in place.
- 2. Replace damaged plywood decking where necessary.
- 3. Infill areas where deck is deflected with rigid insulation (approx. 1,000 sq. ft.).
- 4. Install one layer of ½" coverboard.
- 5. Install mechanically fastened TPA roof system including all flashing and associated components.
- 6. Drip edge at rake edges will have a ½" gravel stop and 4" face. Install with a continuous cleat. Drip edge at gutters does not require a continuous cleat.
- 7. Install new 24 gauge, Kynar finished, seamless gutters and reuse existing downspouts.
- 8. Clean and coat interior gutter where Bus Maintenance Shop meets the main roof with rust inhibitive, aluminum coating.

1.3 DEFINITIONS

- A. Roofing Terminology: See ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Product Certificate: Submit notarized certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.
- B. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.
  - 1. Include letter from Manufacturer written for this Project indicating approval of Installer.
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
  - 1. Product Compatibility: Indicate manufacturer has verified compatibility of roofing system components, including but not limited to: Roofing membrane, flashing sheets, adhesives, and sealants.
- D. Warranties: Unexecuted sample copies of special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: To include in maintenance manuals.
- B. Warranties: Manufacturer and contractor warranties.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of five years' experience installing products comparable to those specified, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
- B. Manufacturer Qualifications: Approved manufacturer listed in this Section, UL listed for roofing systems identical to that specified for this Project, with minimum five years' experience in manufacture of specified products in successful use in similar applications.

C. Roofing Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:

1. An authorized full-time technical employee of the manufacturer.

D. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

4. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening.

5. Review structural loading limitations of roof deck during and after roofing.

6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

7. Review governing regulations and requirements for insurance and certificates if applicable.

8. Review temporary protection requirements for roofing system during and after installation.

9. Review roof observation and repair procedures after roofing installation.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

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

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

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1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
  1. Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.
  2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.
  3. Remove temporary plugs from roof drains at end of each day.
  4. Remove and discard temporary seals before beginning work on adjoining roofing.

1.10 WARRANTY

- A. Warranty, General: Warranties specified shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Manufacturer's Warranty: Manufacturer's standard or customized form, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
  1. Manufacturer's warranty includes roofing membrane, base flashings, fasteners, roofing membrane accessories and other components of roofing system specified in this Section.
  2. A single manufacturer will provide warranty for both single ply and built-up roof systems specified.
  3. Warranty Period: 20 years from date of Substantial Completion.

- C. **Installer's Warranty:** Submit roofing Installer's warranty, on warranty form, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of membrane roofing such as single ply roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:
  - 1. **Warranty Period:** Two years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. **Basis-of-Design Manufacturer/Product:** The roof system specified in this Section is based upon products of Tremco, Inc. or Equal.
- B. **Source Limitations:** Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

### 2.2 PERFORMANCE REQUIREMENTS

- A. **General Performance:** Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
  - 1. **Accelerated Weathering:** Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
  - 2. **Impact Resistance:** Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- B. **Material Compatibility:** Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.
- C. **Flashings and Fastening:** Comply with requirements of Division 07 Sections "Sheet Metal Flashing and Trim" and "Roof Specialties." Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:
  - 1. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.
  - 2. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.
- D. **Exterior Fire-Test Exposure:** ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

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- E. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- F. Energy Performance: Roofing system shall have an initial solar reflectance index of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

### 2.3 THERMOPLASTIC MEMBRANE MATERIALS

- A. Thermoplastic PVC/TPA sheet, ASTM D4434 Type IV internally fabric reinforced, Energy Star qualified, CRRC listed, and California Title 24 Energy Code compliant. The PVC/TPA sheet is comprised of an elastomeric tri-polymer alloy that is a blend of CPE, Elvaloy, and PVC.
  - 1. Basis of design product: Tremco, TPA Roof Membrane or Equal.
  - 2. Tensile Strength at 0 deg. F (-18 deg. C), minimum, ASTM D 751: 300 lbf/in.
  - 3. Tear Strength at 77 deg. F (25 deg. C), minimum, ASTM D 751: 100 lbf.
  - 4. Elongation at 0 deg. F (-18 deg. C), minimum at fabric break, ASTM D 751: 25 percent.
  - 5. Minimum Thickness, nominal, ASTM D 751: 45 mils.
  - 6. Exposed Face Color: White.
  - 7. Reflectance, ASTM C 1549: 86 percent.
  - 8. Thermal Emittance, ASTM C 1371: 0.86.
  - 9. Solar Reflectance Index (SRI), ASTM E 1980: 108.
  - 10. Recycled Content, minimum: 25 percent preconsumer.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC/TPA sheet membrane.

### 2.4 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
  - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Membrane Bonding Adhesive:
  - 1. Elastomeric solvent-based contact-type adhesive for bonding TPA single ply membranes and flashings to substrates..

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- a. TPA Single Ply Bonding Adhesive or Equal.
  - b. Density at 77 deg. F (25 deg. C), minimum, ASTM D 1475: 7.0 lb/gal.
  - c. Percent solids, minimum: 25 percent.
- C. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 mm by 3 mm) thick; with anchors.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to membrane roofing system manufacturer.
- E. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

## 2.5 ROOF INSULATION MATERIALS

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation.
- B. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- C. Roof Insulation:
1. Board Insulation, Polyisocyanurate: CFC- and HCFC- free, with recycled content glass-fiber mat facer on both major surfaces, ASTM C1289 Type II Class 1.
    - a. Compressive Strength, ASTM D1621: Grade 2: 20 psi (138 kPa)
    - b. Conditioned Thermal Resistance at 75 deg. F (24 deg. C): 14.4 at 2.5 inches (50.8 mm) thick.
- D. Glass-mat-faced, pre-primed, gypsum panel coverboard, ASTM C 1177/C 1177M.
1. Basis of design products: DensDeck, Securock, Dexcell, or equal.
  2. Thickness: 1/2 inch.

## 2.6 WALKWAY MATERIALS

- A. Walkway roll, reinforced PVC/TPA membrane roll with serrated slip-resistant surface, fabricated for heat welding to compatible PVC/TPA membrane surface.
1. TPA Walkway Roll or Equal.
  2. Roll Size: 36 inches by 60 feet.

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3. Thickness: 0.080 inch.
4. Color: Grey.

### PART 3 - EXECUTION

#### 3.1 REMOVAL

- A. Removal of existing Roof System(s):
  1. Remove all existing roofing materials, flashing, metal, gutters, deteriorated wood, etc. and legally dispose of off-site
  2. Remove only enough roofing to accommodate the day's work and ensure the exposed area can be made 100% watertight at the end of the day.

#### 3.2 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
  1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
  2. Wood Roof Deck: Verify that wood deck is securely fastened with no projecting fasteners.
  3. All deteriorated decking will be removed and replaced with like kind.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.3 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

#### 3.4 INSTALLATION, GENERAL

- A. Install roofing system in accordance with manufacturer's recommendations.

### 3.5 INSULATION INSTALLATION

- A. Cover Boards: Install cover boards straight lines with end joints staggered between rows. Loosely butt cover boards together and mechanically fasten to roof deck.
  - 1. Install crickets behind all curb mounted equipment.
  - 2. Install approx. 1,000 square feet of 1" rigid insulation at areas where the deck is deflected. Locations will be marked by Owner and Manufacturer.
  - 3. Mechanically fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
  - 4. Mechanically fasten cover boards, minimum 8 fasteners per 4' x 8' board.

### 3.6 MECHANICALLY FASTENED MEMBRANE ROOFING INSTALLATION

- A. Mechanically fasten membrane roofing over area to receive roofing and install according to roofing system manufacturer's written instructions.
  - 1. Install sheet according to ASTM D 5082.
- B. Start installation of membrane roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Mechanically fasten or adhere membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- F. Welded Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
  - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
  - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
  - 3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
  - 4. Install T patches where sheets intersect.

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

### 3.7 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

### 3.8 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.
- B. Walkways will not be installed over seams in single ply membrane.

### 3.9 FIELD QUALITY CONTROL

- A. Manufacturer Inspector: Manufacturer will employ technical personnel to inspect the roof while it is being installed. Roof will be inspected a minimum of 3 times per week while in progress with jobsite reports, including photos, sent to all of the project stakeholders.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### 3.10 PROTECTING AND CLEANING

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

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- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075419

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Aerial View &  
Roof Overview Pictures



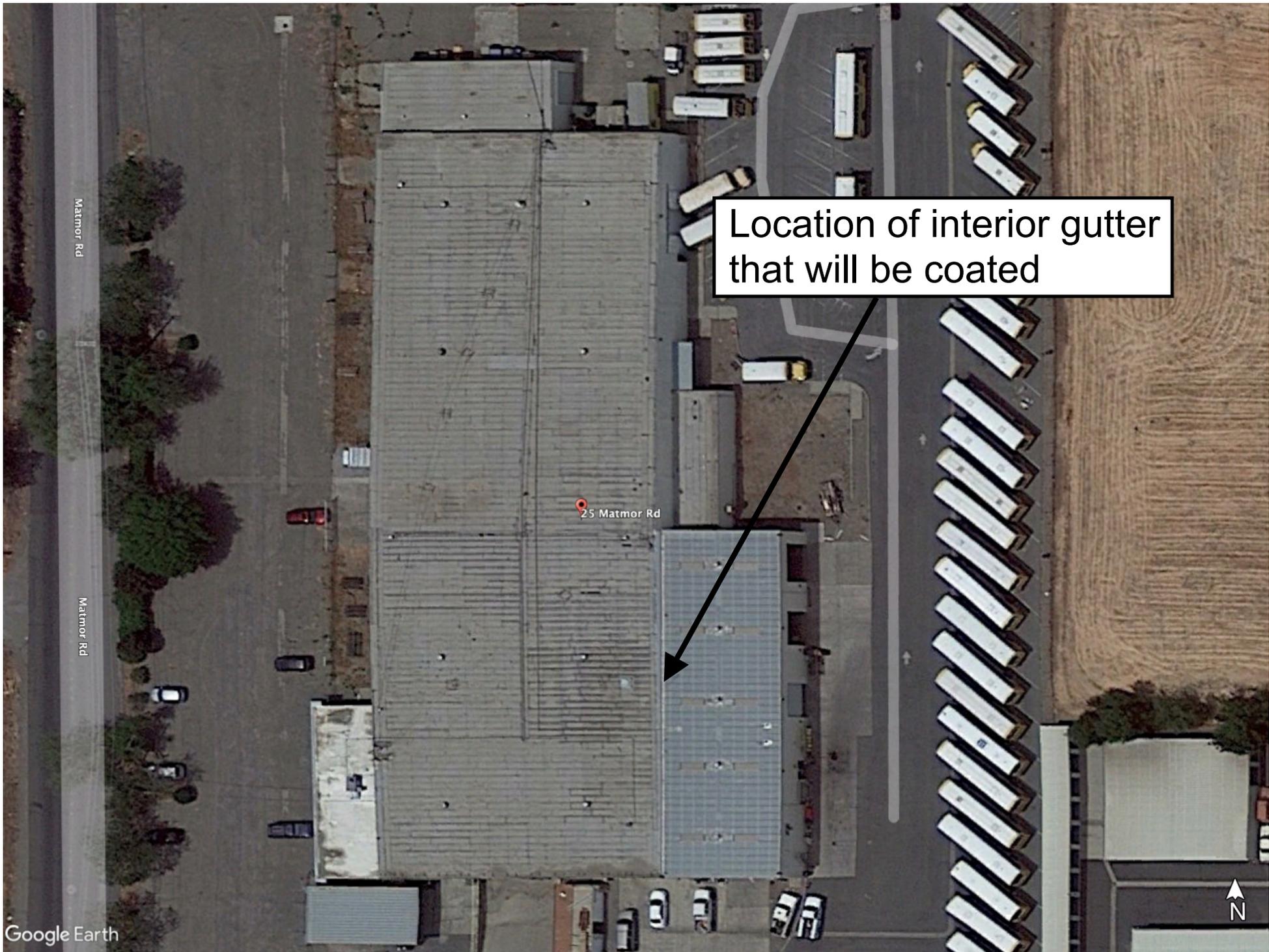
Transportation Warehouse  
Roof Areas to be replaced  
are outlined in Red

Matmor Rd

Matmor Rd

25 Matmor Rd





Location of interior gutter that will be coated

25 Matmor Rd

Matmor Rd

Matmor Rd

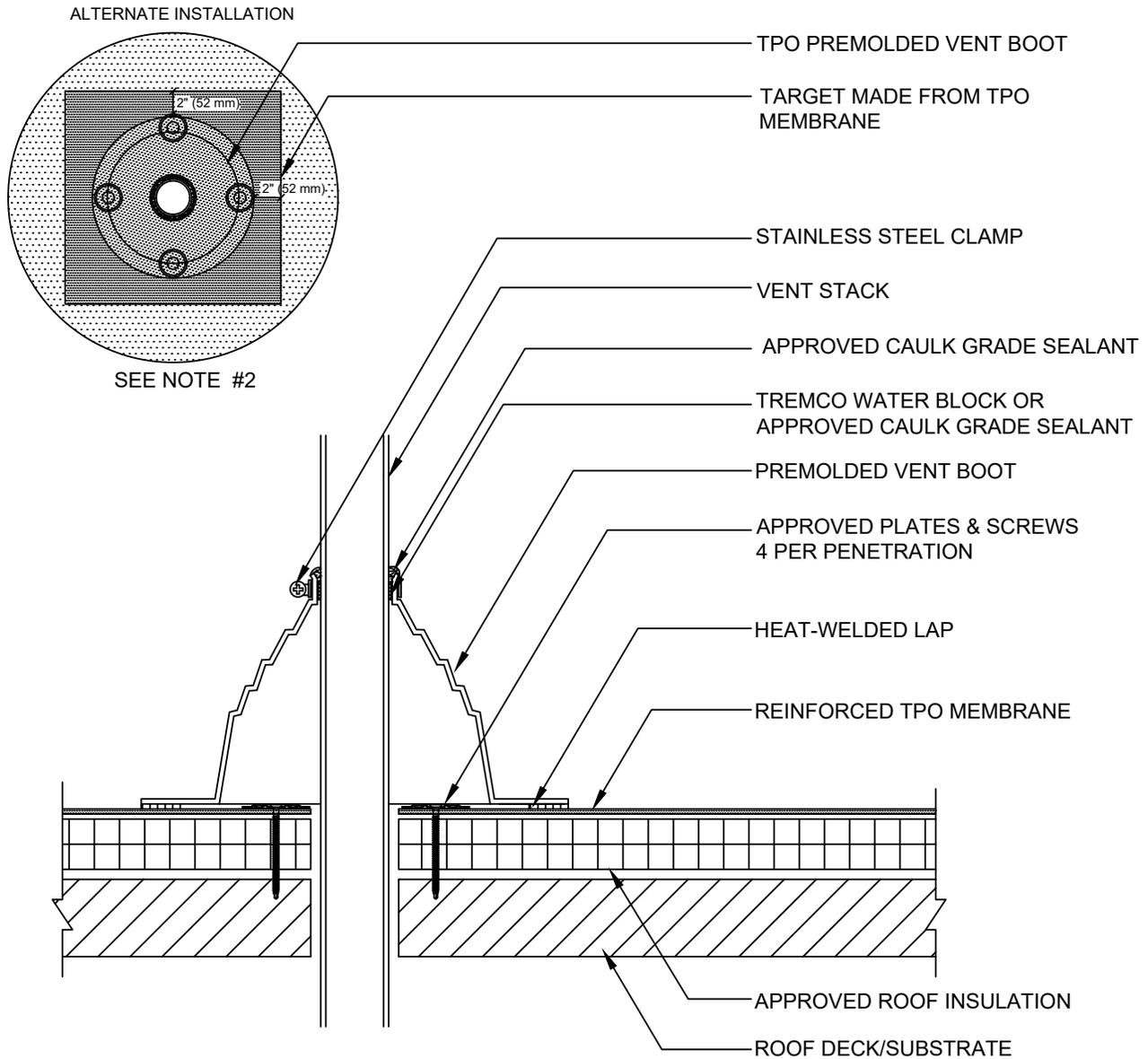








# Standard Installation Details



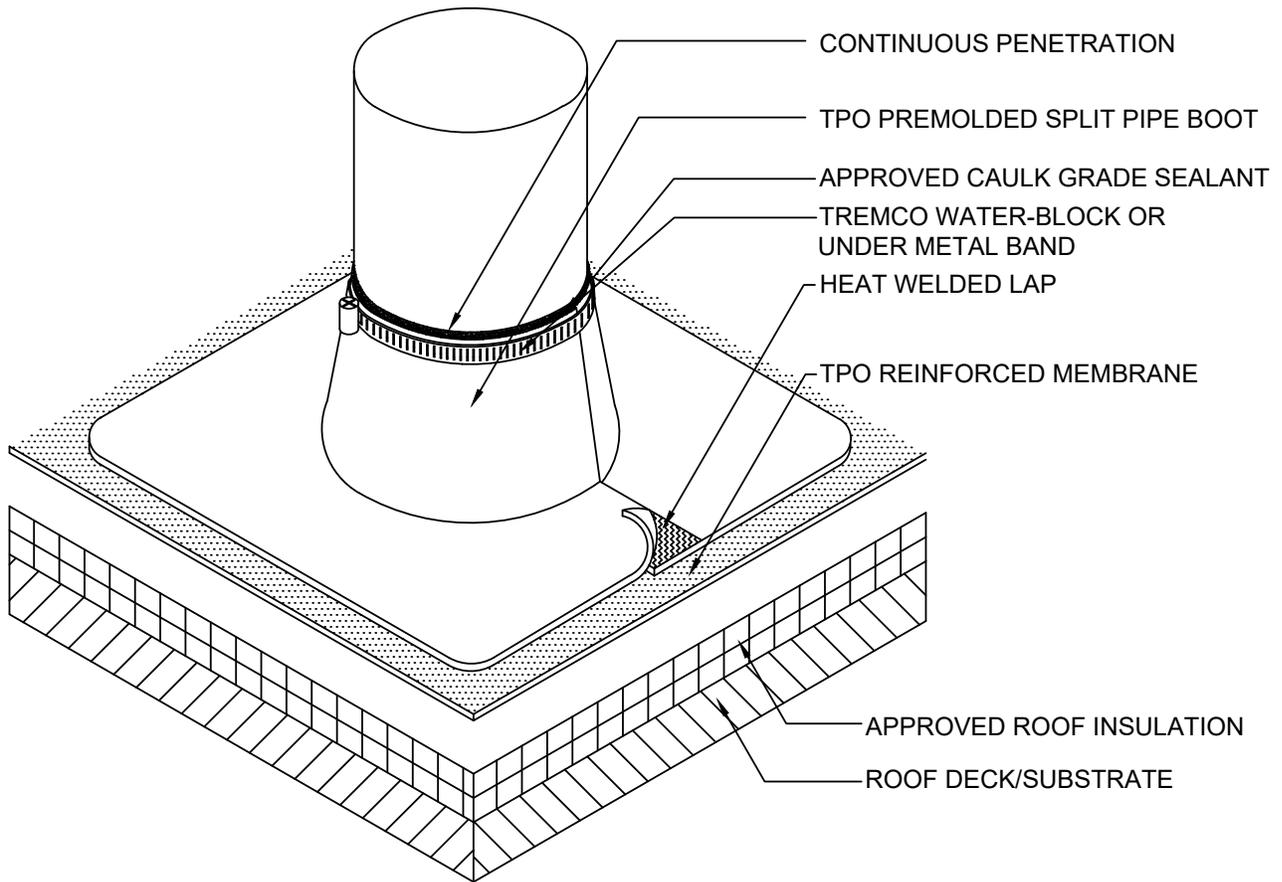
## NOTES

1. DO NOT CUT SIDE OF PREMOLDED BOOT. IT MUST BE PULLED OVER VENT PIPE.
2. IF THE PLATES AND FASTENERS INTRUDE INTO BOOT FLANGE AREA, THEN A TARGET MUST FIRST BE INSTALLED OVER PLATES AND FASTENERS BEFORE BOOT INSTALLATION.
3. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICAL SYSTEMS ONLY.
4. APPLY TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.

TREMPLY TPO  
 PREMOLDED VENT BOOT FLASHING DETAIL  
 DWG NO. 83

N.T.S.

**TREMCO**  
 ROOFING & BUILDING MAINTENANCE



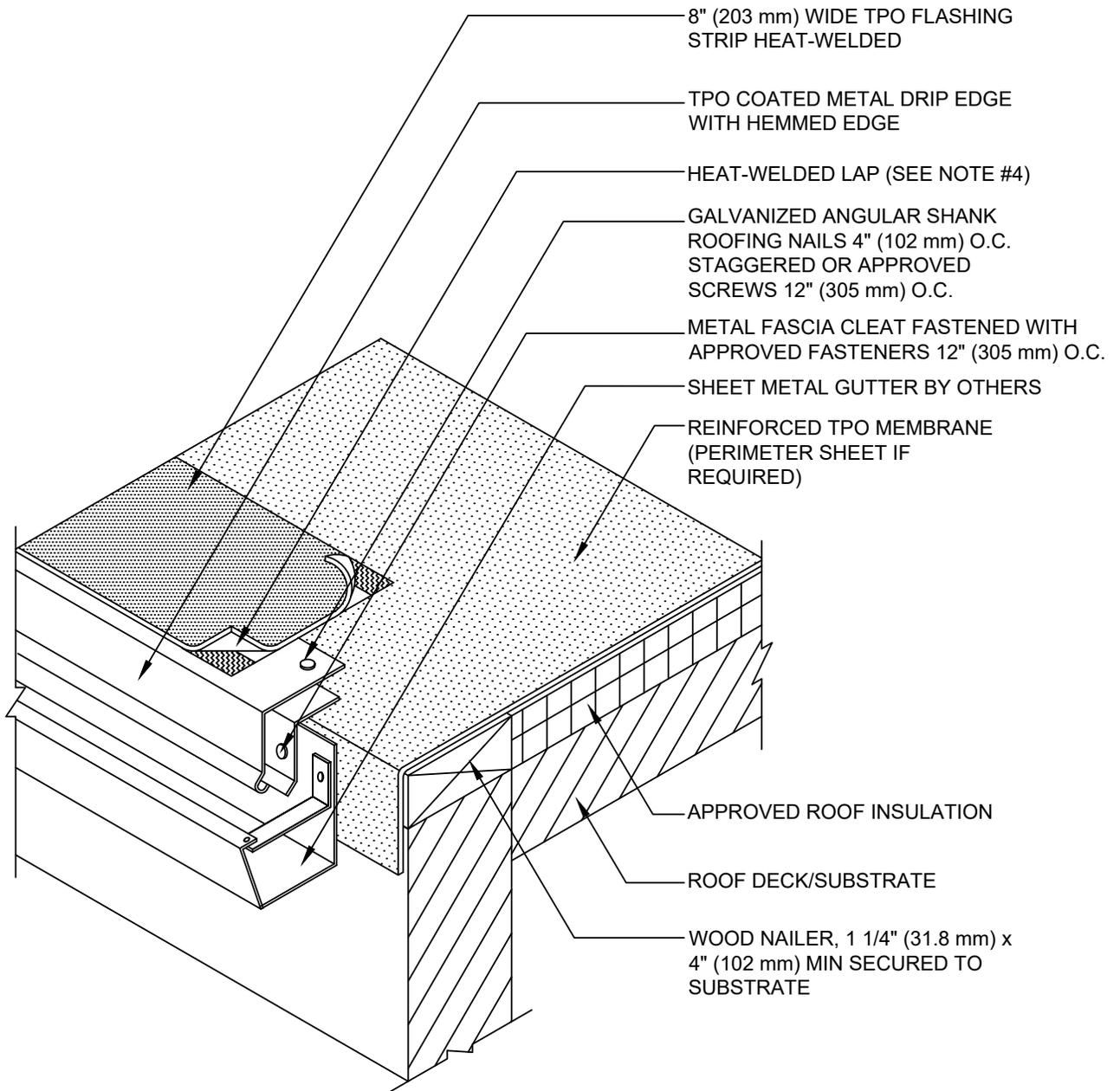
**NOTES**

1. FOUR APPROVED PLATES & SCREWS AROUND PENETRATION
2. IF PLATES AND FASTENERS ENCROACH INTO THE SEAM AREA OF THE POCKET, THEN A TARGET MUST BE ADDED FIRST TO COVER FASTENERS.
3. APPLY TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.

TREMPLY TPO  
 SPLIT PIPE BOOT DETAIL  
 DWG NO. 97

N.T.S.





## NOTES

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICALLY FASTENED SYSTEMS ONLY.
2. A CONTINUOUS METAL CLEAT IS REQUIRED.
3. APPLY TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.

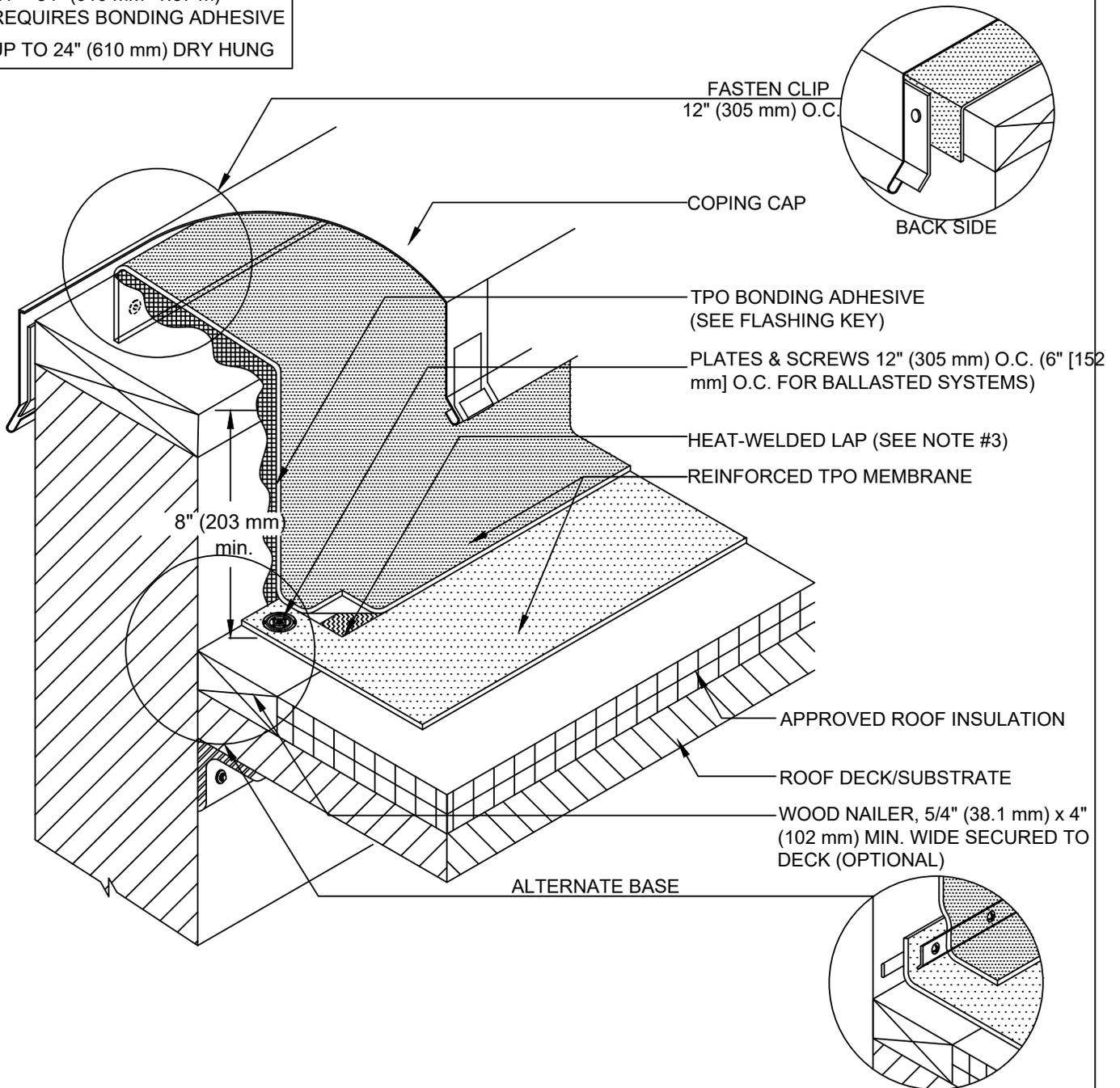
TREMPLY TPO  
 GUTTER WITH COATED METAL EDGE DETAIL  
 DWG NO. 21

N.T.S.

**TREMCO**  
 ROOFING & BUILDING MAINTENANCE

### FLASHING KEY

- 24" - 54" (610 mm - 1.37 m)  
REQUIRES BONDING ADHESIVE
- UP TO 24" (610 mm) DRY HUNG



### NOTES

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICALLY FASTENED SYSTEMS ONLY.
2. APPLY TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES

TREMPY TPO  
WALL CAP DETAIL  
DWG NO. 37

N.T.S.

**TREMCO**  
ROOFING & BUILDING MAINTENANCE

# Asbestos Report

**Asbestos Building  
Inspection/Survey**

**Department of Transportation  
Roof**

**25 Matmor Road  
Woodland, CA 95776**

**Presented to:**

*Vicki Pulsifer  
Supervisor of Maintenance & Operations*

*Woodland Joint Unified School District  
910 College Street  
Woodland, CA 95818*

**Inspection Date:**

*September 27, 2022*

**Reviewed and submitted by:**

*Michael J. Lee  
Certified Asbestos Consultant  
Registered Environmental Property Assessor*

**Conducted by:**

*Robert Mullen  
Certified Asbestos Consultant*

**National Analytical Laboratories, Inc.**  
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September 27, 2022

Vicki Pulsifer  
Supervisor of Maintenance & Operations  
Woodland Joint Unified School District  
910 College Street  
Woodland, CA 95695

RE: **Asbestos Building Inspection/Survey**  
**Department of Transportation**  
**Roof**  
**25 Matmor Road**  
**Woodland, California 95776**

Dear Ms. Pulsifer,

The following report is regarding the building inspection conducted at the above site. **Of the eight (08) suspect asbestos-containing samples collected, none (0) were found to contain asbestos.** Robert Mullen, Certified Asbestos Consultant, working with National Analytical Laboratories, Inc. (N.A.L.), conducted the inspection on September 27, 2022.

***SUMMARY OF FINDINGS –***

**The building inspection and analytical results indicate that no asbestos is present in the areas that are being renovated.**

***ASBESTOS INSPECTION –***

The inspection was completed according to the EPA's Asbestos Containing Building Materials (ACBM) In-Schools Rule; 40 CFR 763.85 (Inspection and Re-Inspection). Currently, the EPA regulations classify ACBM as materials containing more than 1 percent (1%) of asbestos. Cal-OSHA currently regulates asbestos to 1/10th of 1% (0.1%) and requires a certified asbestos worker to conduct this work.

Upon completing the visual inspection, the suspect asbestos bulk sample materials were collected under the EPA and Cal-OSHA protocol. They were placed into new plastic bags, sealed, and identified with unique identification numbers. The bulk samples were transported to the laboratory under a chain of custody protocol for analysis. MircoTest Laboratory, located in Rancho Cordova, CA, analyzed the bulk suspect asbestos-containing samples, utilizing the Polarized Light Microscopy (PLM) Method. National Voluntary Laboratory Accreditation Program (NVLAP), certification #200999-0, California Environmental Laboratory Accreditation Program (CAELAP), certification #2974, certifies MicroTest.

**Breathe easy...**

2201 Francisco Dr. Ste. 140-261 El Dorado Hills, CA 95762  
916.361.0555 | Email: Service@nal1.com

Minor destructive renovation sampling was conducted during the site visit. If renovation/demolition work reveals any unforeseen suspect materials, or if any future renovation work is to be conducted in other areas at the site; the contractor shall cease all work and contact the building owner for further testing.

Not all the rooms or materials throughout the site were sampled. According to the results, the like materials that were not tested will be treated as homogeneous to the tested materials and will be considered non-asbestos.

The following samples were **non-asbestos-containing materials**:

Sample ID#	Material	Location	Results
25-1	Roofing Core	E. Lower Roof, Center Area	None Detected
25-2	Roofing Core	Transportation Roof, NW Area	None Detected
25-3	Roofing Core	Transportation Roof, NE Area	None Detected
25-4	Roofing Core	Transportation Roof, SW Center Area	None Detected
25-5	Roofing Core	Transportation Roof, SE Center Area	None Detected
25-6	Roof Jack Mastic	Transportation Roof, NE Roof Jack	None Detected
25-7	Roof Jack Mastic	Transportation Roof, SW Roof Jack	None Detected
25-8	Roof Jack Mastic	E. Lower Roof, Center Area, Roof Jack	None Detected

#### **ASBESTOS CONCLUSION -**

No asbestos was detected in the above-listed samples/materials. Therefore, the contractor, their employees, and the sub-contractors can complete their work in the specific areas tested, without any health or safety concerns regarding exposure to airborne asbestos fibers.

#### **ASSUMPTIONS AND LIMITATIONS -**

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions noted during N.A.L.'s inspection of the specific areas listed herein.

The selection of sample locations and sampling frequency was based on observations and the assumption that like materials in the same area are homogeneous in content. This report is not to be utilized as a bidding document or a project specification document since it does not have all the components required to serve as an Asbestos Abatement Project Design document or an Asbestos Abatement Work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared following established principles and practices in environmental testing and consulting. This report does not warrant undiscovered hazards and locations not being investigated.



This report includes the laboratory analytical results, chain custody form, and sample location map. If you have any questions regarding this report or can be of further assistance, please get in touch with our office.

Reviewed and submitted by:



Michael J. Lee  
Certified Asbestos Consultant  
DOSH# 06-4047  
Registered Environmental Property Assessor  
REPA# 716352750

Conducted by:



Robert Mullen  
Certified Asbestos Consultant  
DOSH# 17-5889





**MicroTest Laboratories Inc. NVLAP Code: 200999-0**  
 3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670  
 PH 916.567.9808 | FX 916.404.0302  
 www.microtestlabsinc.com | service@microtestlabsinc.com

**Project ID**  
**MT012223121**

**CLIENT INFORMATION**

**Company** National Analytical Laboratories, Inc. **Date** Tuesday, September 27, 2022  
**Name** Paula Lee **Time** 8:30 AM  
**Address** 2201 Francisco Drive, Ste. 140-261  
 El Dorado Hills CA, 95762  
**Phone** (916) 361 - 0555  
**Email** N.A.L. Distribution List

**SAMPLE**



Analytical Data

**JOB SITE INFORMATION**

**Sampler** Robert Mullen  
**Project** Transportation Property  
**Address** 25 Matmor Road  
 Woodland, CA 95776

**POLARIZED LIGHT MICROSCOPY (PLM)**

**EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763**

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
25-1	23121-1	E. Lower Roof, Center Area	Black Roofing Core Fibrous Homogenous	10% Fiberglass 90% Binder	None Detected
25-2	23121-2	Transportation Roof, NW Area	Black Roofing Core Fibrous Homogenous	10% Fiberglass 90% Binder	None Detected
25-3	23121-3	Transportation Roof, NE Area	Black Roofing Core Fibrous Homogenous	10% Fiberglass 90% Binder	None Detected
25-4	23121-4	Transportation Roof, SW Center Area	Black Roofing Core Fibrous Homogenous	10% Fiberglass 90% Binder	None Detected
25-5	23121-5	Transportation Roof, SE Center Area	Black Roofing Core Fibrous Homogenous	10% Fiberglass 90% Binder	None Detected
25-6	23121-6	Transportation Roof, NE Roof Jack	Black Mastic Fibrous Homogenous	10% Cellulose 90% Binder	None Detected

**Date Received:** Tuesday, September 27, 2022  
**Date Analyzed:** Tuesday, September 27, 2022  
**Date Reported:** Tuesday, September 27, 2022

**Samples Received: 8**  
**Samples Analyzed: 8**

**Analyst:** Nolan Starbuck

**Authorized Signatory:**

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply only to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately except when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client.



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**Project ID**  
**MT012223121**

25-7	23121-7	Transportation Roof, SW Roof Jack	Black Mastic Fibrous Homogenous	5% Fiberglass 10% Cellulose 85% Binder	None Detected
25-8	23121-8	E. Lower Roof, Center Area, Roof Jack	Black Mastic Fibrous Homogenous	10% Cellulose 90% Binder	None Detected

**Date Received:** Tuesday, September 27, 2022  
**Date Analyzed:** Tuesday, September 27, 2022  
**Date Reported:** Tuesday, September 27, 2022

**Samples Received: 8**  
**Samples Analyzed: 8**

**Analyst:** Nolan Starbuck

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**Project ID**  
MT012223121

**CLIENT INFORMATION**

**Company** Woodland Joint Unified School District  
**Name** Vicki Pulsifer  
**Address** 910 College Street  
Woodland CA, 95695  
**Phone** (530) 406 - 5930  
**Email** nicholas.baral@wjusd.org

**Sample**

**Date** Tuesday, September 27, 2022  
**Time** 08:30 AM

**Chain-Of-Custody**

**JOB SITE INFORMATION**

**Site** Transportation Property  
**Address** 25 Matmor Road  
Woodland, CA 95776  
**Unit**  
**Claim#**  
**Job #** 47014  
**Chain #** 1

**Analysis:** PLM | TTFP - 400 PT.CT.  
**Turn Around Time:** Same Day

Sample Number:	Location	Description
25-1	E. Lower Roof, Center Area	Roofing Core
25-2	Transportation Roof, NW Area	Roofing Core
25-3	Transportation Roof, NE Area	Roofing Core
25-4	Transportation Roof, SW Center Area	Roofing Core
25-5	Transportation Roof, SE Center Area	Roofing Core
25-6	Transportation Roof, NE Roof Jack	Roof Jack Mastic
25-7	Transportation Roof, SW Roof Jack	Roof Jack Mastic
25-8	E. Lower Roof, Center Area, Roof Jack	Roof Jack Mastic

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
<i>[Signature]</i>	09/27/2022 08:30 AM

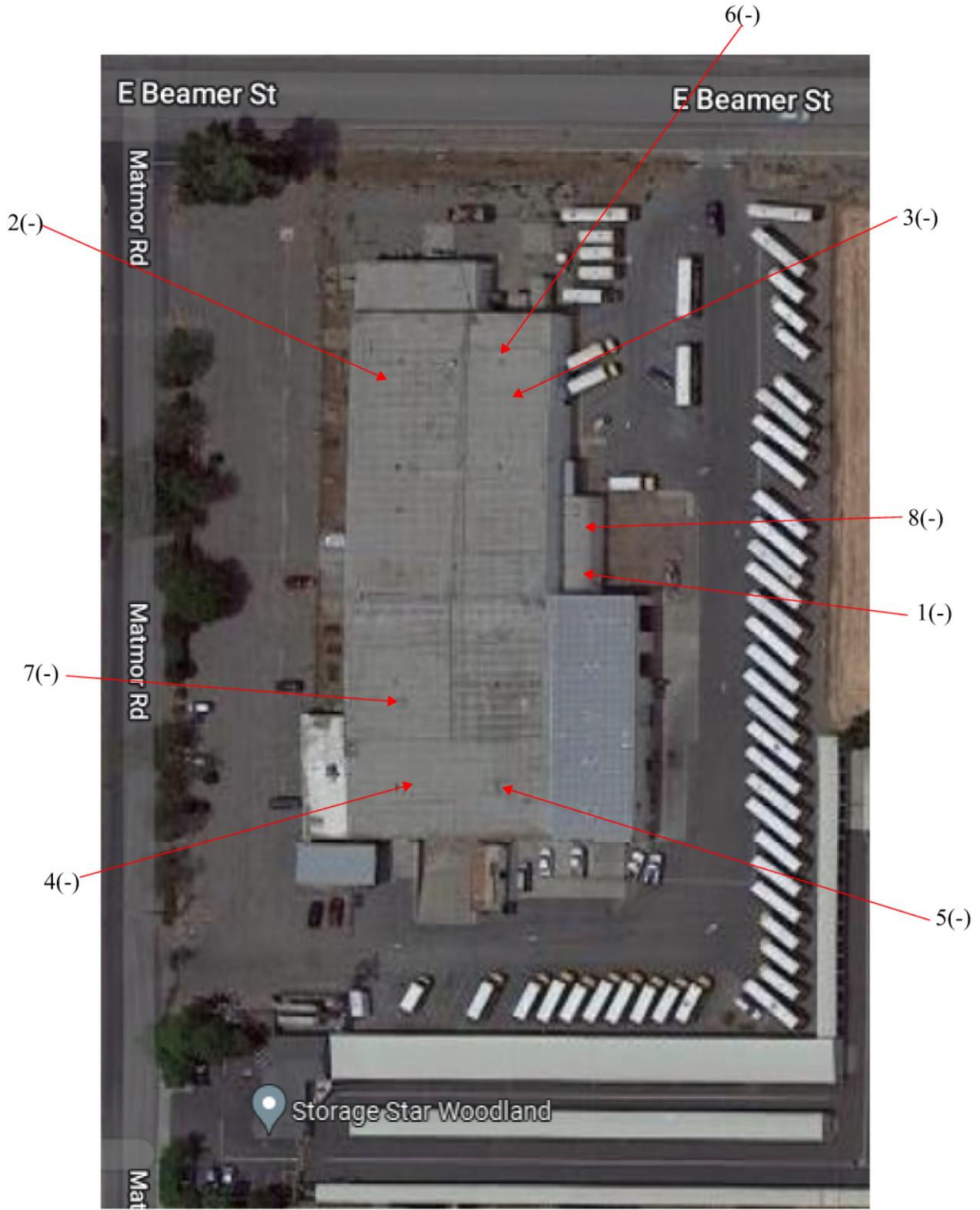
Sampler: Robert Mullen

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
<i>[Signature]</i>	09/27/2022 12:14 PM

Total Number of Samples 8

25 Matmor Road  
Woodland, CA 95776



<b>ASBESTOS SAMPLE LOCATION MAP</b>	<b>Site Name:</b> Dept. of Transportation	<b>Project#:</b>	
<b>Survey Date:</b> 09/27/22	<b>Site Address:</b> 25 Matmor Road Woodland, CA 95776	<b>Scale:</b> Not to Scale Layout and Sample Locations Are Approximated.	
<b>Area:</b> Roof		<b>Legend:</b> - Non-Asbestos + Contains Asbestos	