

INVITATION TO BID
from
COMMUNITY COLLEGE OF ALLEGHENY COUNTY
PURCHASING DEPARTMENT
800 ALLEGHENY AVENUE, PITTSBURGH, PENNSYLVANIA 15233

BID PROPOSAL NO. 1009

REFURBISH ROOFS B, G & L – SOUTH CAMPUS

Sealed proposals will be received and publicly opened by a Purchasing Agent of the Community College of Allegheny County.

**Proposals must be received by the Purchasing Department, 800 Allegheny Avenue,
Pittsburgh, Pennsylvania 15233**

on or before 2:00 PM, on Friday, October 13, 2017.

Proposals received after this deadline will be considered as a “late bid” and returned unopened to the offerer.

BID SCOPE

Provide all labor, material, equipment, permits and supervision required to refurbish roofs B, G & L at South Campus in accordance with specification, terms and conditions contained herein.

A MANDATORY pre-bid meeting and site visitation will be held onsite beginning at 2:00 p.m. on Friday, September 29, 2017. The assembly point will be the campus security desk at the main entrance to South Campus, around right side of complex, 1750 Clairton Road, West Mifflin, PA 15122.

For technical questions or to view site call J.B. Messer, Chief Facilities Officer at 412.237.3108 (jmesser@ccac.edu)

For procedural questions, call Mike Cvetic, Director of Purchasing, at 412.237.3146 (mcvetic@ccac.edu)

BID REQUIREMENTS (where checked)

☒ Bid Bond. 10% of total base bid amount (Submit with Bid)

☒ Performance Bond. 100% of total contract amount (Awardee Only)

☒ Payment Bond. 100% of total contract amount (Awardee Only)

☒ Master Services Agreement (Awardee Only)

☒ No Lien Agreement (Awardee Only)

☒ Insurance Certificate (Awardee Only)

BID BOND: Bid must include the required bid bond or certified check, which will be returned to the unsuccessful bidder approximately 45 days after the bid due date.

PERFORMANCE BOND: The successful bidder will be required to enter into a written contract with the College and to furnish a contractor's bond conditioned for the faithful and full performance of the contract with sufficient surety in the amount stated above. Any surety cosigning the contractor's bond shall be an Incorporated surety company approved by the Court of Common Pleas of Allegheny County. Bond with surety must be furnished within 20 days after receipt of the contract. The Board of Trustees reserves the right to reject any bond furnished where it is in the best interest of the College to do so.

The College requires Power of Attorney attached to bonds to be dated concurrently, sealed, and executed by a proper **live** (not facsimile) **signature**.

PAYMENT BOND: The bidder to whom the contract is awarded shall furnish a bond to guarantee the payment of third-party subcontractors involved in fullment of services rendered against College contracts. Such bonds shall be with sufficient surety and in the amount stated above. Failure on the part of the contractor to furnish such bond shall be just cause for cancellation of award.

NO LIEN AGREEMENT AND/OR INSURANCE CERTIFICATES: As required by the College, the No Lien Agreement and/or Insurance Certificate may be requested of the successful bidder.

THE BOARD OF TRUSTEES RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

INDEX TO SPECIFICATIONS
FOR
BID PROPOSAL NO. 1009
REFURBISH ROOFS B, G & L – SOUTH CAMPUS

INVITATION TO BID	Cover Sheet
INDEX TO SPECIFICATIONS	
INSTRUCTIONS TO BIDDERS	2 Pages
GENERAL CONDITIONS	7 Pages
PROJECT LABOR AGREEMENT	16 Pages
PREVAILING MINIMUM WAGE DETERMINATION	Allegheny County Rates

RETURN BID PROPOSAL FORMS:

BIDDER SIGNATURE FORM	Return Form 1.0
PRICE FORM	Return Form 2.0-2.3
NON-COLLUSION AFFIDAVIT	Return Form 3.0
& INSTRUCTIONS	1 Page
MINORITY PARTICIPATION GOALS	Return Form 4.0
EXTENSION OF CONTRACT EXECUTION REQUIREMENTS	Return Form 5.0
LETTER OF ASSENT	Return Form 6.0

DOCUMENTS REQUIRED BY AWARDEE ONLY:

PERFORMANCE BOND	Copy Attached
PAYMENT BOND	Copy Attached
MASTER SERVICES AGREEMENT	Copy Attached
NO-LIEN AGREEMENT	Copy Attached
INSURANCE REQUIREMENTS	Form B

INDEX TO SPECIFICATIONS	01000 thru 076200-10
-------------------------	----------------------

DRAWINGS

TPA FB-17	TPA FB-2	TPA FB-21
TPA FB-20	TPA FB-37	TPA FB-16
TPA FB-15	TPA FB-25	TPA FB-18
TPA FB-29	TPA FB-1	TPA FB-30
TPA FB-38	TPA FB-14	TPA FB-10
TPA FB-24	TPA FB-27	13
TPA FB-34	TPA FB-35	TPA FB-36
TPA FB-33	TPA FB-3	TPA FB-28
TPA FB-6	TPA FB-23	TPA FB-19
TPA FB-22	TPA FB-7	TPA FB-32
8 (Wall Flashing)	TPA FB-12	TPA FB-40
TPA FB-9	1	3
8 (Roof Drain)	10	11
12	16	

The CCAC Purchasing Department is now publishing all bids via the CCAC website at https://www.ccac.edu/Bid-RFP_Opportunities.aspx. It will be each vendor's responsibility to monitor the bid activity within the given website ("Bid and RFP Opportunities") and ensure compliance with all applicable bid documents inclusive of any issued addenda. Failure to incorporate any applicable addenda in the final submittal may result in the rejection of your bid.

NOTE: FAX OR ELECTRONIC RESPONSES TO BID PROPOSALS ARE NOT ACCEPTABLE.

In the event a sealed bid is hand carried, it is the sole responsibility of the bidder to assure the bid is in possession of the CCAC Purchasing Department prior to the time set for opening.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

INSTRUCTIONS TO BIDDERS

1. All prices quoted shall be F.O.B. destination and include all freight and delivery charges to actual point of delivery.
2. **Bids that vary from specifications/addendum(s) may be rejected by the College.** Any and all changes to specifications will be issued by addenda via fax/mail. It is the responsibility of bidders to provide the College with company name, address, telephone, and fax numbers and contact names if applicable.
3. Bidders must be recognized dealers in specified materials and qualified to advise in the application and/or use of the materials. When requested, the bidder must satisfy the Community College of Allegheny County that they have the organization, capital, and stock availability and experience to fulfill their bid offer.
4. Bids may be rejected or award cancelled by the College if a bidder intends to sublet any/all of the required work.
5. Completely executed bid documents must be submitted in a **sealed envelope bearing the offering company's name and address; and, the bid number must appear on the sealed envelope.** No College representative will bear any responsibility for the premature opening of a bid which is not properly addressed and identified.
6. Whenever the words "Purchasing Agent" or a pronoun referring to a College Agent appears in either the specifications and/or Articles of Agreement, the Agent is acting only under the authority of and subject to the approval of the Board of Trustees of the Community College of Allegheny County.
7. The College reserves the right to award all or any items, separately or in a lump sum whichever is in the best interest of the College.
8. Bids for supplies shall be submitted to the College in accordance with the numbered item(s) on the price sheet. Unit prices(s) shall prevail where extension of prices is requested.
9. Contracts will not be awarded by the College to any corporation, firm, or individual that has failed in any former contract with the College to perform work or complete work or, in the College's sole judgment, to satisfactorily deliver or provide the quality of materials, fulfill a guarantee(s) or complete work in accordance with the schedule for such prior contract."
10. If the College Agent is of the opinion that the awarded work/products are unnecessarily delayed, the rate of progress of delivery is unsatisfactory, or that the corporation, firm, or individual contractor is willfully violating any of the contract requirements or conditions or is acting in bad faith, the College's Agent shall take whatever action necessary for the completion of the work and/or delivery of the products to the College. Resulting expenses to the College will be deducted from monies due the contractor and the bondsman will be held liable for any balance due at the completion of the contract.
11. Inspection of materials and workmanship of the contractor by a College Agent will not lessen the responsibility of the contractor from the obligation to perform and deliver satisfactory work/materials to the College. The contractor is expected to pay for the cost of tests for defective materials. This cost may be deducted from any monies due the contractor from the College.
12. The contractor will not receive instructions from a College Agent relative to the work or delivery until a contract has been duly signed and the bond, if required, is approved.
13. Companies may quote price(s) on work/material to any and all bidders and may also directly submit a bid to the College for the work/material.
14. When samples are requested by the College, the bidder must supply them free of charge. Samples will not be returned to the bidder.

15. The bidder is solely at risk when using unauthorized patented material.
16. Quantities requested by the College are for bidding purposes only. The College may purchase more or less than the estimated quantities.
17. The College reserves the right to reject any and all bids, and to waive minor discrepancies in the bids or specifications, when in the best interest of the College. The College may purchase any part, all, or none of the materials specified.
18. The College will reject materials that do not meet specifications, even if the bidder lists trade names, or names of such materials on the bid.
19. All prices quoted must be held firm for the contract period. Bids containing escalation or other clauses for price change may be rejected. Discounts or other uncalled for allowances quoted will not be considered in making the award and the bid may be rejected.
20. Unless otherwise specified, materials, supplies, and/or equipment must be delivered thirty (30) days from the date of the purchase order.
21. Unless otherwise specified, materials, supplies, and/or equipment must be new, current stock, and unused.

SIGNING OF AGREEMENT AND BOND

22. Successful bidders are required to sign Contract Articles of Agreement and bond forms as follows:

If trading as an Individual: All copies of Contract Articles of Agreement and bond(s) must be signed by the individual to whom the award is made and signature must be witnessed by the same witness.

If trading as a Partnership: All copies of Contract Articles of Agreement and bond(s) must be signed by **every partner** comprising the Partnership, regardless of number, and these signatures must be witnessed by the same witness.

If trading as a Corporation: All copies of Contract Articles of Agreement and bond(s) must be signed by the **President (or Vice President)** and attested by the Secretary or Assistant Secretary and Corporate seal must appear on all copies.

The County requires that Power of Attorney forms be attached to bonds, bear the same date as that appearing on the bonds and that the forms are sealed and executed by a proper **live signature**.

FICTITIOUS NAME REGISTRATION

23. To comply with a provision of the law regarding registration under the Fictitious Name Act of the Commonwealth of Pennsylvania, successful bidders trading as an **Individual or a Partnership** must submit a certified copy of their Fictitious Name Registration with their contract. Fictitious Name Registration forms are issued by the Office of the Prothonotary of Allegheny County, or the county in which the business is located.

PREVENTION OF DELAY

24. A contractor will be considered in **default** if the contractor has work performed or means employed in the carrying out of the contract that would in any way cause or result in a suspension or delay of, or strike upon the work to be performed of any of the trades working in or about the premises described, or in or about any other building of the Community College of Allegheny County.
25. When trade names or catalog numbers are used, bidders may quote on any equal (unless otherwise stated by the College) but such bids must show trade names and/or catalog numbers of the products.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

GENERAL CONDITIONS

FOR

CONSTRUCTION AND RENOVATION CONTRACTS

1. PERMITS

It is the responsibility of the contractor to obtain all permits and/or licenses required by Federal, State, County, City, or other local Municipalities or Authorities for work done or services performed under this contract.

2. ROLE OF CONTRACTOR

In the performance of the work hereunder, the contractor shall act as an independent contractor, and all of his agents, employees, and subcontractors shall be subject solely to the control, supervision, and authority of the contractor.

3. EMPLOYEES OF THE CONTRACTOR

It is understood that the contractor in signing the contract will employ only competent and first-class workmen and mechanics; that no workmen shall be regarded as competent and first-class except those who are duly skilled in their respective branches of labor.

4. BONDS

The College will accept only bonds written by surety companies authorized to do business in the Commonwealth of Pennsylvania and the County of Allegheny and included on the United States Treasury Department Annual List of Surety Companies published July first of each year. Limits for those companies appearing on the United States Treasury Department's list cannot be exceeded. This list is available for inspection in the Purchasing Department, Community College of Allegheny County, Administration Building, 800 Allegheny Avenue, Pittsburgh, Pennsylvania 15233. It is also available from the Surety Bond Branch, Financial Management Services, Department of the Treasury, Washington, D.C. 20226. Phone: 1.202.634.2214.

5. EQUAL OPPORTUNITY

Contractor and all subcontractors shall not discriminate against any employee or applicant for employment because of race, color, creed, national origin, or sex. Contractor and all subcontractors shall also comply with all applicable Federal, State, and local Fair Employment Practice Acts, or similar Acts, Rules, and Regulations and whether or not applicable will comply with the Federal Civil Rights Act of 1964. The Terms and Provisions of Executive Order 11246 and any Executive Order modifying or superseding same, are incorporated herein with respect to any work subject thereto.

The contractor and all subcontractors shall, in all solicitations or advertisements for employees placed by them or their behalf state all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, or national origin.

6. MINORITY & DISADVANTAGED PARTICIPATION GOALS

The College's goal is to obtain **15%** combined MBE/WBE/DBE (Minority-owned Business enterprise/Woman-owned Business Enterprise/Disadvantaged Business Enterprise) participation in the work. This is to be based on the dollar value of employment, subcontracts, supplies, goods, and services as a percentage of the total contract amount. The bidder/contractor must demonstrate to the College prior to award of the contract, and periodically thereafter throughout the term of the contract, their compliance and continued ability to comply with these goals.

The contractor shall submit with their bid (on Return Form 4.0) a completed Minority & Disadvantaged Contractor Commitment Plan that will contain the details of how they plan to comply with this goal should they be awarded the contract.

If the plan is not submitted in the bid or is not acceptable, the College may deem the bid non-responsive and may award the work to the next lowest responsive bidder with an acceptable plan. Thus, it behooves all bidders to formulate their M/W/DBE plan before submitting a bid.

Finding Certified M/W/DBE's - All subcontractors and suppliers of goods and services used to comply with this goal must be **certified** minority or disadvantaged firms. They may be certified by any recognized and reputable organization such as the following: African American Chamber of Commerce, Allegheny County, Port Authority of Allegheny County, City of Pittsburgh, Pittsburgh Regional Minority Purchasing Council, Commonwealth of Pennsylvania, United States Federal Government.

If the firm is not certified and desires to be certified, it is suggested that they contact one of the following organizations. These organizations may also be used as references for sourcing M/W/DBE firms.

Allegheny County
M/W/DBE Department
County Office Building Rm 204
542 Forbes Avenue
Pittsburgh, Pennsylvania 15219
412.350.4309

EMSDC
Regional Enterprise Tower
425 Sixth Avenue
Suite 401
Pittsburgh, Pennsylvania 15219
412.391.4423

Diversity Business Resource Center
700 River Avenue Suite 231
Pittsburgh, PA 15212
412.322.3272

African American Chamber of Commerce
Koppers Building
436 Seventh Avenue, Suite 2220
Pittsburgh, PA 15219
412.391.0610

A list of PA certified M/W/DBE firms can be found on the Internet at <http://www.paucp.com>.

The College expects all firms to demonstrate a good faith effort to include M/W/DBE's when bidding on College contracts. A good faith effort as defined by the Code of Federal Regulations (49CFR26) means *"efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement"*.

If you are not successful in securing M/W/DBE participation after a good faith effort is made, provide the following in your waiver request:

- A detailed account of your efforts;
- Your normal business practice and/or inventory profile; and
- An active diversity plan/policy

Reporting During and After Project Completion - The contractor shall submit with their monthly application for payment a written M/W/DBE Contractor Report demonstrating their compliance with the goal. The report shall state the dollar amount spent on labor, materials, services, and subcontracts and shall list firm names and vendor names. At the completion of the project, with final application for payment, the contractor shall submit a recap of their compliance which shall state the dollar amount spent on labor, materials, subcontracts, and services as a percentage of the total contract amount. Projects with shorter timeframes shall require a one-time only report at the completion of the project. Reports are to be accompanied by back-up documentation evidencing the business relationship with the M/W/DBE for the particular project (e.g.: copies of invoices, purchase orders, or evidence of payments).

Failure to Comply With M/W/DBE Goals – If the contractor fails to make a good faith effort (as determined by the College) to comply with the College's 15% M/W/DBE goal or fails to meet their M/W/DBE commitment or to submit documentation as required by the College, the College may consider such non-compliance or breach of contract and any one or more of the following may occur:

- Rejection of the bid
- Forfeiture of bid guaranty
- Termination of the contract
- The imposing of sanctions as deemed appropriate by the College
- Contractor being barred from bidding on College contracts for up to three (3) years
- Or such other remedy as the College deems appropriate

7. FINANCIAL INTEREST

All bidders for construction must be established firms competent to perform the required scope of work. All bidders must satisfy the Community College of Allegheny County that they have the requisite organization, capital, plant, stock, ability, and experience to satisfactorily execute and contract in accordance with the provisions of the contract in which they are interested.

If the contractor's base bid is \$25,000.00 or more, the American Institute of Architects form, "Contractors Qualification Statement" form A305 - 1986 (or latest revision) may be requested by CCAC. This form is available from the American Institute of Architects, 1735 New York Avenue N.W., Washington, D.C. 20006. If requested by CCAC, a completed form A305 is to be submitted within 48 business hours and may be faxed to 412.237.3195.

8. EMPLOYMENT OF INDEPENDENT SUBCONTRACTORS

If you are a contractor to the College and the value of the base contract is \$25,000.00 or more, you must secure approval of all proposed subcontractors from the College prior to beginning work. Information on your proposed subcontractors is to be submitted on the form entitled Proposed Subcontractors.

Each proposed subcontractor to be employed must be an independent contractor "in fact" and must meet the following criteria:

- a. The subcontractor must have a Federal identification number.
- b. The subcontractor must perform these same services for others.
- c. The subcontractor must have an established place of business.
- d. The subcontractor must use their own tools and equipment.
- e. The subcontractor must pay all taxes and other items required by law to be paid by an employer with respect to compensation paid to their employees.
- f. The subcontractor must provide and maintain all insurance required by law and the College.

If the proposed subcontractor does not meet all of these criteria, they will not be approved.

9. VERBAL AUTHORIZATIONS

No verbal agreement or understanding with any officer, agent, or employee of the College either before or after the execution of the contract shall alter, amend, modify, or rescind any of the terms or provisions contained in any of the contract documents. This provision shall not limit or affect the right to make changes or variations in the work. Any changes must be authorized in writing.

10. APPLICABLE LAW, ACTS, AND ORDINANCES

The contractor(s) shall agree to abide by and be bound by all applicable provisions and regulations of all laws, acts, and ordinances relating to and regulating the hours and conditions of employment.

11. PENNSYLVANIA PREVAILING WAGE ACT

The Pennsylvania Prevailing Wage Act shall be incorporated into and made part of all College construction related contract(s) having an estimated value of \$25,000.00 or more.

It is the responsibility of the contractor to ensure that they have included the appropriate Pennsylvania prevailing wage rates in their proposal to the College. Failure to do this will not be a reason for the contractor to withdraw their bid or fail to perform the contract or to request additional payments from the College.

In accordance with the Prevailing Wage Determination Act, the contractor(s) shall:

- a. Pay no less than the wage rates including contributions for employee benefits as determined in the decision of the Secretary of Labor and Industry and shall comply with the conditions of the Pennsylvania Prevailing Wage Act approved August 15, 1961 (Act No. 442) as amended August 9, 1963 and/or subsequent amendments thereof (Act No. 342) and the regulations issued pursuant thereto.
- b. Apply all applicable provisions of the Acts and Laws to all work performed on the contract by the contractor(s) and subcontractor(s).
- c. Insert in each of his subcontracts all of the stipulations contained in these required provisions and such other stipulations as may be required.
- d. Assure that no workmen be employed on the public work except in accordance with the classifications set forth in the decisions of the Secretary. In the event that additional or different classifications are necessary, the procedure set forth in Section 7 of the above referenced Regulations shall be followed.
- e. Assure that all workmen employed or working on this contract shall be paid unconditionally regardless of whether any contractual relationship exists or the nature of any contractual relationship which may be alleged to exist between any contractor, subcontractor, and workmen not less than once a week without deduction or debate on any account either directly or indirectly except authorized deductions, the full amounts due at the time of payment computed at the rates applicable to the time worked on the appropriate classification. Nothing in this contract, the Act or these Regulations, prohibits the payment of more than the general prevailing minimum wage rates as determined by the Secretary to any workmen on public work.
- f. Each subcontractor shall post for the entire period of construction the wage determination decisions of the Secretary including the effective date of any charges thereof in a prominent and easily accessible place or places at the site of the work and at such place or places used by them to pay workmen their wages. The posted notice of wage rates must contain the following information:
 1. Name of project.
 2. Name of public body for which it is being constructed.
 3. The crafts and classifications of workmen listed in the Secretary's general prevailing minimum wage rate determination for the particular project.

4. The general prevailing minimum wage rates determined for each craft and classification and the effective date of any changes.
 5. A statement advising workmen that if they have been paid less than the general prevailing minimum wage rate for their job classification or that the contractor and/or subcontractor are not complying with the Act or these Regulations in any manner whatsoever they may file a protest with the Secretary of Labor and Industry. Any Workmen paid less than the rate specified in the contract shall have a civil right of action for the difference between the wage paid and the wages stipulated in the contract, which right of action must be exercised within six months from the occurrence of the event creating such right.
- g. All subcontractors shall keep an accurate record showing the name, craft, and/or classification, number of hours worked per day, and the actual hourly rate of wage paid (including employee benefits) to each workman employed by him in connection with the public work and such record must include any deductions from each workman. The record shall be preserved for two years from the date of payment and shall be open at all reasonable hours to the inspection of the public body awarding the contract and to the Secretary or his duly authorized representative.
 - h. Assure that apprentices shall be limited to such numbers as shall be in accordance with a bonafide apprenticeship program registered with and approved by the Pennsylvania Apprenticeship and Training Council and only apprentices whose training and employment are in full compliance with the provisions of the Apprenticeship and Training Act approved July 14, 1961 (Act No. 304) and the Rules and Regulations issued pursuant thereto shall be employed on the public work project. Any workman using the tools of a craft who does not qualify as an apprentice within the provisions of this subsection shall be paid at the rate predetermined for journeymen in that particular craft and/or classification.
 - i. Pay wages without any deductions except authorized deductions. Employers not parties to a contract requiring contributions for employee benefits which the Secretary has determined to be included in the general prevailing minimum wage rate shall pay the monetary equivalent thereof directly to the workmen.
 - j. Be advised that payment of compensation to workmen for work performed on public work on a lump sum basis, or a piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the Act and these Regulations regardless of the average hourly earnings resulting therefrom.
 - k. Each subcontractor shall file a statement each week and a final statement at the conclusion of the work on the contract with the contracting agency under oath and in form satisfactory to the Secretary certifying that all workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by Section 3 of these Regulations; or, if any wages remain unpaid, to set forth the amount of wages due and owing to each workman respectively. The College shall require the contractor and all subcontractors to file weekly wage certifications utilizing form WH-347. (Reference: Section 10(a) of Act and Section 10 of Regulations). Prior to making final payment the College will require final wage certifications from all contractors and subcontractors.

12. PAYMENT TO CONTRACTORS

The College maintains the right to withhold a percentage of monies requested by contractors for work done under this contract in accordance with the American Institute of Architects Application for Payment form G-702 as indicated in Section 01152--Applications for Payment of the technical specifications.

13. INSURANCE REQUIREMENT

A properly executed certificate of insurance must be submitted with the signed Contract Articles of Agreement. The certificate of insurance must show that the contractor and subcontractors comply with the College's insurance requirements. The certificate of insurance must state that in the event any coverage shown is to be cancelled the College will be given a thirty day advance notice of the cancellation.

14. MINORITY BIDDERS

The Community College of Allegheny County hereby notifies all bidders that it will affirmatively ensure that minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

15. MODIFICATION AND WITHDRAWAL OF BIDS

- a. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- b. Bidders may withdraw their bid within two (2) business days of the bid opening only within accordance of Commonwealth of Pennsylvania public bidding law.

16. TAXES

CCAC is a governmental entity and is generally exempt from sales and use tax with respect to purchases of building machinery and equipment. A tax exemption certificate will be provided upon request. It is the bidder's responsibility to pay any/all applicable taxes on non-exempt equipment, supplies and services in accordance with applicable law.

17. PENNSYLVANIA STEEL PRODUCTS PROCUREMENT ACT

Contractor acknowledges that CCAC is a public agency subject to the requirements of the Pennsylvania Steel Products Procurement Act, 73 P.S. Section 1881 et. seq (the "SPPA"). Contractor therefore represents and warrants that any and all steel products purchased, used or supplied by it in the performance of the Contract will be melted and manufactured in the United States, and that its performance hereunder will otherwise comply with requirements of the SPPA at all times. Contractor further agrees to provide CCAC with documentation and/or certification of its compliance with the foregoing requirements, as required under the SPPA, and acknowledges that it shall not be entitled to receive payment hereunder until such documentation and/or certification has been provided.

18. MARKUPS ON CHANGE ORDERS

Markups on change order requests shall not exceed 15%. This would apply to overhead and profit, labor, materials, equipment, etc.

Project Labor Agreement

February 15, 2011

ARTICLE I

INTENT AND DURATION

Section 1. Intent and Duration. This Project Labor Agreement (the "Agreement") is entered into between the Community College of Allegheny County ("CCAC"); [Name of Contractor] as [Trade] Contractor and the Pittsburgh Regional Building and Construction Trades Council of Pittsburgh, AFL-CIO ("BCTC"); and the Signatory Unions (the "Unions") and applies exclusively to the construction work within the scope of this Agreement to be performed on the CCAC's BID PROPOSAL. (the "Project"). The purpose of this Agreement is to promote efficiency in the construction of the Project and to provide for the peaceful settlement of any and all labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the Project

Upon execution of this Agreement by all parties, all construction work covered by this Agreement on the Project shall be contracted exclusively to Contractors who agree to execute and be bound by the terms of this Agreement. The Unions agree that other Contractors may execute the Agreement for purposes of performing such work. The Prime Contractors shall monitor compliance with this Agreement by all contractors, who through their execution of a Letter of Assent hereto, together with their subcontractors, shall become bound hereto. For purposes of this Agreement, the term "Contractor" shall be deemed to include all Prime construction contractors and subcontractors of whatever tier engaged in on-site construction work on the Project.

The Prime Contractors, the Unions and all signatory Contractors agree to abide by the terms and conditions contained in the Agreement. This Agreement represents the complete understanding of all parties, and no Contractor is or will be required to sign any other agreement with a signatory union as a condition of performing work coming within the scope of this Agreement. No practice, understanding or agreement between a Contractor and a Union which is not specifically set forth in this Agreement will be binding on any other party unless endorsed in writing by the Prime Contractor.

Section 2. Limitation of Agreement to Project The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for work on the Project, without regard to whether that successful bidder performs work at other sites on either a union or a non-union basis, and without regard to whether employees of such bidder are or are not members of any union. The Unions further agree that this Agreement applies only to this Project, and that by signing the Letter of Assent hereto, a Contractor, not previously in signed agreement with the Unions, does not recognize the Unions as the bargaining representative of any of its employees at any other project, site or location. It is the intent of this Agreement that Contractors who sign it will create a relationship with the Unions governed by the provisions of Section 8(f) of the Labor Management Relations Act, 29 U.S.C. §158(f).

ARTICLE II

PURPOSE

Section 1. Purpose. The parties signatory to this Agreement accordingly pledge their complete good faith and trust to work towards an absolutely on-time completion of the Project. The signatory parties further pledge to demonstrate nationally that Western Pennsylvania enjoys a mature labor relations climate and continues to be the number one location in the United States to live and work.

Section 2. Time is of the Essence. The parties to this Agreement understand and agree that time is of the essence for this Project. The parties understand and agree that the CCAC and the Prime Contractors have a critical need for timely completion of the Project, as the Project must be completed prior to (SEE SPECIFICATIONS). Timely completion of the Project without interruption or delay is therefore vital. The parties understand and agree that timely construction of the Project will require substantial numbers of employees from construction and supporting crafts possessing skills and qualifications that are essential to its completion; the Unions pledge that they have members who are competent, skilled, and qualified to perform the required construction work. The parties also understand that on-budget completion of the Project is most critical; it is therefore essential that construction work on the Project be done in an efficient, economical manner with optimum productivity and no delays. In recognition of those special needs of the Project, Unions signatory hereto and their members agree not to initiate, authorize, sanction, participate in or condone, or permit their members to engage in, any strike, sympathy strike, jurisdictional strike, recognition strike, slowdown, sabotage, work to rule, sickout, sit down, picketing of any type (including informational picketing), hand billing, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project. Contractors agree not to engage in any lockouts.

ARTICLE III

BENEFITS OF THE AGREEMENT

Section 1. Benefits of the Agreement. This Agreement is intended to foster the achievement of a timely and on-budget completion of the Project by, among other things:

- (a) avoiding the costly delays of potential strikes, sympathy strikes, jurisdictional strikes, slowdowns, walkouts, picketing, handbilling and any other disruptions or interference with work, and promoting labor harmony and peace for the duration of the Project;
- (b) standardizing terms and conditions governing the employment of labor on the Project;
- (c) permitting a wide flexibility in work scheduling, shift hours, and starting times;
- (d) achieving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;
- (e) providing comprehensive and standardized mechanisms for the settlement of work disputes;
- (f) ensuring a reliable source of skilled and experienced labor; and
- (g) furthering public policy objectives, to the extent lawful, as to improved employment opportunities for the Minority Business Enterprises, Women Business Enterprises.

ARTICLE IV

SCOPE OF THE AGREEMENT

Section 1. The Work. This Agreement is specifically defined and limited to onsite construction work required to construct the Project.

Section 2. Exclusions from Scope. Items specifically excluded from the scope of this Agreement, even if performed in connection with the Project, include the following:

- (a) Work of non-manual employees, including but not limited to, superintendents, supervisors, staff engineers, inspectors, quality control and quality assurance personnel, timekeepers, mail carriers, clerks, office workers including messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory and management employees.
- (b) Equipment and machinery owned or controlled and operated by CCAC.
- (c) All off-site manufacture, fabrication or handling of materials, equipment or machinery (except at dedicated lay-down or storage areas), and all deliveries of any type to and from the Project site.
- (d) All employees of CCAC; the Prime Contractors, the design team or any other consultant when such employees do not perform manual labor coming within the scope of this Agreement.
- (e) Any work performed on or near or leading to or onto the site of work on the Project and undertaken by state, county, city or other governmental bodies, or their contractors; or by public utilities or their contractors.
- (f) Off-site maintenance of leased equipment and on-site supervision of all such maintenance work.
- (g) Work by employees of a manufacturer or vendor necessary to maintain such manufacturer's or vendor's warranty or guarantee, unless such work has historically and customarily been performed by members of a signatory union, or work performed by supervisors or technicians employed by the manufacturer or vendor to oversee the testing of equipment once installed to insure that the equipment is fully operational.
- (h) Laboratory work for specialty testing or inspections not ordinarily done by the signatory local unions.
- (i) All work done by employees of CCAC, or of any State agency, authority or entity or employees of any municipality or other public employer.
- (j) All employees and entities engaged in ancillary Project work performed by electric utilities, gas utilities and telephone companies.
- (k) It is further agreed that, where there is a conflict, the terms and conditions of this Project Agreement shall supersede and override terms and conditions of any and all other national, area, or local collective bargaining agreements, except for all work performed under the NTL Articles of Agreement. The National Stack/Chimney Agreement, and the National Cooling Tower Agreement, all instrument calibration work and loop

checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article 8 (Work Stoppages and Lockouts); Article 10 (Grievance & Arbitration Procedure); and Article 11 (Jurisdictional Disputes) of this Project Agreement, which shall apply to such work. (see attached model PLA-Article II, Section 1)

The Unions agree that there shall be no interference with, or disruption of work, of those contractors, employers and employees exempted from coverage of this Agreement by subparagraph (a) through (k) above.

Section 3. Contract Award and Consent to Agreement.

- (a) The Prime Contractors, and/or Contractors, as appropriate have the absolute right to award contracts or subcontracts on the Project notwithstanding the existence or nonexistence of any Agreements between such contractor and any Union party provided only that such Contractor is willing, ready and able to execute and comply with this Agreement or a Letter of Assent thereto, should such Contractor be awarded work covered by this Agreement.
- (b) All subcontractors of a Contractor, of whatever tier, who have been awarded contracts of work covered by this Agreement on or after the effective date of this Agreement shall also be required to accept to be bound by the terms and conditions of this Agreement, and shall evidence their acceptance by the execution of this Agreement or a Letter of Assent thereto, prior to the commencement of work. A copy of this Agreement or Letter of Assent executed by each Contractor shall be available for review by the Unions.

Section 4. Stand-Alone Agreement. This Agreement is a stand alone agreement. While this Agreement expressly does not incorporate any local area collective bargaining agreements, such local area collective bargaining agreements may be referenced for the limited purposes as hereinafter set forth in this Agreement. However, to the extent, if any, that any provisions of this Agreement conflict with any provision of a local area collective bargaining agreement, the provisions of this Agreement shall control.

Section 5. Craft Jurisdiction. This Agreement shall recognize the traditional craft jurisdictions of the signatory unions. Any and all jurisdictional disputes shall be settled in accordance with Article VIII below. While this Agreement is a stand-alone Agreement and expressly does not incorporate any local area collective bargaining agreements, the Agreement will utilize the local area collective bargaining agreements of signatory locals as a reference to define the signatory local unions' craft jurisdiction.

Section 6. Subcontracting. CCAC agrees that neither it nor any of its contractors or subcontractors will subcontract any work covered by this Agreement to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor working on the Project shall, as a condition to working on said Project, become a

signatory to and perform all work under the terms of this Agreement. Contractors who are signatory to local collective bargaining agreements shall be bound by the terms of their respective local collective bargaining agreements on subcontracting to the extent such terms are consistent with Article IV, Section 2 of this Agreement. Disputes concerning compliance with such local subcontracting provisions for this project shall be subject to all of the dispute resolution provisions of this Agreement.

Section 7. Liability. It is understood that the liability of the Contractor and the liability of the separate Unions under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employer status between or among CCAC and/or any Contractor and CCAC shall not assume any liabilities of the Contractors.

Section 8. Abatement of Agreement. As areas of covered work on the Project are accepted by CCAC, this Agreement shall have no further force or effect on such areas except where the Contractor is directed by CCAC to engage in repairs or punch list modifications.

ARTICLE V

LABOR/MANAGEMENT COOPERATION JOINT ADMINISTRATIVE COMMITTEE

Section 1. The parties to this Agreement shall establish a Project Joint Administrative Committee ("Committee"). This Committee will be a three-person committee comprised of one member each from the Prime Contractor, from CCAC, and from the signatory Unions, with an alternate signatory Union member available to replace the regular volunteer when a problem or grievance concerns the regular member's Union. The members of the Project Joint Administrative Committee shall be appointed by their respective principals at a time to be determined after the time the Prime Contracts are awarded. Each member of the Committee shall designate an alternate who shall serve in the absence of the member for any purpose contemplated by this Agreement.

Section 2. The Committee shall meet at least quarterly or more often if special circumstances warrant, to discuss the administration of the Agreement, the progress of the Project, labor/management problems that may arise, and any other relevant matters. Any need for interpretation which might arise from the application of the terms and conditions of the Agreement shall be referred directly to the Committee for resolution.

ARTICLE VI

UNION RECOGNITION AND EMPLOYMENT

Section 1. Pre-Hire Recognition. Each Contractor recognizes the Unions as the sole and exclusive bargaining representative of all craft employees within their respective jurisdictions working on the Project under the Agreement. It is contemplated that such recognition under this Agreement is pursuant to the provisions of Section 8(f) of the Labor Management Relations Act, 29 U.S.C. §158(f) unless the signatory Contractor and Unions have another, preexisting legal relationship.

Section 2. Contractor's Right of Selection. Each Contractor shall have the right to determine the competency of all employees, the number of employees required and shall have the sole responsibility for selecting employees to be laid off.

Section 3. Union Referral. For Local Unions having a job referral system, each Contractor agrees to comply with such system, and the referral system shall be used exclusively by such Contractor, except as modified by this Article. Such job referral system will be operated in a non-discriminatory manner and in full compliance with Federal, State, and Local laws and regulations requiring equal employment opportunities and non-discrimination, and referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements. The Union shall indemnify and hold each Contractor harmless with respect to any claim arising out of how the Union operates and administers its referral system. All hiring procedures, including related practices affecting apprenticeship and training, will be operated so as to facilitate the ability of the contractors to meet any and all equal employment opportunity/affirmative action obligations. The Contractor may reject any referral for any reason and request another, different referral.

Section 4. Lack of Job Referral System. In the event that a signatory Local Union does not have a job referral system as set forth in Section 3 above, the Contractor shall give the Union forty-eight (48) hours to refer applicants. The Contractor may reject any referral for any reason and request another, different referral. The Contractor shall notify the Union of employees hired from any source other than referral by the Union.

Section 5. Unavailability of Union Referrals. In the event that Local Unions are unable to fill any requisitions for qualified employees within forty-eight (48) hours after such requisition is made by the Contractor (Saturdays, Sundays, and Holidays excepted), the Contractor may employ applicants from any other available source. The Contractor shall inform the Union of the name and social security number of any applicants hired from other sources and refer the applicant to the Local Union for dispatch to the Project.

Section 6. No Cross-Referrals. The Local Unions shall not knowingly refer an employee currently employed by any Contractor working under this Agreement to any other Contractor, nor shall any Union engage in any activity which encourages workforce turnover or absenteeism.

Section 7. Union Best Efforts. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft workers to fulfill the manpower requirements of each Contractor, including calls to local unions in other geographical areas when its referral lists have been exhausted.

Section 8. Non-Discrimination. No employee covered by this Agreement shall be required to join any Union or pay any agency fees or dues as a condition of being employed, or remaining employed, on the Project. Where, however, there is in effect and in the possession of the Contractor a voluntary written dues deduction authorization executed by the employee on a standard form furnished by the Union, the Contractor agrees to deduct union dues from the pay of the employee and to remit the dues to the Union at the same time that trust fund contributions are required to be remitted to the administrators of the appropriate trust funds on behalf of that employee.

Section 9. Core Employees. To provide opportunities to participate on the Project to minority and women owned business enterprises as well as other enterprises which do not have a relationship with the Unions signatory to this Agreement and to ensure that such enterprises will have an opportunity to employ their "core" employees on this Project, the parties agree that any such enterprise has the right to select core employees whom it will employ on site, in accordance with the formula below and who:

- (a) possess any license required by the state or federal law for the Project work to be performed;
- (b) have worked a total of at least 1,200 hours per year in the construction craft during each of the prior 3 years, including participating in a state certified apprenticeship program;
- (c) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;
- (d) have the ability to perform safely the basic functions of the applicable trade.

The first employee and the third employee, or up to ten (10) percent of all employees, whichever is greater, hired by each contractor may be core employees. After such core employees have been hired by any contractor, all the employees shall thereafter be hiring hall referrals by the appropriate signatory unions in accordance with the provisions of the applicable local collective bargaining agreements.

Section 10. Craft and General Forepersons. The selection of craft foreman and/or general foreman and the number foreman required shall be the exclusive right and responsibility of each contractor.

ARTICLE VII

DISPUTES AND GRIEVANCES

Section 1. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

Section 2. The Contractors, Unions and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

Section 3. Any question or dispute arising out of and during the term of this Project Agreement (other than trade jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1. (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the

violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the Prime Contractor shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given.

The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the Prime Contractor) at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Prime Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2. The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.

Step 3. (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed upon by them. The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

Section 4. The Prime Contractor and Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

ARTICLE VIII

JURISDICTIONAL DISPUTES

Section 1. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

Section 2. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final binding and conclusive on the Contractors and Unions parties to this Agreement.

Section 3. All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 4. Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The Prime Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

ARTICLE IX.

MANAGEMENT'S RIGHTS

Section 1. Exclusive Authority – Workforce. The Prime Contractors retain the full and exclusive authority for the management of their operations and workforces. The Prime Contractors retain the right to plan, direct, and control the workforce, including the hiring, promotion, demotion, transfer, layoff, suspension, discipline or discharge for just cause of employees; the determination of crew make-up, crew size and manning levels; the selection of foremen, the assignment and scheduling of work; the promulgation of work rules; and the requirement of overtime work, the determination of when it will be worked and the number and identity of employees engaged in such work. No rules, customs, or practices which limit or restrict productivity, efficiency of the individual and/or joint working efforts of employees shall be permitted or observed. The Prime Contractors may utilize any methods or techniques of construction and operation.

Section 2. Materials, Design, Machinery, Equipment. There shall be no limitation or restriction by a signatory Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery packaging, pre-cast, pre-fabricated, pre-finish, or pre-assembled materials, tools or other labor saving devices. The on-site installation or application of all items shall be performed by the craft having jurisdiction of such work;

provided, however, that installation of specialty items may be performed by employees employed under this Agreement who may be directed by other personnel in a supervisory role, in circumstances requiring special knowledge of the particular items.

Section 3. Specialty Work. It is recognized by the Contractors, the Unions, and their members that the performance of certain work on the Project shall consist of the installation of certain materials, equipment, or supplies manufactured outside this local vicinity which must, for warranty purposes, be installed by the manufacturer and/or designated specialty contractors and that such installation work is not customarily performed by the members of such unions. The Unions and their members agree that they shall make no claims for such work; provided, however, that the Prime Contractors and/or the Joint Administrative Committee shall provide them with the necessary information establishing the nature of such specialty work.

Section 4. New Technology, Equipment. The use of new technology, equipment, machinery, tools and/or labor saving devices and methods of performing work may be initiated by any Contractor from time to time during the Project. The Union agrees that it will not in any way restrict the implementation of such new devices or work methods.

Section 5. Disputes. If there is any disagreement between any Contractor and the Union concerning the manner or implementation of such device or method of work, the implementation shall proceed as directed by the Contractor, and the Union shall have the right to grieve and/or arbitrate the dispute as set forth in Article VII of this Agreement.

ARTICLE X.

WORK STOPPAGES

Section 1. No Strikes or Work Disruptions. There shall be no strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sitdown, picketing of any type (including informational picketing), handbilling, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project. The Unions signatory hereto, and each of their members, agree not to initiate, authorize, sanction, participate in, condone, or permit their members to engage in any such activity. Failure of any Union or employee covered by this Agreement to cross any picket line established by any Union, signatory or non-signatory to the Agreement, or by any other organization or individual at or in proximity to the Project construction site, is a violation of this Article. The signatory Union shall be responsible for any action of its members, which violates this section, and its members shall be subject to discipline up to and including discharge for violation of the provisions of this article.

Section 2. Union Responsibilities. The Union shall not sanction, aid or abet, encourage or condone any conduct or activity in violation of this Article, and shall undertake all means to prevent or to terminate any such conduct immediately. No employee shall engage in activities which violate this Article, and the Union shall pursue all disciplinary action permitted by its Constitution and By-laws against any employee who engages in any activity which violates this Article.

Section 3. Violation. If any Contractor and/or CCAC contends that any Union or its member(s) has violated this Article, it will notify in writing the International President(s) of the Union(s) involved, advising him of the fact, with copies of such notice to the Local Union(s) involved, and the BCTC. The International President or Presidents will immediately instruct, order and use the best efforts of his office, including discipline procedures under its Constitution and By-laws, to cause the Local Union(s) or its members to cease any violation of this Article.

Section 4. Expedited Arbitration. Should CCAC, Prime Contractor or any Contractor believe that there has been any violation of this Article, it may institute this expedited arbitration procedure (in addition to any action at law or in equity, or any other contractual procedure available to it). The parties to this Agreement have agreed that the Labor Arbitration Rules of the American Arbitration Association shall apply, including the Rules governing Expedited Arbitration. The Arbitrator shall hold a hearing within twenty-four (24) hours of verbal or written notice of a claimed violation of this Article and shall complete the hearing in one session. The sole issue at the hearing shall be whether or not a violation of this article has occurred. The Arbitrator shall have no authority to consider any matter in justification, explanation, or mitigation of such violation. The arbitral award shall be issued in writing within three (3) hours after the close of the hearing and may be issued without opinion. If any party desires an opinion, the arbitrator shall issue one within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the award.

ARTICLE XI

WAGE AND BENEFITS

Section 1. Classification – Wages. All employees covered by this Agreement shall be classified in accordance with work performed and paid the prevailing wage and benefit rates for these classifications. The Prime Contractors, upon request, shall provide the Unions with substantiation that prevailing wages and benefits are being paid by Contractors on the Project.

Section 2. Payment of Benefits/Contribution. Each Contractor will also pay all required contributions in the amounts required by Section 1 of this Article to the established employee benefit funds that accrue to the direct benefit of the employees (such as pension and annuity, health and welfare, vacation, apprenticeship, training funds). With respect to contributions required in this Section to Employer-Union jointly trusted funds, the Contractor adopts and agrees to be bound by the written terms of the legally established trust agreement specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds. The Contractor authorizes the parties to such Trust Funds to appoint Trustees and successor Trustees to administer the Trust Funds and hereby ratifies and accepts the Trustees and successor Trustees to administer the Trust Funds and hereby ratifies and accepts the Trustees so appointed as if made by Contractor. This section does not apply to core employees unless any core employee voluntarily elects to join and become a member of any local union signatory to this Agreement, in which event this Section shall immediately apply with respect to any such core employee.

ARTICLE XII

LOCAL UNION NEGOTIATIONS DURING THE PENDENCY OF THE AGREEMENT

Section 1. All parties to this Agreement understand and acknowledge that some crafts who will be working on the Project are covered by local collective bargaining agreements that will expire prior to the projected completion of the project. All contracting parties understand and agree that irrespective of whether such local collective bargaining agreement negotiations are successful or unsuccessful, there shall be no strike, sympathy strike, jurisdictional strike, recognition strike slowdown, sabotage, work to rule, sickout, sitdown, picketing of any type (including informational picketing), handbidding, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project by any Union involved in such local negotiations, or by any of its members, nor shall there be any lockout on the Project affecting such union or its members during the course of such negotiations. Irrespective of the status of any such local collective bargaining agreement negotiations, the affected Union and all of its members will observe and fully comply with the provisions of this Agreement.

Section 2. Wage/Benefit Increases. Should a craft covered by this Agreement negotiate an increase in wages or an increase in benefits with any Contractor to become effective during the term of the Project for the area of Western Pennsylvania, those wage and/or benefit increases shall be paid, as of the effective date of those increases, to those employees in that craft performing work covered by this Agreement.

ARTICLE XIII

HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. Work Day and Work Week. Except as provided in Section 4, the first shift shall consist of eight (8) or ten (10) hours per day between the hours of 6:00 a.m. and 5:30 p.m., plus one-half (1/2) hour for unpaid lunch, approximately mid-way through the shift. Forty (40) hours per week shall constitute a regular week's work, whether consisting of five (5) eight (8) hour days, or four (4) ten (10) hour days. The work week will start on Monday and conclude on Sunday. A uniform starting time will be established for all crafts on each project or segment of work. Nothing herein shall be construed as guaranteeing any employee eight (8) or ten (10) hours per day or forty (40) hours per week. The Union(s) shall be informed of the work starting time set by the contractor at the pre-job conference which may be changed thereafter upon three (3) days' notice to the Union(s) and the employees. A second shift, if used, shall consist of eight hours between the 3:00 p.m. and 1:00 a.m.; a third shift, if used, shall begin between 10:00 p.m. and 1:00 a.m. For the purposes of Section 3, the third shift shall be considered as part of the prior day's work.

Section 2. Starting Times. Employees shall be at their place of work at the starting time and shall remain at their place of work (as designated by the Contractor) performing their assigned functions until quitting time, which is defined as the scheduled end of the shift. The parties reaffirm their policy of a fair day's work for a fair day's wage. There shall be no pay for time not worked unless

the employee is otherwise engaged at the direction of the Contractor. Due to the magnitude of the project and congestion of the site, staggered starting times may be required. If necessary, these starting times would be between 6 AM and 8 AM. This policy could help reduce the transportation problems at start and completion times.

Section 3. Overtime. Overtime shall be defined as all hours worked in excess of forty (40) hours in a week, or for 8 hour shifts, in excess of 8 hours per day; or for 10 hour shifts, for work in excess of 10 hours per day; such work and work performed on Saturday shall be paid at one and one-half times the straight time rate of pay. However, in scheduled five day/eight hour shift work-weeks, Saturday may be scheduled as a "make-up" day at straight time to make up for a day lost (Monday through Friday) due to inclement weather; in scheduled four day/ten hour shift work weeks, Friday and/or Saturday may be scheduled as a "makeup" day at straight time to make up for a lost day (Monday through Thursday) due to inclement weather. In addition, if a makeup day is scheduled, all employees directed to work on such day will be guaranteed a minimum of four (4) hours work or pay. In any week in which employees on the Project are scheduled on four day/ten hour shifts, an employee whose first day of work on the projects begins on Wednesday, or a later day of the schedule shall be paid, during the first week of his employment only, time and a half for all hours worked in excess of eight in a day for each day he worked during said week. Work on Sundays and Holidays shall be at double time. There will be no restriction on any Contractor's scheduling of overtime or the non-discriminatory designation of employees who will work. The Contractor shall have the right to schedule work so as to minimize overtime. There shall be no pyramiding of overtime pay under any circumstances.

Section 4. Shifts.

- (a) Shift work may be performed at the option of the Contractor(s) upon three (3) days' prior notice to the Union and shall continue for a period of not less than five (5) working days. Saturdays and Sundays, if worked, may be used for establishing the five (5) day minimum work shift. If two shifts are worked, each shall consist of eight (8) hours of continuous work exclusive of a one-half (1/2) hour non-paid lunch period for eight (8) hours pay.
- (b) The Contractor may establish a work week of four (4) consecutive ten (10) hour work days (exclusive of one-half hour unpaid lunch, approximately midway through the shift) between Monday and Friday.

Section 5. Holidays. Recognized holidays on the Project shall be New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day, and Christmas Day. Work performed on holidays shall be paid at double the straight time rate of pay. A holiday falling on Sunday shall be observed the following Monday

Section 6. Meal Period. The Contractor will schedule a meal period of not more than one-half hour duration at the work location at approximately the mid-point of the scheduled work shift (4 hours in a five-day work week, 5 hours in a four-day work week), consistent with Section 1; provided, however, that the Contractor may, for efficiency of the operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through his meal period, he shall be compensated for the time worked at the applicable overtime rate and the employee shall, when work permits, eat his lunch "on the fly."

Section 7. No Organized Work Breaks. There will be no organized breaks or other non-working time established during working hours. Individual nonalcoholic beverage containers will be permitted at the employee's work stations.

Section 8. Craft Worker Parking Facilities. Parking facilities or arrangements for employees working on the Project will be established by the Prime Contractors by the time work on the Project commences.

ARTICLE XIV

APPRENTICES AND HELMETS TO HARDHATS

Section 1. Need For. The parties recognize the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry. The Contractor(s) will accordingly employ apprentices in their respective crafts to perform work on the Project within the apprentices' capabilities.

Section 2. Ratios. The Union agrees to cooperate with the Contractor in furnishing qualified apprentices as requested. There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

Section 3. The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

Section 4. The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE XV

DRUG AND ALCOHOL POLICY

Section 1. Policy. All parties understand and agree that a substance abuse program has been established by the Master Builders' Association of Western PA, Inc. (MBA) and/or the Constructors Association of Western PA (CAWP), and will be in force for all work performed under the Agreement. The substance abuse program will prohibit the use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms while on the Project's premises and will require testing of employees. The substance abuse program will be incorporated into and made part of the Agreement and implemented for all Contractors and employees working on the Project.

ARTICLE XVI

NON-DISCRIMINATION

Section 1. Policy. It is the continuing policy of the Prime Contractors, the Contractors and the Unions that the provisions of this Agreement shall be applied without discrimination because of age, race, sex, color, religion, creed, national origin or union signatory or membership status. There shall be no discrimination against an employee because of her or his membership in, or activities on behalf of Unions.

ARTICLE XVII

SOLE AND COMPLETE AGREEMENT

Section 1. The parties agree that this Agreement constitutes the sole and complete agreement between them governing the rates of pay and working conditions of the construction employees working on the Project, that it settles all demands and issues on the matters subject to collective bargaining, and that it shall not be modified or supplemented in any way except by written agreement executed by both parties.

ARTICLE XVIII

SEPARABILITY AND SAVINGS CLAUSE

Section 1. Intent of Parties. If any article or section of this Agreement shall be held invalid by law or by a tribunal of competent jurisdiction, or if compliance with or enforcement of any article should be restrained pending a final determination as to its validity, the remainder of this Agreement shall not be affected and shall remain in full force and effect. In the event that any article or section is held invalid, the parties hereto shall, upon the request of the Unions, enter into collective bargaining negotiations for the purpose of arriving at a mutually satisfactory replacement for such article during the period of invalidity or restraint. If the parties hereto cannot agree on a mutually satisfactory replacement, either party shall be permitted to submit its demand to formal arbitration.

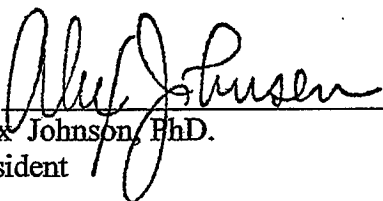
Section 2. Force of Agreement. The parties recognize the right of the CCAC to withdraw, at its absolute discretion, the utilization of this Agreement as part of any bid specification should a court of competent jurisdiction issue any order which could result, temporarily or permanently, in delay of the bidding, awarding, and/or construction work on the Project. Notwithstanding such an action by the Prime Contractors, or such court order, the parties agree that the Agreement shall remain in full force and effect on the Project, to the maximum extent legally possible.

This Project Labor Agreement is made as of this 15th day of February, 2011, by and between the Community College of Allegheny County and the Pittsburgh Regional Building and Construction Trades Council, AFL-CIO.

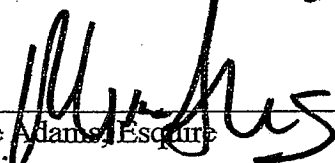
This Agreement replaces, in its entirety, that certain Labor Stabilization Agreement approved by the CCAC and the BCTC dated the 21st day of June, 1993 that covers all construction projects for which the CCAC acts as Owner.

The CCAC and BCTC, intending to be legally bound hereby, and for other good and valuable consideration the receipt and sufficiency of which the parties hereby acknowledged, agree to the above.


**Community College
Of Allegheny County**

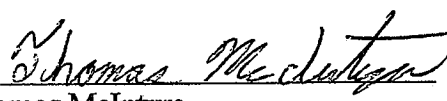
By 
Alex Johnson, PhD.
President

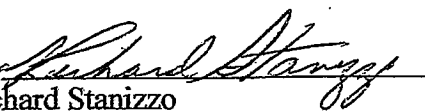
Approved as to Form and Legality:

By 
Mike Adams, Esquire
Solicitor

**Pittsburgh Regional Building
and Construction Trades Council,
AFL-CIO**

By 
William Brooks
President

By 
Thomas McIntyre
Secretary/Treasurer

By 
Richard Stanizzo
Business Manager

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project Name:	REFURBISH ROOFS @ B, G & L BUILDINGS
Awarding Agency:	Community College of Allegheny County
Contract Award Date:	10/15/2017
Serial Number:	17-06418
Project Classification:	Building
Determination Date:	9/20/2017
Assigned Field Office:	Pittsburgh
Field Office Phone Number:	(412)565-5300
Toll Free Phone Number:	(877)504-8354
Project County:	Allegheny County

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 17-06418 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	8/1/2016		\$36.18	\$23.73	\$59.91
Boilermakers	6/1/2016		\$40.90	\$27.61	\$68.51
Bricklayer	12/1/2016		\$31.44	\$21.10	\$52.54
Bricklayer	6/1/2016		\$31.42	\$20.62	\$52.04
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2017		\$33.01	\$16.63	\$49.64
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2016		\$32.36	\$15.98	\$48.34
Cement Masons	6/1/2018		\$30.27	\$18.99	\$49.26
Cement Masons	6/1/2021		\$34.27	\$19.39	\$53.66
Cement Masons	6/1/2017		\$29.52	\$18.39	\$47.91
Cement Masons	6/1/2020		\$32.77	\$19.39	\$52.16
Cement Masons	6/1/2019		\$31.27	\$19.39	\$50.66
Dockbuilder, Pile Drivers	1/1/2016		\$32.03	\$17.53	\$49.56
Drywall Finisher	6/1/2017		\$27.80	\$19.14	\$46.94
Drywall Finisher	6/1/2018		\$28.10	\$19.99	\$48.09
Drywall Finisher	6/1/2016		\$27.50	\$18.29	\$45.79
Electric Lineman	5/30/2016		\$44.78	\$22.82	\$67.60
Electricians & Telecommunications Installation Technician	12/23/2016		\$40.61	\$23.98	\$64.59
Elevator Constructor	1/1/2016		\$44.80	\$30.29	\$75.09
Glazier	9/1/2017		\$28.00	\$22.60	\$50.60
Glazier	9/1/2018		\$28.62	\$23.23	\$51.85
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2016		\$33.18	\$29.13	\$62.31
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2017		\$33.54	\$30.24	\$63.78
Laborers (Class 01 - See notes)	1/1/2020		\$26.42	\$14.67	\$41.09
Laborers (Class 01 - See notes)	1/1/2021		\$27.47	\$14.67	\$42.14
Laborers (Class 01 - See notes)	1/1/2017		\$22.32	\$15.62	\$37.94
Laborers (Class 01 - See notes)	1/1/2016		\$22.22	\$14.67	\$36.89
Laborers (Class 01 - See notes)	1/1/2018		\$24.32	\$14.67	\$38.99
Laborers (Class 01 - See notes)	1/1/2019		\$25.37	\$14.67	\$40.04
Laborers (Class 02 - See notes)	1/1/2021		\$27.62	\$14.67	\$42.29
Laborers (Class 02 - See notes)	1/1/2018		\$24.47	\$14.67	\$39.14
Laborers (Class 02 - See notes)	1/1/2020		\$26.57	\$14.67	\$41.24
Laborers (Class 02 - See notes)	1/1/2017		\$22.47	\$15.62	\$38.09
Laborers (Class 02 - See notes)	1/1/2016		\$22.37	\$14.67	\$37.04
Laborers (Class 02 - See notes)	1/1/2019		\$25.52	\$14.67	\$40.19
Laborers (Class 03 - See notes)	1/1/2018		\$24.60	\$14.67	\$39.27
Laborers (Class 03 - See notes)	1/1/2017		\$22.60	\$15.62	\$38.22
Laborers (Class 03 - See notes)	1/1/2019		\$25.65	\$14.67	\$40.32
Laborers (Class 03 - See notes)	1/1/2016		\$22.50	\$14.67	\$37.17
Laborers (Class 03 - See notes)	1/1/2020		\$26.70	\$14.67	\$41.37
Laborers (Class 03 - See notes)	1/1/2021		\$27.75	\$14.67	\$42.42
Laborers (Class 04 - See notes)	1/1/2016		\$22.97	\$14.67	\$37.64

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 17-06418 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 04 - See notes)	1/1/2020		\$27.17	\$14.67	\$41.84
Laborers (Class 04 - See notes)	1/1/2021		\$28.22	\$14.67	\$42.89
Laborers (Class 04 - See notes)	1/1/2017		\$23.07	\$15.62	\$38.69
Laborers (Class 04 - See notes)	1/1/2018		\$25.07	\$14.67	\$39.74
Laborers (Class 04 - See notes)	1/1/2019		\$26.12	\$14.67	\$40.79
Landscape Laborer	1/1/2016		\$20.51	\$13.49	\$34.00
Landscape Laborer	1/1/2017		\$20.59	\$14.36	\$34.95
Landscape Laborer (Skilled)	1/1/2016		\$20.93	\$13.49	\$34.42
Landscape Laborer (Skilled)	1/1/2017		\$21.01	\$14.36	\$35.37
Landscape Laborer (Tractor Operator)	1/1/2016		\$21.23	\$13.49	\$34.72
Landscape Laborer (Tractor Operator)	1/1/2017		\$21.31	\$14.36	\$35.67
Marble Finisher	6/1/2015		\$22.55	\$12.79	\$35.34
Marble Mason	12/1/2014		\$19.43	\$10.00	\$29.43
Millwright	6/1/2017		\$39.83	\$18.57	\$58.40
Millwright	6/1/2016		\$38.91	\$18.14	\$57.05
Operators (Class 01 - see notes)	6/12/2017		\$34.49	\$20.15	\$54.64
Operators (Class 01 - see notes)	6/1/2019		\$35.69	\$21.75	\$57.44
Operators (Class 01 - see notes)	6/1/2018		\$35.09	\$20.95	\$56.04
Operators (Class 01 - see notes)	6/1/2020		\$36.39	\$22.55	\$58.94
Operators (Class 01 - see notes)	6/1/2016		\$33.79	\$19.59	\$53.38
Operators (Class 01 - see notes)	6/1/2021		\$37.09	\$23.35	\$60.44
Operators (Class 02 -see notes)	6/1/2018		\$29.90	\$20.95	\$50.85
Operators (Class 02 -see notes)	6/1/2019		\$30.22	\$21.75	\$51.97
Operators (Class 02 -see notes)	6/12/2017		\$29.58	\$20.15	\$49.73
Operators (Class 02 -see notes)	6/1/2016		\$29.16	\$19.59	\$48.75
Operators (Class 02 -see notes)	6/1/2021		\$31.02	\$23.35	\$54.37
Operators (Class 02 -see notes)	6/1/2020		\$30.62	\$22.55	\$53.17
Operators (Class 03 - see notes)	6/1/2016		\$26.94	\$19.59	\$46.53
Operators (Class 03 - See notes)	6/1/2020		\$28.95	\$22.55	\$51.50
Operators (Class 03 - See notes)	6/1/2019		\$28.67	\$21.75	\$50.42
Operators (Class 03 - See notes)	6/1/2018		\$28.46	\$20.95	\$49.41
Operators (Class 03 - See notes)	6/1/2021		\$29.23	\$23.35	\$52.58
Operators (Class 03 - See notes)	6/12/2017		\$28.25	\$20.15	\$48.40
Painters Class 6 (see notes)	6/1/2019		\$28.50	\$20.06	\$48.56
Painters Class 6 (see notes)	6/1/2018		\$28.00	\$19.36	\$47.36
Painters Class 6 (see notes)	6/1/2017		\$27.50	\$18.66	\$46.16
Painters Class 6 (see notes)	6/1/2016		\$27.38	\$17.58	\$44.96
Pile Driver Divers (Building, Heavy, Highway)	1/1/2018		\$50.33	\$18.55	\$68.88
Pile Driver Divers (Building, Heavy, Highway)	1/1/2017		\$49.13	\$17.95	\$67.08
Pile Driver Divers (Building, Heavy, Highway)	1/1/2019		\$51.45	\$19.30	\$70.75
Piledrivers	1/1/2018		\$33.55	\$18.55	\$52.10
Piledrivers	1/1/2017		\$32.75	\$17.95	\$50.70
Piledrivers	1/1/2019		\$34.30	\$19.30	\$53.60
Plasterers	6/1/2017		\$28.79	\$15.79	\$44.58

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 17-06418 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Plasterers	6/1/2016		\$28.79	\$14.79	\$43.58
Plasterers	6/1/2017		\$28.79	\$15.79	\$44.58
Plumbers	6/1/2016		\$38.45	\$21.02	\$59.47
Plumbers	6/1/2017		\$39.20	\$21.27	\$60.47
Pointers, Caulkers, Cleaners	6/1/2016		\$29.25	\$17.76	\$47.01
Pointers, Caulkers, Cleaners	12/1/2016		\$29.27	\$18.34	\$47.61
Roofers	6/1/2017		\$31.00	\$15.17	\$46.17
Roofers	6/1/2020		\$36.08	\$13.84	\$49.92
Roofers	6/1/2019		\$34.83	\$13.84	\$48.67
Roofers	6/1/2018		\$33.58	\$13.84	\$47.42
Roofers	6/1/2016		\$31.08	\$13.84	\$44.92
Sheet Metal Workers	7/1/2018		\$34.72	\$27.83	\$62.55
Sheet Metal Workers	7/1/2017		\$33.70	\$27.74	\$61.44
Sheet Metal Workers	7/1/2016		\$33.76	\$26.37	\$60.13
Sprinklerfitters	1/1/2017		\$35.42	\$20.52	\$55.94
Sprinklerfitters	7/1/2017		\$36.42	\$20.52	\$56.94
Steamfitters	6/1/2016		\$40.51	\$19.61	\$60.12
Steamfitters	6/1/2017		\$41.71	\$19.01	\$60.72
Stone Masons	6/1/2016		\$32.22	\$20.05	\$52.27
Stone Masons	12/1/2016		\$32.24	\$20.53	\$52.77
Terrazzo Finisher	6/1/2016		\$30.33	\$14.75	\$45.08
Terrazzo Finisher	12/1/2016		\$30.53	\$15.40	\$45.93
Terrazzo Mechanics	6/1/2016		\$30.15	\$16.48	\$46.63
Terrazzo Mechanics	12/1/2016		\$30.18	\$17.30	\$47.48
Tile Finisher	12/1/2016		\$24.59	\$14.38	\$38.97
Tile Setter	12/1/2016		\$30.27	\$18.51	\$48.78
Truckdriver class 1(see notes)	1/1/2016		\$27.62	\$16.60	\$44.22
Truckdriver class 2 (see notes)	1/1/2016		\$27.75	\$16.69	\$44.44
Truckdriver class 3 (see notes)	1/1/2016		\$28.23	\$16.98	\$45.21

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 17-06418 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter Welder	1/1/2017		\$33.35	\$17.14	\$50.49
Carpenter Welder	1/1/2019		\$34.97	\$18.42	\$53.39
Carpenter Welder	1/1/2018		\$34.12	\$17.77	\$51.89
Carpenters	1/1/2019		\$34.02	\$18.42	\$52.44
Carpenters	1/1/2017		\$32.40	\$17.14	\$49.54
Carpenters	1/1/2018		\$33.17	\$17.77	\$50.94
Cement Finishers	1/1/2018		\$31.04	\$19.90	\$50.94
Cement Finishers	1/1/2019		\$31.94	\$20.50	\$52.44
Cement Finishers	1/1/2017		\$30.14	\$19.40	\$49.54
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2017		\$33.54	\$30.24	\$63.78
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2016		\$33.18	\$29.13	\$62.31
Laborers (Class 01 - See notes)	1/1/2018		\$24.85	\$22.35	\$47.20
Laborers (Class 01 - See notes)	1/1/2019		\$24.85	\$23.85	\$48.70
Laborers (Class 01 - See notes)	1/1/2017		\$24.85	\$20.95	\$45.80
Laborers (Class 02 - See notes)	1/1/2018		\$25.01	\$22.35	\$47.36
Laborers (Class 02 - See notes)	1/1/2019		\$25.01	\$23.85	\$48.86
Laborers (Class 02 - See notes)	1/1/2017		\$25.01	\$20.95	\$45.96
Laborers (Class 03 - See notes)	1/1/2017		\$25.40	\$20.95	\$46.35
Laborers (Class 03 - See notes)	1/1/2019		\$25.40	\$23.85	\$49.25
Laborers (Class 03 - See notes)	1/1/2018		\$25.40	\$22.35	\$47.75
Laborers (Class 04 - See notes)	1/1/2017		\$25.85	\$20.95	\$46.80
Laborers (Class 04 - See notes)	1/1/2018		\$25.85	\$22.35	\$48.20
Laborers (Class 04 - See notes)	1/1/2019		\$25.85	\$23.85	\$49.70
Laborers (Class 05 - See notes)	1/1/2018		\$26.26	\$22.35	\$48.61
Laborers (Class 05 - See notes)	1/1/2017		\$26.26	\$20.95	\$47.21
Laborers (Class 05 - See notes)	1/1/2019		\$26.26	\$23.85	\$50.11
Laborers (Class 06 - See notes)	1/1/2019		\$23.10	\$23.85	\$46.95
Laborers (Class 06 - See notes)	1/1/2017		\$23.10	\$20.95	\$44.05
Laborers (Class 06 - See notes)	1/1/2018		\$23.10	\$22.35	\$45.45
Laborers (Class 07 - See notes)	1/1/2018		\$25.85	\$22.35	\$48.20
Laborers (Class 07 - See notes)	1/1/2017		\$25.85	\$20.95	\$46.80
Laborers (Class 07 - See notes)	1/1/2019		\$25.85	\$23.85	\$49.70
Laborers (Class 08 - See notes)	1/1/2019		\$27.35	\$23.85	\$51.20
Laborers (Class 08 - See notes)	1/1/2018		\$27.35	\$22.35	\$49.70
Laborers (Class 08 - See notes)	1/1/2017		\$27.35	\$20.95	\$48.30
Operators (Class 01 - see notes)	1/1/2017		\$30.69	\$19.98	\$50.67
Operators (Class 01 - see notes)	1/1/2019		\$31.89	\$21.68	\$53.57
Operators (Class 01 - see notes)	1/1/2018		\$31.29	\$20.78	\$52.07
Operators (Class 02 -see notes)	1/1/2019		\$31.63	\$21.68	\$53.31
Operators (Class 02 -see notes)	1/1/2017		\$30.43	\$19.98	\$50.41
Operators (Class 02 -see notes)	1/1/2018		\$31.03	\$20.78	\$51.81
Operators (Class 03 - See notes)	1/1/2018		\$27.38	\$20.78	\$48.16
Operators (Class 03 - See notes)	1/1/2019		\$27.98	\$21.68	\$49.66

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 17-06418 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Class 03 - See notes)	1/1/2017		\$26.78	\$19.98	\$46.76
Operators (Class 04 - See notes)	1/1/2018		\$26.92	\$20.78	\$47.70
Operators (Class 04 - See notes)	1/1/2017		\$26.32	\$19.98	\$46.30
Operators (Class 04 - See notes)	1/1/2019		\$27.52	\$21.68	\$49.20
Operators (Class 05 - See notes)	1/1/2019		\$27.27	\$21.68	\$48.95
Operators (Class 05 - See notes)	1/1/2018		\$26.67	\$20.78	\$47.45
Operators (Class 05 - See notes)	1/1/2017		\$26.07	\$19.98	\$46.05
Painters Class 1 (see notes)	6/1/2018		\$32.50	\$19.36	\$51.86
Painters Class 1 (see notes)	6/1/2019		\$33.15	\$20.06	\$53.21
Painters Class 1 (see notes)	6/1/2017		\$31.85	\$18.66	\$50.51
Painters Class 1 (see notes)	6/1/2016		\$31.58	\$17.58	\$49.16
Painters Class 1 (see notes)	6/1/2017		\$31.98	\$18.43	\$50.41
Painters Class 2 (see notes)	6/1/2018		\$34.60	\$19.36	\$53.96
Painters Class 2 (see notes)	6/1/2019		\$35.25	\$20.06	\$55.31
Painters Class 2 (see notes)	6/1/2017		\$33.95	\$18.66	\$52.61
Painters Class 2 (see notes)	6/1/2016		\$31.58	\$17.58	\$49.16
Painters Class 2 (see notes)	6/1/2017		\$34.08	\$18.43	\$52.51
Painters Class 3 (see notes)	6/1/2018		\$34.60	\$19.36	\$53.96
Painters Class 3 (see notes)	6/1/2017		\$33.95	\$18.66	\$52.61
Painters Class 3 (see notes)	6/1/2017		\$27.58	\$18.48	\$46.06
Painters Class 3 (see notes)	6/1/2016		\$33.68	\$17.58	\$51.26
Painters Class 3 (see notes)	6/1/2019		\$35.25	\$20.06	\$55.31
Painters Class 4 (see notes)	6/1/2019		\$28.20	\$20.06	\$48.26
Painters Class 4 (see notes)	6/1/2016		\$26.95	\$17.58	\$44.53
Painters Class 4 (see notes)	6/1/2017		\$27.16	\$18.66	\$45.82
Painters Class 4 (see notes)	6/1/2018		\$27.68	\$19.36	\$47.04
Painters Class 4 (see notes)	6/1/2017		\$27.27	\$18.43	\$45.70
Painters Class 5 (see notes)	6/1/2019		\$22.91	\$20.06	\$42.97
Painters Class 5 (see notes)	6/1/2017		\$22.07	\$18.66	\$40.73
Painters Class 5 (see notes)	6/1/2018		\$22.49	\$19.36	\$41.85
Painters Class 5 (see notes)	6/1/2017		\$22.16	\$18.43	\$40.59
Painters Class 5 (see notes)	6/1/2016		\$21.90	\$17.58	\$39.48
Pile Driver Divers (Building, Heavy, Highway)	1/1/2018		\$50.33	\$18.55	\$68.88
Pile Driver Divers (Building, Heavy, Highway)	1/1/2019		\$51.45	\$19.30	\$70.75
Pile Driver Divers (Building, Heavy, Highway)	1/1/2017		\$49.13	\$17.95	\$67.08
Piledrivers	1/1/2018		\$33.55	\$18.55	\$52.10
Piledrivers	1/1/2017		\$32.75	\$17.95	\$50.70
Piledrivers	1/1/2019		\$34.30	\$19.30	\$53.60
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2017		\$40.98	\$32.53	\$73.51
Truckdriver class 1(see notes)	1/1/2019		\$28.99	\$19.43	\$48.42
Truckdriver class 1(see notes)	1/1/2017		\$28.10	\$17.42	\$45.52
Truckdriver class 1(see notes)	1/1/2018		\$28.52	\$18.40	\$46.92
Truckdriver class 2 (see notes)	1/1/2019		\$29.13	\$19.51	\$48.64
Truckdriver class 2 (see notes)	1/1/2017		\$28.24	\$17.50	\$45.74

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 17-06418 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Truckdriver class 2 (see notes)	1/1/2018		\$28.66	\$18.48	\$47.14
Truckdriver class 3 (see notes)	1/1/2019		\$29.59	\$19.82	\$49.41
Truckdriver class 3 (see notes)	1/1/2018		\$29.13	\$18.78	\$47.91
Truckdriver class 3 (see notes)	1/1/2017		\$28.71	\$17.80	\$46.51

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

RETURN BID PROPOSAL FORM

FOR

BID PROPOSAL NO. 1009

REFURBISH ROOFS B, G & L – SOUTH CAMPUS

Complete this form and submit with your bid.

- **The undersigned agrees to comply with the Instructions to Bidders and Specifications for the price(s) quoted on the Return Price Form. Price(s) quoted include all allowable cash and/or credit discounts.**
- **The College may reject bids quoting unspecified discounts and/or allowances.**

Submitted by:

Company Name Bidding
(Please print)

Contact Person at Company
(Please print)

Signature
(Handwritten signature must appear here in ink.)

Title

Address_____

Telephone Number (Include Area Code.)

Fax Number (Include Area Code.)

Trading as: (Check one.) Please print.

_____ Individual Owner _____

_____ Partnership Partner _____ Partner _____

_____ Corporation Exact Name _____

State Incorporated _____

THE BOARD OF TRUSTEES OF THE COLLEGE RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS.

BID PROPOSAL NO. 1009 PRICE SHEET
REFURBISH ROOFS B, G & L – SOUTH CAMPUS

SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)
PART 1 - GENERAL

A. Base Bid #1 – Reroofing of the Gym Roofs and Reworking Drains in the Metal Roof Valley

Roofs 1, 1A and 1B, 2, 3, 4, 5, 5A, 6, 7 and 8

Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

_____ Dollars (\$_____)

B. Base Bid #2 – Reroofing of the Library Wing and Installing Alphaguard to the sloped EPDM. Install new coping with standard color chosen by CCAC. New metal coping with color to match as close as possible to the existing on the stairwells.

Roofs 9, 12 and 13 to be replaced

Roofs 10, 11, 14 and 15 to be restored with Alphaguard.

Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

_____ Dollars (\$_____)

C. Base Bid #3 – Replacement of the Grounds Roof Building

Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

_____ Dollars (\$_____)

BID PROPOSAL NO. 1009 PRICE SHEET
REFURBISH ROOFS B, G & L – SOUTH CAMPUS

- D. Base Bid #4 – Restoration of the A Wing Roofs with Alphaguard. All red units to be repainted with Rustoleum Red color per CCAC.

Roofs 40 and 41

Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

_____ Dollars (\$_____)

- E. Base Bid #5 - Alphaguard Restoration of B Wing Stairwell Roofs

Roofs 34, 36 and 37

Work will include the removal and dispose of the satellite dish and supports.

Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

_____ Dollars (\$_____)

.Add #1 Alphaguard the concrete structure around Roofs 34, 36 and 37.

RETURN FORM 2.1

BID PROPOSAL NO. 1009 PRICE SHEET
REFURBISH ROOFS B, G & L – SOUTH CAMPUS

SECTION 004322 - UNIT PRICES FORM

The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work and for adjustment of the quantity given in the Unit-Price Allowance for the actual measurement of individual items of the Work.

If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

1.1 UNIT PRICES

A. Unit-Price No. 1: Metal Deck replacement.

_____ Dollars (\$_____) per sq.ft.

B. Unit-Price No. 2: Metal Deck repair.

_____ Dollars (\$_____) per sq.ft.

C. Unit-Price No. 2: Metal Deck rust painting

_____ Dollars (\$_____) per sq.ft.

D. Unit-Price No. 2: Complete deck replacement of grounds building metal decking

_____ Dollars.

E. Unit-Price No. 4: Additional roof drain not in base bid

_____ Dollars (\$_____) per drain

F. Unit-Price No. 5: Existing wood nailer replacement.

_____ Dollars (\$_____) per board foot

BIDDER'S NAME:_____

COMPANY'S NAME:_____

RETURN FORM 2.2

BID PROPOSAL NO. 1009 PRICE SHEET
REFURBISH ROOFS B, G & L – SOUTH CAMPUS

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 30 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:

In the event Owner, does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Owner, and shall fully complete the Work by June 30, 2018.

The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Owner, and shall fully complete the Work within _____ calendar days.

BIDDER'S NAME: _____

COMPANY'S NAME: _____

RETURN FORM 2.3

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

NON-COLLUSION AFFIDAVIT

Contract/Bid No. 1009

State of _____ : :s.s.

County of _____ :

I state that I am _____ of _____
(title) (name of my firm)

and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

- (1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any bidder or potential bidder.
- (2) Neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.
- (3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.
- (4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.
- (5) _____, its affiliates,
(name of my firm)

subsidiaries, officers, directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that _____ understands and
(name of my firm)

acknowledges that the above representations are material and important, and will be relied on by the Community College of Allegheny County in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Community College of Allegheny County of the true facts relating to the submission of bids for this contract.

Signature _____ Title _____
(MUST BE SIGNED HERE IN HANDWRITING, IN INK.)

Sworn to and subscribed before me this _____ day of _____, 20_____

Notary Public _____ My Commission Expires: _____

RETURN FORM 3.0

INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

1. This Non-collusion Affidavit is material to any contract awarded pursuant to this bid. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. § 1611 et seq., governmental agencies may require Non-collusion Affidavits to be submitted together with bids.
2. This Non-collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.
3. Bid rigging and other efforts to restrain competition and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval or submission of the bid.
4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.
5. The term “complementary bid” as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

MBE/WBE PARTICIPATION: CCAC encourages the participation of minority and women-owned businesses in all of its contracts and is committed to providing maximum opportunities for qualified minority and/or women-owned business enterprises ("MBE/WBEs") to participate in its work. Bidder agrees (1) if qualified, to take reasonable and timely steps to obtain appropriate certification as an MBE and/or WBE, (2) to ensure that MBE and/or WBEs are appropriately considered as subcontractors and/or suppliers under this Agreement; and (3) to report moneys spent for MBE and/or WBE subcontractors and/or suppliers for work as CCAC may from time to time reasonably request. CCAC's goal for MBE/WBE participation is 15%. Please provide documentation as to your firm's good faith effort to reach this goal by describing all applicable details of MBE/WBE participation that may be included in the resulting agreement.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

MINORITY PARTICIPATION GOALS – BID PROPOSAL NO. 1009

The following must be included with your bid.

Reference: General Conditions for Construction and Renovation Contracts - Item 6, Page 2 – Minority & Disadvantaged Participation Goals

A **15%** M/W/DBE work participation is established. Document your firm's good faith effort to obtain the **15%** Goal:

M/W/DBE Company	Contact Person	Phone Number	\$Amount or Objective %
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

_____ I am an M/W/DBE. (ATTACH CERTIFICATION)

Total: _____

Bidder acknowledges that CCAC may communicate with listed firms to verify the extent of the contact.

Bidding Company's Name: _____

Signature: _____

Title: _____

Date: _____

Revised: 04/30/08

RETURN FORM 4.0

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

BID PROPOSAL NO. 1009

**COMMONWEALTH OF PENNSYLVANIA
BID AWARD & RETENTION LAW
ACT NO. 1978-317, SENATE BILL 68, NOVEMBER 26, 1978**

EXTENSION OF CONTRACT EXECUTION REQUIREMENTS

In the event the contract(s)/purchase order(s) resulting from the above specified bid proposal is/are in excess of \$50,000.00, the above specified Act will apply.

This Act requires the awarding of a contract to the lowest responsible bidder within sixty (60) days of the date of bid opening and the execution of a contract within thirty (30) days after award by the College Board of Trustees. Thirty (30) day extensions of the date for award and for execution are permitted by the mutual written consent of the College and the successful bidder.

Due to the extent of the approval actions required prior to award and execution of any contract, it may not be possible for the College to complete contract award and execution within the sixty (60) day and thirty (30) day periods. Accordingly, each bidder is requested to indicate their agreement with a thirty (30) day extension of the sixty (60) day award date and thirty (30) day execution date by signing this form and returning it with their bid.

Name of Company

Authorized Company Representative

Signature

Title

MUST BE SIGNED HERE IN HANDWRITING, IN INK

RETURN FORM 5.0

LETTER OF ASSENT

BID PROPOSAL NO. 1009

This is to certify that the undersigned Contractor, _____, has examined a copy of the Project Labor Agreement between the Community College of Allegheny County and the Pittsburgh Regional Building & Construction Trades Council, AFL-CIO dated February 15, 2011 and hereby agrees to comply with all terms and execution of this Agreement. It is understood that the execution of this Letter of Assent shall be as binding on the Contractor as though the Contractor had signed the aforementioned Agreement.

This Letter of Assent will remain in effect through completion of Contractor's work on the above-captioned project at the Community College of Allegheny County's Allegheny Campus location.

The undersigned Contractor further agrees that upon notification by the College, the Contractor will furnish documented proof to the College that the employer complies with the terms and conditions of the Agreement.

This Letter of Assent shall become effective and binding upon the Contractor this _____ day of _____, 20____ and shall remain in effect as set forth above.

Name (Please print)

Signature

(MUST BE SIGNED HERE IN HANDWRITING, IN BLUE INK.)

Title

Name of Contractor

RETURN FORM 6.0

COMMUNITY COLLEGE OF ALLEGHENY COUNTY
800 ALLEGHENY AVENUE, PITTSBURGH PA 15233

Bond Number _____

PERFORMANCE BOND

Know all men by these Presents that we “TO BE COMPLETED ONLY BY AWARDEE”
(hereinafter called “Principal”) as Principal, and _____
authorized to do business in the Commonwealth of Pennsylvania (hereinafter called “Surety”) as Surety, are held
and firmly bound unto the Community College of Allegheny County, through its Board of Trustees,
_____ in the sum of _____

to be paid to the said College aforesaid, its certain attorney, or assigns. To which payment will and truly be made,
said principal and said surety to bind themselves their respective successors or assigns jointly and severally, firmly
by these presents.

WITNESS our hands and seals, the _____ day of _____ 20____.

WHEREAS the above bounded _____
_____ has filed with the Community College of Allegheny County,
proposals for the _____

The Condition of the above Obligation is such that if the said _____
shall perform _____

In accordance with the agreement between _____

and the Community College of Allegheny County of even date herewith and the specifications and proposals
attached to and made part of the agreement, and shall indemnify and save harmless the said Community College of
Allegheny County from all liens, charges, demands, loss and damages of every kind and nature, whatsoever. Then
this obligation to be void, otherwise to be and remain in full force and virtue.

Attest: _____ (SEAL)

CONTRACTOR

_____ (SEAL)

SECRETARY

PRESIDENT

Signed, Sealed and delivered in presence of

_____ (SEAL)

SURETY COMPANY

_____ (SEAL)

ADDRESS

_____ (SEAL)

TITLE

COMMUNITY COLLEGE OF ALLEGHENY COUNTY
800 ALLEGHENY AVENUE, PITTSBURGH PA 15233

LABOR AND MATERIAL
P A Y M E N T B O N D

KNOW ALL MEN BY THESE PRESENTS:

That we _____ **"TO BE COMPLETED ONLY BY AWARDEE"** _____
_____ as Principal
hereinafter called Principal, and _____
_____ as Surety, hereinafter called Surety, are held and firmly bound unto the
COMMUNITY COLLEGE OF ALLEGHENY COUNTY, through its Board of Trustees as Obligee, hereinafter called Owner, for the use and benefit of claimants
as hereinbelow defined, in the amount of _____

_____ Dollars (\$ _____),

for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement, dated _____, 20_____, entered into a contract with Owner
for _____
in accordance with drawings and specifications prepared by _____

(Here insert full name, title and address)

_____ which contract is by reference made a part hereof, and is
hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

- (1) A claimant is defined as one having a direct contract with the Principal or with a sub-contractor of the Principal for labor, material, or both used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
- (2) The above-named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- (3) No suit or action shall be commenced hereunder by any claimant.
 - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the Owner, or the Surety above-named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - (b) After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- (4) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this _____ day of _____, 20____

Witness _____ (Seal) Principal

Witness _____ (Seal) Surety

This bond is issued simultaneously with performance bond in favor of the Owner conditioned on the full and faithful performance of the Contract.

Original – January 1980

MASTER SERVICES AGREEMENT

“Awardee Only”

Bid 1009

THIS MASTER SERVICES AGREEMENT ("Agreement") is made and entered into as of this ____ day of _____, 2015, by and between **Community College of Allegheny County**, with a business office located at 800 Allegheny Avenue, Pittsburgh, PA 15233 (hereinafter referred to as the “College”), and _____ (hereinafter referred to as “Contractor”).

RECITALS

WHEREAS, the College has issued a Request for Quotation, Bid Solicitation, Request for Proposal, and/or a Purchase Order (hereinafter individually and collectively referred to as the “Order”), pursuant to

Bid Proposal No.	Awardee Only
-------------------------	---------------------

which College seeks to procure certain work and services, as more fully described on the Order; and

WHEREAS, Contractor has submitted a proposal to the College to provide the services described in the Order, a copy of which is attached hereto as Exhibit A (hereinafter the “Proposal”) and incorporated by reference;

WHEREAS, the College desires to engage Contractor to provide the services, pursuant to and in accordance with the terms and conditions that this Agreement set forth herein.

NOW, THEREFORE, in consideration of the premises and covenants that this Agreement contains, the receipt and adequacy of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

1. Term. The term of this Agreement shall be as specified in the Order unless otherwise stated in the section below. If no date is specified, this Agreement shall begin with the date first stated above and terminate upon satisfactory completion of the services described herein.

AWARDEE ONLY

2. Services. Contractor shall fully and faithfully perform the work and services described in the Order and the Proposal and any specifications, scope of work or other documentation attached thereto. Contractor warrants that all work and services performed by or on behalf of it under this Agreement will conform to all terms and specifications set forth in the Order and in the Proposal.

3. Price/Fees: The College shall pay Contractor for the services and work performed by Contractor in accordance with the fees and/or prices set forth in the Proposal.

4. Terms and Conditions: This Agreement, and the services to be performed by Contractor hereunder, will be subject to and governed by College's Standard Terms and Conditions for the Purchase of Goods and Services ("Master Terms"), which are incorporated herein by reference. The Master Terms can be viewed and downloaded at <https://www.ccac.edu/client/twocolumn.aspx?pageid=28676>. By signing below, Contractor acknowledges its receipt and acceptance of the Master Terms.

5. Insurance Requirements: In addition to the Master Terms, Contractor shall comply with the insurance and indemnification requirements set forth on Exhibit B, which are incorporated herein by reference. Prior to commencing performance of the Services, Contractor shall furnish to the College a properly executed certificate(s) of insurance which evidence all insurance required by Exhibit B. Said certificate(s) of insurance shall be attached herein as Exhibit C.

6. Assignment. Contractor may not assign or subcontract this Agreement or its performance thereof, in whole or in part, without the College's prior written consent.

7. Entire Agreement; Modification. This Agreement, together with the Exhibits and other documents referenced and incorporated herein, sets forth the entire agreement of the parties on the subject matter hereof and supersedes all previous or concurrent agreements between them, whether oral or written. Any proposal, quotation, acknowledgment, confirmation or other writing submitted by Contractor to the College shall not be deemed to amend or modify this Agreement, and will be of no legal effect except to the extent that it serves to identify the work and services to be performed by the Contractor. This Agreement, and the terms set forth in the Master Terms, will control over any conflicting terms or provisions contained in any proposal, invoice or other documentation submitted by Contractor to College. The terms of this Agreement may not be modified or changed except by a writing that both parties sign. This Agreement shall inure to the benefit of the College and Contractor and the College's successors and assigns.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

AWARDEE ONLY – COMPANY NAME

**COMMUNITY COLLEGE
OF ALLEGHENY COUNTY**

By: _____

By: Joyce Breckenridge

Signature: _____

Signature: _____

Title: _____

Title: Vice President for Finance

Date: _____

Date: _____

Revised 3/3/15

EXHIBITS - The following Exhibits are attached hereto and made a part of this Agreement for all purposes:

- ☐ **Exhibit A - Contractor's Proposal Response**
- ☐ **Exhibit B - Insurance Requirements**
- ☐ **Exhibit C - Contractor's Certificate(s) of Insurance.**
- ☐ **Exhibit D – Performance and Payment Bonds**
- ☐ **Exhibit E – No-Lien Agreement**

COMMUNITY COLLEGE OF ALLEGHENY COUNTY
800 ALLEGHENY AVENUE, PITTSBURGH, PA 15233

NO-LIEN AGREEMENT

"TO BE COMPLETED ONLY BY AWARDEE"

Bid 1009

Made the _____ day of _____, 20____ between _____

Pittsburgh, Pennsylvania Contractor and Community College of Allegheny County,
Pittsburgh, Pennsylvania, Owner.

Whereas, by separate written contract dated and executed the day and year first above written. The Owner and Contractor have entered into a No-Lien Contract (herein described for convenience as the Contract) to furnish all labor, materials, supplies, tools, and equipment necessary to complete the Contract in accordance with the specifications prepared by the Owner, and the provisions on the Contract between the Owner and Contractor, as more particularly recited therein.

NOW, THEREFORE, in consideration of the execution of said Contract for the purchases of and delivery on the premises of the owner and terms and conditions thereof, the Contractor covenants and agrees as follows:

1. The contractor covenants and agrees that no mechanics' claims or liens shall be entered or filed by the Contractor or by any subcontractor or materialsman or by an other person against the building or property of the Owner described more particularly hereinafter, for or on account of any work or labor done, materials, supplies, tools and equipment furnished in, upon, or about the building and property of the Owner described more particularly hereinafter.
2. Any and all right of lien is hereby waived and the Contractor, all subcontractors, all materialsmen, all persons supplying labor, and/or materials and all other persons shall look exclusively to and hold the Contractor and not the property liable for any sums due, however arising.
3. The property as to which this No-Lien Agreement is filed is located at Community College of Allegheny County, _____.

Block/Lot _____

IN WITNESS WHEREOF, the parties hereto, with the intent to be bound legally thereby have duly executed this No-Lien Agreement the day and year first above written.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY (OWNER)

CCAC - VICE PRESIDENT FOR FINANCE (revised 3/16/15)

(CONTRACTOR)

WITNESS

COMMUNITY COLLEGE OF ALLEGHENY COUNTY
800 ALLEGHENY AVENUE PITTSBURGH, PA 15233

INSURANCE REQUIREMENTS

FORM B

Indemnification. To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless the Community College of Allegheny County (CCAC), its agents, officers, employees, and volunteers from and against all claims, damages, losses, and expenses (including but not limited to attorney fees and court costs) arising from the acts, errors, mistakes, omissions, work or service of Contractor, its agents, employees, or any tier of its subcontractors in the performance of this Contract. The amount and type of insurance coverage requirements of this Contract will in no way be construed as limiting the scope of indemnification in this Paragraph.

Insurance. Contractor shall maintain during the term of this Contract insurance policies described below issued by companies licensed in Pennsylvania with a current A.M. Best rating of A- or better. At the signing of this Contract, and prior to the commencement of any work, Contractor shall furnish the CCAC Purchasing Department with a **Certificate of Insurance** evidencing the required coverages, conditions, and limits required by this Contract at the following address: Community College of Allegheny County, Purchasing Department, 800 Allegheny Avenue, Pittsburgh, PA 15233.

The insurance policies, except Workers' Compensation and Professional Liability, shall be endorsed to name Community College of Allegheny County, its agents, officers, employees, and volunteers as Additional Insureds with the following language or its equivalent:

Community College of Allegheny County, its agents, officers, employees, and volunteers are hereby named as additional insureds as their interest may appear.

All such Certificates shall provide a 30-day notice of cancellation. Renewal Certificates must be provided for any policies that expire during the term of this Contract. Certificate must specify whether coverage is written on an Occurrence or a Claims Made Policy form.

Insurance coverage required under this Contract is:

- 1) **Commercial General Liability** insurance with a limit of not less than \$1,000,000 per occurrence for bodily injury, property damage, personal injury, products and completed operations, and blanket contractual coverage, including but not limited to the liability assumed under the indemnification provisions of this Contract.
- 2) **Automobile Liability** insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence with respect to Contractor's owned, hired, and non-owned vehicles.
- 3) **Workers' Compensation** insurance with limits statutorily required by any Federal or State law and **Employer's Liability** insurance of not less than \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 disease policy limit.
- 4) **Professional Liability** insurance (where applicable) covering acts, errors, mistakes, and omissions arising out of the work or services performed by the Contractor, or any person employed by the Contractor, with a limit of not less than \$1,000,000 each claim.

**INDEX TO TECHNICAL SPECIFICATIONS
FOR
BID PROPOSAL NO. 1009
REFURBISH ROOFS @ B, G & L BUILDINGS - SOUTH CAMPUS**

DIVISION 1 - GENERAL REQUIREMENTS

Section	01000	Project Schedule	01000-1
	01010	Summary of Project	01010-1 thru 01010-4
	01031	Project Procedures	01031-1 " 01031-4
	01041	Project Coordination	01041-1 " 01041-2
	01045	Cutting and Patching	01045-1 " 01045-3
	01110	Unit Prices	01110-1
	01152	Applications for Payment	01152-1 “ 01152-3
	01153	Change Order Procedures	01153-1 " 01153-4
	01200	Project Meetings	01200-1 " 01200-2
	01300	Submittals	01300-1 " 01300-3
	01400	Quality Control	01400-1 " 01400-2
	01500	Construction Facilities & Temporary Controls	01500-1 " 01500-2
	01540	Security	01540-1
	01570	Traffic Regulation	01570-1
	01600	Materials & Equipment	01600-1 thru 01600-3
	01700	Contract Closeout	01700-1 " 01700-2
	01710	Cleaning	01710-1 " 01710-2
	01720	Project Record Document	01720-1 " 01720-2
	01740	Warranties and Bonds	01740-1 " 01740-2

DIVISION 6 – WOOD & PLASTICS

Section	061053	Misc Rough Carpentry	061053-1 thru 6
---------	--------	----------------------	-----------------

DIVISION 7 – THERMAL & MOISTURE PROTECTION

Section	070150	Preparation for Reroofing	070150-1 thru 10
	070150.73	Rehabilitation of Modified Bituminous Membrane Roofing	070150.73-1 " 16
	075419	Polyvinyl-Chloride Roofing	075419-1 " 16
	076200	Sheet Metal Flashing & Trim	076200-1 " 10

DRAWINGS (not dated and not to scale)

TPA FB-17	TPA FB-2	TPA FB-21
TPA FB-20	TPA FB-37	TPA FB-16
TPA FB-15	TPA FB-25	TPA FB-18
TPA FB-29	TPA FB-1	TPA FB-30
TPA FB-38	TPA FB-14	TPA FB-10
TPA FB-24	TPA FB-27	13
TPA FB-34	TPA FB-35	TPA FB-36
TPA FB-33	TPA FB-3	TPA FB-28
TPA FB-6	TPA FB-23	TPA FB-19
TPA FB-22	TPA FB-7	TPA FB-32
8 (Wall Flashing)	TPA FB-12	TPA FB-40
TPA FB-9	1	3
8 (Roof Drain)	10	11
12	16	

SECTION 01000

Section 01000 - Page 01000-1

PROJECT SCHEDULE

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. All work shall commence as soon as possible after notice of award of contract and shall be completed without interruption except for foul weather days or due to application requirements.
- B. Time is of the essence. Upon the start of work, all work shall continue without interruption until completed.
- C. A mandatory prebid meeting will be held on the construction site. The date and time is indicated on the Invitation to Bid sheet. All prospective bidders must attend.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01010

Section 01010 - Page 01010-1

SUMMARY OF PROJECT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Title of Project, type of contracts and Work of each separate contract.
- B. Work by others and future work.
- C. Work sequence.
- D. Contractor use of premises.
- E. Owner occupancy.
- F. Owner-furnished items.
- G. Field Engineering
- H. Coordination
- I. Reference Standards
- J. Project Meetings

1.02 RELATED WORK

- A. General Conditions, special conditions, instructions to bidders.

1.03 PROJECT: WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of a single prime contract comprises the Project #15-SC-003 to Refurbish Roofs @ B, G & L Buildings at South Campus of Community College of Allegheny County at 1750 Clairton Road, West Mifflin, Pennsylvania (15122) further identified as the College or Owner.

1.04 CONTRACTS

- A. Perform Work of a prime contractor for a complete lump sum contract with Owner.
- B. Work of the complete Contract is identified in following Articles and on Drawings.

1.05 ADMINISTRATIVE & PROCEDURAL SECTIONS APPLICABLE TO ALL PRIME CONTRACTS

- A. Section 01031 - Project Procedures
- B. Section 01041 - Project Coordination
- C. Section 01045 - Cutting and Patching
- D. Section 01152 - Applications for Payment
- E. Section 01153 - Change Order Procedures
- F. Section 01200 - Project Meetings
- G. Section 01300 - Submittals
- H. Section 01400 - Quality Controls

Project #15-SC-003

SUMMARY OF PROJECT

Section 01010 - Page 01010-2

- I. Section 01500 - Construction Facilities & Temporary Controls
 - J. Section 01540 - Security: Security Program
 - K. Section 01570 - Traffic Regulation
 - L. Section 01600 - Materials & Equipment
 - M. Section 01700 - Contract Closeout
 - N. Section 01710 - Cleaning
 - O. Section 01720 - Project Record Documents
 - P. Section 01740 - Warranties & Bonds
- 1.06 TEMPORARY FACILITIES & SERVICES APPLICABLE TO PRIME CONTRACT
- A. Section 01500 - Temporary Electricity, Temporary Lighting, Temporary Telephone, Temporary Water, Sanitation Facilities, Construction Aids and Temporary Enclosures.
 - B. Section 01500 - Construction Cleaning; Cleaning of Contract Work; delivery of debris to collection receptacles.
- 1.07 WORK SEQUENCE
- A. Construct work to accommodate College's (Owner) intended use of the facilities. Coordinate Progress Schedule and coordinate with the Project Manager during replacement.
- 1.08 CONTRACTOR USE OF PREMISES
- A. Contractor shall limit use of premises for work, for storage, and for access work by other contractors.
 - B. The Contractor will coordinate the use of premises by all subcontractors.
 - C. Assume full responsibility for protection and safekeeping of products under this contract.
 - D. Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- 1.09 OWNER OCCUPANCY
- A. College will occupy the premises during entire period of construction for the conduct of their normal operations. Cooperate with College to minimize conflict and to facilitate Owner operations.
- 1.10 FIELD ENGINEERING
- A. Provide field engineering services; establish grades, lines and levels by use of recognized engineering survey practices.

Project #15-SC-003

SUMMARY OF PROJECT

Section 01010 - Page 01010-3

1.11 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall review on site all of the existing conditions prior to submittal of his/her bid. Contact Project Manager to schedule site visit.
- B. Ignorance by Contractor of existing conditions or not visiting site prior to bid does not give excuse for claims or additional costs incurred by Contractor.

1.12 COORDINATION

- A. The contractor shall coordinate the work with the College and all subcontractors and shall coordinate all the work of the various sections of Specifications to assure efficient and orderly sequence of installation of construction elements, as stated in the following paragraphs with provisions for accommodating items to be installed later.
- B. Verify characteristics of elements of interrelated operating equipment are compatible; coordinate work of various sections having interdependent responsibilities for installing, connecting to and placing in service such equipment.
- C. The contractor shall remove all demolished material or equipment from the site. The work area is to be broom swept daily.
- D. The Bidder shall visit the site to determine field conditions prior to contract award.

1.13 REFERENCE STANDARDS

- A. For Products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in affect as of the Bid date, except when a specific date is specified.
- C. Obtain copies of standards when required by contract Documents. Maintain copy at job site during progress of the specific work.

PART 2 PRODUCTS

(Referenced on Drawings and Specifications)

Project #15-SC-003

PART 3 EXECUTION

3.01 INSTALLATION

- A. All work shall be scheduled and coordinated with the Project Manager to meet the following requirements:
 - 1. Minimum practical interference with Owner's normal operations and special needs.
 - 2. Maintain reasonable heating capability during all hours when outside temperature is below 40 degrees F. unless otherwise permitted by Owner's Designated Representative.
 - 3. Maintain reasonable cooling capability during all hours when outside ambient temperature exceeds 80 degrees F. unless otherwise permitted by Owner's Designated Representative.
- B. All work shall be done using techniques which minimize dirt, disruptions and down time in all areas and systems.

3.02 INSPECTION

- A. During the course of construction, observations will be conducted by the TREMCO and/or Owner at appropriate intervals of the work.
- B. During the final inspection, a punchlist of work not in conformance with the Contract Documents in addition to items not complete at the time will be made. These items shall be corrected and replaced at no cost to the Owner within ten (10) days.
- C. Upon written notice from the Contractor that the punchlist items have been completed, a final inspection will be made. Upon written letter of acceptance from TREMCO to the Owner, final payment shall be made.

3.03 EXECUTION

- A. Access to and from the building to the roadways and sidewalks for building occupants shall be maintained at all times during construction.

3.04 SAFETY ISSUES

- A. The Contractor will be required to barricade the work area and protect the public during the entire course of the work.
- B. Provide traffic control at critical areas in the supply of material and removal of debris.
- C. Protect work, stored products and equipment from theft. The contractor shall not cause the security of the Owner's buildings to be jeopardized during the course of the work.
- D. Erect signs and safety lights indicating to the public that the area is a construction zone and may be hazardous.
- E. Provide five (5) copies of MSDS sheets for all products and/or materials to be used on project at least five (5) days in advance of products being delivered on site.

END OF SECTION

PROJECT PROCEDURES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Coordinate work of trades and schedule elements of all work by procedures and methods to expedite completion of the work.
- B. In addition to demolition specified in Section 02070, and that specifically shown, cut, move or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
 - 1. Repair or removal of hazardous or unsanitary conditions.
 - 2. Removal of abandoned items and items serving no useful purpose such as abandoned piping, conduit and wiring.
 - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.
 - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.
- C. Patch, repair and refinish existing items to remain to the specified condition for each material with a workmanlike transition to adjacent new items of construction.
- D. All work shall be completed at the convenience of the Owner between the hours of 6 a.m. and 4 p.m. or as specified in writing by the Owner.
- E. Demolition work is to be performed at a time to not interrupt the education process.
- F. Demolition work is to be carefully coordinated with the weather forecast. The interior of the building is to be protected at all times. Do not demolish more area than can be protected from the weather.
- G. Work shifts other than those listed above must be approved by the Project Manager. Whenever noise, dust dirt or procedures for completing the work affects the operation of the Owner, the Owner at their discretion may reschedule the work at a time when the work will not affect the operations. Additional costs for labor due to shift differentials if required will be considered as being included in the lump sum bid.
- H. Contractor is to take all necessary precautions during work to prevent damage to internal sections of building under or adjacent to project work area. This includes water infiltration, dust, dirt and debris.

- 1.02 RELATED REQUIREMENTS
- A. Section 01010 - Summary of Project
 - B. Section 01045 - Cutting and Patching
 - C. Section 01300 - Submittals
 - D. Section 01500 - Construction Facilities & Temporary Controls
 - E. Section 01540 - Security
 - F. Section 01710 - Cleaning
- 1.03 SEQUENCE AND SCHEDULES
- A. Schedule work as specified in Section 01010.
 - B. Submit detailed schedule to Project Manager prior to start of work.
 - C. Schedule and show area(s) of work with start and finish dates in particular area(s).
 - D. Trades and/or subcontractors employed at each stage of the work.
- 1.04 ALTERATIONS, CUTTING AND PROTECTION
- A. Assign the work of moving, removal, cutting and patching to trades qualified to perform the work in a manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.
 - B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.
 - 1. Cut finish surfaces such as masonry, tile, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division.
 - C. Perform cutting and patching as specified in Section 01045.
 - D. Protect existing finishes, equipment and adjacent work which is scheduled to remain from damage.
 - 1. Protect existing and new work from weather and extremes of temperature.
 - a. Maintain existing interior work above 60 degrees F.
 - b. Provide weather protection, waterproofing, heat and humidity control as needed to prevent damage to remaining existing work and to new work.
 - E. The Contractor shall provide temporary enclosures as specified in Section 01500 if necessary and as determined to be necessary by the Project Manager, to separate work areas from the existing building and from areas occupied by Owner and to provide dust protection.

PART 2 PRODUCTS

(Referenced on Drawings and Specifications)

PART 3 EXECUTION

3.01 PERFORMANCE

- A. All work is to be performed using skilled mechanics who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.

3.02 ADJUSTMENTS

- A. Where existing construction is removed and must be replaced, patch deck floors, walls and parapets, with finish materials as specified.
 - 1. Where extreme change of plane of two inches or more occurs, request instructions from TREMCO or Project Manager as to method of making transition.

3.03 DAMAGED SURFACES

- A. Patch and replace any portion of an existing finished surface which is found to be damaged, lifted, discolored or show other imperfections, with matching material.
 - 1. Provide adequate support of substrate prior to patching the finish.
 - 2. Refinish patched or coated surfaces in a manner to produce uniform color and texture over entire surface.
 - 3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

3.04 TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or finishes flush with existing work, make a smooth and workmanlike transition. Patched work shall match existing adjacent work in texture and appearance so that the patch or transition is invisible at a distance of five feet.
 - 1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.05 CLEANING

- A. Perform periodic and final cleaning as specified in Section 01700.
 - 1. Clean areas daily.
- B. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
- C. At completion of alterations work in each area, provide final cleaning and return space to a condition suitable for use by Owner. Remove all barricades.
- D. At no time shall any Contractor perform equipment or site cleanup without the Owner's permission.
- E. All excess materials (new and demoed) are to be removed from the campus grounds and disposed of per applicable regulations.

END OF SECTION

Project #15-SC-003

SECTION 01041

Section 01041 - Page 01041-1

PROJECT COORDINATION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Prime Contractor will coordinate the Work of sub contractor for the Project.

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract
- B. Section 01010 - Summary of Work
- C. Section 01045 - Cutting and Patching
- D. Section 01152 - Applications for Payments
- E. Section 01200 - Project Meetings
- F. Section 01300 - Submittals
- G. Section 01700 - Contract Closeout
- H. Section 01710 - Cleaning

1.03 CONSTRUCTION ORGANIZATION AND START UP

- A. Prime Contractor shall establish on-site lines of communications:
 - 1. Obtain permits and approvals:
 - a. Building permits and special permits required for Work or for temporary facilities.
 - b. Verify that contractors and subcontractors have obtained inspections for Work and for temporary facilities.
 - 2. Control the use of Site:
 - a. Supervise field engineering and site layout.
 - b. Allocate space for Contractor and subcontractor use for field offices, sheds and work and storage areas.
 - c. Establish access, traffic and parking allocations and regulations.
 - d. Monitor use of site during construction.

1.04 PRIME CONTRACTOR DUTIES

- A. Construction Schedules:
 - 1. Coordinate schedules of the subcontractors.
 - 2. Hold weekly coordination meetings with the subcontractors to review areas of work and potential problems with work and or schedules.
 - 3. Coordinate the preparation of a detailed overall schedule of basic operations for all subcontractors.

4. Monitor schedules as work progresses:
 - a. Identify potential variances between schedules and probable completion dates for each phase.
 - b. Recommend to Owner adjustments in schedule to meet required completion dates.
 - c. Adjust schedules of Contractors as required.
 - d. Document changes in schedule, submit to Owner and to involved Contractors.
- B. Prepare coordination Drawings as required to resolve conflicts and to assure coordination of the Work.
 1. Submit to TREMCO.
 2. Reproduce and distribute copies to concerned parties after College review.
- C. Monitor contractor's periodic cleaning:
 1. Enforce compliance with specifications.
 2. Resolve any conflicts.
- D. Arrange for delivery of Owner-furnished products.
 1. Inspect for condition at delivery.
 2. Turn over to appropriate Contractor, obtain receipt.
- E. Maintain Reports and Records at Job Site and make available to College.
 1. Daily log of progress of Work of each Contractor.
 2. Records:
 - a. Contracts
 - b. Purchase Orders
 - c. Materials and Equipment Records
 - d. Applicable handbooks, codes and standards.
 3. Obtain information from contractors and maintain file of record documents.
 4. Assemble documentation for handling of claims and disputes.

1.05 CONTRACTOR CLOSE OUT DUTIES

- A. At completion of Work of each Contract, conduct an inspection to assure that:
 1. Specified cleaning has been accomplished.
 2. Temporary facilities have been removed from site.
- B. Substantial completion:
 1. Conduct an inspection to confirm or supplement Contractor's list of work to be completed or corrected.
 2. Assist College in inspection.
 3. Supervise correction and completion of work.

PART 2 PRODUCTS
(Referenced on Contract Drawings and Specifications)
PART 3 EXECUTION
Not Used
END OF SECTION

Project #15-SC-003

SECTION 01045

Section 01045 - Page 01045-1

CUTTING AND PATCHING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Each CONTRACTOR shall be responsible for all cutting, fitting and patching required to complete the work or to:
 - 1. Make its several parts fit together properly.
 - 2. Uncover portions of the work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.
 - 7. Provide sealing of those penetrations with fire-rated sealant meeting all fire code requirements at both ends of the penetration.

1.02 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Project
- B. Section 01031 - Project Procedures
- C. Section 01600 - Materials & Equipment

1.03 SUBMITTALS

- A. Submit a written request to Project Manager well in advance of executing any cutting or alteration which affects:
 - 1. Work of the Owner or any separate contractor.
 - 2. Structural value or integrity of any element of the Project.
 - 3. Integrity or effectiveness of weather-exposed moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
- B. Request shall include:
 - 1. Identification of the Project.
 - 2. Description of affected work.
 - 3. The necessity for cutting, alteration or excavation.
 - 4. Effect of work on Owner or any separate contractor, or on structural or weatherproof integrity of Project.

5. Description of proposed work:
 - a. Scope of cutting, patching, alteration or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.
- C. Should conditions of work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution as specified in Section 01600 - Materials & Equipment.
- D. Submit written notice to Project Manager designating the date and the time the work will be uncovered.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of Products or performance of work.
- C. Report unsatisfactory or questionable conditions to Project Manager in writing; do not proceed with work until Project Manager has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value of integrity of affected portion of work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work and maintain excavations free from water.

- 3.03 PERFORMANCE
- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
 - B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
 - C. Employ proper trade to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
 - D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
 - E. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.
 - F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
 - G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

END OF SECTION

Project #15-SC-003

UNIT PRICES

SECTION 01110

Section 01110 - Page 01110-1

UNIT PRICES

PART 1 GENERAL

- 1.01 Unit prices are requested for the unit of work identified in the Bid Document and the Owner reserves the right to accept or reject any unit price, and to use these unit prices in the determination of the lowest responsible bidder.
- 1.02 Unit prices are listed here for the contractors information, and the contractors shall submit the price on the bid proposal form.
- 1.03 For this project, unit prices requested are:
 - A. As listed on the Bid Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01152

Section 01152 - Page 01152-1

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the Project Manager in accord with the schedule established by Conditions of the Contract and Agreement.

1.02 RELATED REQUIREMENTS

- A. Agreement between Owner and Contractor
- B. Conditions of the Contract
- C. Section 01153 - Change Order Procedures
- D. Section 01300 - Submittals
- E. Section 01700 - Contract Closeout

1.03 FORMAT AND DATA REQUIRED

- A. Submit itemized applications typed on AIA Document G702, Application and Certificate for Payment, and continuation sheets G702A to:
 - 1. Community College of Allegheny County
Attention J. B. Messer, CFO
Project Manager
Facilities Management Division
800 Allegheny Avenue
Pittsburgh, PA 15233
- B. Provide itemized data on continuation sheet:
 - 1. Format, schedules, line items and value; those of the Schedule of Values accepted by Project Manager.

1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form:
 - 1. Fill in required information, including that for approved Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.
- B. Continuation Sheets:
 - 1. Fill in total list of all scheduled component items of Work with item number and scheduled dollar value for each item.

Project #15-SC-003

2. Fill in dollar value in each column for each scheduled line item when work has been performed or product stored.
 - a. Round off values to nearest dollar, or as specified for Schedule of Values.
 3. List each approved Change Order executed prior to date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number, and description, as for an original component item of work.
 - C. Retainage
 1. The Contractor shall indicate a percentage of the completed work and stored material retained in each application for payment.
 2. The retainage shall be ten (10) percent.
- 1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS
 - A. When the Owner requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
 1. Project
 2. Application number and date
 3. Detailed list of enclosures
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
 - B. Submit one (1) copy of data and cover letter for each copy of application.
- 1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT
 - A. Provide AIA Application and Certificate for Payment G702 and Continuation Sheet AIA G703.
 - B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.
- 1.07 SUBMITTAL PROCEDURE
 - A. Submit Applications for Payment to Project Manager.
 - B. Number: One (1) copy of each Application.
 - C. When Project Manager finds Application for Payment properly completed and correct, he will process certificate for payment, with copy of transmittal to Contractor.

1.08 REFUND OF SALES TAX

- A. Access to Accounting Records - The Contractor shall check all materials, equipment and labor entering into the Work and shall keep such full and detailed accounts as may be necessary for proper financial management under this Agreement and the system shall be satisfactory to the Owner. The Owner, its representative or any regulatory agency shall be afforded access to all the Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda and similar data relating to this Contract and the Contractor shall preserve all such records for a period of three years, or for such longer period as may be required by law, after the final payment.
- B. Assignment of Refund Rights - The Contractor agrees to assign and transfer to the Owner all its rights to sales and use tax which may be refunded as a result of a claim for refund for materials purchased in connection with this contract. The Contractor further agrees that it will not file a claim for refund for any sales or use tax which is the subject of this assignment.
- C. Contracts with Subcontractors - The contractor agrees to include the 'Access to Accounting Records' and 'Assignment of Refund Rights' paragraphs and to make these records available in full including any contracts with subcontractors or purchase orders to suppliers of equipment and materials.

1.09 TAXES

- A. Owner is a governmental entity and is generally exempt from sales and use tax with respect to purchases of building machinery and equipment. A tax exemption certificate will be provided upon request. It is the successful Bidder's responsibility to pay any/all applicable taxes on nonexempt equipment, supplies and services in accordance with applicable law.

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

Project #15-SC-003

SECTION 01153
CHANGE ORDER PROCEDURES

Section 01153 - Page 01153-1

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Promptly implement change order procedures.
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of any work authorized to be done on a time-and-material account basis.
 - 3. Provide full documentation for Project Manager on request.
- B. Designate in writing the member(s) of Contractor's organization.
 - 1. Who is authorized to accept changes in the Work.
 - 2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the work.
- C. Only the Chief Facilities Officer of Facilities Management Division or the Owner's Project Manager can authorize changes to the contract.
- D. Only fully documented, written change orders will be processed for payment. Any work performed without this approval process will be at the Contractor's expense.
- E. Markups on Change Order requests shall not exceed fifteen (15) percent. This applies to overhead and profit, labor, materials, equipment, etc.

1.02 RELATED REQUIREMENTS

- A. Agreement: The amount of established unit prices.
- B. Conditions of the Contract:
 - 1. Methods of determining cost or credit to Owner resulting from changes in Work.
 - 2. Contractor's claims for additional costs.
- C. Section 01152 - Applications for Payment
- D. Section 01300 - Submittals
- E. Section 01600 - Materials & Equipment
- F. Section 01700 - Contract Closeout

1.03 DEFINITIONS

- A. Change Order is understood to mean and be defined as any change to the original contract agreement.
- B. Construction Change Authorization, AIA Document G713: A written order to the Contractor, signed by Project Manager, which amends the Contract Documents as described, and authorizes the contractor to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.

Project #15-SC-003

1.04 PRELIMINARY PROCEDURES

- A. College may initiate changes by submitting a Change Order Proposal Request to Contractor. Request will include:
 - 1. Detailed Description of the Change, Products, and location of the change in the Project.
 - 2. Supplementary or revised Drawings and specifications.
 - 3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not authorized.
 - 4. A specific period of time during which the requested price will be considered valid.
 - 5. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.
- B. No change orders or claims work can be performed prior to approval by the Project Manager. If change order work is completed without prior approval, the work and compensation for the work will be solely to the account of the Contractor (i.e. without an approved change order the Contractor proceeds at his own risk).
- C. Contractor may initiate changes by submitting a written notice to the Project Manager, containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect of the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of separate contractors.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.05 CONSTRUCTION CHANGE AUTHORIZATION

- A. The Project Manager may issue a construction change authorization for Contractor to proceed with a change for subsequent inclusion in a Change Order.
- B. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the Change, and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. Project Manager will sign and date the Construction Change Directive AIA G714 as authorization for the Contractor to proceed with the changes.
- D. Contractor may sign and date the Construction Change Authorization to indicate agreement with the terms therein.

- 1.06 DOCUMENTATION OF PROPOSAL AND CLAIMS
- A. Support each quotation for a lump sum proposal and for each unit price which has not previously been established, with sufficient substantiating data to allow Project Manager to evaluate the quotation.
 - B. On request provide additional data to support time and cost computations:
 - 1. Labor required
 - 2. Equipment required
 - 3. Products required
 - a. Recommended source of purchase and unit cost
 - b. Quantities required
 - 4. Taxes, insurance and bonds
 - 5. Credit for work deleted from Contract, similarly documented
 - 6. Overhead and profit
 - 7. Justification for any change in Contract Time
 - C. Document request for substitutions for Products as specified in Section 01600 - Materials & Equipment.
- 1.07 PREPARATION OF CHANGE ORDERS
- A. Prime Contractor will prepare each Change Order.
 - B. Form: Change Order: AIA Document G701.
 - C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
 - D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.
- 1.08 LUMP SUM/FIXED PRICE CHANGE ORDER
- A. Content of Change Orders will be based on, either:
 - 1. College's Proposal Request and Contractor's responsive Proposal as mutually agreed between Project Manager and Contractor.
 - 2. Contractor's Proposal for a change, as recommended by Project Manager.
 - B. Project Manager will sign and date the Change Order as authorization for the Contractor to proceed with the Changes.
 - C. Contractor may sign and date the Change Order to indicate agreement with the terms therein.
 - D. Project Manager will issue a Purchase Requisition detailing changes to the work and to the contract. The Purchasing Department will follow with an official Purchase Order.

- 1.09 CORRELATION WITH CONTRACTOR'S SUBMITTALS
- A. Periodically add to Schedule of Values and Request for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.
 - B. Periodically revise the Construction Schedule to reflect each change in Contract Time.
 - 1. Revise subschedules to show changes for other items of work affected by the changes.
 - C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01200
PROJECT MEETINGS

Section 01200 - Page 01200-1

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Project Manager shall schedule and administer a Preconstruction Meeting, a meeting at the start of job, a meeting midway through job and a meeting at the completion of work.
 - 1. Project Manager is to Record the Minutes: Including significant proceedings and decisions.
 - 2. Reproduce and distribute copies of Minutes after each meeting.
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.
- B. Representatives of the contractor, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

1.02 RELATED REQUIREMENTS

- A. Instructions to Bidders
- B. Section 01300 - Submittals
- C. Section 01720 - Project Record Documents

1.03 PRECONSTRUCTION MEETING

- A. Schedule within five (5) days after receiving Purchase Order.
- B. Location: Project site.
- C. Attendance:
 - 1. Project Manager
 - 2. TREMCO
 - 3. Physical Plant Supervisor
 - 4. Contractor's Superintendent
 - 5. Subcontractors as Appropriate
 - 6. Others as appropriate
- D. Meeting Agenda:
 - 1. Distribution and discussion of:
 - a. List of subcontractors and suppliers.
 - b. Projected Construction schedule.
 - 2. Critical work sequencing.
 - 3. Major equipment delivery, dates and priorities.
 - 4. Project Coordination
 - a. Designation of responsible personnel.
 - 5. Procedures and processing of:
 - a. Field Decisions
 - b. Proposal Requests
 - c. Submittals
 - d. Change Orders
 - e. Applications for Payment

Project #15-SC-003

6. Distribution of Contract Documents
7. Procedures for Maintaining Record Documents
8. Use of premises:
 - a. Office, Work and Storage Areas
 - b. Owner's Requirements
9. Construction Facilities and General Conditions
10. Temporary Utilities
11. Safety and First-aid Procedures
12. Security Procedures
13. Housekeeping Procedures

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

SUBMITTALS

SECTION 01300

Section 01300 - Page 01300-1

SUBMITTALS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Procedures
- B. Construction Progress Schedule
- C. Schedule of Values
- D. Shop Drawings
- E. Product Data
- F. Samples
- G. Manufacturer's Certificates

1.02 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Project
- B. Section 01152 - Applications for Payment: Submittal of Applications
- C. Section 01600 - Materials & Equipment: Manufacturers' Instructions Substitutions and Product Options: Contractor's List of Products
- D. Section 01700 - Contract Closeout: Closeout Submittals

1.03 PROCEDURES

- A. Deliver submittals to TREMCO.
- B. Identify project, contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Project Manager review stamps.
- C. Submit initial progress schedule, schedule of values, shop Drawings and product data as required within 5 days after award of contract. After review by TREMCO, revise and resubmit as required. Submit revised schedules with each Application for Payment reflecting changes since previous submittal.
- D. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- E. After TREMCO's review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- F. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- G. **Provide names and telephone numbers (both office and cell) of responsible parties to contact in event of an emergency.**

Project #15-SC-003

- 1.04 CONSTRUCTION PROGRESS SCHEDULE
- A. Submit horizontal bar chart with separate bar for each major trade or operation, identifying first work day of each week.
 - B. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each progress Application for Payment.
 - C. Show submittal dates required for Shop Drawings, Product Data, and Samples and Product delivery dates.
 - D. Submit progress schedule in duplicate.
- 1.05 SCHEDULE OF VALUES
- A. Submit typed schedule of AIA Form G703 Continuation Sheet for Payment Application, in duplicate.
 - B. Format: Table of Contents of the Project Manual. Identify each line item with number and title of the major Specification sections.
 - C. Revise schedule to list change orders, for each application for payment.
 - D. The Schedule of Values is to be submitted prior to first Application for Payment.
- 1.06 PRODUCT DATA
- A. Mark each copy to identify applicable Products, models, options and other data; supplement manufacturers' standard data to provide information unique to the Work. Include manufacturers' installation instructions when required by the Specification section.
 - B. Submit the number of copies which TREMCO and Contractor require, plus two (2) copies which will be retained by College.
- 1.07 MANUFACTURERS' CERTIFICATES
- A. Submit certificates in duplicate.
- 1.08 MBE & WBE UTILIZATION
- A. Submit monthly MBE and WBE reports for Contractor.
 - B. These are to be submitted monthly to the Project Manager with the Contractor's Request for Payment.

SUBMITTALS

Section 01300 - Page 01300-3

- 1.09 EEO
- A. Submit monthly reports as required showing the number of employees for the Contractor and subcontractors.
 - B. These are to be submitted monthly to the Project Manager with the Contractor's Request for Payment.
- 1.10 CERTIFIED PAYROLLS
- A. Contractors, subcontractors and all lower tier subcontractors shall submit weekly certified payrolls to the Project Manager.

PART 2 PRODUCTS
(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION
Not Used

END OF SECTION

Project #15-SC-003

SECTION 01400

Section 01400 - Page 01400-1

QUALITY CONTROL

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. General Quality Control
- B. Testing Laboratory Services

1.02 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Work
- B. Section 01300 - Submittals: Submittal of Manufacturer's Instruction

1.03 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions and workmanship to produce work of specified quality.

1.04 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration and racking.

1.05 MANUFACTURERS' INSTRUCTIONS

- A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from the TREMCO before proceeding.

1.06 MANUFACTURERS' CERTIFICATES

- A. When required by individual Specifications Section, submit manufacturers' certificate, in duplicate, that products meet or exceed specified requirements.

- 1.07 MANUFACTURERS' FIELD SERVICES
- A. When specified in respective Specification Section, provide qualified personnel to observe field conditions, conditions of installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to make appropriate recommendations.
 - B. Representative shall submit written report to TREMCO listing observations and recommendations.

- 1.08 TESTING AND LABORATORY SERVICES
- A. Prime Contractor shall employ and pay for services of an independent testing company/laboratory to perform all in situ testing of existing conditions and materials.
 - B. Reports are to be submitted to TREMCO and Project Manager.

PART 2 PRODUCTS

 (Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

 Not Used

END OF SECTION

SECTION 01500

Section 01500 - Page 01500-1

CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED BY CONTRACTOR

- A. Barriers
- B. Cleaning During Construction

1.02 REQUIREMENTS INCLUDED BY OWNER

- A. Electricity, Lighting
- B. Water
- C. Sanitary Facilities

1.03 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Project: Work sequence and Contractor use of premises.
- B. Section 01700 - Contract Closeout: Final Cleaning

1.04 ELECTRICITY, LIGHTING (BY OWNER)

- A. Connect to existing service, provide branch wiring and distribution boxed located to allow service and lighting by means of construction-type power cords. Owner will pay costs of energy used.
- B. Provide lighting for construction operations.
- C. Existing and permanent lighting may be used during construction. Maintain lighting and make routine repairs.
- D. Temporary lighting is the responsibility of the Contractor.

1.05 WATER (BY OWNER)

- A. Connect to existing facilities; extend branch piping with outlets located so that water is available by use of hoses. Owner will pay for water used.

1.06 SANITARY FACILITIES (BY OWNER)

- A. Designated existing facilities may be used during construction operations; maintain in sanitary condition.

1.07 BARRIERS (BY CONTRACTOR)

- A. Provide as required to prevent public entry to construction areas to provide for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.

Project #15-SC-003

- 1.08 CLEANING DURING CONSTRUCTION (BY CONTRACTOR)
- A. Control accumulation of waste materials and rubbish; periodically dispose of off-site.
 - B. Clean interior areas daily and prior to start of finish work, maintain all areas free of dust and other contaminants during all construction operations.
- 1.09 REMOVAL OF DEMOLITION & TEMPORARY MATERIALS (BY CONTRACTOR)
- A. Remove temporary materials, equipment, services and construction prior to Substantial Completion Inspection.
 - B. Clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used during construction to specified, or to original condition.
- PART 2 PRODUCTS
(Referenced on Contract Drawings and Specifications)
- PART 3 EXECUTION
Not Used

END OF SECTION

Project #15-SC-003

SECURITY

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide a project security program to:
 - 1. Protect Work, stored products and construction equipment from theft and vandalism.
 - 2. Protect project premises from entry by unauthorized persons.
- B. Protect Owner's operations at site from theft, vandalism or damage from Contractor's work or employees.
- C. The contractors shall comply with all security regulations of the College and such regulations and/or directives issued by the College shall be absolute.
- D. The contractors shall not cause the security of the College's buildings, occupants and contents thereof to be jeopardized in any way and shall be responsible for any losses incurred because of such actions.
- E. The contractor shall secure his tools and equipment in a location mutually agreeable to himself, the Project Manager and the campus Physical Plant Supervisor. The College shall not be responsible for its security.

1.02 RELATED REQUIREMENTS

- A. Section 01200 - Project Meetings
- B. Section 01600 - Storage and Protection of Products

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01570

Section 01570 - Page 01570-1

TRAFFIC REGULATION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide, operate, maintain equipment, services and personnel, as required to expedite vehicular traffic flow and traffic control at site entrances and parking areas.
- B. Remove temporary equipment and facilities when no longer required, restore grounds to original or to specified conditions.

1.02 RELATED REQUIREMENTS

- A. Section 01041 - Project Coordination
- B. Section 01500 - Construction Facilities & Temporary Controls
- C. Section 01580 - Project Identification & Signs

1.03 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, College operations, construction operations and neighborhood use.
- B. Monitor parking or construction personnel's private vehicles:
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking in nondesignated areas.
 - 3. The Physical Plant Supervisor will designate the area where the Contractor's personnel may park their vehicles.

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01600

Section 01600 - Page 01600-1

MATERIALS & EQUIPMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Products
- B. Workmanship
- C. Manufacturers' Instructions
- D. Transportation and Handling
- E. Storage and Protection
- F. Substitutions and Product Options

1.02 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Project
- B. Section 01300 - Submittals: Submittal of Manufacturers' Certificates
- C. Section 01700 - Contract Closeout: Operation and Maintenance Data & Warranties and Bonds.

1.03 PRODUCTS

- A. Products include material, equipment and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification section shall be the same and shall be interchangeable.
- D. Do not use materials removed from existing structure, except as specifically required or allowed by Contract Documents.
- E. Acceptable products are referenced on Drawings and Specifications.

1.04 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration and racking.

- 1.05 MANUFACTURERS' INSTRUCTIONS
- A. When work is specified to comply with manufacturers' instruction, submit copies as specified in Section 01300, distribute copies to persons involved and maintain one set in field office.
 - B. Perform work in accordance with details of instruction and specified requirements. Should a conflict exist between Specifications and instructions, consult with Project Manager.
- 1.06 TRANSPORTATION AND HANDLING
- A. Transport Products by methods to avoid Product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
 - B. Provide equipment and personnel to handle Products by methods to prevent soiling or damage.
 - C. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct and Products are undamaged.
- 1.07 STORAGE AND PROTECTION
- A. Store Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.
 - B. For exterior storage or fabricated Products, place on sloped supports above ground. Cover Products subject to deterioration with impervious sheet covering: Provide ventilation to avoid condensation.
 - C. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
 - D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.
 - E. After installation, each contractor shall provide coverings to protect all installed products from damage due to traffic and construction operations, remove when no longer needed. ALL damaged products shall be replaced at no cost to the College.

1.08 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Only with in fifteen (15) days after date of Contract will Owner consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a Product becomes unavailable due to no fault of Contractor.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- C. Request constitutes a representation that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds in all respects, specified Product.
 - 2. Will provide the same warranty for substitution as for specified Product.
 - 3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects.
 - 4. Waives claims for additional costs which may subsequently become apparent.
- D. Substitutions will not be considered when they are indicated or implied on Shop Drawings or Product Data submittals without separate written requests, or when acceptance will require substantial revision or Contract Documents.
- E. Owner will determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.

1.09 PRODUCT OPTIONS

- A. Within five (5) days after date of Contract, submit complete list of major Products proposed, with name of manufacturer and tradename.

PART 2 PRODUCTS

2.01 PENNSYLVANIA STEEL PRODUCTS PROCUREMENT ACT

- A. Contractor acknowledges that CCAC is a public agency subject to the requirements of the Pennsylvania Steel Products Procurement Act, 73 P.S. Section 1881 et. seq (the "SPPA"). Contractor therefore represents and warrants that any and all steel products purchased, used or supplied by it in the performance of the Contract will be melted and manufactured in the United States, and that its performance hereunder will otherwise comply with requirements of the SPPA at all times. Contractor further agrees to provide CCAC with documentation and/or certification of its compliance with the foregoing requirements, as required under the SPPA, and acknowledges that it shall not be entitled to receive payment hereunder until such documentation and/or certification has been provided.

PART 3 EXECUTION

Not Used

END OF SECTION

Project #15-SC-003

SECTION 01700

Section 01700 - Page 01700-1

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Closeout Procedures
- B. Final Cleaning
- C. Project Record Documents
- D. Maintenance Data
- E. Warranties and Bonds

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract: Fiscal provisions, legal submittals and other administrative requirements.
- B. Section 01010 - Summary of Project
- C. Section 01500 - Construction Facilities & Temporary Controls: Cleaning during construction.

1.03 CLOSEOUT PROCEDURES

- A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.
- B. Owner will occupy designated portion of Project for the purpose of conduct of business under provision stated in Certificate of Substantial Completion.
- C. When Contractor considers Work has reached final completion, submit written certification that Contract Documents have been reviewed, work has been inspected and that work is completed in accordance with Contract Documents and ready for Project Manager inspection.
- D. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments and sum remaining due.

1.04 FINAL CLEANING

- A. Execute prior to final inspection.
- B. Clean all interior and exterior surfaces, remove temporary labels, stains and foreign substances, wash and polish transparent and glossy surfaces, vacuum carpeted and soft surfaces, grilles, registers and ductwork. Clean all equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment. Clean drainage systems.

Project #15-SC-003

- C. Clean site and remove all rubbish.
- D. Remove waste and surplus materials rubbish and construction facilities from the Project and from the site.

1.05 PROJECT RECORD DOCUMENTS

- A. Store a set of contract documents separate from those used for construction.
- B. Keep documents current; do not permanently conceal any work until the required information has been recorded.
- C. At Contract Closeout, submit documents with transmittal letter containing date, project title, Contractor's name and address, list of documents and signature of Contractor.

1.06 WARRANTIES AND BONDS

- A. Contractor is to execute submittal and assemble documents as furnished by suppliers and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.
- B. Submit warranty package prior to final application for payment. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Execute cleaning, during progress of the Work and at completion of the Work and any and all cleaning to be performed by Contractor.

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract
- B. Each Specification Section: Cleaning for specific Products of work.
- C. Section 01010 - Summary of Project.

1.03 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations and antipollution laws.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Contractor to provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Contractor to remove waste materials, debris and rubbish from the site and dispose of at legal disposal areas away from the site.

CLEANING

Section 01710 - Page 01710-2

3.02 DUST CONTROL

- A. Clean interior spaces to a dust free condition prior to the start of finish work and continue cleaning on an as-needed basis until project is completed.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on computer desks or equipment.

END OF SECTION

Project #15-SC-003

SECTION 01720

Section 01720 - Page 01720-1

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Each Contractor shall maintain at the site for the Owner one record copy of:
 - 1. Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other Modifications to the Contract
 - 5. Approved Shop Drawings, Product Data and Samples

1.02 RELATED REQUIREMENTS

- A. Section 01300 - Submittals
- B. Section 01740 - Warranties and Bonds

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in locked fire-proof cabinet and secure storage space apart from documents used for construction.
- B. File documents and samples in accordance with CSI 16 Division format.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by Owner.

1.04 RECORDING

- A. Label each document "Project Record" in neat large printed letters.
- B. Record information concurrently with construction progress.
 - 1. Do not conceal any work until required information is recorded.
- C. Drawings, legibly make to record actual construction:
 - 1. Depths of various elements of foundation in relation to finish first floor datum.
 - 2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.

4. Field changes of dimension and detail.
5. Changes made by Field Order or by Change Order.
6. Details not on original contract Drawings.
- D. Specifications and Agenda: Legibly mark each Section with:
 1. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 2. Changes made by Field Order or by Change Order.

1.05 SUBMITTALS

- A. At contract close-out, deliver Record Documents to the Owner.
- B. Accompany submittals with transmittal letter in duplicate, containing:
 1. Date
 2. Project title and number
 3. Contractor's name and address
 4. Title and number of each Record Document
 5. Signature of contractor of his authorized representative.

PART 2 PRODUCTS

(Referenced on Contract Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01740

Section 01740 - Page 01740-1

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile warranties and bonds.
- B. Review submittals and verify compliance with Contract Documents.

1.02 RELATED REQUIREMENTS

- A. Project Contract Articles
- B. Conditions of the Contract
- C. Section 01700 - Contract Closeout

1.03 WARRANTY REQUIREMENTS

- A. All portions of the work shall be warranted for five (5) years from date of acceptance by Owner and TREMCO.

1.04 SUBMITTAL REQUIREMENTS

- A. Single Prime Contractor shall assemble warranties and bonds.
- B. Number of original signed copies required: Three (3) each.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item:
 - 1. Product or work item
 - 2. Firm, with name of principle, address and telephone number
 - 3. Scope
 - 4. Date of beginning of warranty, bond or service and maintenance contract and expiration date
 - 5. Duration of warranty, bond or service maintenance contract shall not be less than one year from data of Owner's acceptance.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure
 - b. Instances which might affect the validity of warranty or bond.
 - 7. Contractor, name of responsible principle, address and telephone number.

Project #15-SC-003

- 1.05 FORM OF SUBMITTALS
- A. Prepare in duplicate packets.
 - B. Format:
 - 1. Size 8-1/2" x 11", punch sheets for standard three-ring binder.
 - a. Fold larger sheets to fit into binders.
 - 2. Cover: Identify each packet with types or printed title "Warranties and Bonds". List:
 - a. Title of Project
 - b. Name of Contractor
 - C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.
- 1.06 TIME OF SUBMITTALS
- A. Make submittals within ten (10) days after Date of Substantial Completion, prior to final request for payment.
 - B. For items of work, where acceptance is delayed materially beyond Data of Substantial Completion, provide updated submittals within 10 days after acceptance, listing date of acceptance as start of warranty period.
- 1.07 BOND REQUIREMENTS
- A. Bid Bond Required (see Bid Package Documents)
 - B. Performance Bond Required (see Bid Package Documents)
 - C. Payment Bond Required (see Bid Package Documents)
- 1.08 WARRANTY TERM
- A. The warranty shall commence on the date established by the TREMCO as the date of substantial completion. The warranty shall guarantee all materials and workmanship and shall be in effect for a period of twenty (20) years.

PART 2 PRODUCTS

(Referenced on Drawings and Specifications)

PART 3 EXECUTION

Not Used

END OF SECTION

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

061053 Miscellaneous Rough Carpentry

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

070150 Preparation for Re-Roofing

070150.73 Rehabilitation of Modified Bituminous Roofing (AlphaGuard)

075419 Polyvinyl-Chloride (PVC/TPA) Roofing

076200 Sheet Metal Flashing and Trim

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

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. Rooftop equipment bases and support curbs.
 - 2. Wood blocking, cants, and nailers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Preservative-treated wood.

2. Fire-retardant-treated wood.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2.
 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Application: Treat all miscellaneous carpentry unless otherwise indicated.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Metal Framing:, length as recommended by screw manufacturer for material being fastened. ASTM C 954
- F. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

2.6 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

- C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet (6 m) o.c.
- G. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- H. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- J. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 PROTECTION

- A. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 070150 - PREPARATION FOR RE-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. Roof tear-off.
2. Partial roof tear-off.
3. Removal of base flashings.
4. Temporary roofing membrane.
5. Temporary roof drainage.
6. Roof patching.
7. Roof
8. Removal and reinstallation of indicated components, accessories, and equipment.

- B. Related Requirements:

1. Division 00 Document "Available Information," including the following pre-construction test report attachments.
 - a. Infrared roof moisture survey report.
 - b. Construction Drawings for existing roofing system.
2. Division 07 Section "Rehabilitation of Modified Bituminous Roofing " for roof rehabilitation requirements.
3. Division 07 Section "Sheet Metal Flashing and Trim" for formed metal roof flashings and counterflashings and shop-formed expansion joints.

1.3 DESCRIPTION OF WORK

- A. Re-roofing preparation Work consists of the following:

1. Preparation for Library Roof Area Replacement:
 - a. Preparation for: Roof replacement.
 - b. Existing Roof Type: Ballasted single ply.
 - c. Existing Deck Type: Concrete deck.
 - d. Roof tear-off.
 - e. Removal and reinstallation of indicated components, accessories, and equipment.
 - f. Removal of base flashings.
 - g. Temporary roof membrane.
2. Preparation for G Wing Roof Area, Grounds Building Replacement and entrance canopy at Library:
 - a. Preparation for: Roof replacement.
 - b. Existing Roof Type: Ballasted single ply. Fully Adhered EPDM.
 - c. Existing Deck Type: Metal deck.
 - d. Roof tear-off.
 - e. Removal and reinstallation of indicated components, accessories, and equipment.
 - f. Removal of base flashings.
 - g. Temporary roof membrane.
3. Preparation for Granulated Modified Roof Areas Including the white granulated stairwells and penthouses and white granulated roof sections on the theater wing:
 - a. Preparation for: Roof rehabilitation.
 - b. Existing Roof Type: Granular surfaced modified bituminous.
 - c. Existing Deck Type: Concrete deck.
 - d. Partial roof tear-off.
 - e. Removal and reinstallation of indicated components, accessories, and equipment.
 - f. Roof patching and roof ply reinforcement.
 - g. Temporary roof membrane.

1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.5 DEFINITIONS

- A. Roofing Terminology: Refer to 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.
- B. Existing Membrane Roofing System: Roofing system identified above, including roofing membrane, roof insulation, surfacing, and components and accessories between deck and roofing membrane.
- C. Roof Re-Cover Preparation: Existing roofing membrane that is to remain and be prepared for reuse or rehabilitation.
- D. Roof Tear-Off: Removal of existing membrane roofing system from deck.
- E. Partial Roof Tear-Off: Removal of a portion of existing membrane roofing system from deck or removal of selected components and accessories from existing membrane roofing system.
- F. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- G. Existing to Remain: Existing items of construction that are not indicated to be removed.
- H. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- I. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- J. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- K. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- L. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- M. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.6 ACTION SUBMITTALS

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

- B. Temporary Roofing: Include Product Data and description of temporary roofing system. If temporary roof will remain in place, submit surface preparation requirements needed to receive permanent roof, and submit a letter from roofing membrane manufacturer stating acceptance of the temporary membrane and that its inclusion will not adversely affect the roofing system's resistance to fire and wind.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer including certificate that Installer is licensed to perform asbestos abatement.
- B. Digital Images or Videos: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, which might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.
- C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- D. Schedule of Re-Roofing Preparation Activities: Indicate the following:
 - 1. Detailed sequence of re-roofing preparation work, with starting and ending dates for each activity. Ensure occupants' on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building.
- E. Landfill Records: Indicate receipt and acceptance of hazardous wastes, such as asbestos-containing material, by a landfill facility licensed to accept hazardous wastes.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of new membrane roofing system, licensed to perform asbestos abatement in the jurisdiction where Project is located.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Reroofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; deck Installer; roofing Installer including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing system tear-off and replacement including, but not limited to, the following:
 - a. Reroofing preparation, including membrane roofing system manufacturer's written instructions.
 - b. Procedures for salvaging and recycling of demolition and construction waste
 - c. Temporary protection requirements for existing roofing system that is to remain during and after installation.
 - d. Existing roof drains and roof drainage during each stage of reroofing, and roof drain plugging and plug removal requirements.
 - e. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - f. Existing deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.
 - j. HVAC shutdown and sealing of air intakes.
 - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - l. Asbestos removal and discovery of asbestos-containing materials.
 - m. Governing regulations and requirements for insurance and certificates if applicable.
 - n. Existing conditions that may require notification of Architect before proceeding.

1.9 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted. Provide Owner with not less than 48 hours' notice of activities that may affect Owner's operations.
 1. Coordinate work activities daily with Owner so Owner can place protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated before proceeding with work over the impaired deck area.

- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
 - 1. A roof moisture survey of existing membrane roofing system is available for Contractor's reference.
 - 2. The results of an analysis of test cores from existing membrane roofing system are available for Contractor's reference.
 - 3. Construction Drawings for existing roofing system are provided for Contractor's reference. Contractor is responsible for conclusions derived from existing documents.
- D. Limit construction loads on roof to rooftop equipment wheel loads and uniformly distributed loads not exceeding recommendations of Contractor's professional engineer based upon site inspection and analysis.
- E. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
- F. 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.
- G. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Owner and obtain direction.

PART 2 - PRODUCTS

2.1 INFILL MATERIALS

- A. Use infill materials matching existing membrane roofing system materials unless otherwise indicated.

2.2 TEMPORARY ROOFING MATERIALS

- A. Design and selection of materials for temporary roofing are responsibilities of Contractor.

2.3 TEMPORARY ROOF DRAINAGE

- A. Design and selection of materials for temporary roof drainage are responsibilities of the Contractor.

2.4 AUXILIARY REROOFING MATERIALS

- A. General: Auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing and new membrane roofing system.
- B. Base Sheet Fasteners: Capped head, factory-coated steel fasteners, listed in FM Approval's "Approval Guide."
- C. Metal Flashing Sheet: Metal flashing sheet is specified in Section 076200 "Sheet Metal Flashing and Trim."

PART 3 - EXECUTION

3.1 PREPARATION, GENERAL

- A. Pollution Control: Comply with environmental regulations of authorities having jurisdiction. Limit spread of dust and debris.
 - 1. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 2. Remove debris from building roof by chute, hoist, or other device that will convey debris to grade level.
- B. Air Intake Shutdown: Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- C. Temporary Weather Protection: During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- D. Roof Drain Protection: Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
- E. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed for that day.
- B. Remove aggregate ballast from roofing membrane.

- C. Remove loose granule surfacing from granule surfaced built-up bituminous roofing using a power broom or method ensuring proper loose granule removal.
- D. Remove pavers and accessories from roofing membrane.
- E. Roof Drainage: Remove roof drainage items indicated for removal.
- F. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
- G. Partial Roof Tear-Off: Where indicated on Drawings, remove existing roofing membrane and other membrane roofing system components down to the deck.
 - 1. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove unadhered bitumen and felts and wet felts.
 - 2. Remove excess asphalt from steel deck. A maximum of 15 lb/100 sq. ft. (0.72 kg/sq. m) of asphalt is permitted to remain on steel decks.
 - 3. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

- A. Inspect deck after partial tear-off of membrane roofing system.
- B. Concrete Roof Deck: Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 or by pouring 1 pint (0.5 L) of hot roofing asphalt on deck at start of each day's work and at start of each roof area or plane. Do not proceed with roofing work if moisture condenses under the plastic sheet or if asphalt test sample foams or can be easily and cleanly stripped after cooling.
- C. Roof Deck: If broken or loose fasteners that secure deck panels to one another or to structure are observed or if deck appears or feels inadequately attached, immediately notify Owner. Do not proceed with installation until directed by Owner.
 - 1. Unsuitable Deck: If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Owner. Do not proceed with installation until directed by Owner.

3.4 INFILL MATERIALS INSTALLATION

- A. Immediately after removal of selected portions of existing membrane roofing system, and inspection and repair, if needed, of deck, fill in the tear-off areas to match existing membrane roofing system construction.

3.5 EXISTING ROOF REPAIR

- A. Membrane Reinforcement Plies: Install reinforcement at alligatored substrates, along valleys, at areas of ponding.

1. Install two plies starting at low point of roofing system. Align ply sheets without stretching. Shingle side laps of ply sheets uniformly to achieve required number of plies throughout thickness of roofing membrane. Shingle in direction to shed water. Extend ply sheets over and terminated beyond eaves.
2. Embed each ply sheet in a solid mopping of cold, fluid-applied adhesive, applied at rate required by roofing system manufacturer, to form a uniform membrane without ply sheets touching.

3.6 TEMPORARY ROOFING MEMBRANE

- A. Install approved temporary roofing membrane over area to be reroofed.
- B. Remove temporary roofing membrane before installing new roofing membrane.

3.7 ROOF REHABILITATION PREPARATION

- A. Preparation of Existing Membrane Substrate: Prepare roof in accordance with new roofing manufacturer's requirements. Remove blisters, ridges, buckles, and other substrate irregularities from existing roofing membrane that inhibit new cover boards and roofing membrane from conforming to substrate.
 1. Remove loose aggregate from aggregate-surfaced built-up bituminous roofing with a power broom.
 2. Broom clean existing substrate.
 3. Verify that existing substrate is dry before proceeding with installation of recover boards. Spot check substrates with an electrical capacitance moisture-detection meter.
 4. Remove areas of membrane not fully adhered.

3.8 EXISTING BASE FLASHINGS

- A. At replacement areas remove existing base flashings
- B. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.

3.9 PARAPET SHEATHING AND CLADDING

- A. Parapet Sheathing: Inspect parapet sheathing for deterioration and damage. If parapet sheathing has deteriorated, immediately notify Owner.

3.10 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 1. Storage or sale of demolished items or materials on-site is not permitted.

- B. Transport and legally dispose of demolished materials off Owner's property.

3.11 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by preparation for re-roofing operations. Return adjacent areas to condition existing before operations began.

END OF SECTION 070150

SECTION 070150.73 - REHABILITATION OF MODIFIED BITUMINOUS MEMBRANE 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. This Section includes the following:
 - 1. Roof re-coating preparation.
 - 2. Application of fluid-applied roof membrane and flashings over existing modified bituminous membrane roofing.
- B. Related Requirements:
 - 1. Division 00 Document "Available Information," including the following pre-construction test report attachments.
 - a. Roof moisture survey report.
 - b. Construction Drawings for existing roofing system.
 - 2. Division 07 Section "Preparation for Re-Roofing" for existing roofing tearoff, patching, and substrate preparation for rehabilitation of roofing membrane.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for formed metal roof flashings and counterflashings and shop-formed expansion joints.

1.3 ROOFING CONFERENCES

- A. Roofing Rehabilitation Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to roofing system.
 - 1. Meet with Owner; roofing re-coating materials manufacturer's representative; roofing re-coating Installer including project manager and foreman; and installers whose work interfaces with or affects re-coating including installers of roof accessories and roof-mounted equipment requiring removal and replacement as part of the Work.
 - 2. Review methods and procedures related to re-coating preparation, including membrane roofing system manufacturer's written instructions.

3. Procedures for salvaging and recycling of demolition and construction waste
4. Review temporary protection requirements for existing roofing system that is to remain, during and after installation.
5. Review roof drainage during each stage of re-coating and review roof drain plugging and plug removal procedures.
6. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
7. Review base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect re-coating.
8. Review HVAC shutdown and sealing of air intakes.
9. Review shutdown of fire-suppression, -protection, and -alarm and -detection systems.
10. Review procedures for asbestos removal or unexpected discovery of asbestos-containing materials.
11. Review governing regulations and requirements for insurance and certificates if applicable.
12. Review existing conditions that may require notification of Owner before proceeding.

1.4 MATERIALS OWNERSHIP

- A. Demolished materials shall become Contractor's property and shall be removed from Project site.

1.5 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing Manual" for definition of terms related to roofing work in this Section.
- B. Roofing Re-Coating Preparation: Existing roofing that is to remain and be prepared to accept restorative coating application.
- C. Patching: Removal of a portion of existing membrane roofing system from deck or removal of selected components and accessories from existing membrane roofing system and replacement with similar materials.
- D. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- E. Existing to Remain: Existing items of construction that are not indicated to be removed.
- F. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

- G. Demolition Waste: Building and site improvement materials resulting from re-roofing preparation, demolition, or selective demolition operations.
- H. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- I. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- J. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- K. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product specified.
 - 1. Indicate Energy Star compliance.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.
 - 1. Letter written for this Project indicating manufacturer approval of Installer to apply specified products and provide specified warranty.
- B. 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.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing rehabilitation system.
- D. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, and for dust control. Indicate proposed locations and construction of barriers.
- E. Warranties: Unexecuted sample copies of special warranties.
- F. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, which might be misconstrued as having been damaged by re-coating operations. Submit before Work begins.
- G. Inspection Reports: Daily reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions required and carried out.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: To include in maintenance manuals.
- B. Warranties: Executed copies of approved warranty forms.

1.9 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 three years' experience installing products comparable to those specified, able to communicate verbally with Contractor, Architect, and employees, and the following:
 - 1. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
- B. Manufacturer Qualifications: Approved manufacturer listed in this Section with experience in manufacture of comparable 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.

1.10 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with rehabilitation work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
 - 1. Store all materials prior to application at temperatures between 60 and 90 deg. F.
 - 2. Apply coatings within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 50 or above 110 deg. F.
 - 3. Do not apply roofing in snow, rain, fog, or mist.
- B. Protect building to be rehabilitated, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from rehabilitation operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. 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.

- E. Owner will occupy portions of building immediately below re-coating area. Conduct re-coating so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

1.11 WARRANTY

- A. Manufacturer's Warranty for Roof Rehabilitation: Written warranty in which Manufacturer agrees to repair roof rehabilitation installations that fail due to defects in rehabilitation materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Rehabilitated membrane failures including rupturing or cracking due to a manufacturing or installation defect.
 - b. Deterioration of applied rehabilitation materials beyond normal weathering.
 - 2. Limit of Warranty Coverage for Repair of Roof Rehabilitation: Not to exceed original purchase price of manufacturer's recoating materials, except that manufacturer may elect to apply the limit amount toward the following:
 - a. Purchase of a new replacement roof within the first five years following completion of rehabilitation work.
 - 3. Qualified Installer Warranty Requirement: Installer must meet requirements of Quality Assurance Article.
 - 4. Installation Inspection Warranty Requirement: By Roofing Inspector in accordance with requirements of Part 3 Field Quality Control Article.
 - 5. Warranty Period: 20 years from date of Substantial Completion.
- B. Manufacturer Inspection Service: By manufacturer's technical representative, to report Owner's maintenance responsibilities necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the Contract Sum. Inspections to occur in Years 2, 5, 10 and 15 following date of Substantial Completion.
- C. Installer's Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section and related Sections indicated above, including all new components of rehabilitated roofing such as coating application, flashings, roof insulation, fasteners, and walkway products, for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.
- D. Extended Roof System Warranty: Warranties specified in this Section include the following components and systems specified in other sections supplied by or approved by the roofing rehabilitation coating Manufacturer, and installed by the roofing system Installer:
 - 1. Sheet metal flashing and trim, including roof penetration flashings.
 - 2. Manufactured copings, roof edge, counterflashings, and reglets.

3. Roof curbs, hatches, and penetration flashings.
4. Roof and parapet expansion joint assemblies.
5. Metal roof, wall, and soffit panels and trim.

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., Beachwood, OH, (800) 562-2728, www.tremcoroofing.com, that are named in other Part 2 articles. Provide specified products.
- B. Source Materials: Obtain roofing materials from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Rehabilitated roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.
 1. Accelerated Weathering: Roofing system shall withstand 5000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. 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.

2.3 MATERIALS

- A. General: Re-coating materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system.
- B. Infill Materials: Where required to replace test cores and to patch existing roofing, use infill materials matching existing membrane roofing system materials, unless otherwise indicated.
- C. Temporary Roof Drainage: Design and selection of materials for temporary roof drainage are responsibilities of the Contractor.

2.4 FLUID-APPLIED ROOFING MEMBRANE

- A. Polyurethane Elastomeric Fluid-Applied System: Two-coat fluid-applied roofing membrane formulated for application over prepared existing roofing substrate.
 1. Polyurethane roof coating system base coat, bio-based, low-odor low-VOC two-part, for use with a compatible top coat.

- a. Basis of design product: Tremco, AlphaGuard BIO Base Coat.
 - b. Combustion Characteristics, UL 790: Class A, for two-coat system.
 - c. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 1 g/L.
 - d. Accelerated Weathering, 5000 hours, ASTM G 154: Pass.
 - e. Hardness, Shore A, minimum, ASTM D 2240: 88.
 - f. Solids, by volume, ASTM D 2697: 100 percent.
 - g. 7. Bio-Based Content: Not less than 70 percent.
2. Primer for Non-Porous Surfaces: Single-part, water based primer to promote adhesion of urethanes to metals and other non-porous surfaces..
 - a. Basis of design product: Tremco, AlphaGuard M-Prime.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 22 g/L.
 - c. Nonvolatile Content, minimum, ASTM D1644: 5 percent.
3. Primer for Intercoat and Substrate Adhesion: Single-part, quick-drying primer to promote adhesion of urethanes to previous urethane coats and to other approved surfaces..
 - a. Basis of design product: Tremco, Geogard Primer.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 5 g/L.
4. Polyurethane roof coating system top coat, bio-based low-odor low-VOC two-part, for application over compatible base coat.
 - a. Basis of design product: Tremco, AlphaGuard BIO Top Coat.
 - b. Combustion Characteristics, UL 790: Class A, for two-coat system.
 - c. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 6 g/L.
 - d. Solar Reflectance Index (SRI), ASTM E 1980: 103.
 - e. Accelerated Weathering, 5000 hours, ASTM G 154: Pass.
 - f. Hardness, Shore A, minimum, ASTM D 2240: 82.
 - g. Solids, by volume, ASTM D 2697: 85 percent.
 - h. Bio-Based Content: Not less than 60 percent.
5. Primer for Asphaltic and Single-Ply Membranes: Water-based, polymer-modified quick-dry low odor primer.

- a. Basis of design product: Tremco, AlphaGuard WB Primer.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 1 g/L.
 - c. Solids, by weight: 70 percent.
6. Primer for Masonry Surfaces: Two-part high-solids epoxy-penetrating low-odor primer for masonry and concrete surfaces.
 - a. Basis of design product: Tremco, AlphaGuard C-Prime.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 0 g/L.
 - c. Solids, by weight: 100 percent.
- B. Fluid-Applied Membrane Reinforcing Fabric:
 1. Polyester Reinforcing Fabric: 100 percent stitch-bonded mildew-resistant polyester fabric intended for reinforcement of compatible fluid-applied membranes and flashings.
 - a. Basis of design product: Tremco, Permafab.
 - b. Tensile Strength, ASTM D 1682: Not less than 50 lbf. (222 N).
 - c. Elongation, ASTM D 1682: Not less than 60 percent.
 - d. Tear Strength, ASTM D 1117: Not less than 16 lbf. (70 N).
 - e. Weight: 3 oz./sq. yd (102 g/sq. m).

2.5 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and fluid-applied roofing system.
- B. Seam Sealer Mastic: Waterproof seam and patching material compatible with applied coating.
- C. Joint Sealant: Elastomeric joint sealant compatible with applied coating, with movement capability appropriate for application.
 1. Joint Sealant, Polyurethane: ASTM C 920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
 - a. Basis of design product: Tremco, TremSEAL Pro.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 40 g/L.
 - c. Hardness, Shore A, ASTM C 661: 40.
 - d. Adhesion to Concrete, ASTM C 794: 35 psi.

- e. Tensile Strength, ASTM D 412: 350 psi.
- f. Color: Closest match to substrate Aluminum Limestone White Bronze.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FM 4470; designed for fastening roofing membrane components to substrate; tested by manufacturer for required pullout strength; and acceptable to roofing system manufacturer.
- E. Metal Flashing Sheet: Provide metal flashing sheet matching type, thickness, finish, and profile of existing metal flashing and trim.
- F. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

2.6 WALKWAYS

- A. Walkway Product:
 - 1. Polyurethane Top Coat, Slip-Resistant: Second top coat applied at walkway locations, with broadcast slip-resistant aggregate.
 - a. Basis of design product: Tremco, AlphaGuard MT Top Coat Slip-Resistant.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 40 g/L.
 - c. Tensile Strength at 77 deg. F (25 deg. C), minimum, ASTM D 6083: 1,400 psi.
 - d. Solar Reflectance Index (SRI), ASTM E 1980: Not less than 108.
- B. Slip Resistant Product for Fluid-Applied Walkways:
 - 1. Aggregate, Slip Resistant Silica Sand.
 - a. Basis of design product: Aggregate, Slip Resistant Silica Sand.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing roofing substrates, with Installer present, for compliance with requirements and for other conditions affecting application and performance of roof coatings.
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance.
 - 2. Verify compatibility of approved re-coating system with and suitability of substrates.
 - 3. Verify that substrates are visibly dry and free of moisture.

4. Verify that roofing membrane surfaces have adequately aged to enable proper bond with re-coating system base coat.
5. Verify that existing roofing membrane is free of blisters, splits, open laps, indications of shrinkage, and puncture damage or other indications of impending roof system failure.
6. Commencing application of fluid-applied re-coating membrane indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Protect existing roofing system that is indicated not to be rehabilitated, and adjacent portions of building and building equipment.
 1. Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.
 2. Limit traffic and material storage to areas of existing roofing membrane that have been protected.
 3. Maintain temporary protection and leave in place until replacement roofing has been completed.
- B. Pollution Control: Comply with environmental regulations of authorities having jurisdiction. Limit spread of dust and debris.
 1. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 2. Remove debris from building roof by chute, hoist, or other device that will convey debris to grade.
- C. Shut down air intake equipment in the vicinity of the Work in coordination with the Owner. Cover air intake louvers before proceeding with re-coating work that could affect indoor air quality or activate smoke detectors in the ductwork.
 1. Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.
- D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 1. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

3.3 ROOFING COATING PREPARATION

- A. Roofing Partial Tear-off and Patching: Refer to requirements of Section 070150 "Preparation for Re-roofing."

- B. Removal of Wet Insulation: Remove portions of roofing membrane with underlying wet insulation. Remove wet insulation, fill in tear-off areas to match existing insulation and membrane, and prepare patched membrane for roof coating application specified below.
- C. Membrane Surface Preparation:
 - 1. Remove loose granular aggregate from granular aggregate-surfaced built-up bituminous roofing with a power broom.
 - 2. Remove blisters, ridges, buckles, roofing membrane fastener buttons projecting above the membrane, and other substrate irregularities from existing roofing membrane that would inhibit application of uniform, waterproof coating.
 - 3. Broom clean existing substrate.
 - 4. Substrate Cleaning: Clean substrate of contaminants such as dirt, debris, oil, and grease that can affect adhesion of coating by power washing at maximum 2,000 psi.
 - a. Dispose of waste water in accordance with requirements of authorities having jurisdiction.
 - 5. Verify that existing substrate is dry before proceeding with application of coating. Spot check substrates with an electrical capacitance moisture-detection meter.
 - 6. Verify adhesion of new products.
- D. Existing Flashing and Detail Preparation: Repair flashings, gravel stops, copings, and other roof-related sheet metal and trim elements. Reseal joints, replace loose or missing fasteners, and replace components where required to leave in a watertight condition.
 - 1. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.
 - 2. Roof Drains: Remove drain strainer and clamping ring. Grind metal surfaces down to clean, bare, metal.
- E. Surface Priming: Prime surfaces to receive fluid-applied coating using coating manufacturer's recommended product for surface material. Apply at application rate recommended by manufacturer.
 - 1. Ensure primer does not puddle and substrate has complete coverage.
 - 2. Allow to cure completely prior to application of coating.

3.4 FLUID-APPLIED FLASHING APPLICATION

- A. Fluid-Applied Flashing and Detail Base Coat Application: Complete base coat and fabric reinforcement at parapets, curbs, penetrations, and drains prior to application of field of fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.

1. Extend coating minimum of 8 inches (200 mm) up vertical surfaces and 4 inches (100 mm) onto horizontal surfaces.
2. Back roll to achieve minimum coating thickness as follows, unless greater thickness is recommended by manufacturer. Verify thickness as work progresses:
 - a. Flashing Base Coat Application Minimum Thickness: 64 wet mils (1.6 wet mm)
Or as recommended by Manufacturer.
3. Fabric Reinforcement: Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 3 inches (75 mm) along edges and 6 inches (150 mm) at end laps.
 - a. Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
 - b. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of fabric reinforcement.
4. Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install target piece of fabric reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of top coat. Replace broken drain ring clamping bolts.
5. Allow base coat to cure prior to application of top coat.

3.5 FLUID-APPLIED MEMBRANE APPLICATION

- A. Base Coat: Apply base coat to field of membrane in accordance with manufacturer's written instructions.
 1. Apply base coat on prepared and primed surfaces and spread coating evenly.
 2. Back roll to achieve minimum coating thickness as follows, unless greater thickness is recommended by manufacturer; verify thickness of coating as work progresses.
 - a. Base Coat Application Minimum Thickness: 64 wet mils (1.6 wet mm).
 3. Fabric Reinforcement: Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 3 inches (75 mm) along edges and 6 inches (150 mm) at end laps.
 - a. Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
 - b. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of fabric reinforcement.
 4. Allow base coat to cure prior to application of top coat.

- B. Top Coat: Apply top coat to field of membrane and flashings uniformly in a complete, continuous installation.
 - 1. Prime base coat prior to application of top coat if top coat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.
 - 2. Apply top coat extending coating up vertical surfaces and out onto horizontal surfaces. Install top coat over field base coat and spread coating evenly.
 - 3. Back roll to achieve minimum coating thickness as follows, unless greater thickness is recommended by manufacturer:
 - a. Top Coat Application Minimum Thickness: 32 wet mils (0.8 wet mm).
 - 4. Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.
- C. Slip-Resistant Walkway Topcoat: Apply walkway second topcoat following application and curing of top coat. Locate as indicated on Drawings.
 - 1. Mask walkway location with tape.
 - 2. Prime first top coat prior to application of walkway top coat if walkway top coat is not applied within 72 hours of the first top coat application, using manufacturer's recommended primer.
 - 3. Back roll to achieve minimum coating thickness as follows, unless greater thickness is recommended by manufacturer; verify thickness of coating as work progresses:
 - a. Walkway Top Coat Application Minimum Thickness: 24 wet mils (0.6 wet mm).
 - 4. Broadcast 20 to 30 lbs. per 100 sq. ft. (9.6 to 14.6 kg per 10 sq. m) of Slip-Resistant Top Coat Aggregate in wet top coat.
 - 5. Back roll sand and top coat creating even dispersal of sand. Remove masking immediately.

3.6 FIELD QUALITY CONTROL

- A. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.
- B. Roof Inspection: Engage roofing system manufacturer's technical personnel to inspect roofing installation, and submit report to the Architect. Notify Architect or Owner 48 hours in advance of dates and times of inspections. Inspect work as follows:
 - 1. Upon completion of preparation of first component of work, prior to application of re-coating materials.
 - 2. Following application of re-coating to flashings and application of base coat to field of roof.

3. Upon completion of re-coating but prior to re-installation of other roofing components.
- C. Repair fluid-applied membrane where test inspections indicate that they do not comply with specified requirements.
- D. Arrange for additional inspections, at Contractor's expense, to verify compliance of replaced or additional work with specified requirements.

3.7 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 1. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

3.8 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
- B. Correct deficiencies in or remove coating that does not comply with requirements, repair substrates, and reapply coating.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.9 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 1. Owner: Community College of Allegheny County
 2. Building: G Wing
 3. Address: <BuildingLocation>
 4. Area of Work:
 5. Acceptance Date:
 6. Warranty Period:
 7. Expiration Date:
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding 74 mph (120 k/hr.);
 - c. fire;
 - d. failure of rehabilitation roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed by:

1. Authorized Signature:
2. Name:
3. Date:

END OF SECTION 070150.73

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. Adhered thermoplastic PVC/TPA roofing system on metal and concrete decks, including:
2. Roof insulation.
3. Roof insulation cover board.
4. Walkway material.

- B. Related Sections:

1. Division 06 Section " Miscellaneous Rough Carpentry " for wood nailers, curbs, and blocking.
2. Division 07 Section "Preparation for Re-Roofing" for recover board beneath new membrane roofing.
3. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.

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.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
 1. Base flashings and membrane terminations.
 - a. Indicate details meet requirements of NRCA required by this Section.

2. Tapered insulation, including slopes.
 3. Roof plan showing orientation of steel roof deck and orientation of membrane roofing and fastening spacings and patterns for mechanically fastened membrane roofing.
 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products:
1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
 2. Roof insulation.
 3. Walkway pads or rolls.
 4. Metal termination bars.
 5. Battens.
 6. Six insulation fasteners of each type, length, and finish.
 7. Six roof cover fasteners of each type, length, and finish.

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. Submit evidence of compliance with performance requirements.
 2. Product Compatibility: Indicate manufacturer has verified compatibility of roofing system components, including but not limited to: Roofing membrane, flashing sheets, adhesives, and sealants.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.
- E. Warranties: Unexecuted sample copies of special warranties.
- F. Inspection Reports: Daily reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions taken to correct defective work.

1.6 INFORMATIONAL SUBMITTALS

- A. Maintenance Data: To include in maintenance manuals.

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.
 - 1. Approved manufacturers must meet separate requirements of Submittals Article.
- 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. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products.
- E. Preinstallation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner,, Owner's insurer if applicable, testing and inspecting agency representative, 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 drawings and specifications.
 - 3. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 5. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 6. Review structural loading limitations of roof deck during and after roofing.

7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
8. Review governing regulations and requirements for insurance and certificates if applicable.
9. Review temporary protection requirements for roofing system during and after installation.
10. 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.
 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. Warranty Period: 20 years from date of Substantial Completion.
- C. Installer's Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, 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.
- D. Extended Roof System Warranty: Warranties specified in this Section include the following components and systems specified in other sections supplied by the roofing system Manufacturer, and installed by the roofing system Installer:
 - 1. Sheet metal flashing and trim, including roof penetration flashings.
 - 2. Manufactured copings, roof edge, counterflashings, and reglets.
 - 3. Roof curbs, hatches, and penetration flashings.
 - 4. Roof and parapet expansion joint assemblies.
 - 5. Metal roof, wall, and soffit panels and trim.
- E. Manufacturer Inspection and Preventive Maintenance Requirement: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections and preventive maintenance is included in the Contract Sum. Inspections to occur in Years 2, 5, 10 and 15 following 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., Beachwood, OH, (800) 562-2728, www.tremcoroofing.com that are named in other Part 2 articles. Provide specified products.

- 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. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency in accordance with ANSI/FM 4474, UL 580, or UL 1897, and to resist uplift pressures calculated in accordance with applicable code.
- D. Flashings and Fastening: Comply with requirements of Division 07 Sections "Sheet Metal Flashing and Trim". 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.
- E. 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.
- F. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- G. 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, fleece-backed, ASTM D 4434 Type IV internally fabric reinforced, Energy Star qualified, CRRC listed, and California Title 24 Energy Code compliant.
 - 1. Basis of design product: Tremco, 60 mil TPA FB Roof Membrane.

2. Tensile Strength at 0 deg. F (-18 deg. C), minimum, ASTM D 751: 350 lbf/in (61 kN/m).
 3. Tear Strength at 77 deg. F (25 deg. C), minimum, ASTM D 751: 100 lbf (440 N).
 4. Elongation at 0 deg. F (-18 deg. C), minimum at fabric break, ASTM D 751: Machine direction, 35 percent; Cross machine direction, 33 percent.
 5. Minimum Thickness, nominal, less backing, ASTM D 751: 60 mils (1.5 mm).
 6. Exposed Face Color: GRAY
 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 low-VOC water-based contact-type adhesive for bonding TPA fleece-backed and TPO fleece-backed single ply membranes and flashings to substrates.
 - a. Basis of design product: Tremco, Fleece Back WB Single Ply Bonding Adhesive.
 - b. VOC, maximum, ASTM D 3960: 200 g/L.
- 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. Termination Joint Sealant: Silicone, S, NS, 25 or 50, NT: Single-component, nonsag, plus 25 to 50 percent and minus 25 to 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT, and compatible with adjacent materials.

- F. 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. Cold fluid-applied bead-applied low-rise adhesive, two-component solvent-free low odor elastomeric urethane, formulated to adhere roof insulation to substrate.
 - 1. Basis of design product: Tremco, Low Rise Foam Insulation Adhesive.
 - 2. Flame Spread Index, ASTM E 84: 10.
 - 3. Smoke Developed Index, ASTM E 84: 30.
 - 4. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 0 g/L.
 - 5. Tensile Strength, minimum, ASTM D 412: 250 psi (1724 kPa).
 - 6. Peel Adhesion, minimum, ASTM D 903: 17 lbf/in (2.98 kN/m).
 - 7. Flexibility, 70 deg. F (39 deg. C), ASTM D 816: Pass.
- B. Polyisocyanurate board insulation, ASTM C 1289 Type II Class 1 CFC- and HCFC- free, with recycled content glass-fiber mat facer on both major surfaces. CCMC listed.
 - 1. Compressive Strength, ASTM C1621: Grade 2: 20 psi (138 kPa).
 - 2. Conditioned Thermal Resistance at 75 deg. F (24 deg. C): 14.4 at 2.5 inches (50.8 mm) thick.
- C. Glass-mat-faced gypsum panel, primed, ASTM C 1177/C 1177M.
 - 1. Basis of design product: GP Gypsum DensDeck Prime.
 - 2. Thickness: 1/4 inch.
- D. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- E. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48) unless otherwise indicated.
- F. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.
- G. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

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. Basis of design product: Tremco, TPA Walkway Roll.
 - 2. Roll Size: 36 inches by 60 foot (914 mm by 18.3 m).
 - 3. Thickness: 0.080 inch (2 mm).
 - 4. Color: Grey.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Steel Roof Deck:
 - a. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
 - 4. Concrete Roof Deck:
 - a. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
 - b. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 - c. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSTALLATION, GENERAL

- A. Install roofing system in accordance with manufacturer's recommendations.
- B. Install wood cants, blocking, curbs, and nailers in accordance with requirements of Division 06 carpentry section.
- C. Install roofing membrane, base flashings, and component materials in compliance with requirements in FMG 4470. Comply with recommendations in FMG Loss Prevention Data Sheet 1-49.
- D. NRCA Installation Details: Install roofing system in accordance with the following NRCA Manual Plates and NRCA recommendations; modify as required to comply with perimeter fastening requirements of FM Global references if applicable:
 - 1. Base Flashing at Parapet Wall: Plates TP-1 and TP-1S.
 - 2. Base Flashing and Counterflashing at Parapet Wall: Plates TP-5 and TP-5S.
 - 3. Base Flashing and Counterflashing at Parapet Wall, Movement Joint: Plates TP-6 and TP-6S.
 - 4. Base and Surface-mounted Counterflashing: Plates TP-4 and TP-4S.
 - 5. Perimeter Edge, Raised: Plates TP-2 and TP-2S.
 - 6. Perimeter Edge, Embedded Edge: Plates TP-3 and TP-3S.
 - 7. Perimeter Edge, Draining: Plates TP-3A and TP-3AS.
 - 8. Options for Perimeter Base Securement (Roof-to-Wall and Roof-to-Curb Intersections): Single Ply Table 7.1.
 - 9. Options for Perimeter Base Securement (Roof-to-Wall and Roof-to-Curb Intersections): Single Ply Table 7.2.
 - 10. Guide for Sheet Metal Fascia Edges for Thermoset and Thermoplastic Membrane: Single-Ply – Table 1.
 - 11. Scupper, Raised: Plates TP-21 and TP-21S.
 - 12. Gutter at Draining Edge: Plates TP-22 and TP-22S.

13. Expansion Joint, with metal cover: Plates TP-7 and TP-7S and Division 7 Section "Sheet Metal Flashing and Trim."
14. Expansion Joint, with premanufactured cover: Plates TP-7A and TP-7AS and Division 7 Section "Roof Expansion Assemblies."
15. Curb Detail at Rooftop HVAC Units, Premanufactured: Plates TP-12 and TP-12S.
16. Curb Detail at Rooftop HVAC Units, Job-Built, Wood: Plates TP-13 and TP-13S.
17. Curb Detail at Skylight, Roof Hatch, and Smoke Vents: Plates TP-14 and TP-14S.
18. Penetration, Structural Member: Plates TP-15 and TP-15S.
19. Penetration, Sheet Metal Enclosure: Plates TP-16 and TP-16S.
20. Penetration, Stack Flashing: Plates TP-17 and TP-17S.
21. Penetration, Plumbing Vent: Plates TP-18 and TP-18S.
22. Penetration, Plumbing Vent, Premanufactured Boot: Plates TP-18A and TP-18AS.
23. Penetration, Pocket: Plates TP-19 and TP-19S.
24. Roof Drain: Plates TP-20 and TP-20S.
25. Guide for Clearances between Pipes / Walls / Curbs – Table 4.
26. Guide for Crickets and Saddles – Table 5.
27. Guide for Edge Scuppers with Tapered Saddles - Table 6.

3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 1. Install insulation at minimum thickness of 2 inches (50 mm).
 2. Install insulation at average overall thickness of minimum 3 1/2 inches..

- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- G. Adhered Insulation: (AT CONCRETE DECK LOCATIONS) Install each layer of insulation and adhere to substrate as follows:
 - 1. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
- H. Mechanically Fastened Insulation: (AT METAL DECK LOCATIONS) Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- I. Cover Boards: Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together.
 - 1. Secure cover boards to resist uplift pressure at corners, perimeter, and field of roof.
 - 2. Adhere cover boards by setting in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining cover board in place.

3.5 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing and install according to membrane roofing system manufacturer's written instructions.
 - 1. Install sheet according to ASTM D 5036.
- B. Start installation of membrane roofing in presence of membrane 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. Water-Based Bonding Adhesive: Apply to substrate at rate required by manufacturer. Install membrane immediately into adhesive, avoiding any air entrapment; do not allow adhesive to dry. Roll membrane into wet adhesive. Do not apply adhesive to splice area of membrane.
- E. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- F. Apply membrane roofing with side laps shingled with slope of roof deck where possible.

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

3.6 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.
- F. TPA flashing will extend up and over all concrete parapet walls where existing concrete parapet walls are exposed.

3.7 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.

3.8 FIELD QUALITY CONTROL

- A. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.
- B. Roofing Inspector: Contractor shall engage a qualified roofing inspector for a minimum of two days per five working days. The days are full-time days on site to perform roof tests and inspections and to prepare start up, interim, and final reports. Roofing Inspector's quality assurance inspections shall comply with criteria established in ARMA/NRCA's "Quality Control Guidelines for the Application of Built-up Roofing."

- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- D. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- E. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: _____
 - 2. Address: _____
 - 3. Building Name/Type: _____
 - 4. Address: _____
 - 5. Area of Work: _____
 - 6. Acceptance Date: _____
 - 7. Warranty Period: _____
 - 8. Expiration Date: _____
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding 74 mph (120 k/h);
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall

become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed by:

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

END OF SECTION 075419

SECTION 076200 - SHEET METAL FLASHING AND TRIM

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. Roof drainage sheet metal fabrications.
2. Low-slope roof sheet metal fabrications.
3. Miscellaneous sheet metal flashing and trim.

- B. Related Requirements:

1. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
2. for warranty requirements for sheet metal flashing and trim items integral with roofing.

1.3 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site in coordination with roofing Preinstallation conference.
 1. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.

1.5 ACTION SUBMITTALS

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

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

B. Warranties: Manufacturer's executed warranty documents. Submit prior to acceptance of Work.

1.8 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.10 WARRANTY

A. Refer to warranty requirements of Division 07 Roofing Section for terms and conditions of warranties covering work of this Section.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

- C. Flashings and Fastening: Comply with requirements of Division 07 roofing sections. Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:

- 1. NRCA: "The NRCA Roofing Manual" for construction details and recommendations.

- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flatsurface.

- 1. Basis of Design Product: Tremco, Inc., TremLock Sheet.

- 2. As-Milled Finish: Mill.

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Synthetic Underlayment: Laminated or reinforced, woven polyethylene or polypropylene, synthetic roofing underlayment; bitumen free; slip resistant; suitable for high temperatures over 220 deg F (111 deg C); and complying with physical requirements of ASTM D 226/D 226M for Type I and Type II felts.
- C. Self-Adhering, High-Temperature Sheet: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.

- 1. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C) or lower.

- D. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. (0.16 kg/sq. m) minimum.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethanepolymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 - 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 2. Obtain field measurements for accurate fit before shop fabrication.

3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.
- G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
- H. Seams for Uncoated Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.
- I. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

- A. Built-in Gutters: Fabricate to cross section required, with riveted and soldered joints, complete with end pieces, outlet tubes, and other special accessories as required. Fabricate in minimum 96-inch- (2400-mm-) long sections. Fabricate expansion joints and accessories from same metal as gutters unless otherwise indicated.
1. Fabricate gutters with built-in expansion joints and gutter-end expansion joints at walls.
 2. Accessories: Wire-ball downspout strainer.
 3. Fabricate from the Following Materials:

- a. Aluminum: 0.040 inch (1.02 mm) thick.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 12-foot- (3.6-m-) long sections. Furnish with 6-inch- (150-mm-) wide, joint cover plates. Shop fabricate interior and exterior corners.
 1. Joint Style: Butted with expansion space and 6-inch- (150-mm-) wide, concealed backup plate.
 2. Fabricate with scuppers spaced 10 feet (3 m) apart, to dimensions required with 4-inch- (100-mm-) wide flanges and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper.
 3. Fabricate from the Following Materials:
 - a. Aluminum: 0.040 inch (1.02mm) thick.
- B. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 12-foot- (3.6-m-) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 1. Joint Style: Butted with expansion space and 6-inch- (150-mm-) wide, concealed backup plate.
 2. Fabricate from the Following Materials:
 - a. Aluminum: 0.040 inch (1.02 mm) thick.
- C. Base Flashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 1. Aluminum: 0.040 inch (1.02 mm) thick.
- D. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 1. Aluminum: 0.040 inch (1.02 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
 1. Verify compliance with requirements for installation tolerances of substrates.

2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

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

3.2 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches (50 mm).
- B. Synthetic Underlayment: Install synthetic underlayment, wrinkle free, according to manufacturers' written instructions, and using adhesive where possible to minimize use of mechanical fasteners under sheet metal.
- C. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps and edges with roller. Cover underlayment within 14 days.
- D. Apply slip sheet, wrinkle free,

3.3 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 3. Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 5. Torch cutting of sheet metal flashing and trim is not permitted.
 6. Do not use graphite pencils to mark metal surfaces.

- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of uncoated-aluminum sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
 - 2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

3.4 ROOF-DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Built-in Gutters: Join sections with joints sealed with sealant. Provide for thermal expansion. Slope to downspouts. Provide end closures and seal watertight with sealant.

1. Install underlayment layer in built-in gutter trough and extend to drip edge at eaves and under underlayment on roof sheathing. Lap sides minimum of 2 inches (50 mm) over underlying course. Lap ends minimum of 4 inches (100 mm). Stagger end laps between succeeding courses at least 72 inches (1830 mm). Fasten with roofing nails. Install slip sheet over underlayment.
 2. Anchor and loosely lock back edge of gutter to continuous eave or apron flashing.
 3. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 18 inches (460 mm) apart.
 4. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet (15.24 m) apart. Install expansion-joint caps.
- C. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches (100 mm) in direction of water flow.

3.5 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for FM Approvals' listing for required windstorm classification.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
1. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 16-inch (400-mm) centers.
 2. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 24-inch (600-mm) centers.
- D. Copings: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.
- E. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches (100 mm) over base flashing. Install stainless-steel draw band and tighten.
- F. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints minimum of 4 inches (100 mm). Secure in waterproof manner by means of anchor and washer at 36-inch (910-mm) centers unless otherwise indicated.

- G. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

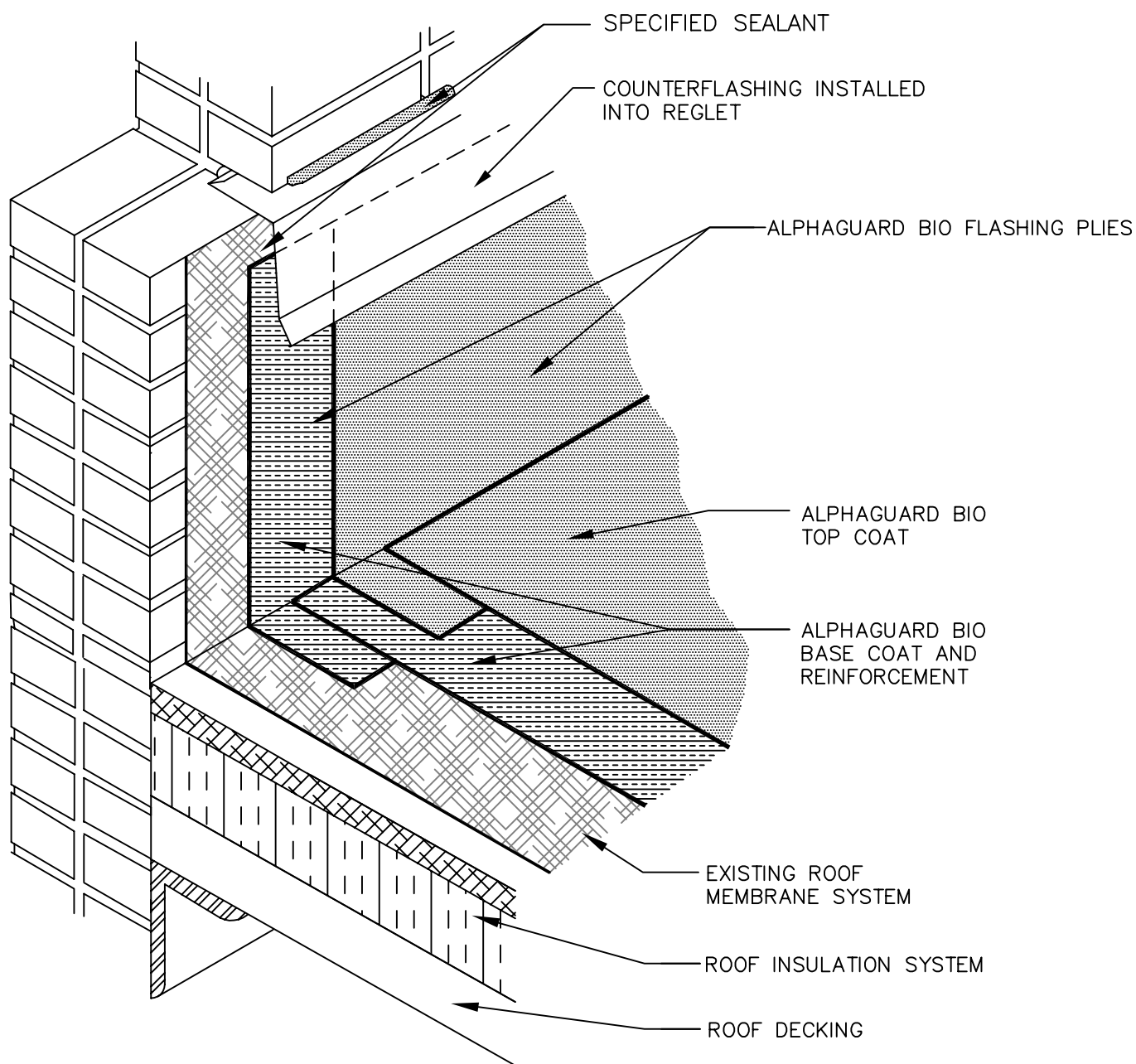
3.6 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.7 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200



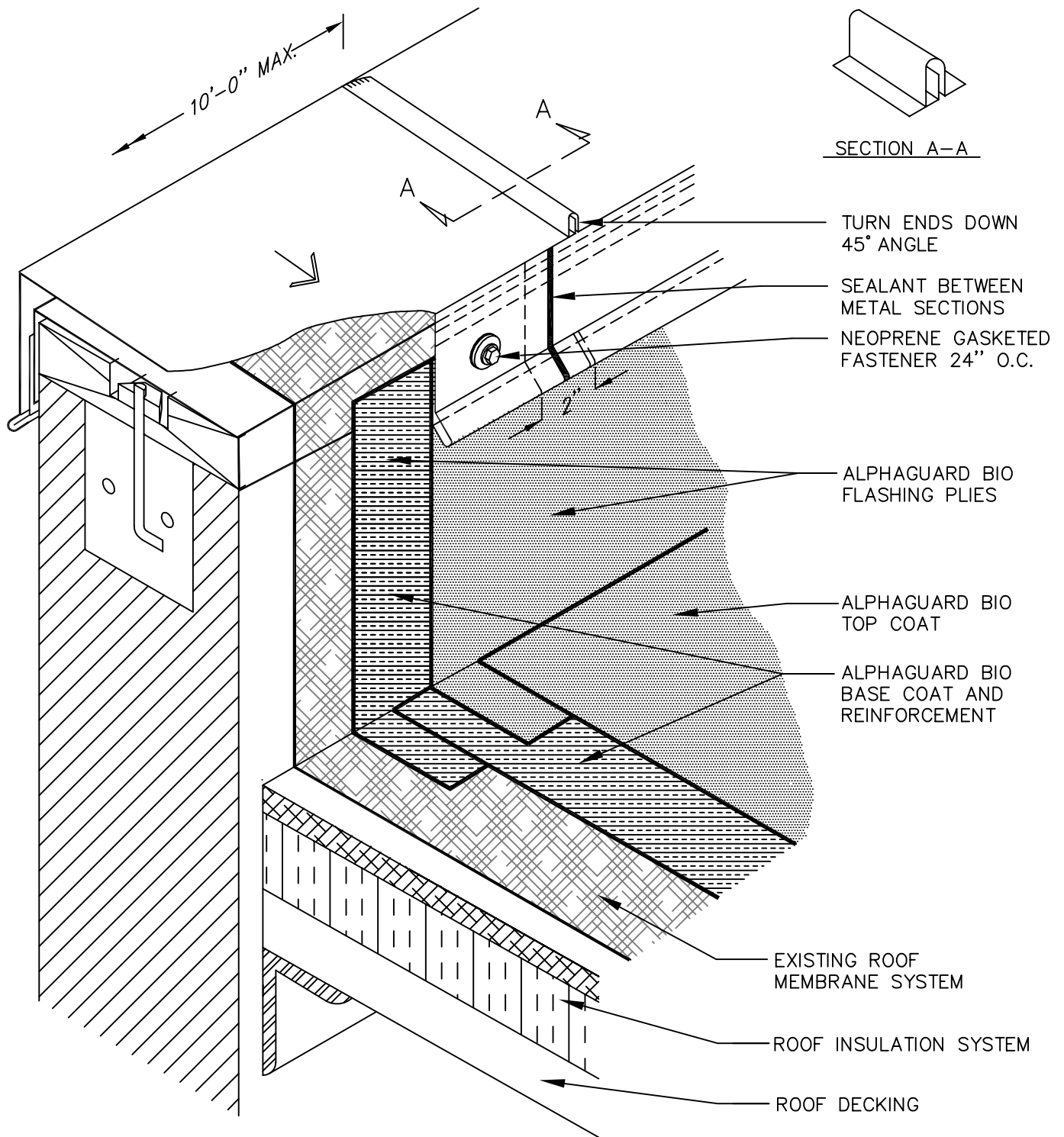
NOTE:
PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

TREMCO®

SHEET TITLE:
WALL FLASHING
WALL-SUPPORTED DECK

SCALE: NTS

DRAWING No.:
1



NOTE:
PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

TREMCO®

SHEET TITLE:
LIGHT — METAL PARAPET CAP

SCALE: NTS

DRAWING No.:

3

ALPHAGUARD BIO
TOP COAT

ALPHAGUARD BIO
BASE COAT AND
REINFORCEMENT

ROOF INSULATION
SYSTEM

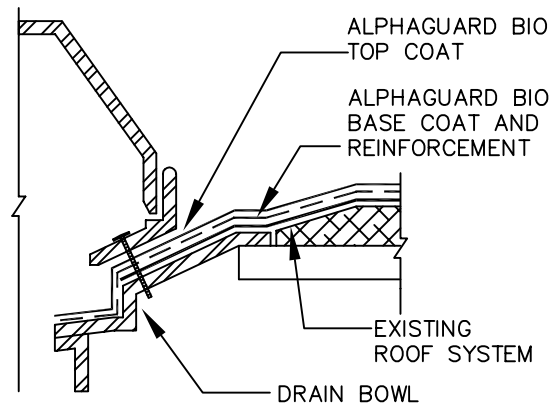
INSTALL COATING SYSTEM
DOWN INTO DRAIN BOWL
(SEE INSERT ABOVE).

CLAMPING RING

STRAINER/DOME

ROOF DECKING

EXISTING ROOF
MEMBRANE SYSTEM



NOTES:

1. PRIME ALL METAL SURFACES THAT WILL COME INTO CONTACT WITH ADHESIVES.
2. REMOVE DRAIN CLAMPING RING AND STRAINER PRIOR TO INSTALLING COATINGS.
3. PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

TREMCO®

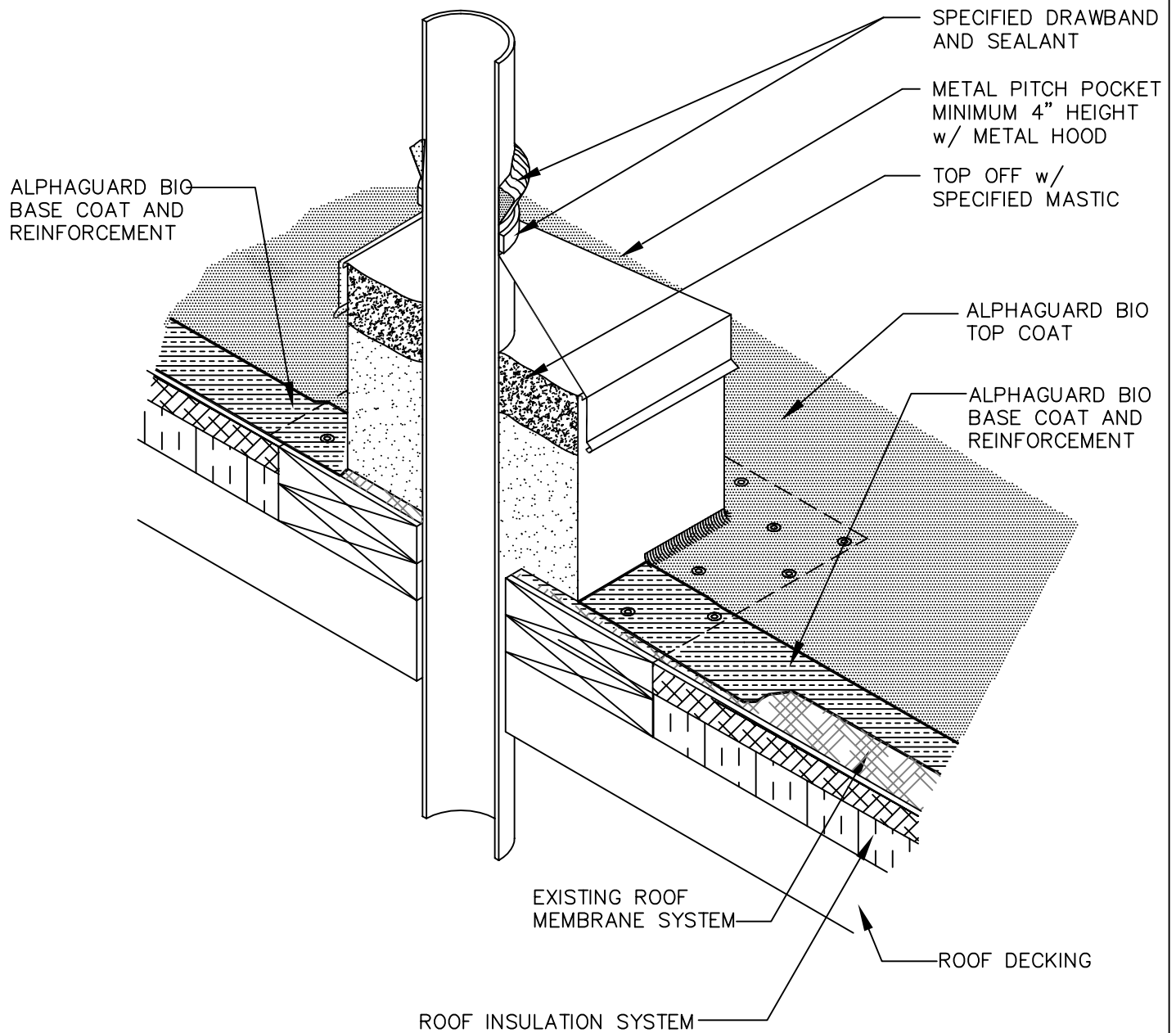
SHEET TITLE:

ROOF DRAIN

SCALE: NTS

DRAWING No.:

8



NOTE:
PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

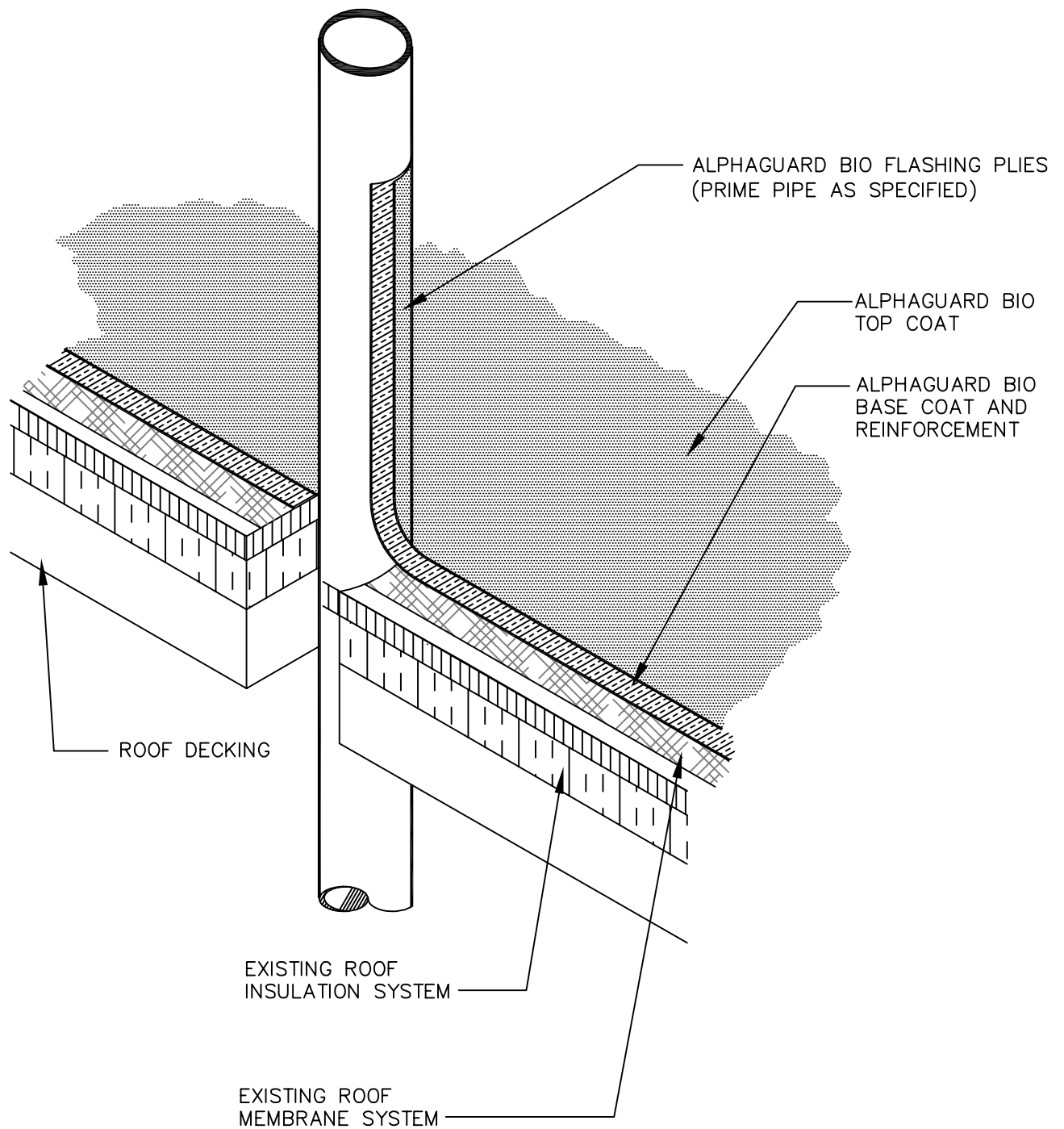
TREMCO®

SHEET TITLE:

PITCH POCKET WITH GROUT

SCALE: NTS

DRAWING No.: 10



NOTES

1. MINIMUM PIPE FLASHING HEIGHT SHALL NOT BE LESS THAN 8 INCHES.
2. SEAL DECK OPENING TO PREVENT COATING DRIPPAGE INTO BUILDING.
3. PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

TREMCO®

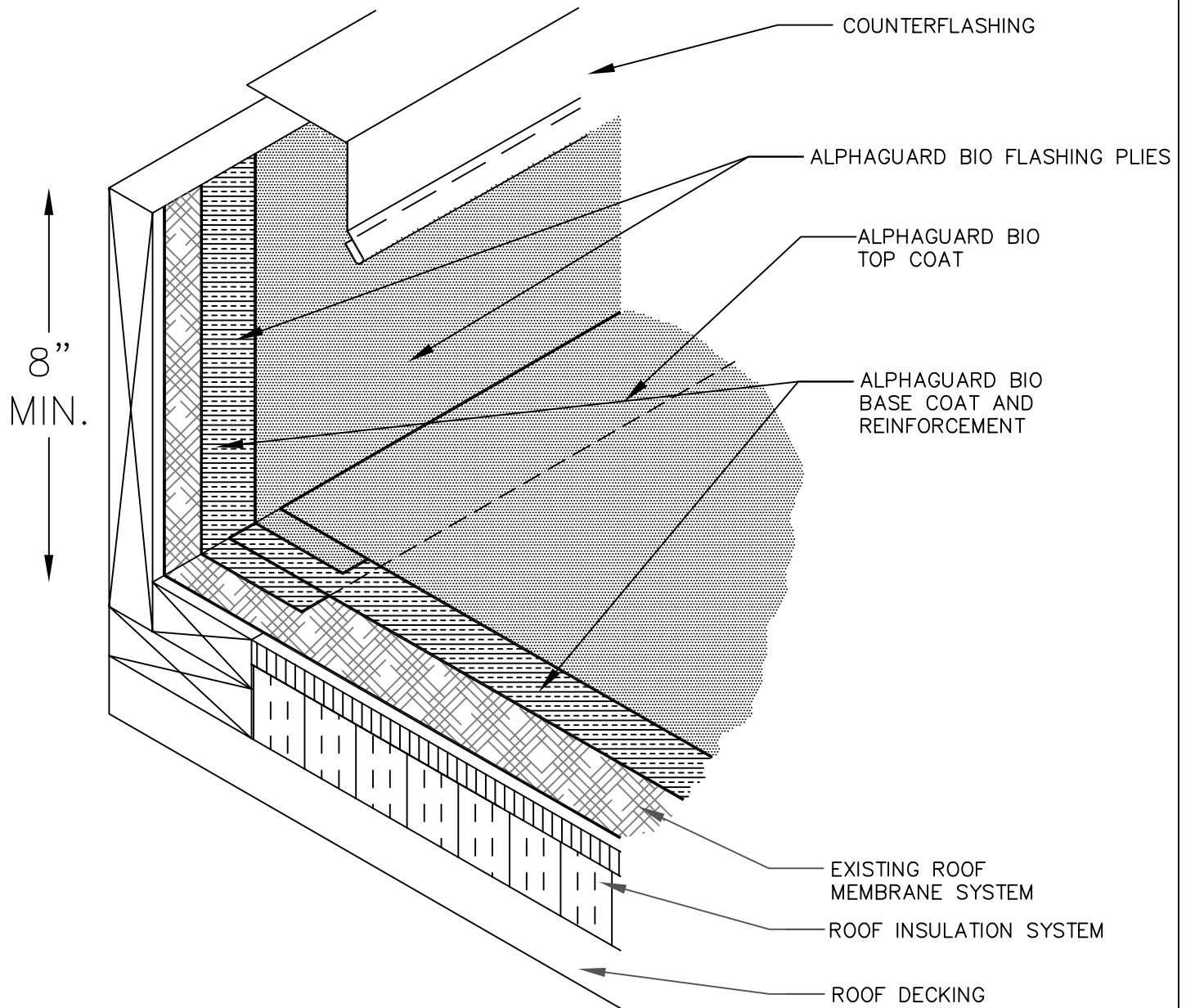
SHEET TITLE:

PIPE FLASHING

SCALE: NTS

DRAWING No.:

11



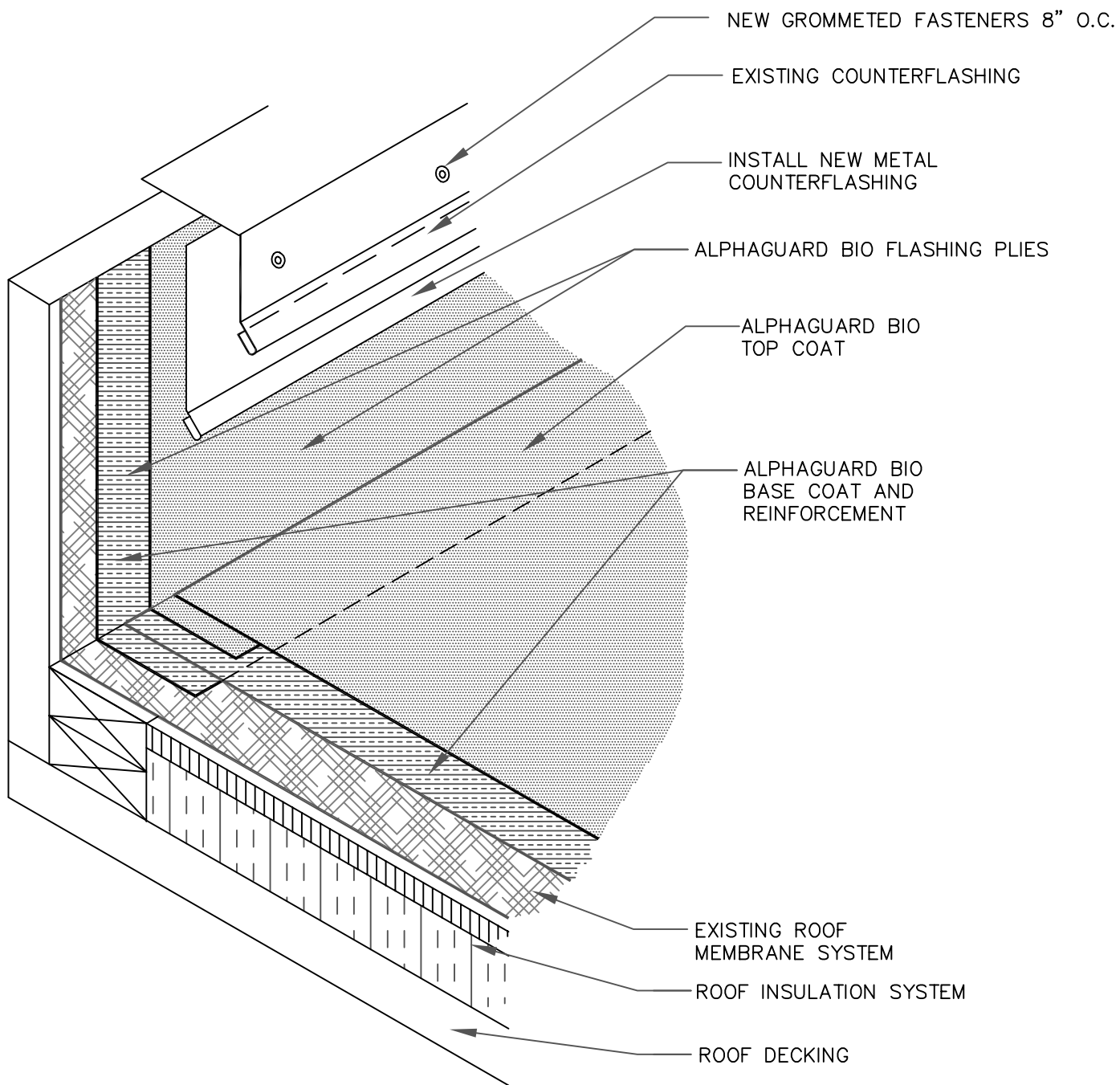
TREMCO®

SHEET TITLE:

WOOD CURB

SCALE: NTS

DRAWING No.: 12



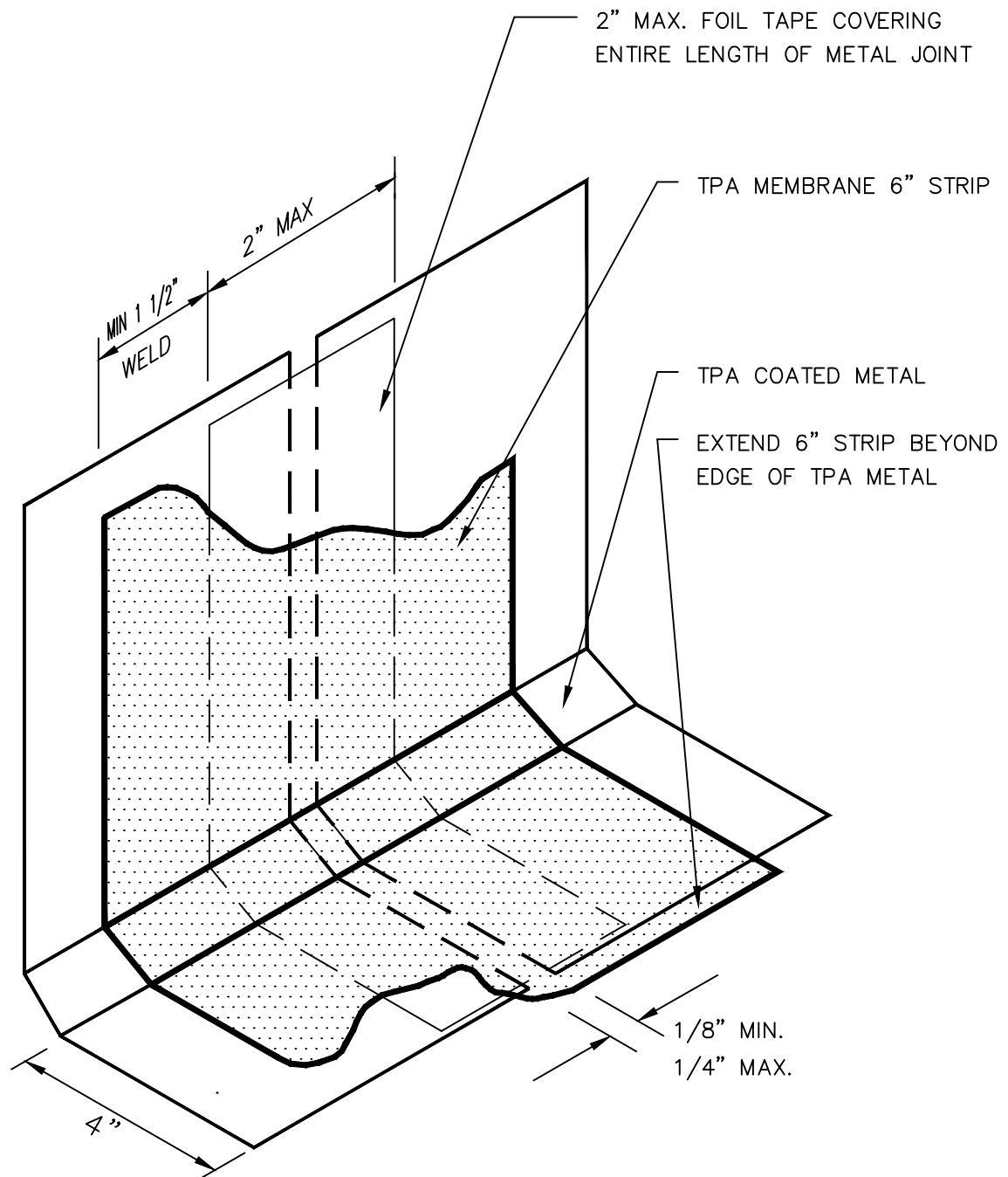
NOTE:
PRIOR TO COATING APPLICATION, CLEAN AND PRIME SUBSTRATES AS SPECIFIED.

TREMCO®

SHEET TITLE: SLIP METAL
SKIRT FLASHING

SCALE: NTS

DRAWING No.: 16



TREMCO®

SHEET TITLE:

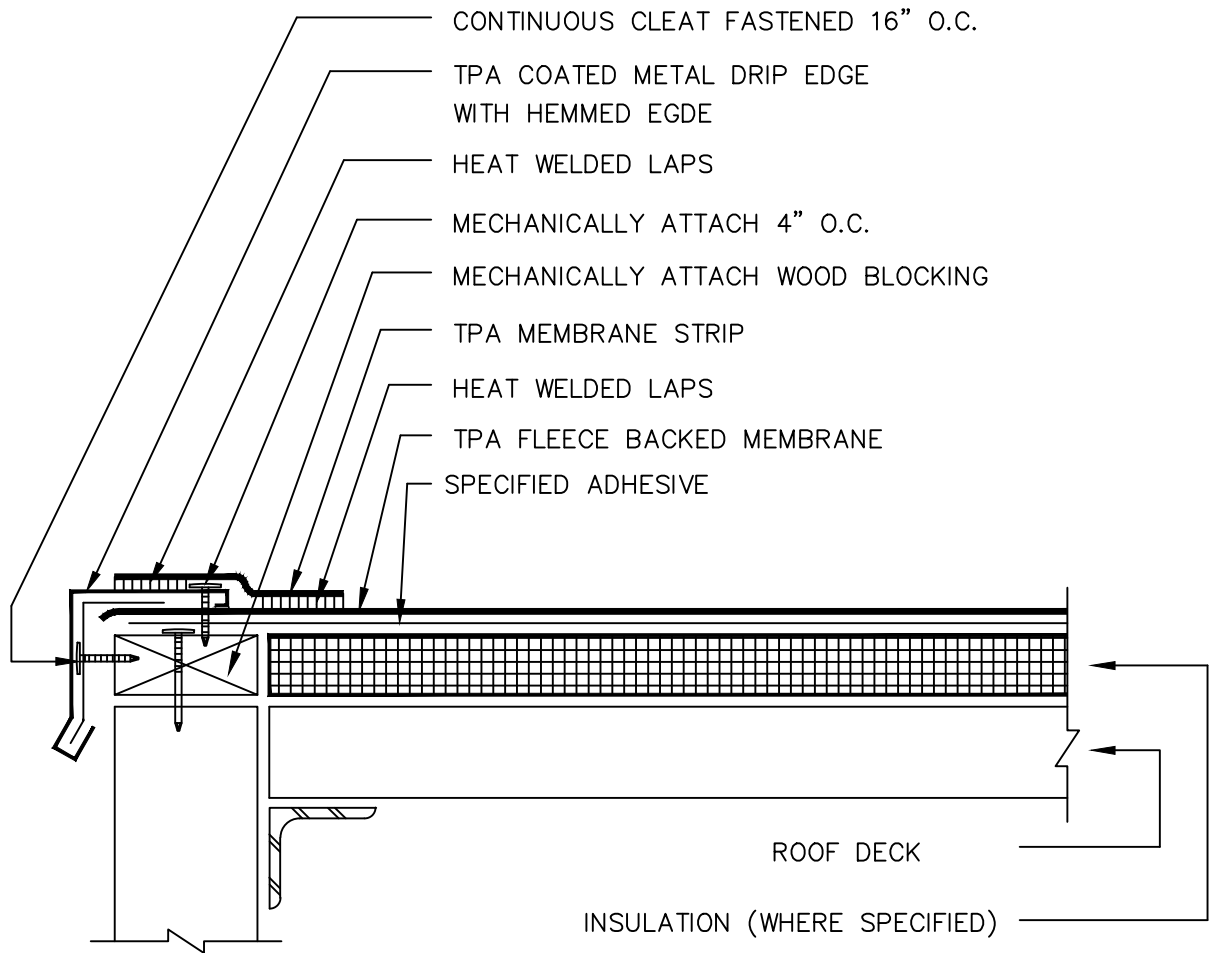
TPA COATED METAL
BASE FLASHING BUTT JOINT

SCALE:

NTS

DRAWING No.:

TPA FB-17



NOTES:

- 1) MAX. FACE DIMENSION SHOULD BE 5" TO PREVENT DISTORTION FROM "OIL CANNING." IF SURFACE DISTORTION IS ACCEPTABLE, FACE DIMENSION MAY BE INCREASED TO 8".
- 2) FOR FASCIAS GREATER THAN 8" INSTALL IN TWO SECTIONS.

TREMCO®

SHEET TITLE:

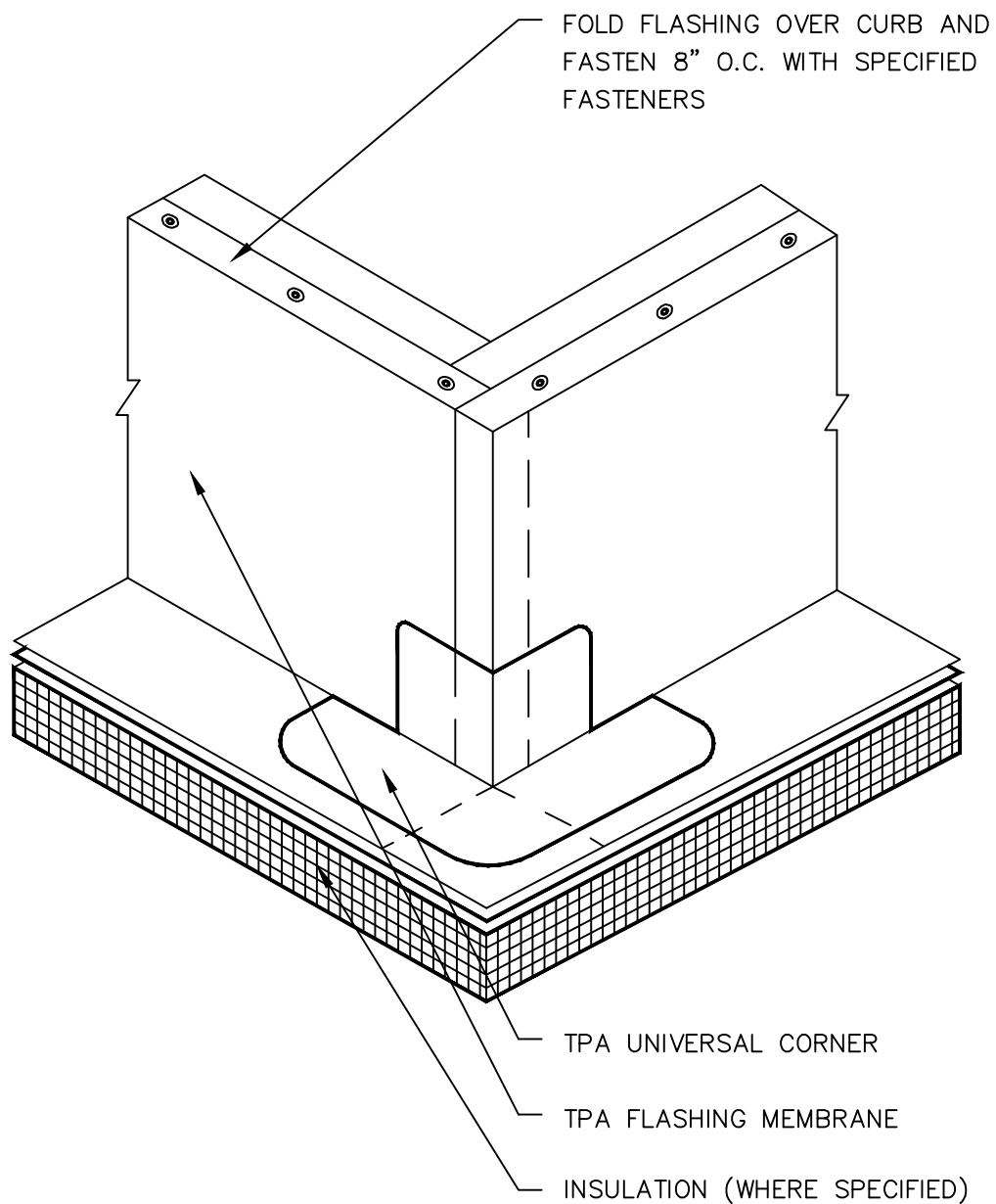
TPA COATED
METAL ROOF EDGE DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-2



SPECIFIED ADHESIVE

NOTE:

1. USE THIS DETAIL WHEN COUNTERFLASHING IS PART OF THE CURB MOUNTED EQUIPMENT.
2. USE THE SPECIFIED FASTENERS AND PLATE AROUND THE CURB PER WRITTEN SPECIFICATIONS

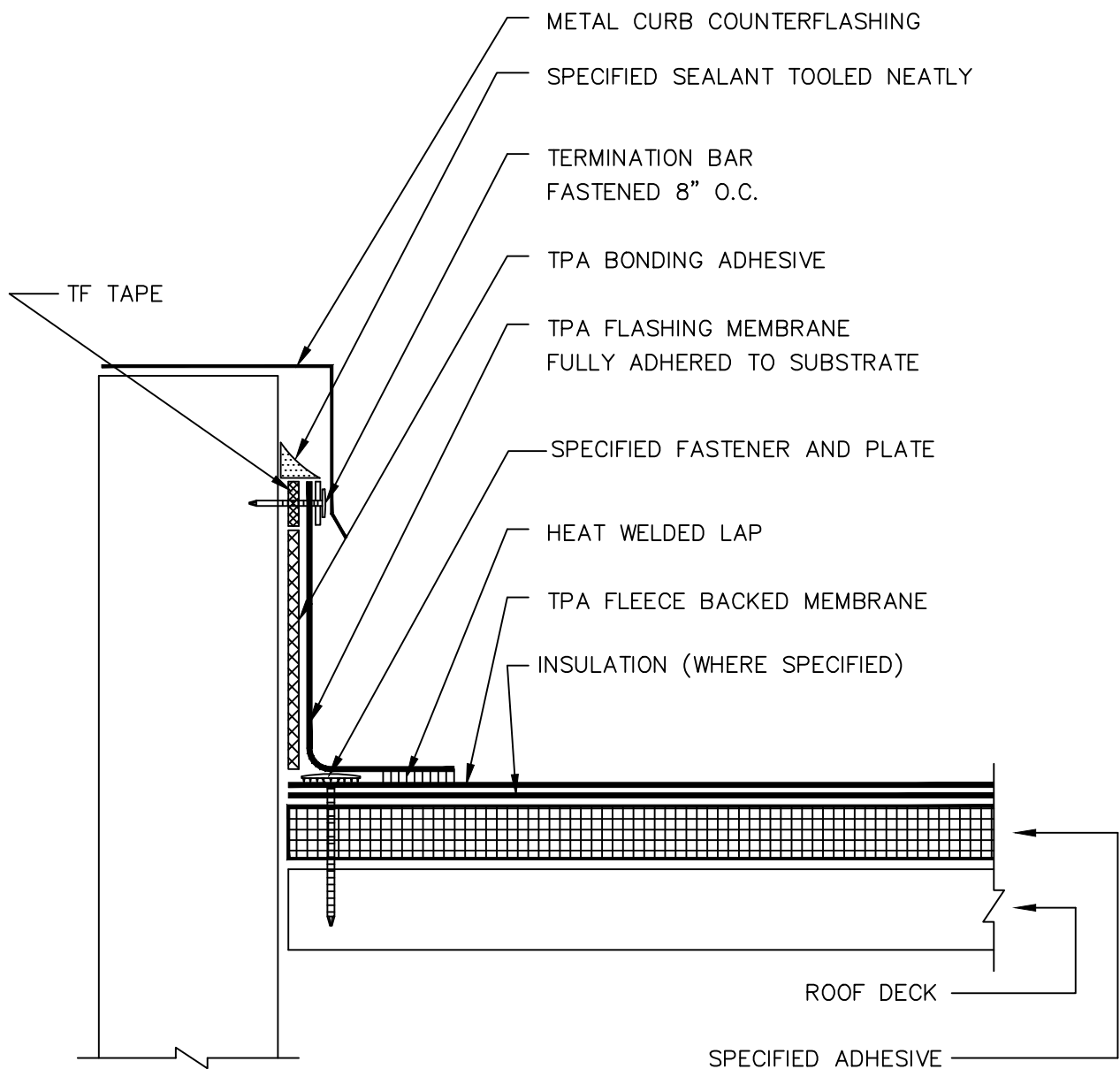
TREMCO®

SHEET TITLE:

CURB FLASHING DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-21



NOTE:

1. ALL FLASHING SHALL BE A MINIMUM OF 8" HIGH.

TREMCO®

SHEET TITLE:

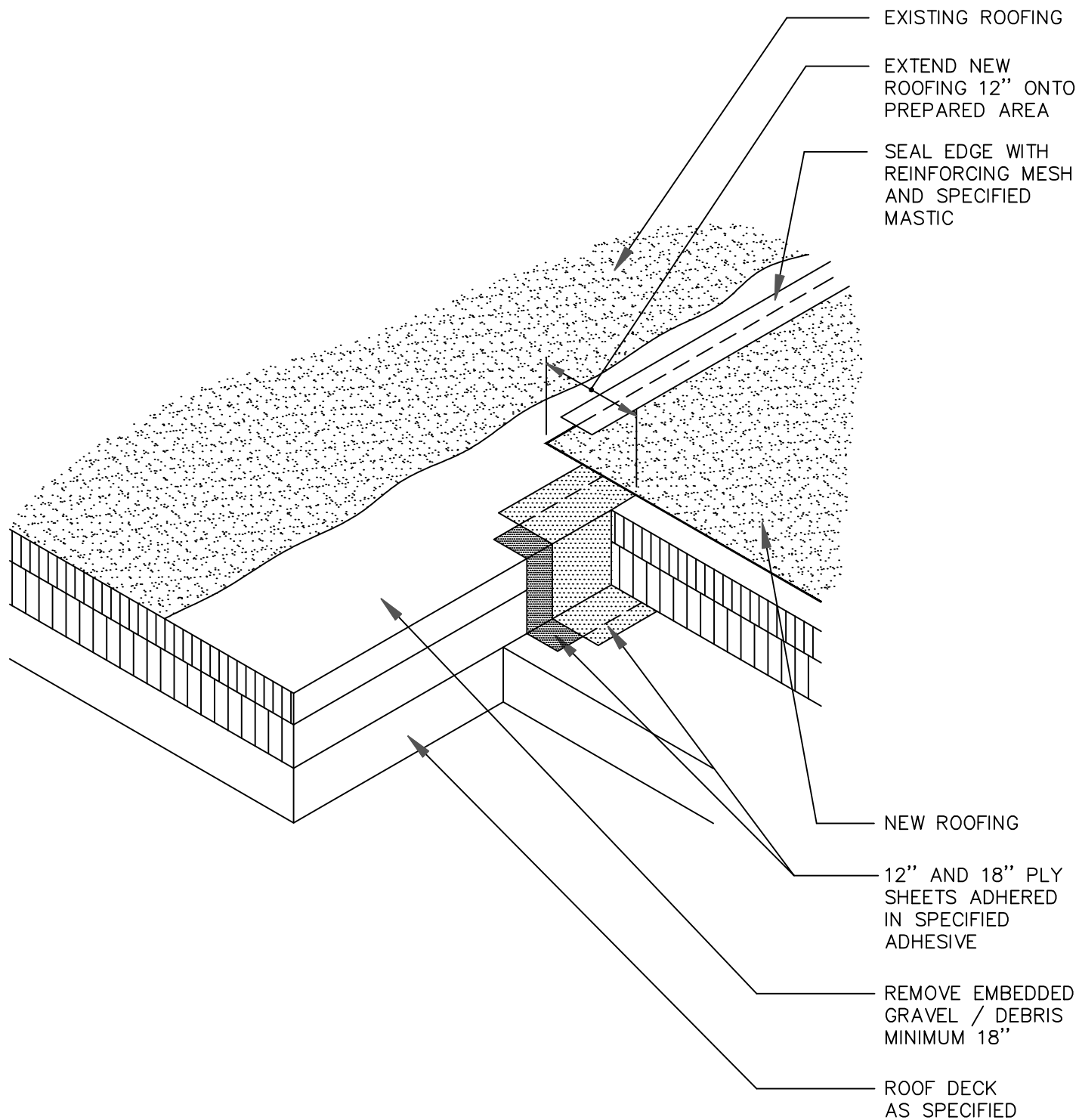
CURB FLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-20



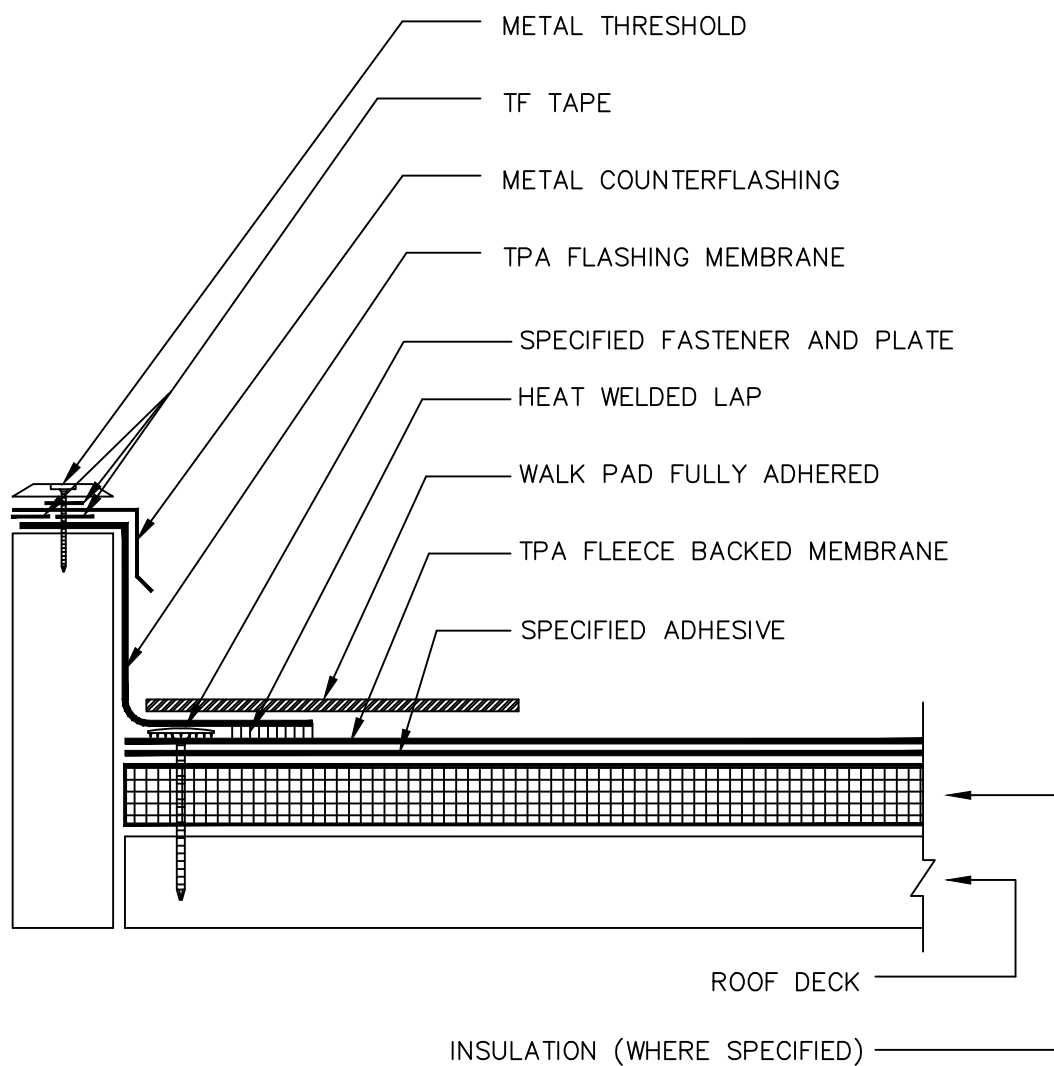
TREMCO®

SHEET TITLE:

DAILY WATERSTOP /TIE-IN

SCALE: NTS

DRAWING No.:
TPA FB-37



TREMCO®

SHEET TITLE:

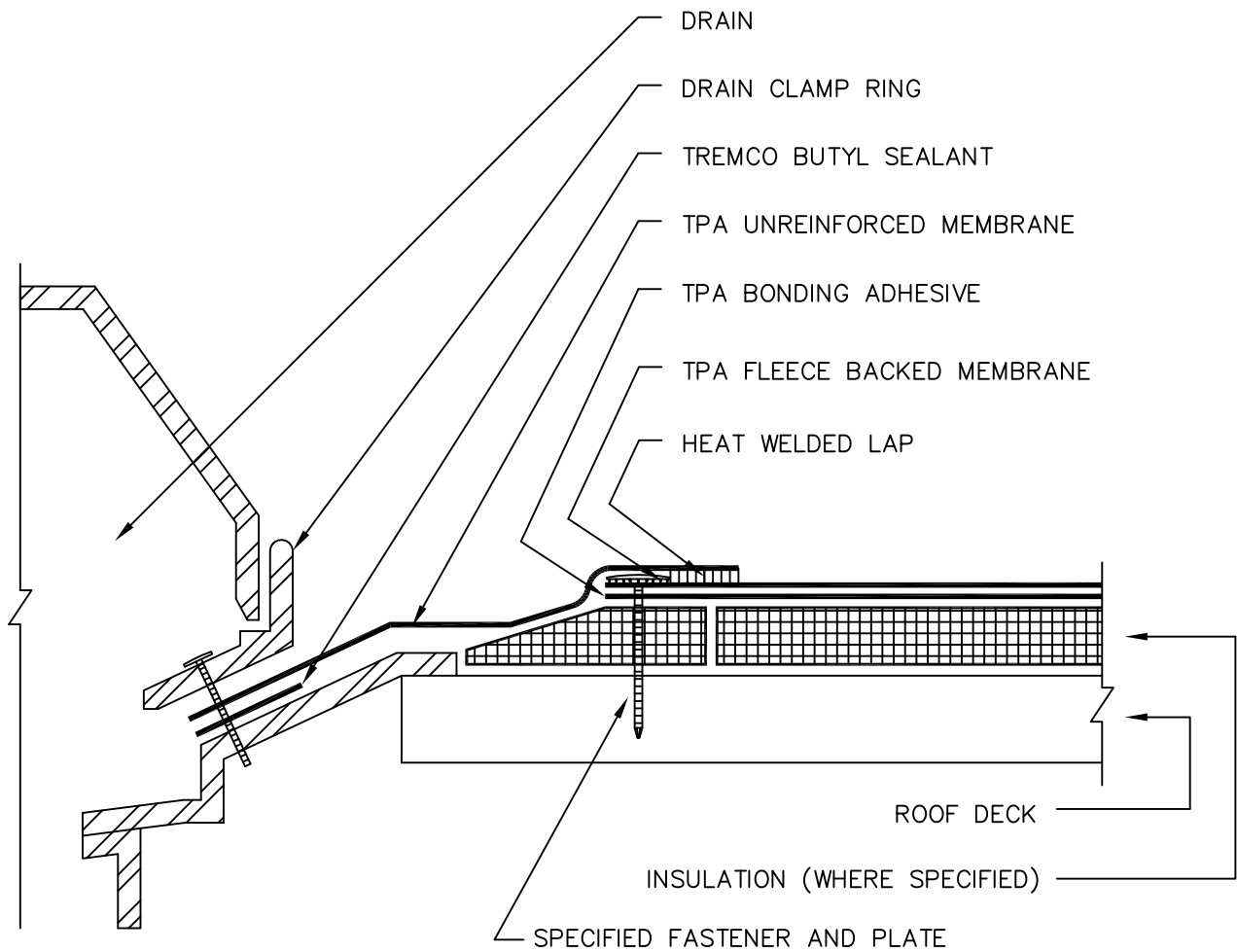
DOOR THRESHOLD
FLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-16



NOTES:

1. THIS TWO PIECE DESIGN MUST BE USED WHEN INSTALLING THE TPA FLEECE BACKED MEMBRANE.
2. MEMBRANE MUST EXTEND MINIMUM 1" BEYOND THE BOLT HOLES.
3. FIELD WELD MUST NOT PASS UNDER THE CLAMPING RING.
3. THE CLAMPING RING MUST PENETRATE THE MEMBRANE.
4. ALL METAL SURFACES SHALL BE PRIMED BEFORE CONTACT WITH ANY ADHESIVE OR MASTIC.

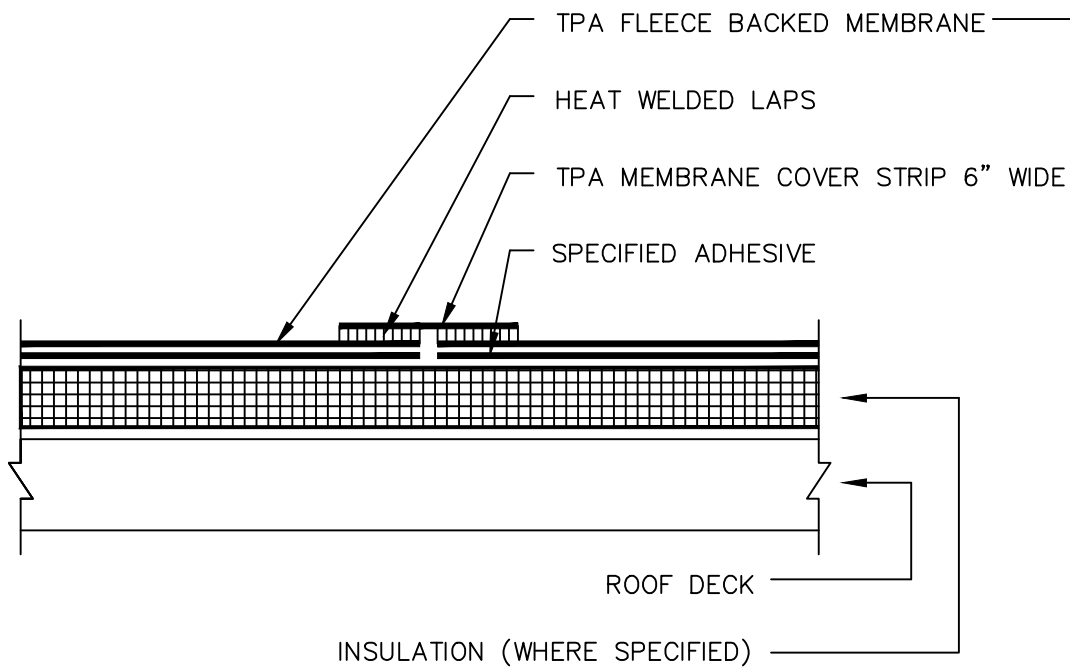
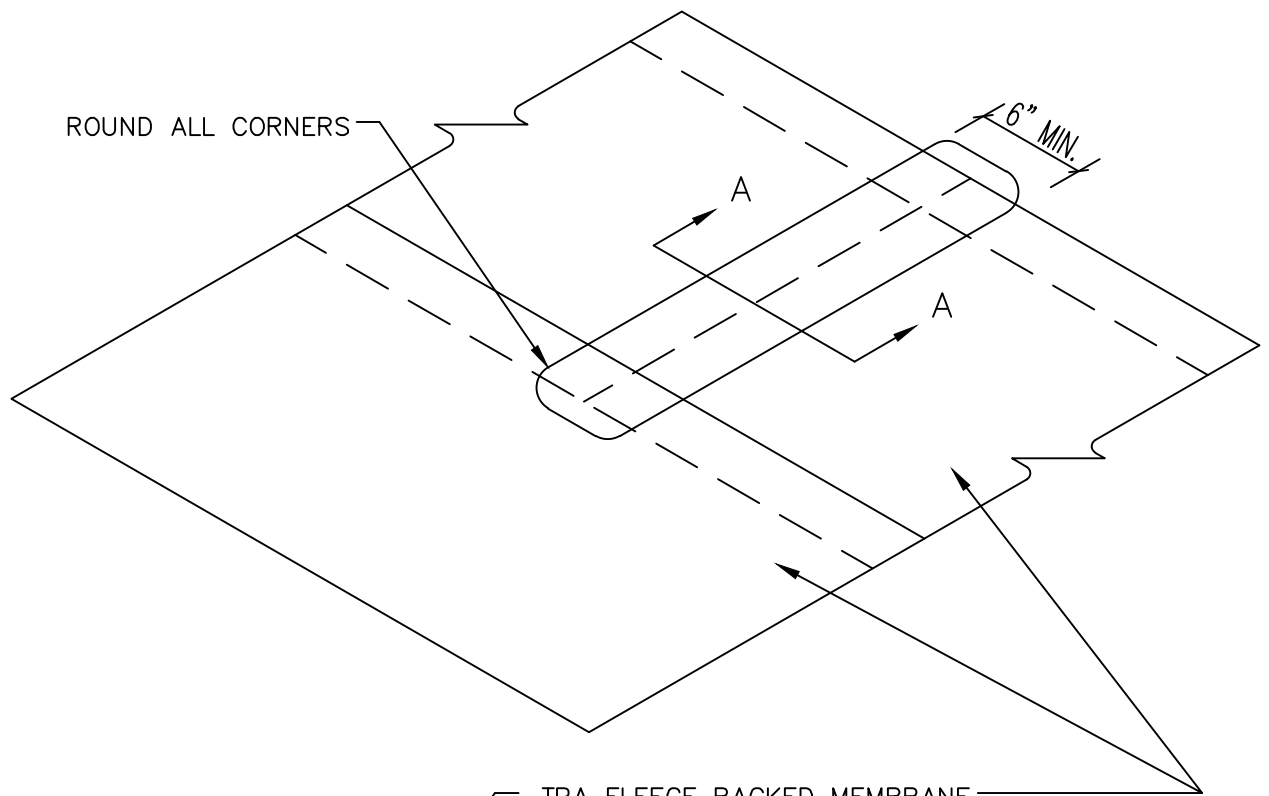
TREMCO®

SHEET TITLE:

DRAIN DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-15



SECTION A-A

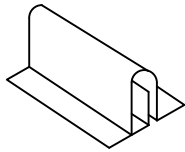
TREMCO®

SHEET TITLE:

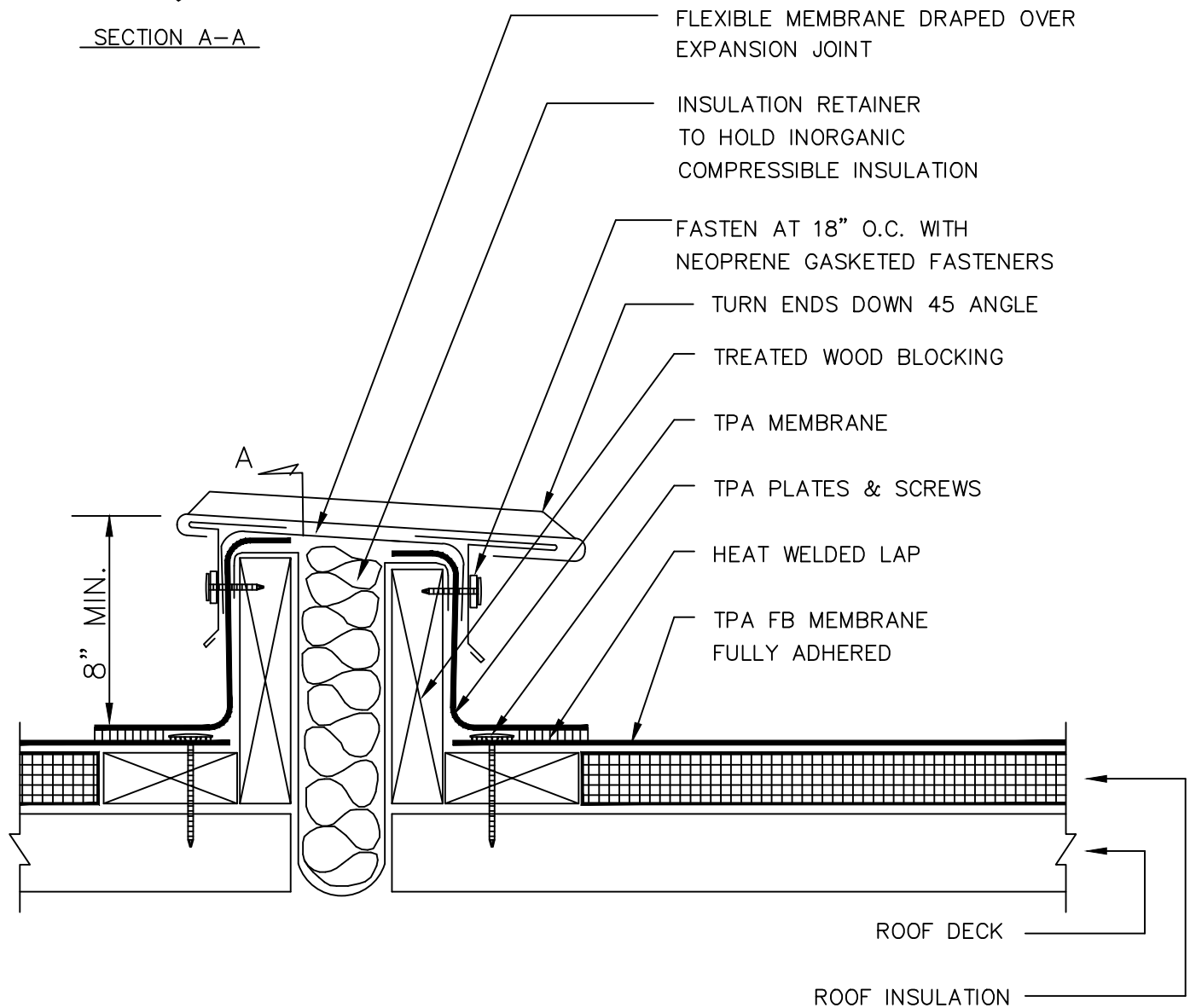
END LAP DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-25



SECTION A-A



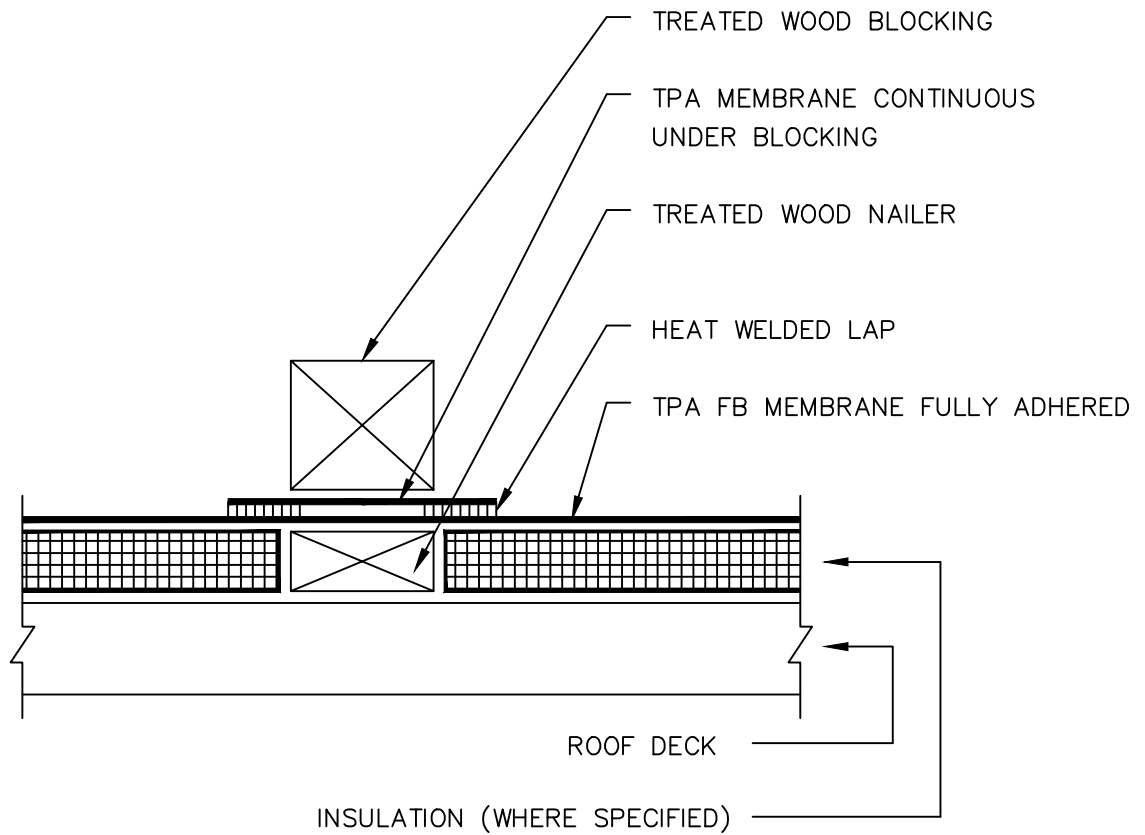
TREMCO®

SHEET TITLE:

EXPANSION JOINT CURB

SCALE: NTS

DRAWING No.:
TPA FB -18



SHEET TITLE:

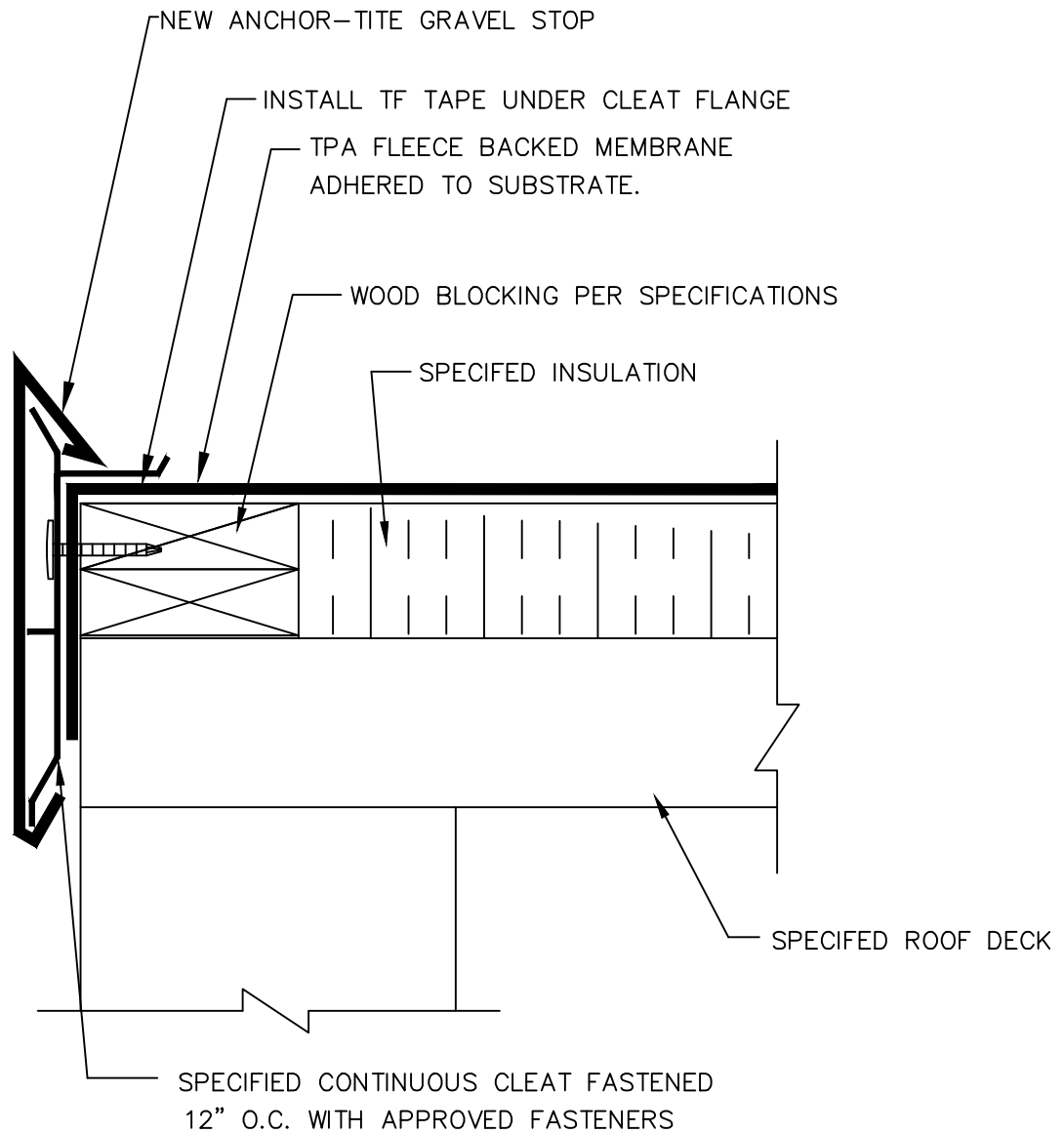
EXPOSED SLEEPER

SCALE:

NTS

DRAWING No.:

TPA FB-29



NOTE:

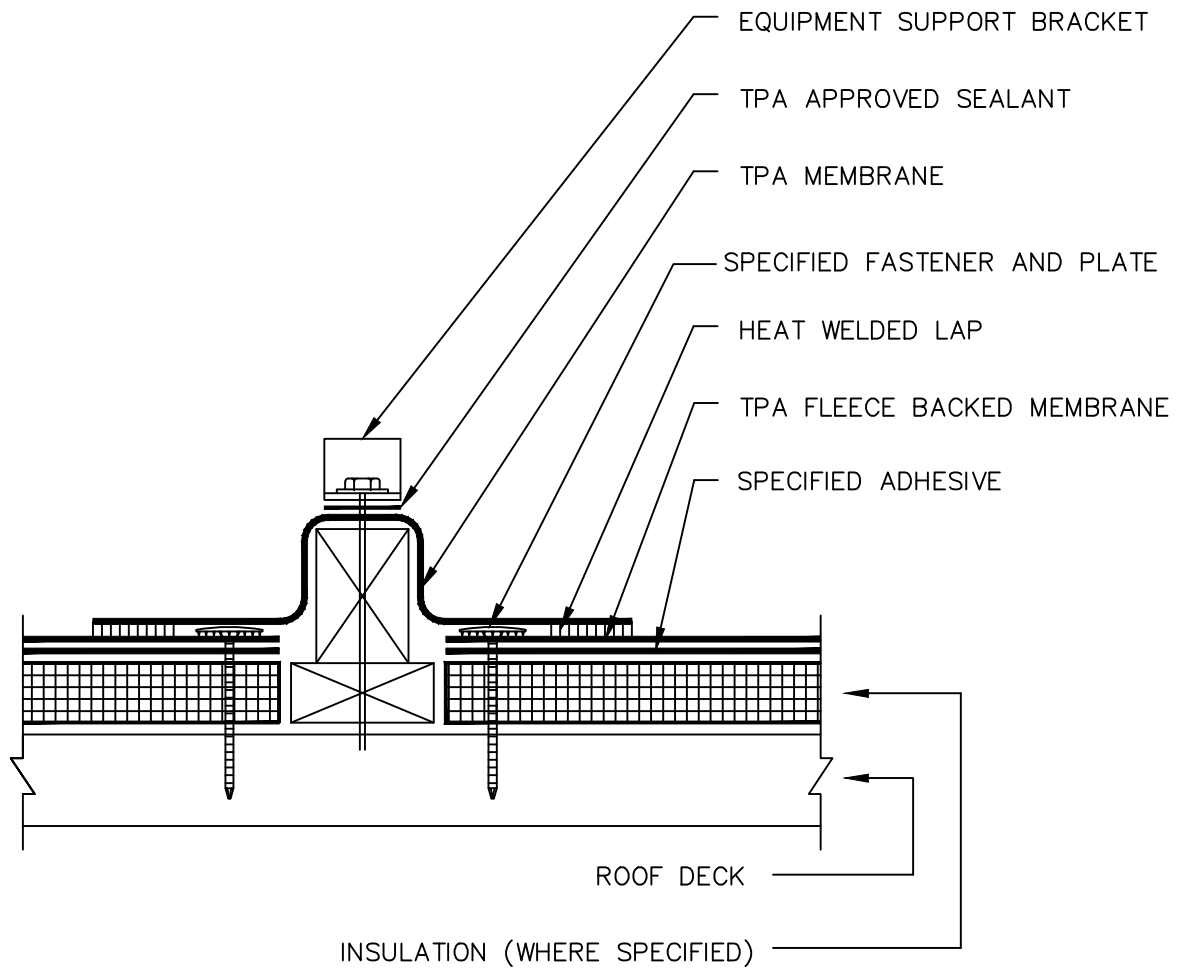
1. FASCIA METAL SHALL BE INSTALLED PER SPECIFICATIONS AND METAL-ERA'S INSTALLATION INSTRUCTIONS MANUFACTURES DWG. #11111A007 & 11111A008

TREMCO®

SHEET TITLE:
FACTORY-FABRICATED
ROOF EDGE

SCALE: NTS

DRAWING No.:
TPA FB-1



NOTES:

- 1) SLEEPER HEIGHT SHOULD BE SUFFICIENT TO ELEVATE THE EQUIPMENT SUPPORT BRACKET ABOVE THE WATER LEVEL.

TREMCO®

SHEET TITLE:

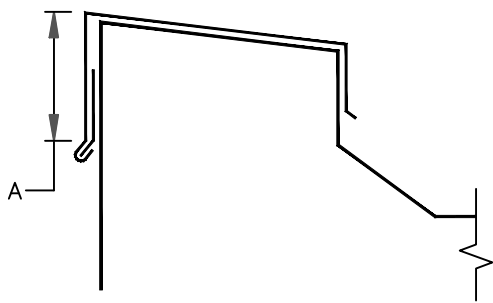
FIXED EQUIPMENT
SUPPORT DETAIL

SCALE:

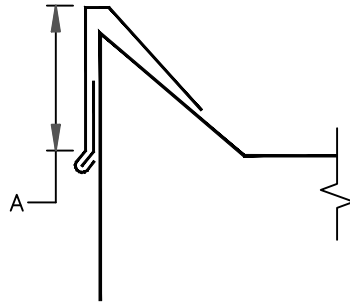
NTS

DRAWING No.:

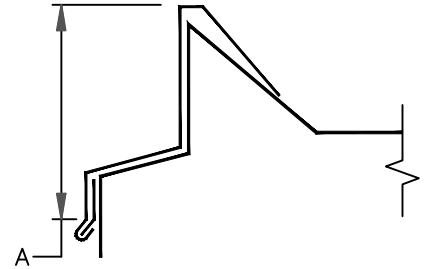
TPA FB-30



COPING



CAP FLASHING
AND FASCIA



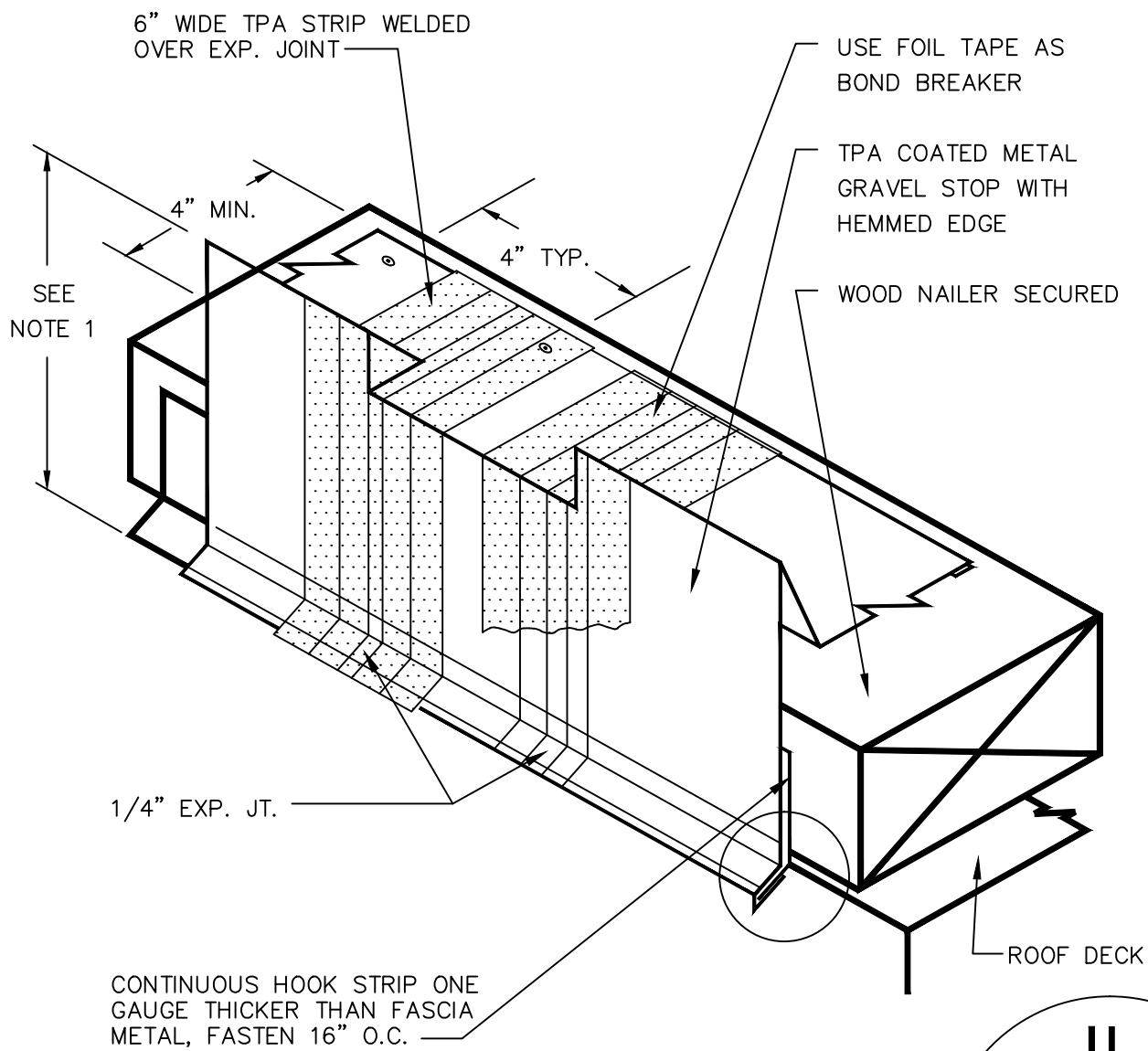
VARIATIONS

EXPOSED FACE WITHOUT BRAKES "A" DIMENSIONS	GALVANIZED IRON	COLD ROLLED COPPER	ALUMINUM 3003-H14
UP TO 6" FACE	24 GA.	16 OZ.	.040" (18 GA.)
6" TO 8" FACE	24 GA.	16 OZ.	.050" (16 GA.)
8" TO 10" FACE	22 GA.	20 OZ.	.064" (14 GA.)
10" TO 15" FACE	20 GA.	ADD BRAKES TO STIFFEN	.080" (12 GA.)



SHEET TITLE:
GAGE OR THICKNESS GUIDE
(MINIMUM)

SCALE: NTS
DRAWING No.:
TPA FB-38



NOTES:

- 1) MAX FACE DIMENSION SHOULD BE 5" TO PREVENT DISTORTION FROM "OIL CANNING." IF SURFACE DISTORTION IS ACCEPTABLE, FACE DIMENSION MAY BE INCREASED TO 8".
- 2) FOR FASCIAS GREATER THAN 8" INSTALL IN TWO SECTIONS

TREMCO

SHEET TITLE:

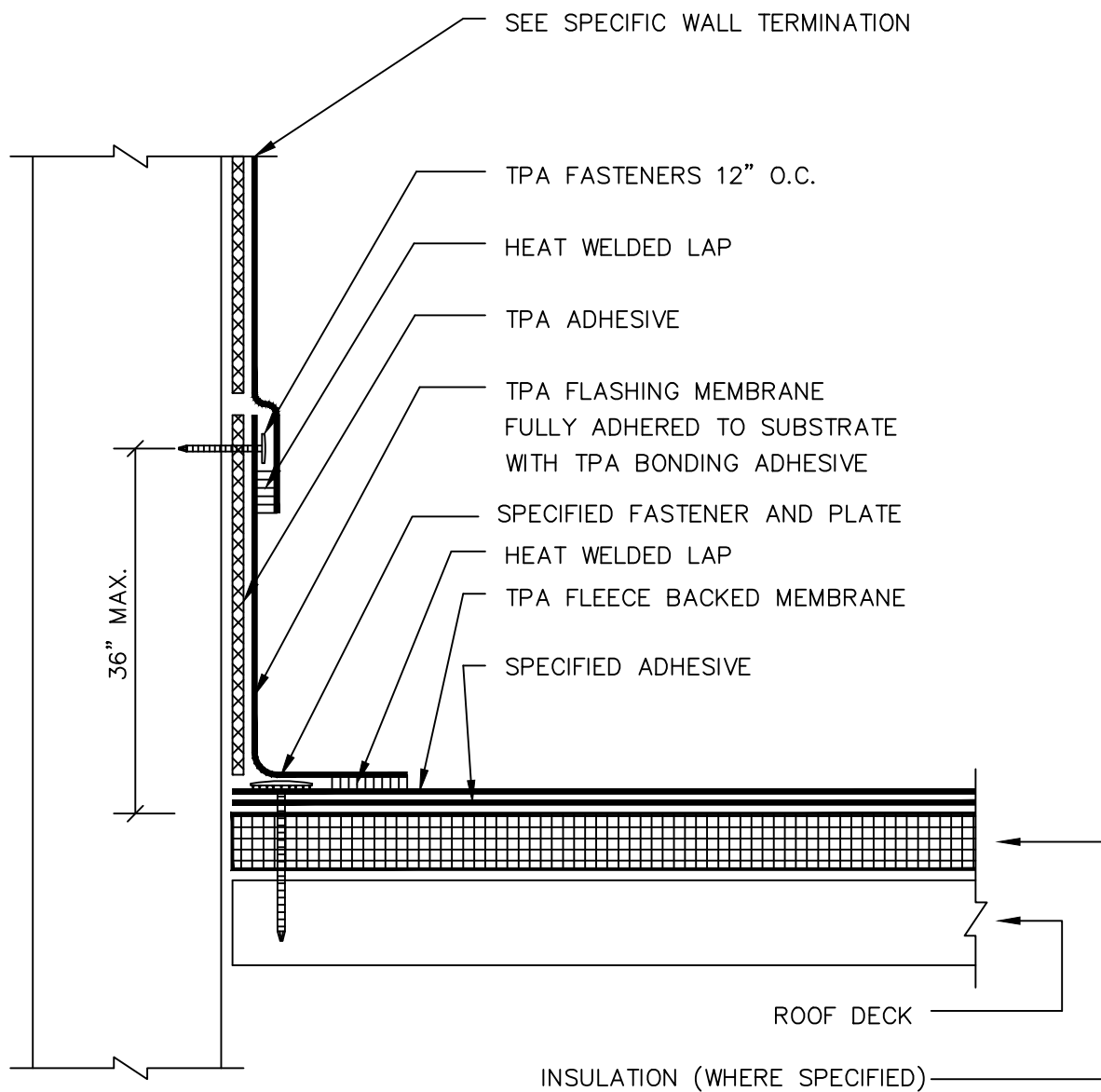
GRAVEL STOP
SCUPPER DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-14



TREMCO®

SHEET TITLE:

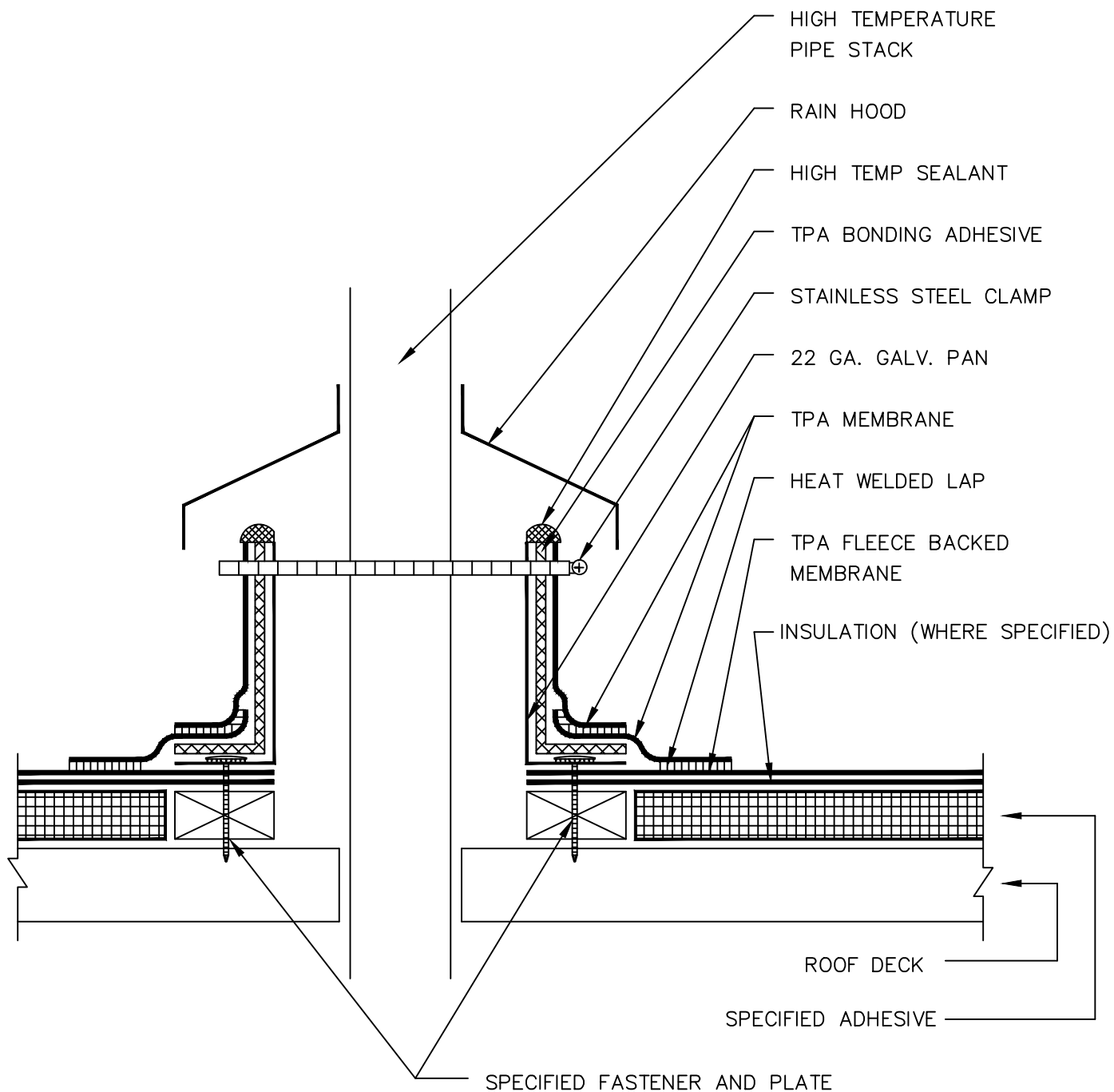
HIGH PARAPET WALL
FLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-10



NOTES:

1. THIS DETAIL TO BE USED WHEN TEMPERATURE OF STACK EXCEEDS 140°F.

TREMCO®

SHEET TITLE:

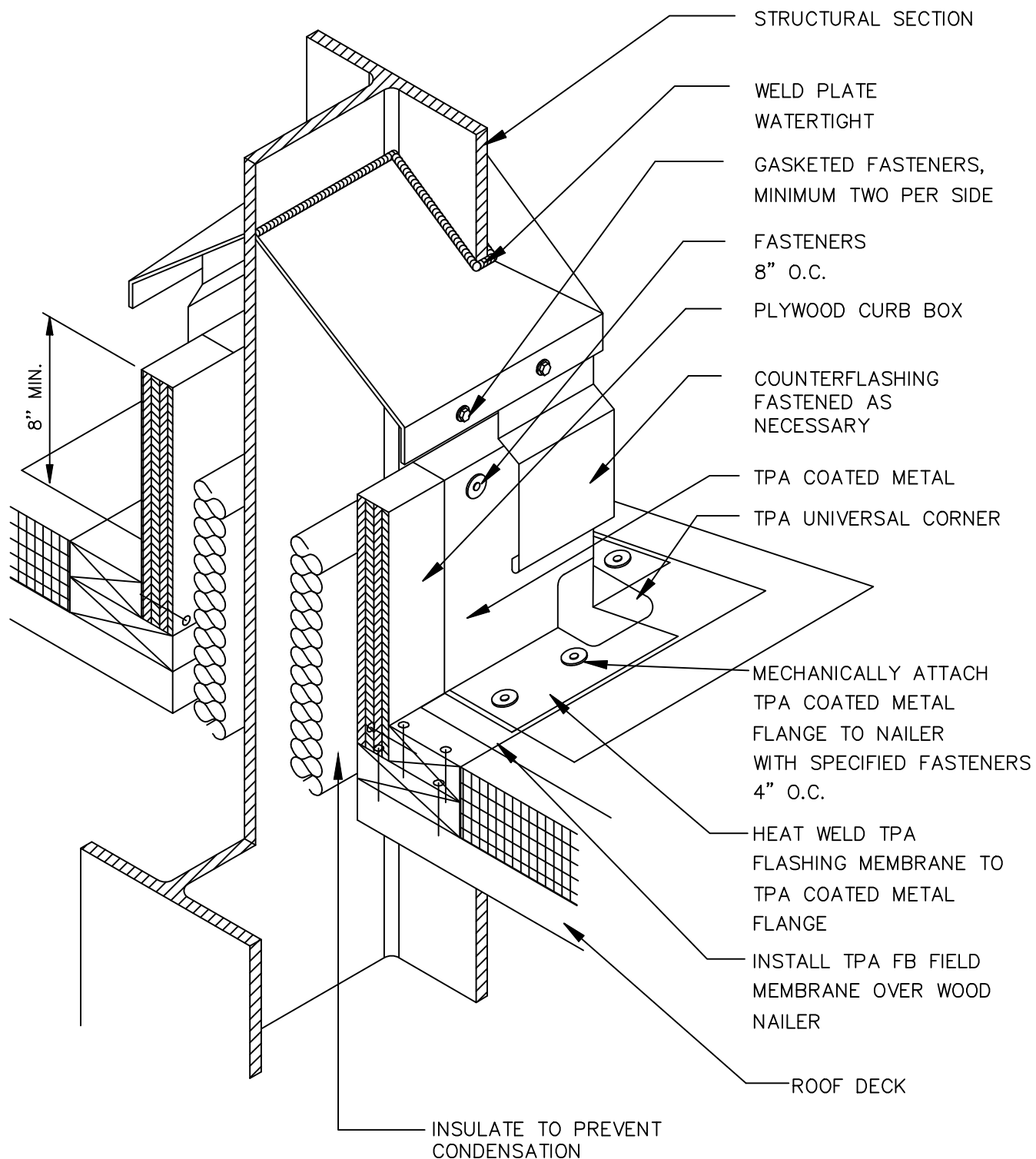
HIGH TEMPERATURE
PIPE FLASHING

SCALE:

NTS

DRAWING No.:

TPA FB-24



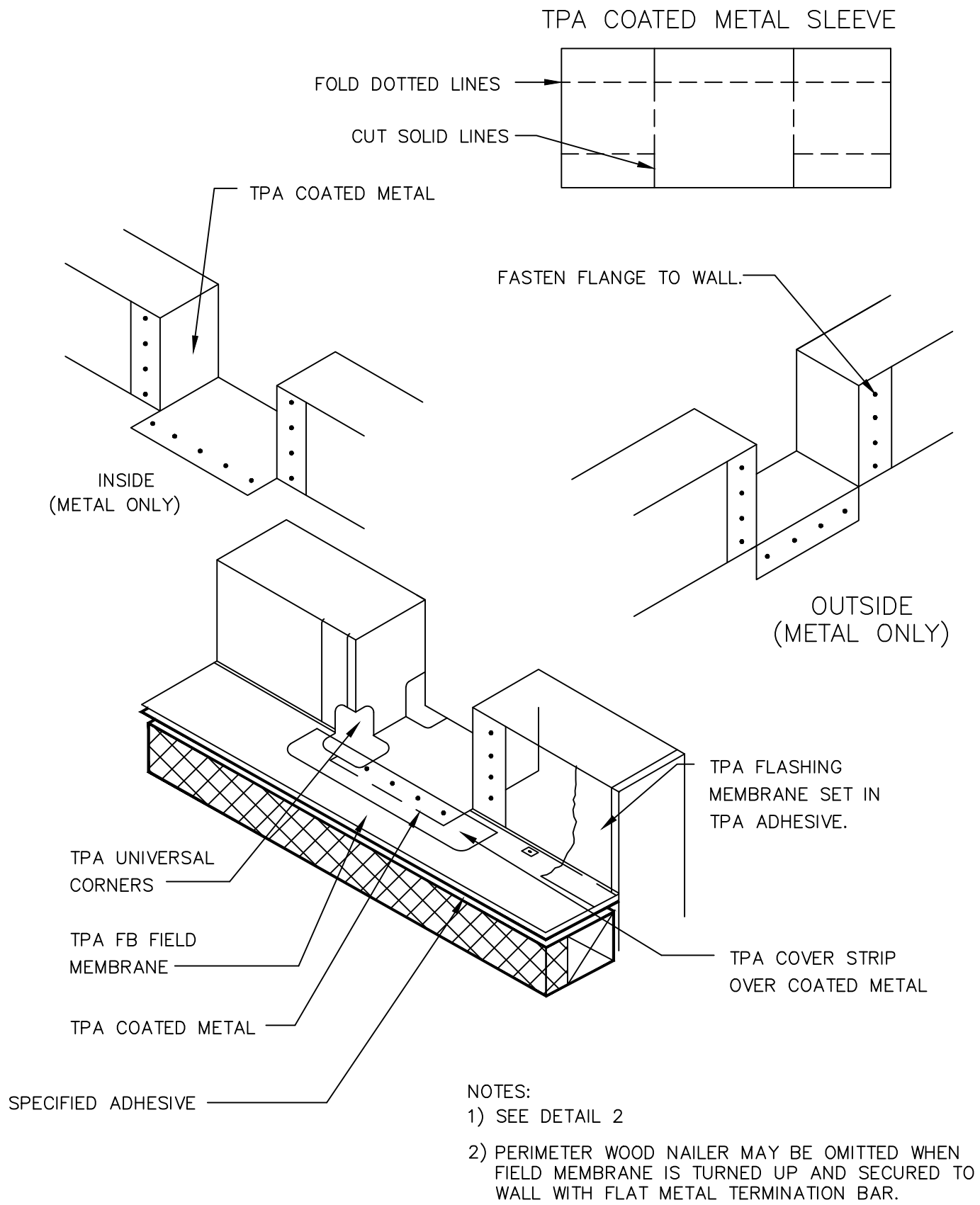
TREMCO®

SHEET TITLE:

I-BEAM
FLASHING DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-27



TREMCO®

SHEET TITLE:

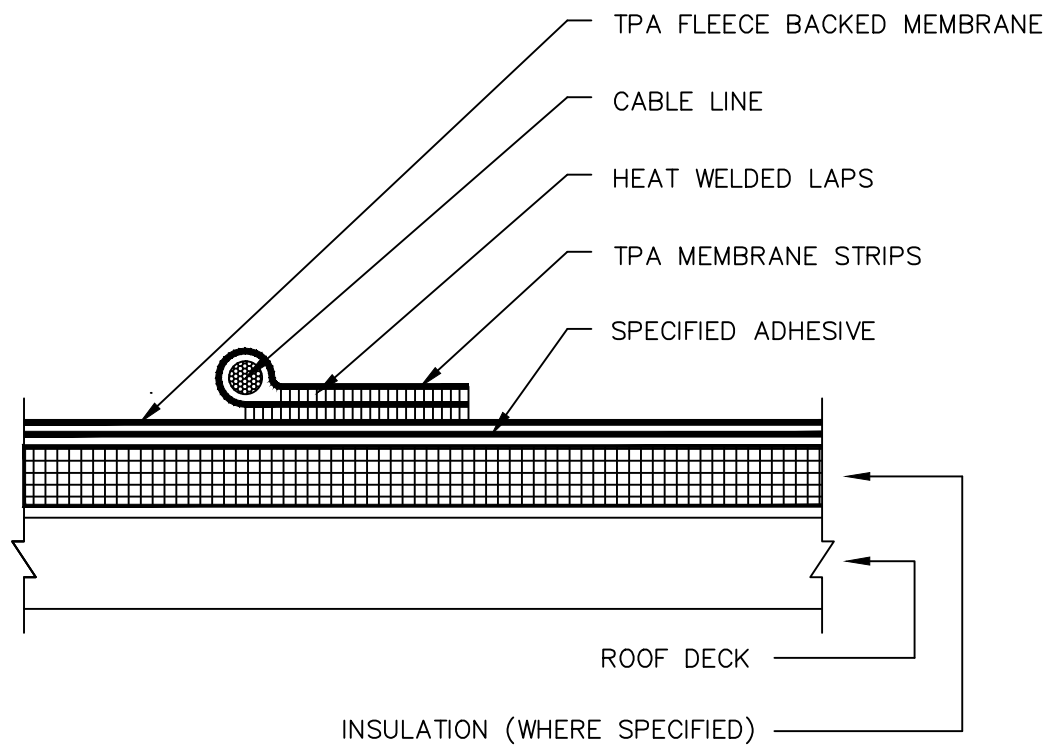
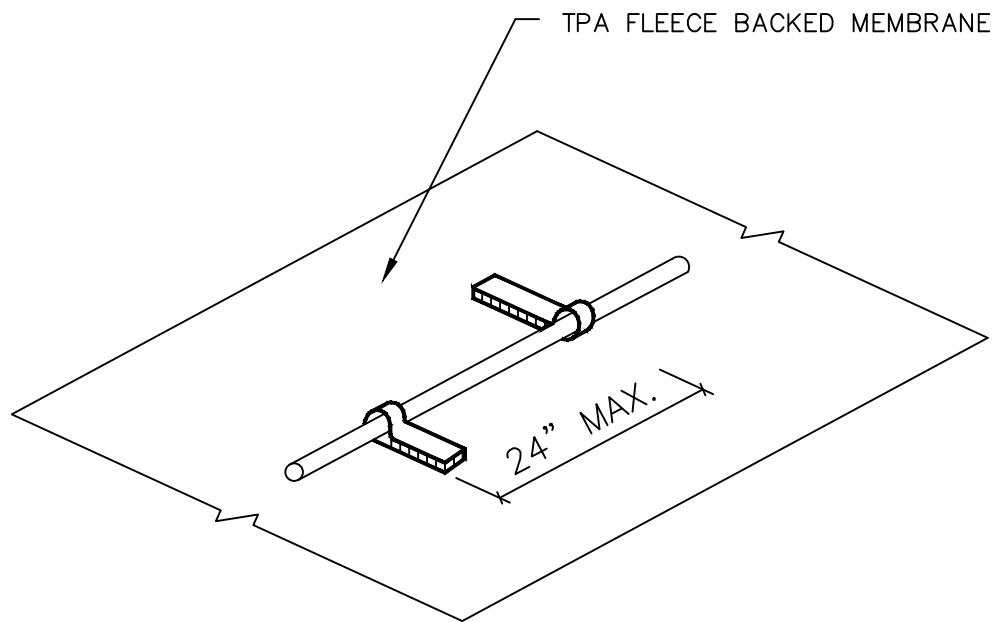
ISOMETRIC VIEW
THROUGH WALL SCUPPER

SCALE:

NTS

DRAWING No.:

13



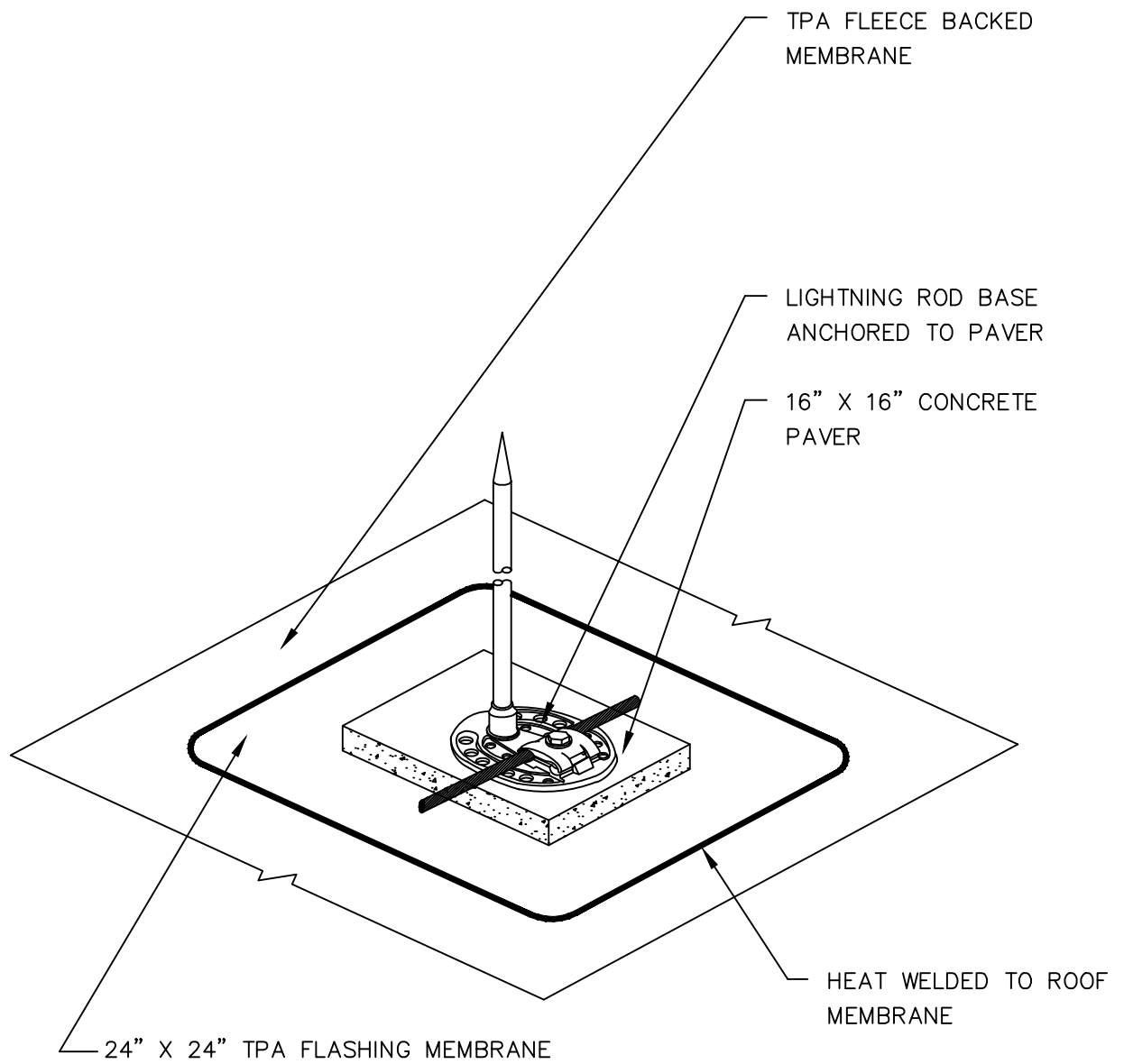
TREMCO®

SHEET TITLE:

LIGHTING CABLE
SUPPORT STRAP

SCALE: NTS

DRAWING No.:
TPA FB-34



TREMCO®

SHEET TITLE:

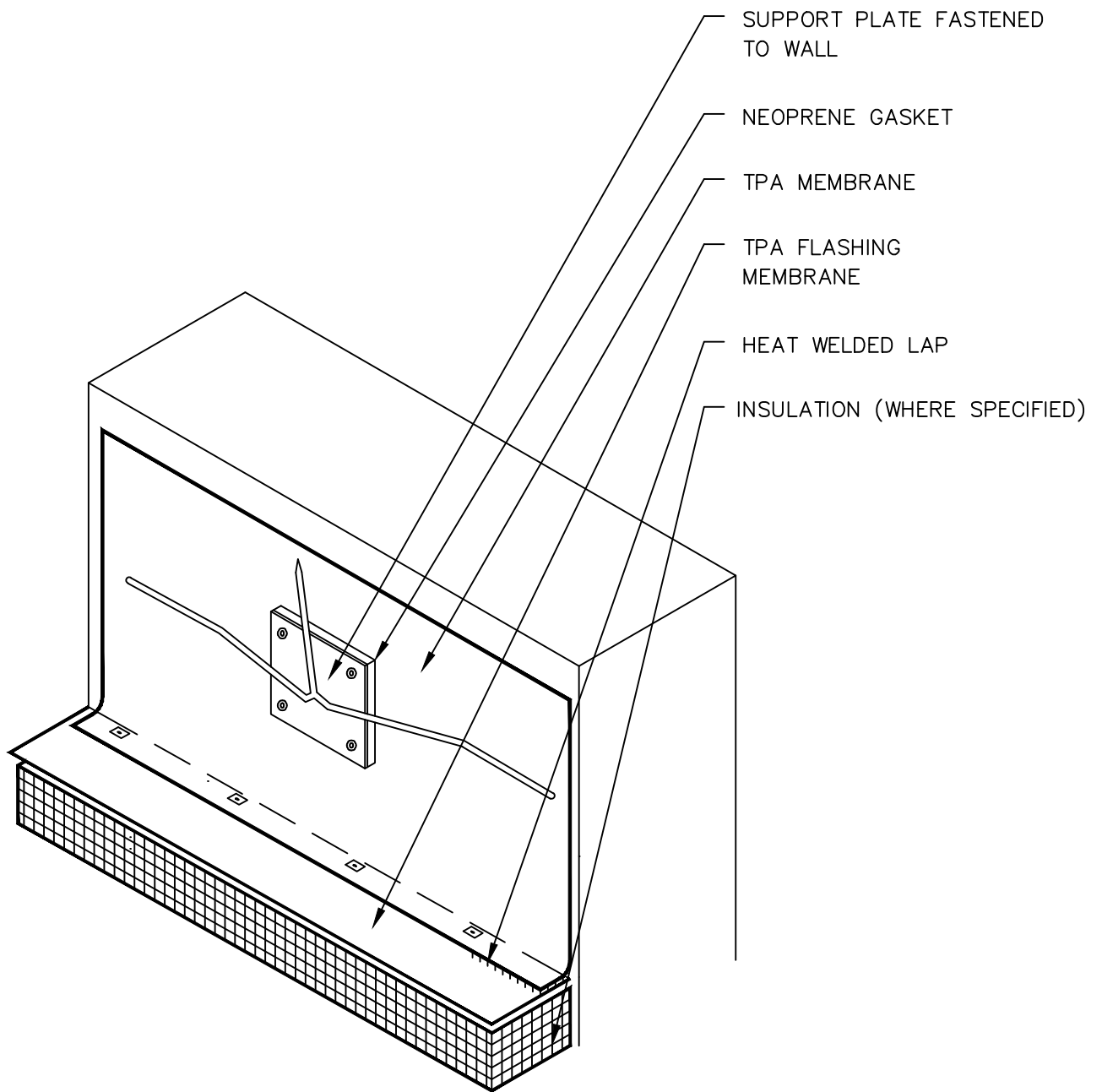
LIGHTNING ROD
BASE DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-35



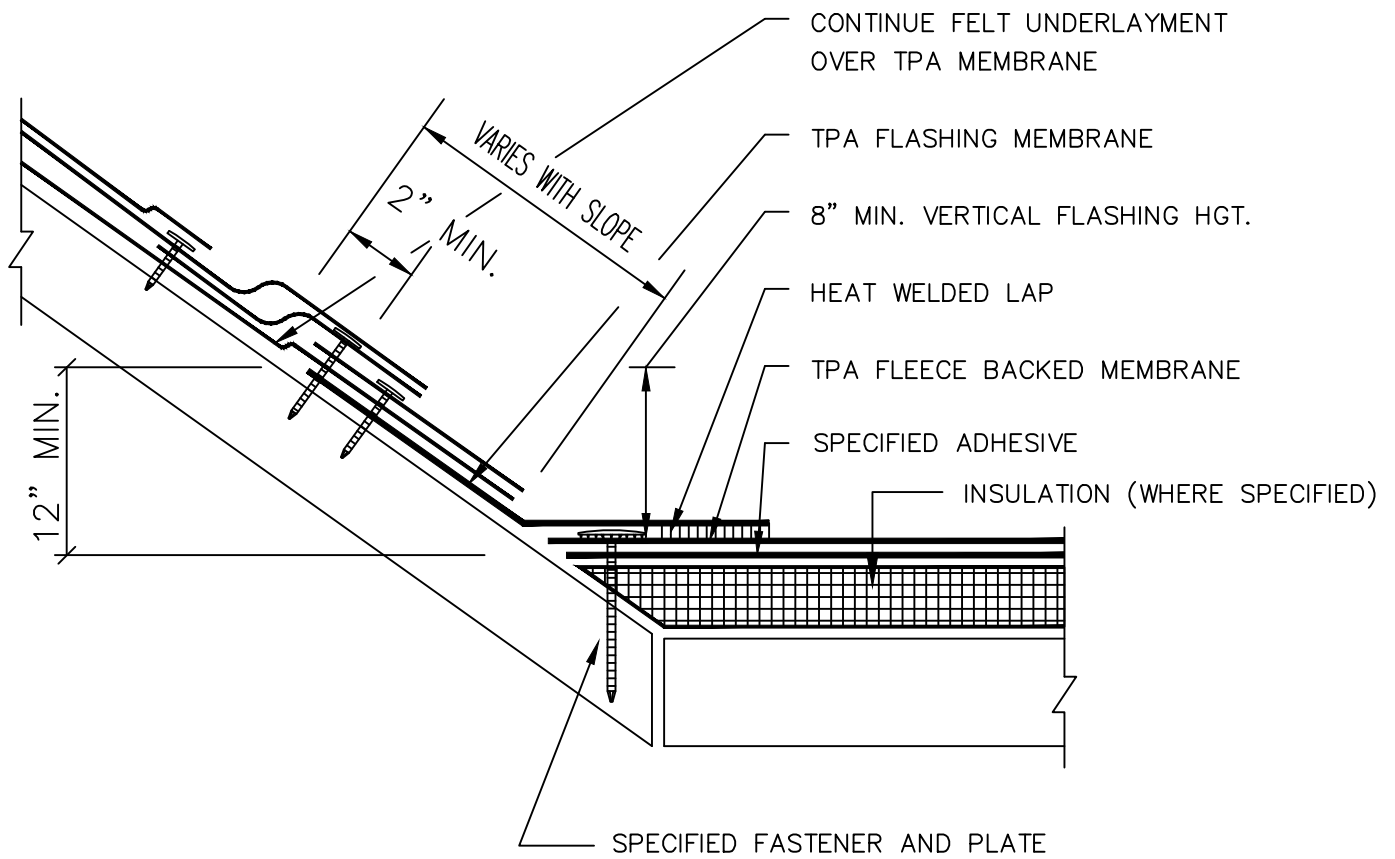
TREMCO®

SHEET TITLE:

WALL MOUNTED
LIGHTNING ROD DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-36



NOTES:

THIRD COURSE OF SHINGLES MUST OVERLAP FLASHING.

TREMCO®

SHEET TITLE:

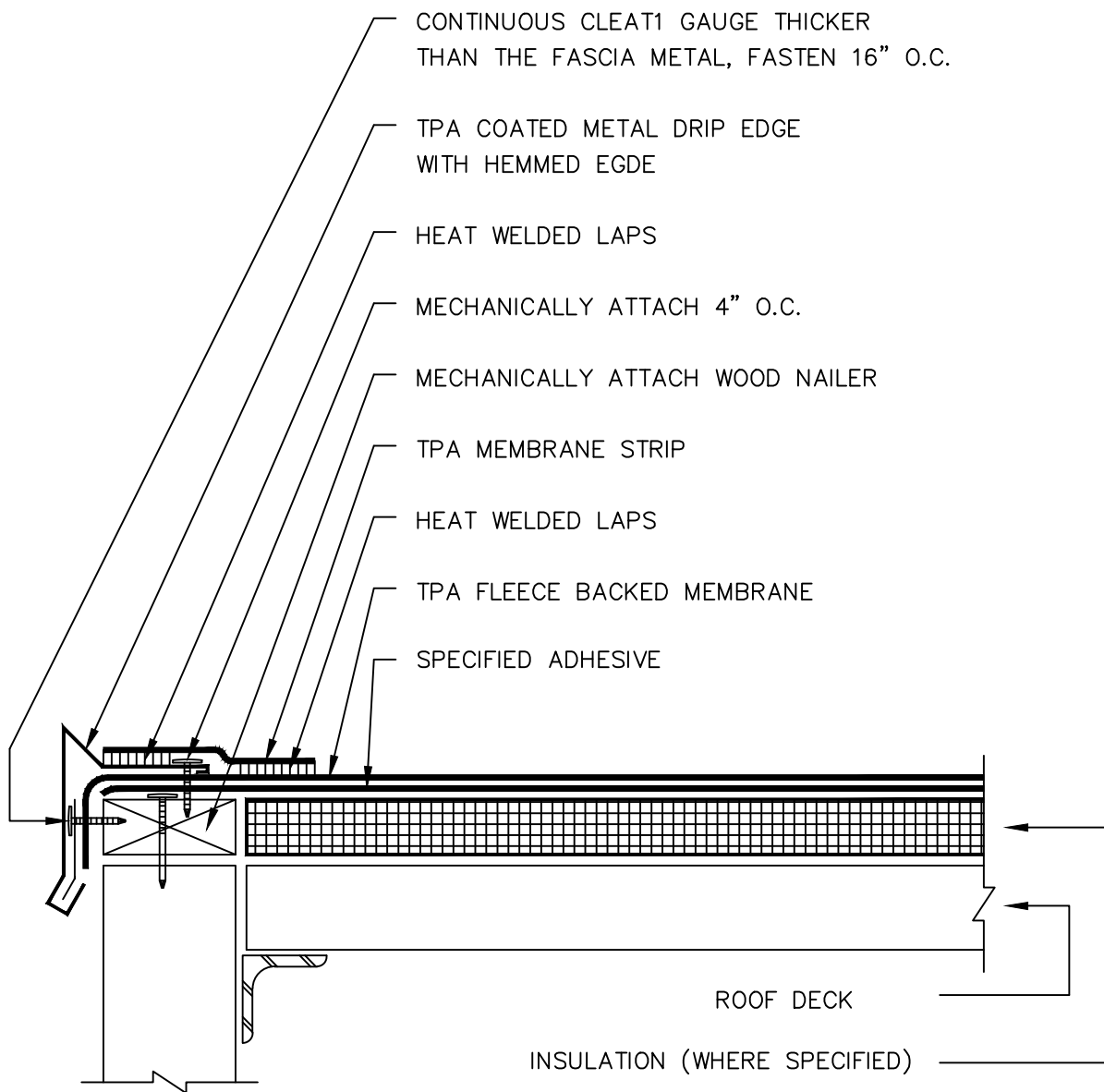
MEMBRANE TERMINATION
AT SLOPED ROOF

SCALE:

NTS

DRAWING No.:

TPA FB-33



TREMCO®

SHEET TITLE:

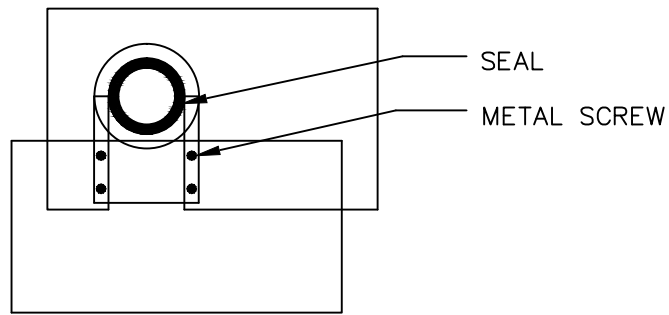
TPA COATED
METAL GRAVEL STOP EDGE

SCALE:

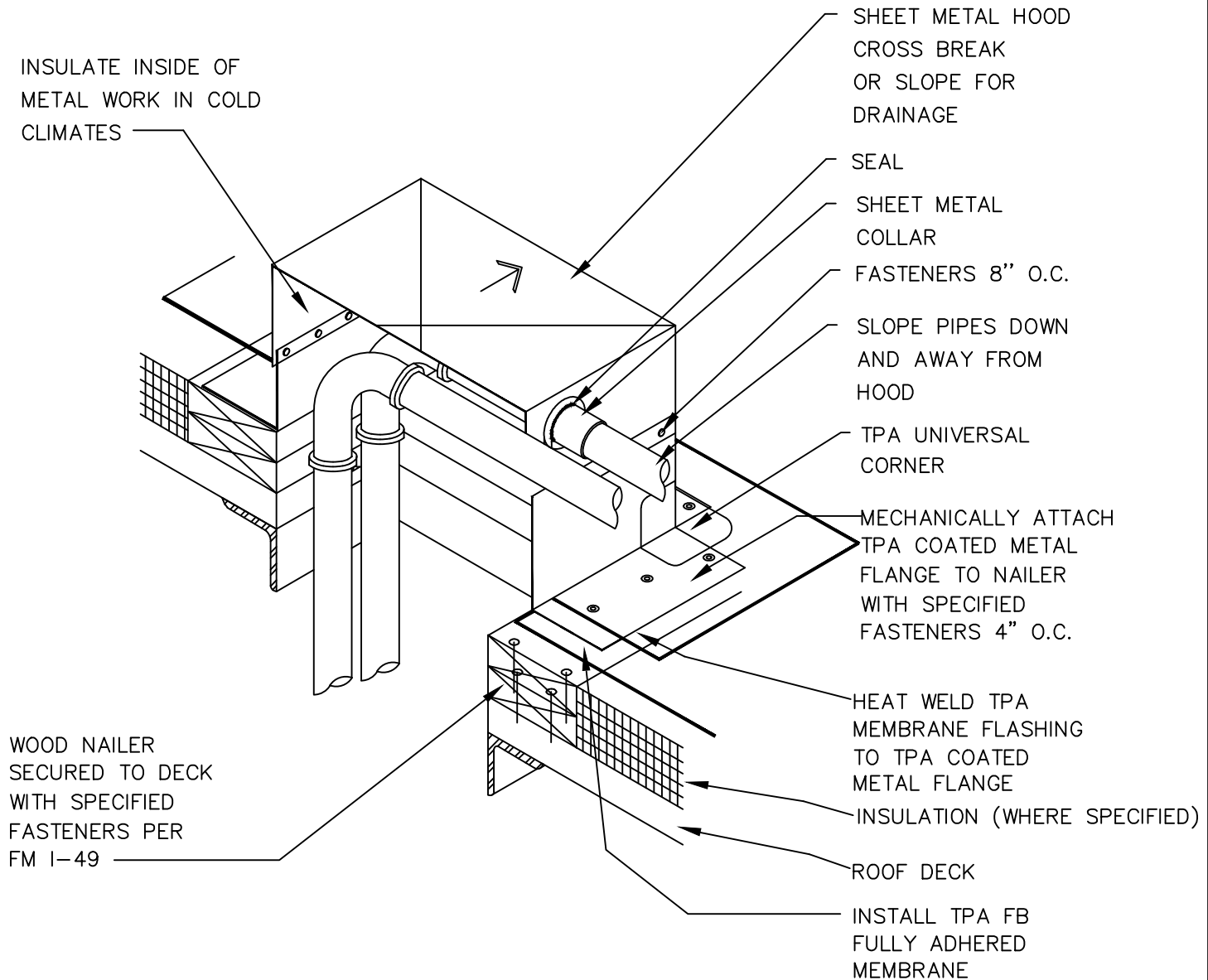
NTS

DRAWING No.:

TPA FB-3



CLOSURE DETAIL



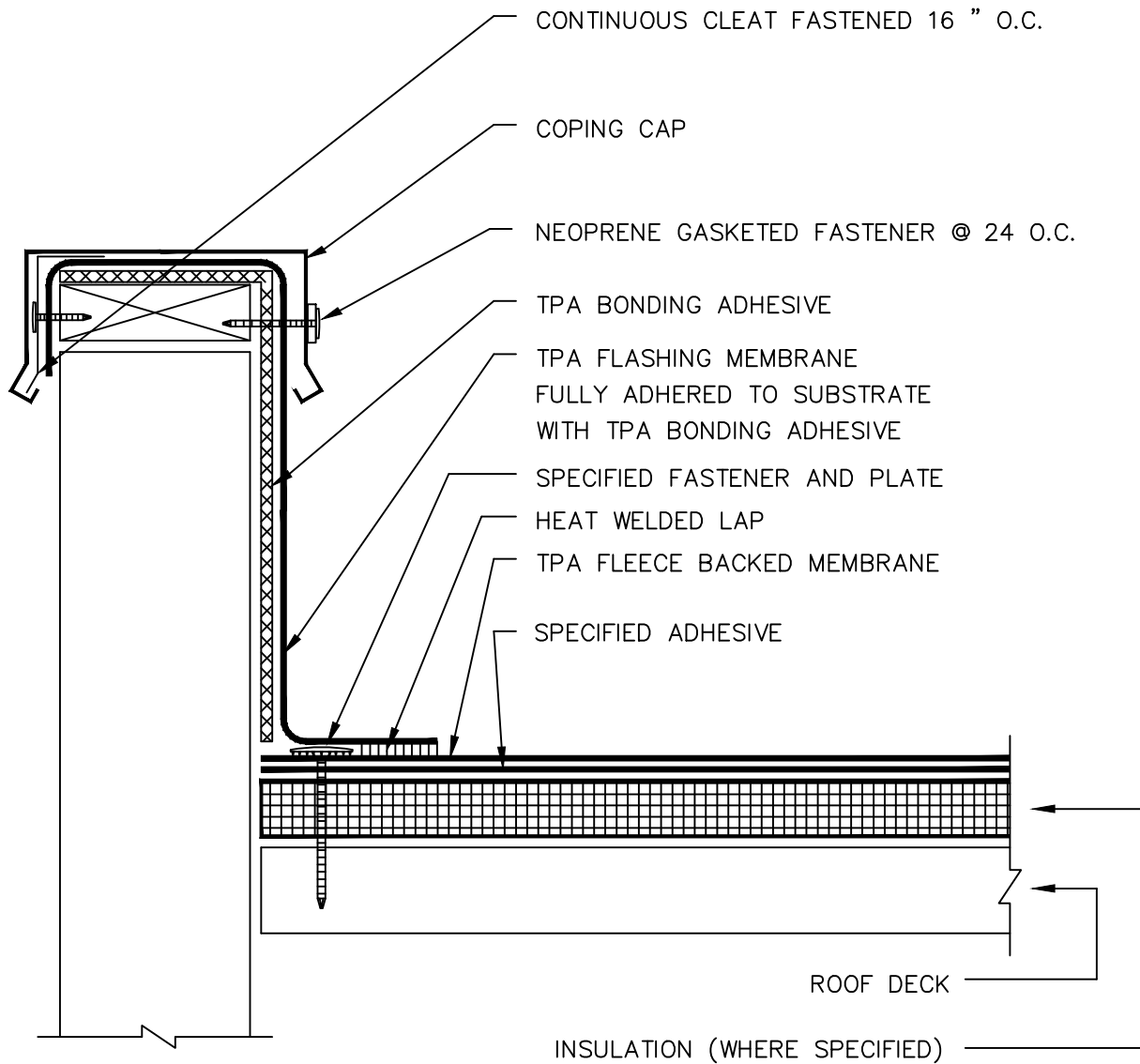
TREMCO®

SHEET TITLE:

MULTIPLE PIPE
PENETRATION DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-28



NOTE:

1. INSTALL SHIMS OR BEVELED WOOD STRIPS TO PROVIDE INWARD SLOPE TO FINISHED COPING CAP

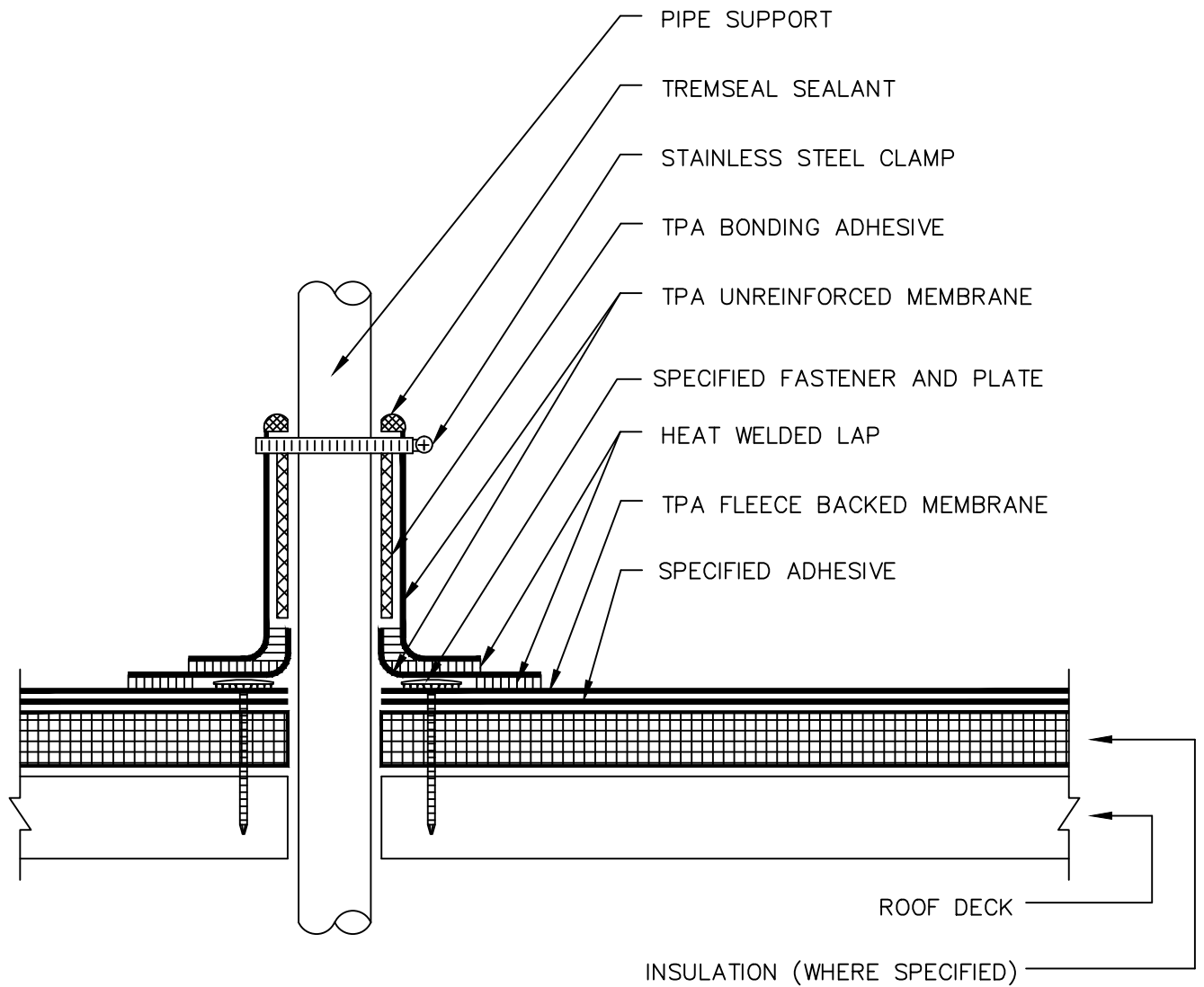
TREMCO®

SHEET TITLE:

PARAPET WALL FLASHING

SCALE: NTS

DRAWING No.:
TPA FB-6



TREMCO®

SHEET TITLE:

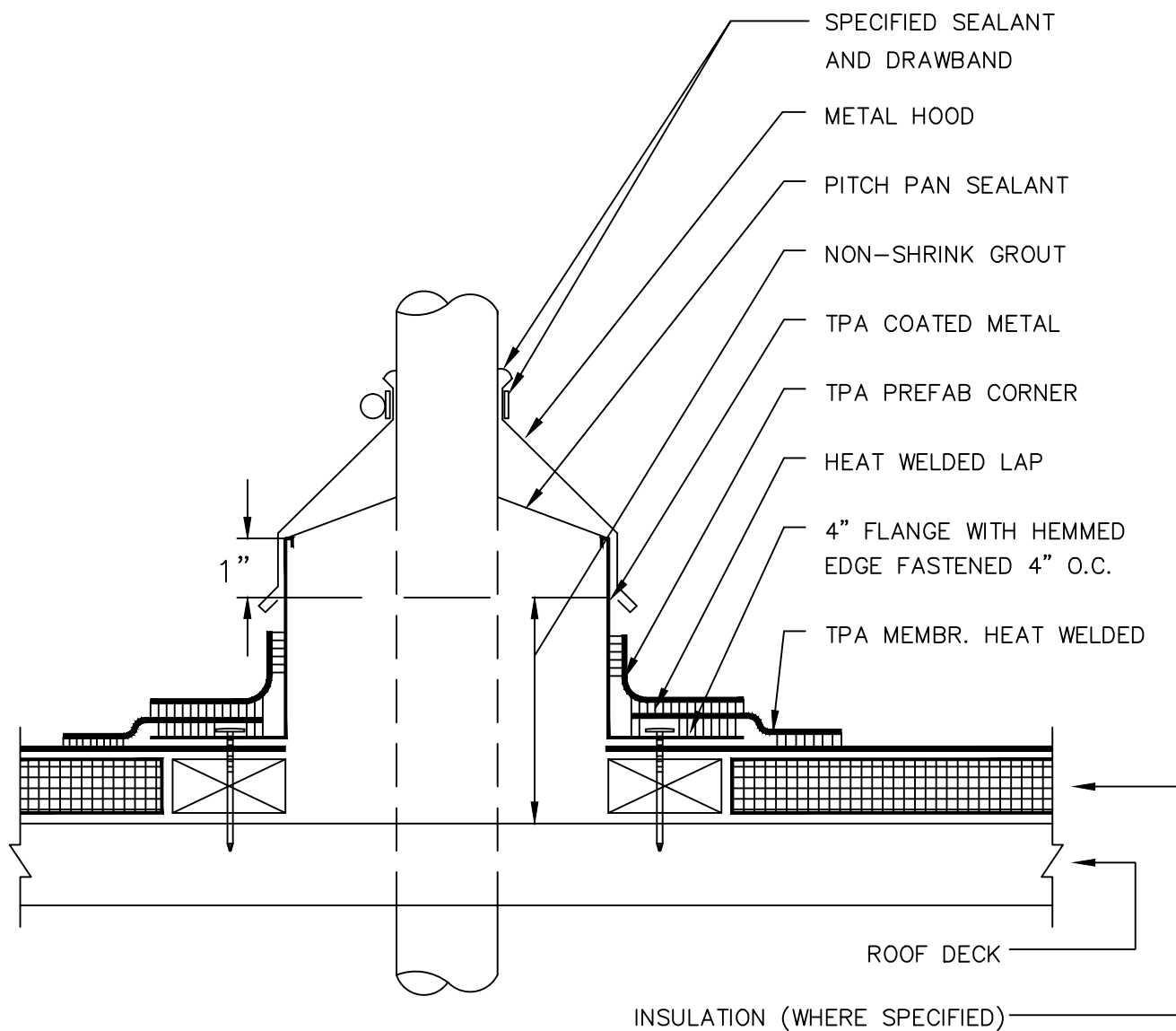
TWO — PIECE
PIPE FLASHING

SCALE:

NTS

DRAWING No.:

TPA FB-23



NOTES:

1. USE TPA COATED METAL TO FORM PITCH PAN.
2. ALLOW 2" MINIMUM CLEARANCE AROUND THE PROJECTION.
3. TPA PREFABRICATED CORNERS MUST BE USED AT ALL 4 CORNERS

TREMCO®

SHEET TITLE:

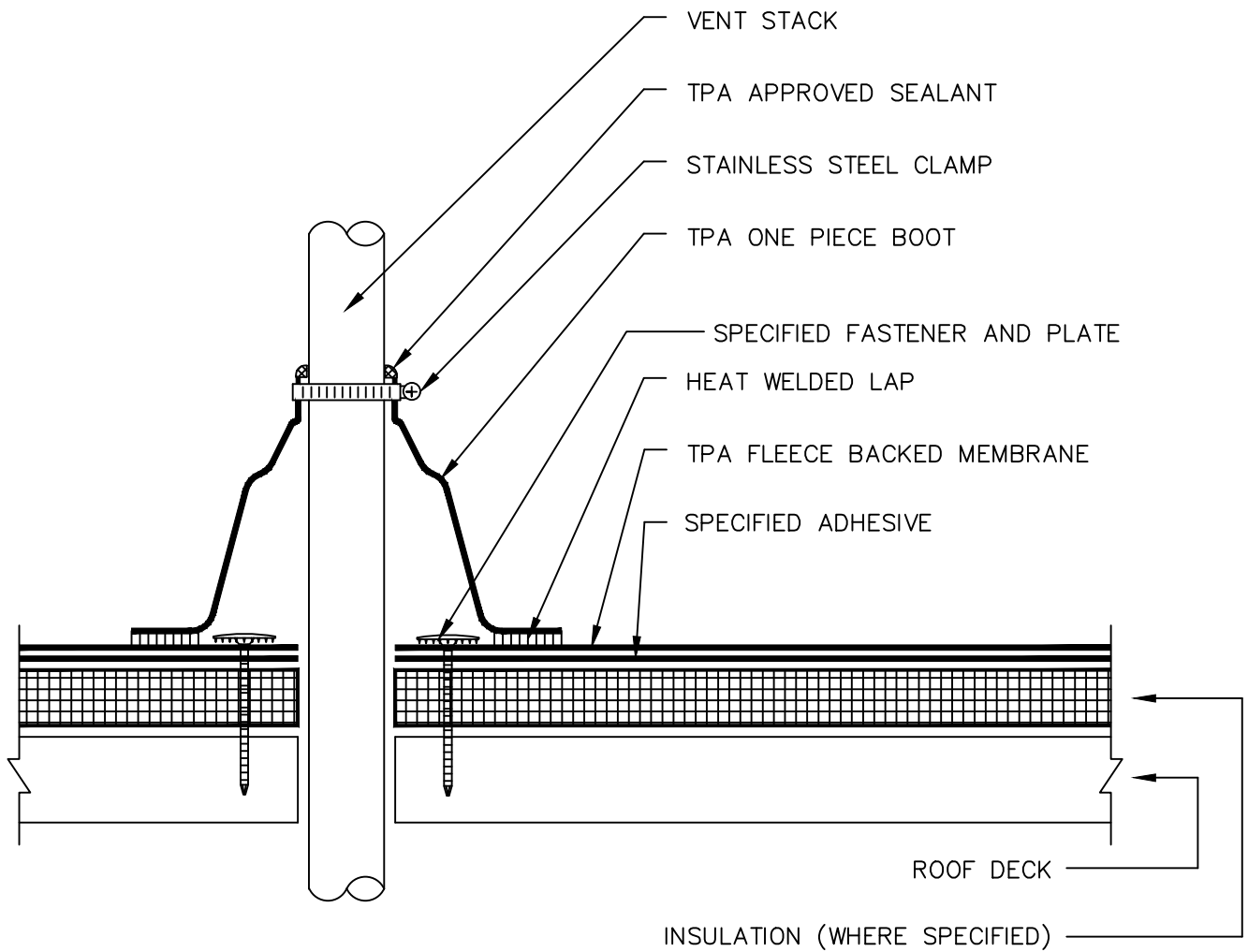
PITCH POCKET
FLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-19



NOTES:

1. DO NOT CUT PREFABRICATED BOOT. IT MUST BE PULLED OVER VENT PIPE.
2. PREFABRICATED BOOTS ARE AVAILABLE IN SMALL & LARGE SIZES, AND MUST BE USED WHENEVER POSSIBLE TO FLASH PIPES 1" TO 8" IN DIAMETER.

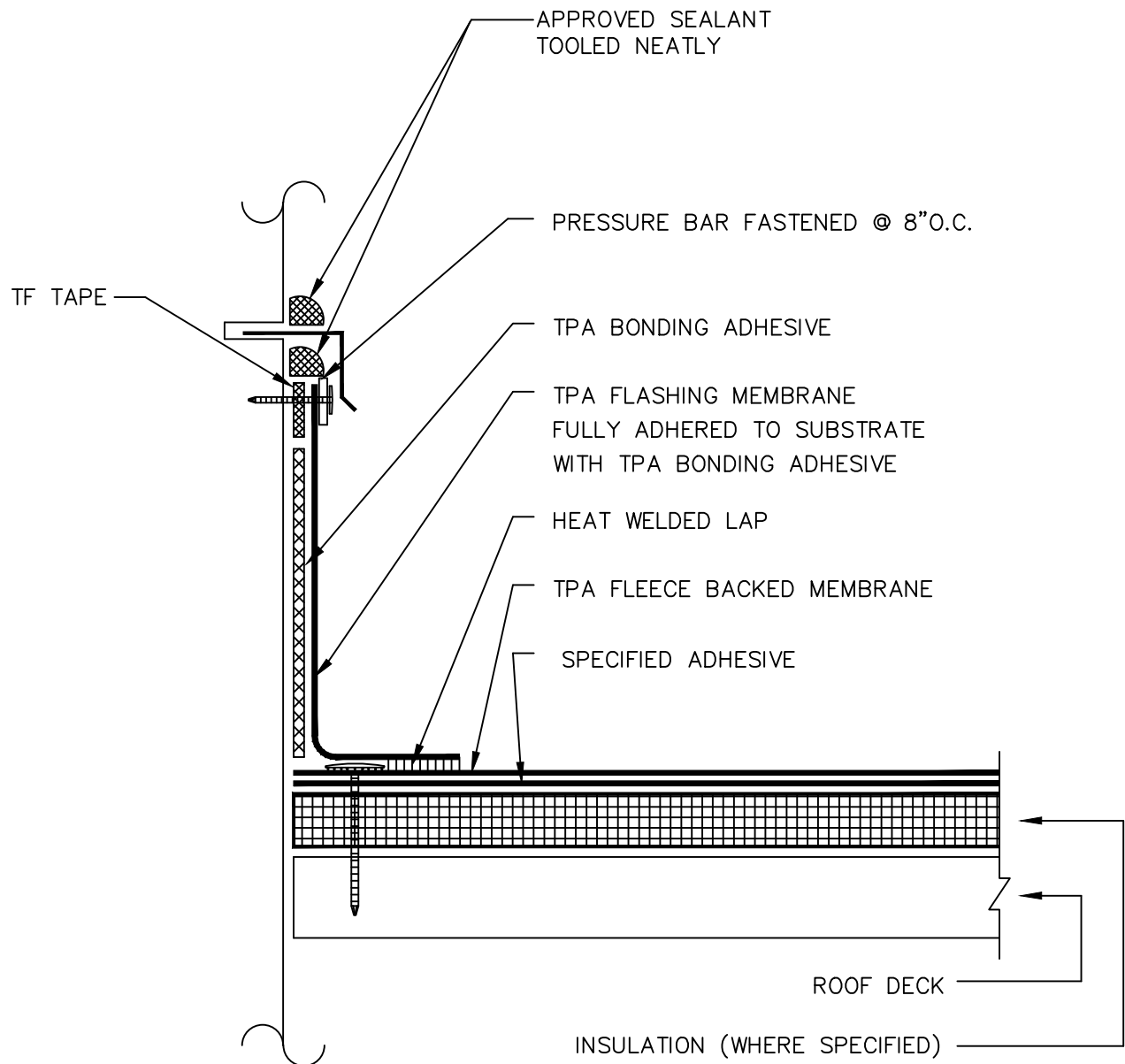
TREMCO®

SHEET TITLE:

PREFABRICATED
VENT PIPE FLASHING

SCALE: NTS

DRAWING No.:
TPA FB-22



NOTE:

1) FLASHING MUST BE A MINIMUM OF 8" HIGH.

DO NOT COVER OR BLOCK WEEP HOLES WITH FLASHING OR SEALANT.

TREMCO®

SHEET TITLE:

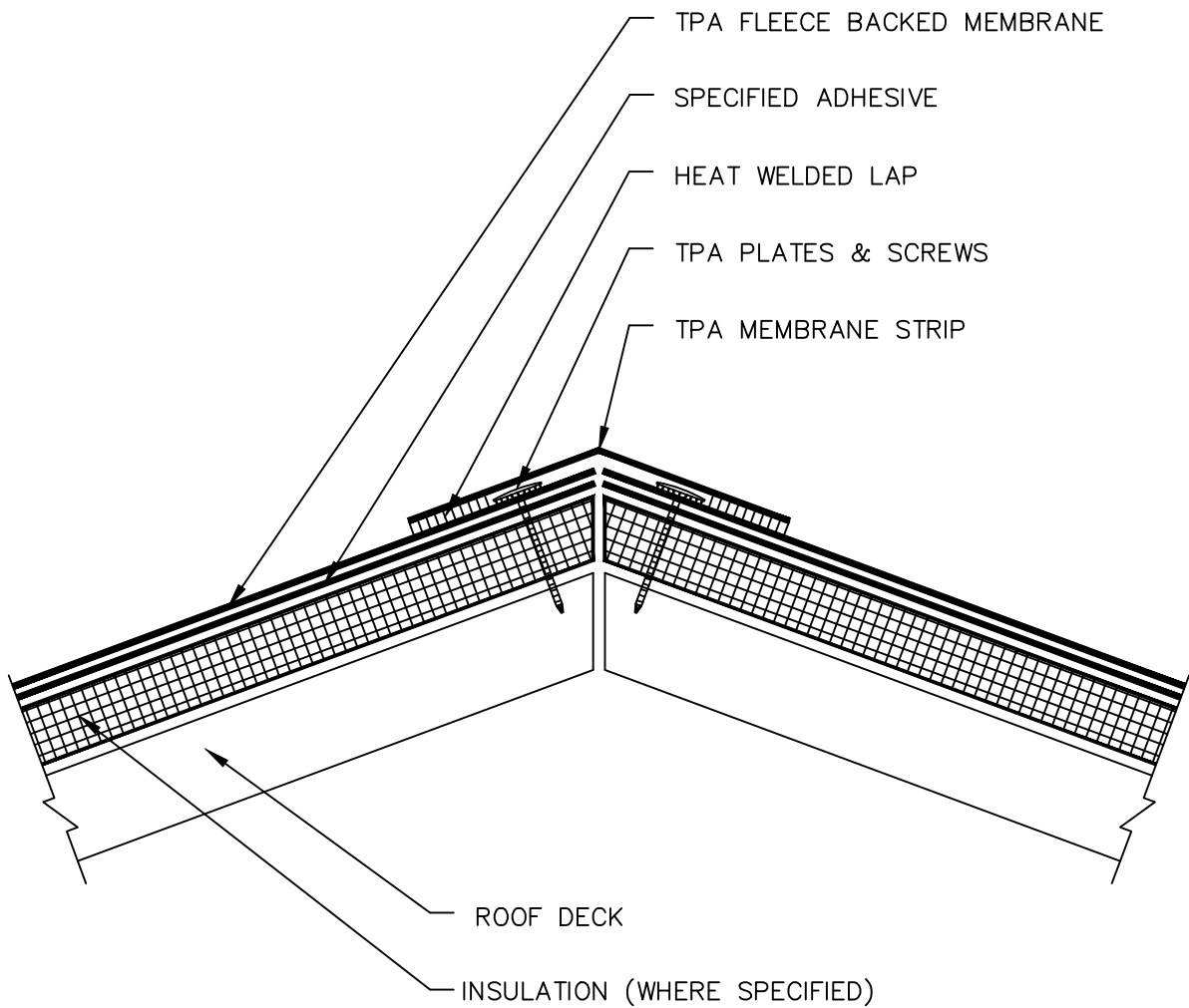
REGLET METAL
COUNTERFLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-7



NOTES:

MEMBRANE FASTENER SPACING NOT TO EXCEED 12" O.C.

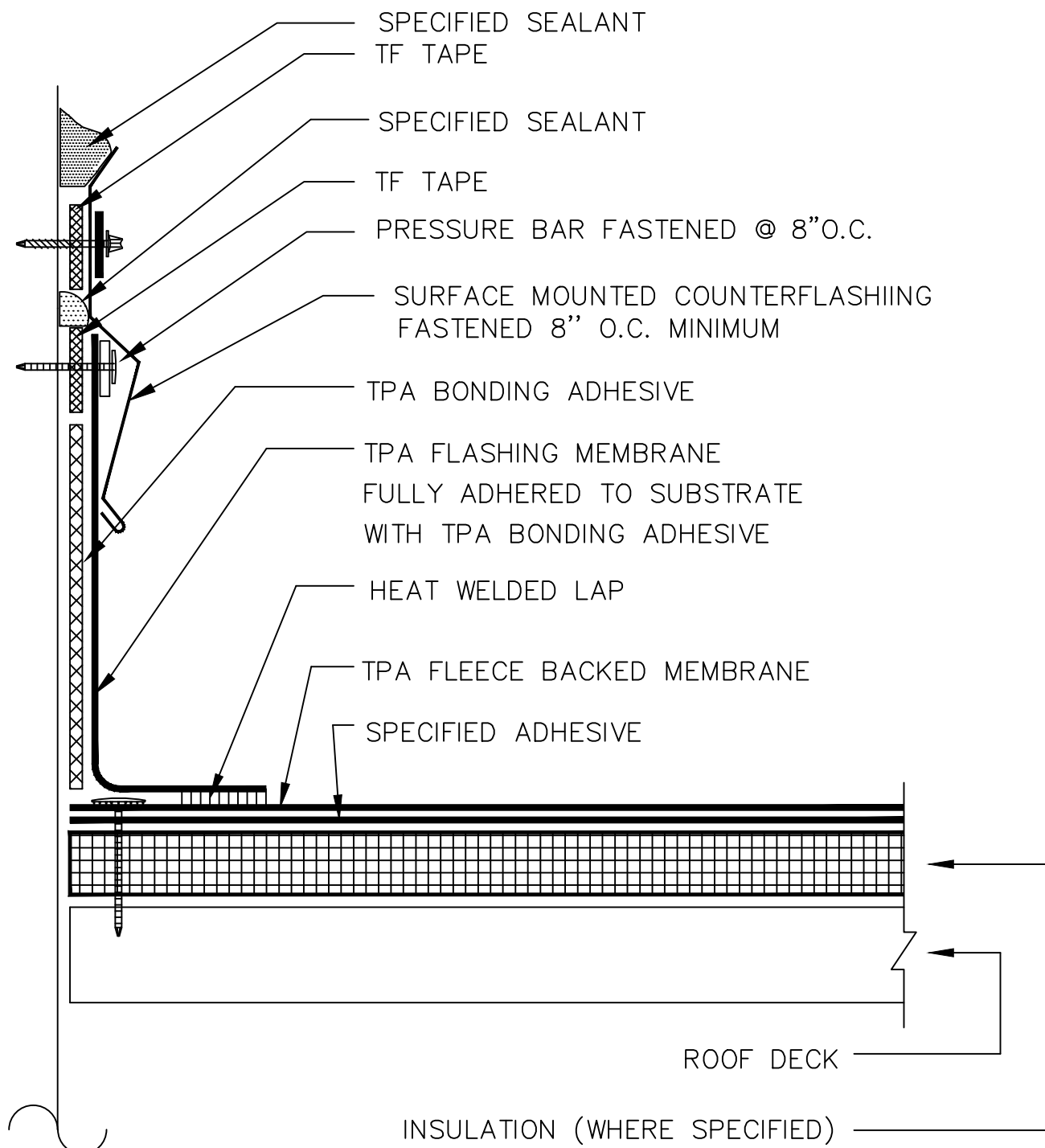
TREMCO®

SHEET TITLE:

RIDGE FLASHING

SCALE: NTS

DRAWING No.:
TPA FB-32

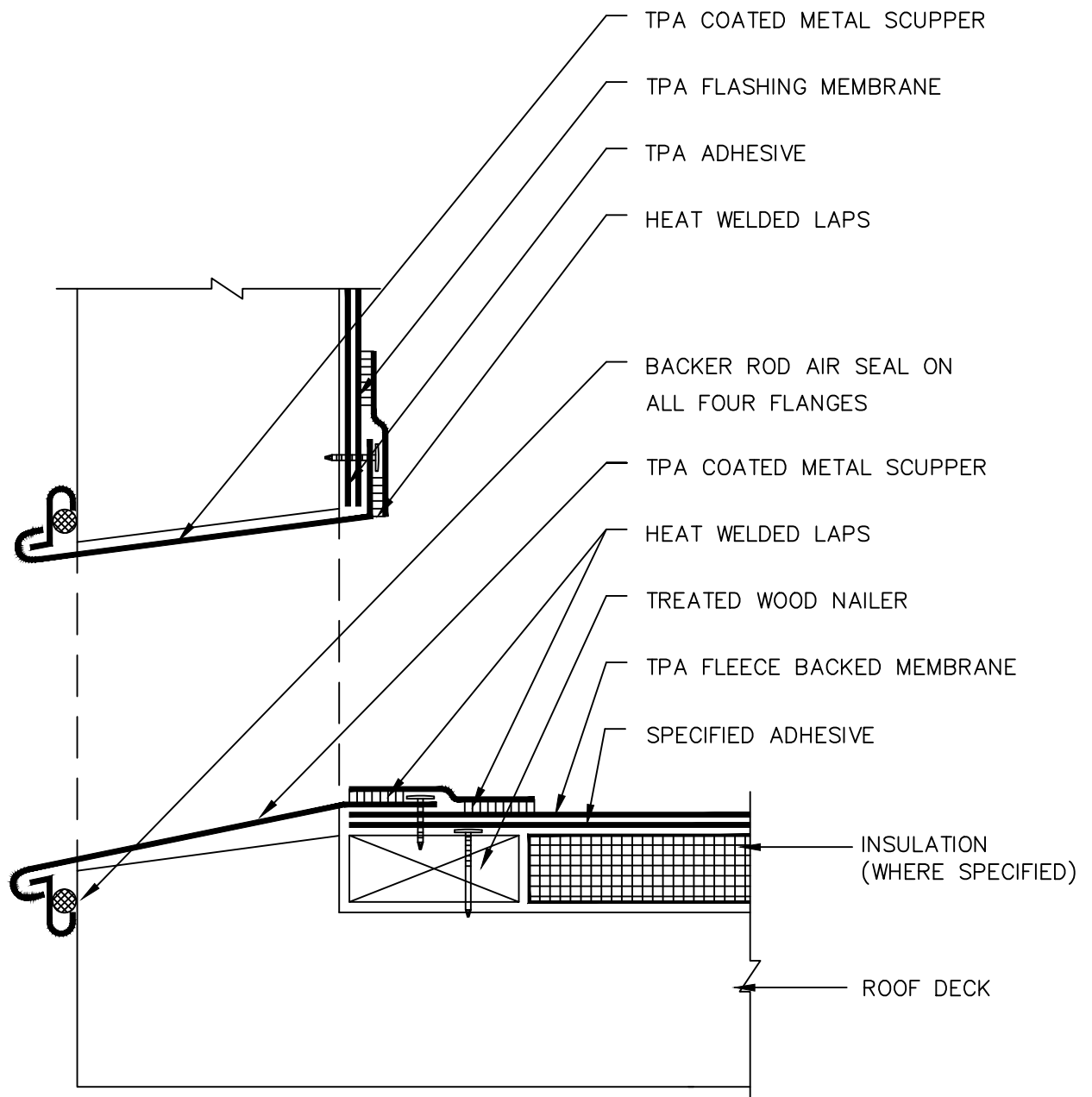


TREMCO®

SHEET TITLE:
WALL FLASHING FOR
CONCRETE WALLS AND PARAPETS

SCALE: NTS

DRAWING No.:
8

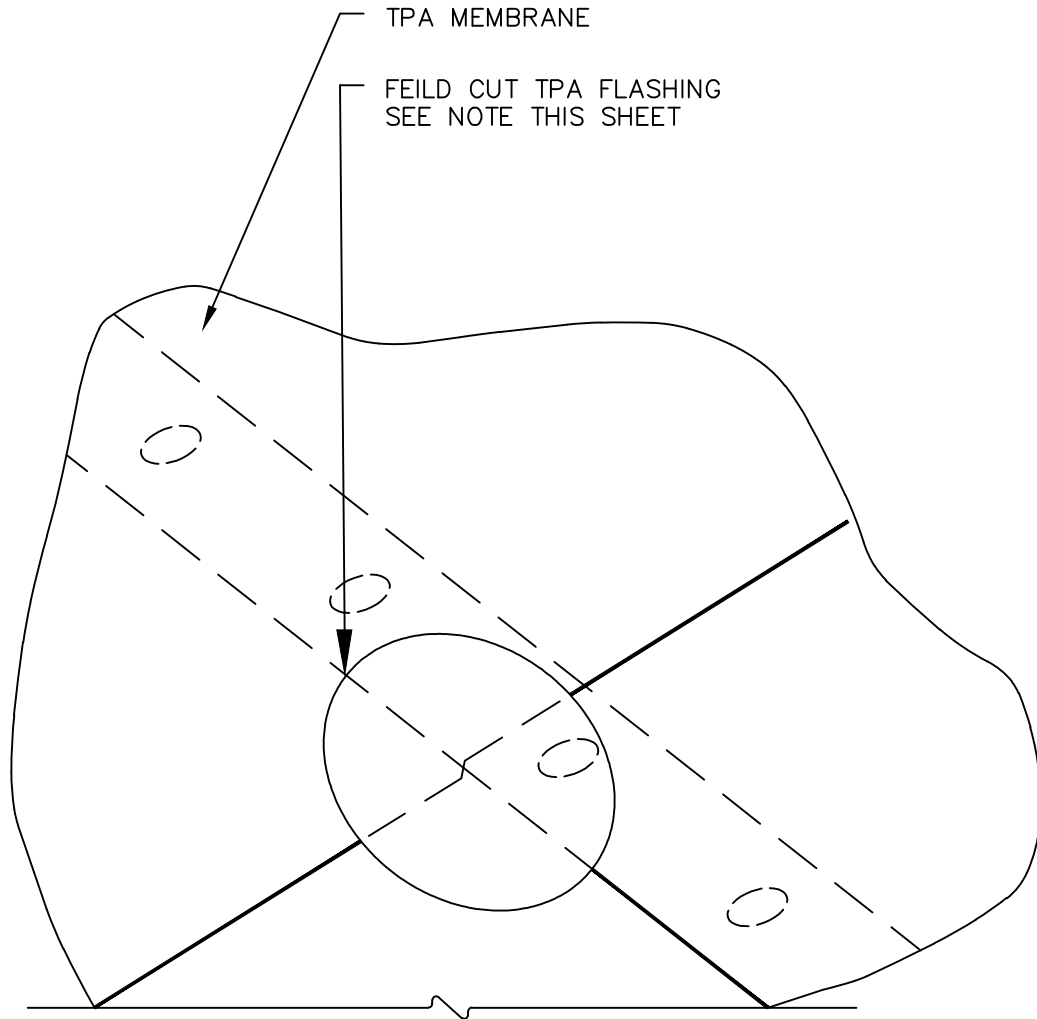


SHEET TITLE:

THROUGH WALL
SCUPPER DETAIL

SCALE: NTS

DRAWING No.:
TPA FB-12



NOTE:
HEAT-WELD A 4" ROUND FIELD CUT TPA FLASHING
MEMBRANE(UNREINFORCED).
CENTER THE FLASHING OVER EACH T-JOINT ON A 60-MIL
THICK OR GREATER MEMBRANE (AS SHOWN).

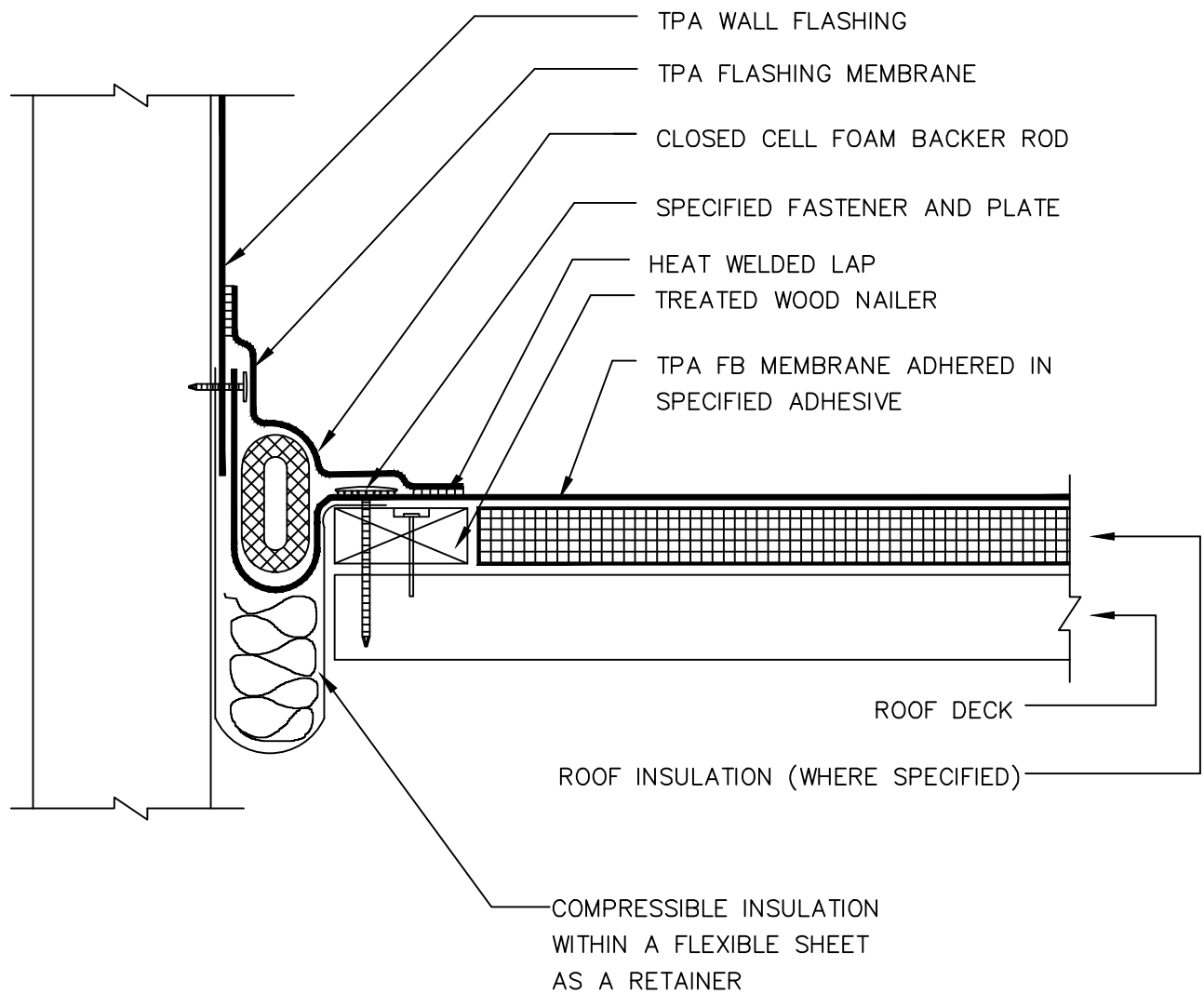
TREMCO®

SHEET TITLE:

T-JOINT DETAIL

SCALE: NTS

DRAWING No.:
TPA FB - 40



NOTES:

- 1) WOOD NAILER SECURED TO THE DECK PER FACTORY MUTUAL LOSS PREVENTION DATA I-49.

TREMCO®

SHEET TITLE:

EXPANSION JOINT
WALL FLASHING DETAIL

SCALE:

NTS

DRAWING No.:

TPA FB-9