

**INVITATION FOR BID
November 7, 2025**

INVITATION FOR BID NUMBER	IFB 25-057	
PROJECT #	M5712-2830	
NAME OF BID	Roof Replacement at C.C. Williams Wastewater Treatment Plant	
BIDS WILL BE RECEIVED AT	MAWSS Bid Box Donaghey Business Entrance 4725 Moffett Road Mobile, AL 36618	If sending bids by UPS/Fed Ex, deliver to the Warehouse: 1610 Shelton Beach Rd. Ext., Mobile, AL 36618
MANDATORY PREBID MEETING	November 13, 2025 at 1:00 pm at C.C. Williams WWTP, 1600 Yeend St., Mobile, AL 36603	
BID OPENING DATE	November 19, 2025	
BID CLOSING TIME	11:00 am Central Time	
AWARD WILL BE MADE BY	Total Cost	
MATERIAL DELIVERED TO	C.C. Williams WWTP 1600 Yeend St., Mobile, AL 36603	
ADDITIONAL INFORMATION CONTACT	Billy Wilkerson (251) 604-5840 wwilkerson@mcwinc.com	
APPLICABLE SDP POLICY	17-01	

Sealed bids must be in the Purchasing Department no later than the time specified in order to be considered. Submissions received after the deadline will not be considered. Envelopes must bear the name of the supplier, company address and the words **"IFB 25-057 C.C. Williams WWTP Roof Replacement"** or **"IFB 25-057 NO QUOTE."** Facsimile or email bids will not be accepted.

All bids must be submitted on the attached forms, or your bid will be disqualified. Bidder shall furnish all the information required by the solicitation. The bidder's name must be typed or printed on the bid sheet and signed by the bidder or appropriate authorized executive officer of the bidder's company. Bidders must initial any changes or erasures. Bidders should retain a copy of bids for their records.

Bidders shall acknowledge receipt of all addenda to this solicitation by signing and returning each addendum or by identifying the addendum number and the date on the bid form. Failure to acknowledge receipt of any addendum by a bidder will result in rejection of the bid if MAWSS determines that the addendum contains information that materially changes the requirements.

All bids shall be quoted FOB Destination, freight prepaid with no additional charges. Unless otherwise specified in the bid, all prices will be on a firm-fixed price basis and are not subject to adjustments based on costs incurred. MAWSS reserves the right to reject any or all bids submitted, to waive any informality in any bid or in the bid process, or to terminate the bid process at any time, if deemed by MAWSS to be in MAWSS's best interest.

A Purchase Order and this "Invitation for Bid" with "Specifications," "Conditions," "Bid Form," signed by the successful bidder's authorized representative, and all attached drawings and other documents furnished by MAWSS to the bidders with the Invitation for Bid in order to illustrate the contract requirements, will constitute a contract for the goods and/or services to be purchased.

IFB 25-057 C.C. WILLIAMS WWTP ROOF REPLACEMENT CONDITIONS

The Board of Water and Sewer Commissioners of the City of Mobile will accept bids for the **C.C. Williams WWTP Roof Replacement** in our Purchasing Department Bid Box located in the Business Entrance at 4725 Moffett Road, Mobile, AL. 36618 **no later than 11:00 a.m.** local time on **November 19, 2025**. Bids will be opened immediately after bid closing time in the Operations Center Board room located at the Customer Service entrance. Award will be by **Total Cost**. The bidder offers and agrees, if this bid is accepted, to furnish the items as defined in the specifications for the unit price set opposite each item. Pricing shall be FOB Mobile, Alabama. All items shall be delivered to **C.C. Williams WWTP, located at 1600 Yeend St., Mobile, AL 36603** or the job site as needed. The bidder shall state the expected length of delivery time on the Bid Form.

A mandatory Pre-Bid meeting will be held between representatives of Contractor and representatives of MAWSS prior to the bid opening. The Pre-Bid meeting is scheduled for **1:00 pm on November 13, 2025**, at **C.C. Williams WWTP located at 1600 Yeend St., Mobile, AL 36603**.

Bidder understands and agrees that manufacturer and part numbers are provided for descriptive purposes only. Items of equal or better quality will be considered but must be approved by MAWSS in writing. Upon delivery, if the quality, durability or performance of any product represented as equal or better is determined by MAWSS to be unsatisfactory, MAWSS will require a suitable substitute or will require that the originally specified item be delivered, at the unit price originally offered by bidder. No substitution for items to be provided pursuant to this contract shall be permitted during the contract period without the express written consent of MAWSS. All items provided shall be for commercial use and for the purposes reflected in the contract documents.

No bid on closed out or discontinued item(s) will be accepted. Item(s) that have a determinable shelf life must be disclosed at the time of bid submittal. Bidder understands that his/her bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Bidder understands and agrees that quantities will be purchased by MAWSS on an "as needed" basis to replenish inventory. MAWSS shall not be committed to the purchase of a pre-established minimum quantity for any one item.

A bidder may not modify its bid after bid opening. Errors in the extension of unit prices stated in a bid or in multiplication, division, addition or subtraction in a bid may be corrected by the MAWSS Purchasing Buyer prior to award. In such cases, unit prices shall not be changed.

It is the responsibility of the bidder to determine prior to the bid opening whether any amendment, additions, deletions or changes of any type have been made to this Invitation for Bid, Conditions, Specifications, Bid Form or any of the other bid documents. Bid documents and any amendments made to this bid will be posted on our website at www.mawss.com.

A copy of the SDP (Supplier Diversity Program) policy that applies to this Invitation For Bid can be furnished upon request. It is the responsibility of the bidder to read and make efforts to meet the goals of this policy. Please contact the Supplier Diversity Department at supplier.diversity@mawss.com for any questions regarding this policy. **Bidders MUST acknowledge receipt of this policy by submitting the SDP Policy Acknowledgement and the Subcontracting Plan/Good Faith Effort form with the bid proposal, regardless if using a Diverse Contractor/Supplier or not.** Contractors are required to use Contractors/Suppliers only in the areas for which the Contractors/Suppliers are certified.

Invoicing Requirements: MAWSS requires additional information for all work performed and services provided. On the vendor's invoice for payment should be a detailed listing of work performed, services provided, dates completed, locations involved and any other pertinent information needed to verify the work and/or services were completed in accordance to the bid specs. This additional information can be supplied in the form of detailed invoices, work orders, checklists or any other documents used to track the work performed or services provided but details must be included on the actual invoice. A copy of the invoice and these additional details must be sent to the "ADDITIONAL INFORMATION CONTACT" found on Page 1 of the bid documents and a copy emailed to Accounts Payable at AcctsPayable@mawss.com.

END OF CONDITIONS

**BOARD OF WATER AND SEWER COMMISSIONERS
OF THE CITY OF MOBILE, ALABAMA**

Proposal, Contract Documents and Specifications

**ROOF REPLACEMENT AT C.C. WILLIAMS
WASTEWATER TREATMENT FACILITY**

IFB 25-057

McCrory and Williams Project No. M5712-2830

**McCRORY & WILLIAMS, INC.
3207 INTERNATIONAL DRIVE
SUITE G
MOBILE, ALABAMA 36606**

NOVEMBER 2025

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APPENDIX

A: SITE MAP & TECHNICAL SPECIFICATIONS

PROPOSAL

TO: BOARD OF WATER AND SEWER COMMISSIONERS OF THE CITY OF MOBILE, ALABAMA

Submitted: _____
(Date)

The undersigned, as Bidder, hereby declares that he has examined the site of the Work and informed himself fully in regard to all conditions pertaining to the place where the Work is to be done; that he has examined the Plans and Specifications for the Work and all Contract Documents relative thereto, and has read the Board's Standard Specifications and all General Conditions and Special Provisions furnished; and that he has satisfied himself relative to the Work to be performed.

The Bidder proposes and agrees, if this Proposal is accepted, to contract with the Board of Water and Sewer Commissioners of the City of Mobile, Alabama, in the form of contract specified to furnish all materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the following Work:

Roof Replacement at C.C. Williams Wastewater Treatment Facility PROJECT NO. M5712-2830

in full and complete accordance with the shown, noted, described and reasonably intended requirements of the Plans, Specifications and all other Contract Documents to the full and entire satisfaction of the Board of Water and Sewer Commissioners of the City of Mobile, Alabama with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and other Contract Documents for the lump sum or unit prices listed opposite each item.

It is agreed that the description under each item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and incidentals as constitute Bidder's obligations as described in the Specifications and any details not specifically mentioned, but evidently included in the Contract shall be compensated for the item in which it most logically is included.

The quantities for bid items listed on the Proposal sheet are estimated quantities only for the purpose of comparing bids. Any differences between these estimated quantities and actual quantities required for this Contract shall not be taken as a basis for claims by the Contractor for extra compensation. Compensation will be based on the lump sum or unit prices and actual construction quantities.

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>QTY</u>	<u>UNIT PRICE DOLLARS/CENTS</u>	<u>TOTAL DOLLARS/CENTS</u>
MAIN BUILDING					
CC-1	Remove All Roof System to Concrete Decking	SF	14,000		
CC-2	1.5" Flat Poly-ISO Insulation	LS	1		
CC-2A	Tapered Insulation	LS	1		
CC-3	½" Dens Deck Prime	SF	14,000		
CC-4	60 mil PVC Roofing	SF	14,000		
GENERAL CONSTRUCTION					
GC-1	Permits	LS	1		
GC-2	Mobilization and Demobilization	LS	1		
GC-3	Insurance, Permits and Bonds (Not To Exceed 3% Of Contract Price)	LS	1		
GC-4	Hauling and Disposal of Material	LS	1		
DE-1	Demolish Storage Structure	LS	1		
LP-1	Lightning Protection System Removal, Reinstallation, and Certification	LS	1		
CO-1	Owner's Contingency Allowance	LS	1	\$20,000.00	\$20,000.00
TOTAL					\$

Notes:

1. The Quantities listed in this proposal are for determining the low bidder and in no way represent the quantities to be performed in this contract. If the Owner considers the unit price bid too costly, the Owner may use other resources to perform that item.
2. The contract amount performed shall not exceed MAWSS budget for this work, which may be significantly less than contract amount awarded.
3. Proposals in which the unit or lump sum prices bid are obviously unbalanced may be rejected in accordance with MAWSS standard specifications.

BIDDER'S CONTACT INFORMATION SHEET

Delivery ARO _____
(When Can You Begin Work - After Receipt of Order)

Company Name _____ Payment Terms _____

Address _____ City, State, Zip _____

Submitted By _____ Title _____
Please Print

Phone _____ Email Address _____
Please Print

The signer declares under penalty of perjury that she/he is authorized to sign this document and bind the company or organization to all terms and conditions of this agreement.

Signature _____ Date _____

The Bidder further proposes and agrees hereby to commence the Work with an adequate force, plant and equipment at the time stated in the notice to the Contractor from the Engineers to proceed, and fully complete performance within **one hundred eighty** (180) consecutive calendar days from and after the date stated in said notice.

The undersigned further agrees that, in case of failure on his part to execute the said Contract and the bond within 10 consecutive calendar days after written notice being given of the award of the Contract, the check or bid bond in the amount of 5 percent of this bid, not to exceed \$10,000, accompanying this bid, and the monies payable thereon, shall be paid into the funds of the Board of Water and Sewer Commissioners of the City of Mobile, Alabama as liquidated damages for such failure; otherwise the check or bid bond accompanying this Proposal shall be returned to the undersigned:

Attached hereto is a certified check on the _____

_____ Bank of _____

or a Bid Bond for the sum of _____

_____ Dollars (\$ _____)

made payable to the Board of Water and Sewer Commissioners of the City of Mobile, Alabama.

By _____
(Legal Signature)

(Printed Name and Title)

Witness: _____
(Legal Signature)

Witness: _____
(Legal Signature)

CONTRACTOR'S LICENSE NO:

BIDDER acknowledges receipt of the following ADDENDA

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
(Name of Bidder)

_____, as Principal,
(Address)

and _____
(Name of Surety)

of _____, as Surety,
(Address)

jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the **Board of Water and Sewer Commissioners of the City of Mobile, Alabama**, as the Owner, in the **PENAL SUM of five percent (5%) of the amount of the Principal's bid, but in no event more than Ten Thousand Dollars (\$10,000.00).**

THE CONDITION OF THIS OBLIGATION is that the Principal has submitted to the Owner the attached bid, which is incorporated herein by reference, for the Project identified as:

Roof Replacement at C.C. Williams Wastewater Treatment Facility Project No. M5712-2830/ IFB 25-057

NOW, THEREFORE, if, within the terms of the Bid Documents, the Owner accepts the Principal's bid and the Principal thereafter either:

- (a) executes and delivers a Construction Contract with the required Contract and Labor and Material Bonds (each in the form contained in the Bid Documents and properly completed in accordance with the bid) and delivers evidence of insurance as prescribed in the Bid Documents, or
- (b) fails to execute and deliver such Construction Contract with such Bonds and evidence of insurance, but pays the Owner the difference, not to exceed the Penal Sum of this Bond, between the amount of the Principal's Bid and the larger amount for which the Owner may award a Construction Contract for the same Work to another bidder,

then, this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of the Surety under this Bond shall not in any manner be impaired or affected by any extension of the time within which the Owner may accept the Principal's bid, and the Surety does hereby waive notice of any such extension.

SIGNED AND SEALED this _____ day of _____.

ATTEST:

ATTEST:

PRINCIPAL:

By _____
Name and Title

SURETY:

By _____
Name and Title

SDP POLICY ACKNOWLEDGEMENT*

A copy of the SDP (Supplier Diversity Program) policy that applies to this Invitation For Bid has been included in this package. It is the responsibility of the bidder to read and make efforts to meet the goals of this policy. Please contact the Supplier Diversity Department at supplier.diversity@mawss.com for any questions regarding this policy. **Bidders MUST acknowledge receipt of this policy and submit the documentation with the bid proposal.**

Bidders shall take all necessary and reasonable steps in accordance with this Policy to ensure that Diverse Contractors/Suppliers have the maximum allowable opportunity to compete for subcontracts and contracts for services, supplies, or other goods. Bidders shall not discriminate in awarding subcontracts and supplier contracts on the basis of race, color, national origin, ethnicity, or sex, during the bid process as well as during performance of a MAWSS contract.

The following documentation must be included in the bid proposal.

- SDP Policy Acknowledgement **and**
- Subcontracting Plan

Please refer to the attached policy for more information regarding these requirements as well as all other requirements, if participating in the SDP Program.

The signer declares under penalty of perjury that she/he is authorized to sign this document and bind the company or organization to all requirements of this policy.

Company Name_____

Submitted By_____ Title _____
Please Print

Signature_____ Date _____

***Required to sign and return with bid**

SUBCONTRACTING PLAN/GOOD FAITH EFFORT*

In order for your proposal to be considered, you must complete all blanks in this Subcontracting Plan and sign with a handwritten signature where indicated below and include this form in your proposal.

Failure to fill in the blanks on this Subcontracting Plan and/or to include a handwritten signature may cause for rejection of your bid.

It is MAWSS's goal that in all contracts, contractors shall make a demonstrated good faith effort to award 15% of the contract amount to certified Diverse Contractors/Suppliers as subcontractors and/or suppliers performing commercially useful functions which are consistent with contract requirements.

Copies of MAWSS SDP Policy 16-01 (for public works projects), SDP/Supplier Diversity Policy 17-01 (for contracts for other goods and services), and links to organizations that have information on SDPs/Diverse Suppliers can be found by visiting our website at <https://www.mawss.com/bids/supplier-diversity-program/>.

STATE WHAT PERCENTAGE OF THE WORK FOR THIS CONTRACT YOU PLAN TO AWARD TO SDP/DIVERSE SUPPLIER SUBCONTRACTORS AND/OR VENDORS	TOTAL %
ESTIMATED TOTAL DOLLAR AMOUNT TO BE AWARDED TO SDP/DIVERSE SUPPLIER	TOTAL \$
AMOUNT BID FOR THIS CONTRACT	TOTAL \$

Please list below all subcontractors and suppliers which you plan to use for this contract. Also indicate which of these are SDPs / Diverse Suppliers by writing "Yes" or "No" where indicated. Also list for each the percentage of the total contract amount to be performed by each and the certification group the SDP / Diverse Supplier is certified with. Attach additional sheets if needed.

SUBCONTRACTOR/VENDOR NAME	SDP/DIVERSE SUPPLIER (Yes or No)	% OF CONTRACT	CERTIFICATION GROUP (ALDOT, ADECA, SRMSDC, BCIA)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CAUTION: ACCURATELY COMPLETE ALL PARTS OF THIS FORM AND SIGN BELOW.

GOOD FAITH EFFORT ACKNOWLEDGEMENT/AFFIDAVIT

I/WE EXERCISED GOOD FAITH TO COMPLY WITH THIS PLAN AND MAWSS' SDP REQUIREMENTS.

BIDDER/COMPANY

BY (Signature)

***Required to sign and return with bid**

SECTION 1
INSURANCE REQUIREMENTS

SECTION 1

INSURANCE REQUIREMENTS

1.0 GENERAL:

The Contractor must provide insurance coverage and proof thereof for the duration of this Contract.

- A. **CONTRACTOR COVERAGE'S:** The Contractor shall not commence work under this Contract until he has obtained all insurance required under the following paragraphs and until such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been obtained and approved. If the subcontractor does not take out insurance in his own name, the principal contractor shall provide such insurance protection for the subcontractor and subcontractor's employee.
- B. **INSURANCE:** The following insurance coverage's (with limits not less than specified herein) shall be maintained by the Contractor for the duration of the Contract, affording coverage for any claim arising out of the Contractor's operations herein, whether by the Contractor or any subcontractor or by any Employee or Agent of either.
- i. Claims of employees under Worker's Compensation and other similar employee benefit acts, including claims because of bodily injury, occupational sickness or disease, or death.
 - ii. Claims arising out of bodily injury, sickness, disease or death of any person other than employees.
 - iii. Claims for damages arising out of libel, slander, false arrest, detention or imprisonment, malicious prosecution, defamation or violation of right of privacy, wrongful entry or eviction or other right of private occupancy, including claims as a result of an offense related to the employment of a claimant by Contractor. (So-called "Personal Injury")
 - iv. Claims arising out of damage to, or destruction of, tangible property, including loss of use.

When and if the use of explosives for blasting purposes appears necessary or desirable, such methods shall not be undertaken without written authorization of the Owner, and then only provided that acceptable extensions of liability coverage have been obtained specifically to include the explosion ("X") hazard and the collapse ("C") hazard.

The policy of general liability shall include the special underground property damage coverage (providing the so-called "U" hazard) on a blanket basis.

LIMITS OF LIABILITY:

Worker's Compensation	Statutory
Employer's Liability	\$500,000 Each Accident \$500,000 By Disease Each Employee \$500,000 By Disease - Policy Limit
Commercial Automobile	\$1,000,000 Each Accident Bodily Injury and Property Damage Combined
General Liability	\$1,000,000 Each Occurrence \$1,000,000 Personal & Advertising Injury \$2,000,000 General Aggregate \$2,000,000 Products & Completed Operations Aggregate

- C. **OWNER'S PROTECTIVE LIABILITY:** The Contractor shall furnish from a carrier acceptable to the Owner a policy of liability insurance, commonly called "Owner's Protective Liability," in the name of the Owner, providing "Independent Contractor's Coverage" for the operations embraced by this Contract with limits of \$1,000,000 combined bodily injury and property damage. Policy premium is to be paid by the named Contractor.
- D. **UMBRELLA LIABILITY:** In addition to the basic limits previously set out for Commercial General Liability, Products and Completed Operations, Automobile Liability and Worker's Compensation and Employer's Liability, Contractors Shall Provide Umbrella Liability limits of \$5,000,000.00 per occurrence and aggregate.

E. **PROPERTY INSURANCE:**

- i. The Contractor shall assume complete responsibility for safe-guarding all portions of the Work in progress, whether completed or not, until such work has been accepted by the Owner, and shall maintain such insurance to protect himself against perils which may cause such property to be damaged or destroyed. This coverage shall be similar to the former All Risks of Physical Loss Form, including if available, Collapse. Title to such work in progress, whether completed or not, shall remain vested in the Contractor until finally accepted by the Owner.
- ii. **Coverage Form:** Coverage shall be provided on an actual completed value Builder's Risk Form or, if more appropriate, an installation floater in the joint name of the Contractor and Owner for the duration of the Contract.

The Owner (MAWSS) has the option of providing Builder's Risk coverage for any projects undertaken by a Contractor. If the Owner exercises this option, the Contract Proposal will appropriately indicate this and provide for separately showing the costs of the Builder's Risk coverage in the Bid.

- F. **CERTIFICATION:** The Contractor shall furnish policies verifying that the above coverages are in effect before commencing any work, and that each policy is endorsed to give the Owner 30 days' notice in writing in the event of cancellation or material change therein. Certificates of Insurance shall state that the Owner be named as additional insureds on the Contractor's Automobile Liability and Comprehensive General Liability policies. In respect to Worker's Compensation, Waiver of Subrogation shall be issued in favor of the Owner.

SECTION 2
SPECIAL PROVISIONS

SECTION 2
SPECIAL PROVISIONS

2.1 SAFETY AND HEALTH REQUIREMENTS:

NOTICE TO CONTRACTS, VENDORS, SUPPLIERS AND DELIVERY COMPANIES PERFORMING WORK FOR THE BOARD OF WATER AND SEWER COMMISSIONERS OF THE CITY OF MOBILE:

1. Any party performing work or making deliveries on Mobile Area Water and Sewer System (MAWSS) property, public property, or private property for the MAWSS shall report details of any accident causing injury to employees other than MAWSS personnel within 24 hours to the designated MAWSS employee having responsibility for that work site or work activity.

Upon notification to appropriate MAWSS site personnel, the Contractor will notify the MAWSS Safety Department in written format as found on the "MAWSS Contractor Accident Report" so that records may be maintained for informational purposes.

The Board of Water and Sewer Commissioners will not accept liability for accidents or injury to personnel, damage to equipment or theft of property involving contractors, vendors, suppliers or delivery companies.

2. To conduct business with the Board of Water and Sewer Commissioners, contractors, vendors, suppliers or delivery companies must certify in writing that they have in force a drug and alcohol policy at least equal to that established for the Mobile Area Water and Sewer System's zero tolerance drug policy.

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (P.L. 91-54) and any amendments or additions thereto, where excavation and trenching are required the contractor shall comply with the requirements of OSHA Excavation and Trenching Safety Regulations (29 CFR Part 1926 – Excavation, Final Rule), and any amendments or additions thereto.

The Contractor shall be familiar and comply with the Board's Safety Rules Handbook in so far as it augments the specific regulation referred to in this Section.

The Contractor alone shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary protection to prevent damage, injury or loss to:

3. All employees on the Work and other persons and organizations who may be affected thereby.
4. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
5. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal relocation or replacement in the course of construction.

6. The Contractor shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to above in Paragraphs 2 and 3 caused, directly or indirectly, in whole or in part, by Contractor any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor that the Work is acceptable.
7. The Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner. The Contractor shall procure the referenced safety and health regulations, shall keep them on file at the job site, and shall require all supervisory personnel to become familiar with them.

2.2 VENDOR APPLICATION:

The Contractor is required to have a vendor application on file with the Mobile Area Water & Sewer System prior to receiving a contract. The Contractor may submit the application with their bids, but has to be on file or submitted before award of the project. Vendor applications can be obtained by contacting the Purchasing Department of the Mobile Area Water & Sewer System.

2.3 BASIS OF AWARD:

The OWNER shall award the Contract to the lowest responsible and responsive BIDDER based on the Total bid price.

The OWNER reserves the right to reject any and all bids at their sole discretion.

2.4 RECEIPT OF BIDS:

Hand delivery of bids shall be made at MAWSS, 4725 Moffett Road, Mobile Alabama 36618.

SECTION 3

GENERAL REQUIREMENTS

SECTION 3 GENERAL REQUIREMENTS

3.1 GENERAL:

The Contractor shall provide all labor, equipment, materials, permits, and incidentals necessary to provide roof replacement services at the various sites listed in Proposal for the time period of **one-hundred eighty (180) days** after date of purchase order issued.

Location maps, and roof replacement plans, details and technical specifications are provided in the Appendix. At the prebid meeting, a site visit will be scheduled to allow the Contractor's access to all of the roofs that are included within this bid proposal.

The anticipated work shall include the removal of existing roofing system, preparation of existing deck and flashing, insulation installation, membrane installation, flashing installation, and all work related to the complete specified roofing necessary to receive the specified manufacturer's warranty. **Roofing system used shall be manufactured by SOPREMA, or approved equal.**

3.2 PAY ITEM DESCRIPTIONS:

ROOF REPLACEMENTS C.C. WASTEWATER TREATMENT FACILITY

CC-1 Removal of All Roof Systems to Concrete Decking: The unit bid price for this pay item shall include all labor, equipment, materials and incidentals required to remove one (1) square foot (SF) of the existing tar paper roof up until the concrete deck at the C.C. Waste Water Treatment Facility, respectively. The price shall include all incidentals to perform the roof replacement work, complete in place and in accordance with the plans and specifications found in the Appendix. Proper disposal of removed material shall be subsidiary to this pay item.

CC-2 1.5" Flat Poly-ISO Insulation: The unit bid price for this pay item shall include all labor, equipment, materials and incidentals required to furnish and install one (1) square foot (SF) of flat Poly-ISO insulation 1.5" thick, complete in place and in accordance with the plans and specifications.

CC-2A Tapered Insulation: The Lump Sum (LS) bid for this pay item shall include all labor, equipment, materials, and incidentals required to install new tapered insulation, to be complete in place and in accordance with these plans and specifications.

CC-3 Dens Deck Prime: The unit bid price for this pay item shall include all labor, equipment, materials and incidentals required to furnish and install one (1) square foot (SF) of Dens Deck Prime ½" thick, complete in place and in accordance with the plans and specifications.

CC-4 60 mil of PVC Roofing: The unit bid price for this pay item shall include all labor, equipment, materials and incidentals required to furnish and install one (1) square foot (SF) of PVC roofing 60mm thick, complete in place and in accordance with the plans and specifications.

GC-1 Permits: The Lump Sum (LS) bid for this pay items shall include all, labor, equipment, materials, and incidentals required to apply for all permits for this project.

GC-2 Mobilization/Demobilization: The Lump Sum (LS) bid for this pay item shall be compensation in full for mobilization and demobilization for the work. Payment for this item shall be on a lump sum basis payable at 50 percent with first invoice and 50 percent with final invoice.

GC-3 Insurance, Permits and Bonds (NTE 3% of contract price): The Lump Sum (LS) price bid for this pay item shall be compensation in full for obtaining the Contract Bond required in Section 3.06 Requirements of Contract Bonds of the Board's Standard Specifications. The lump sum amount bid for this item shall not exceed three (3) percent of the contract amount.

GC-4 Hauling and Disposal of Material: The Lump Sum (LS) bid for this pay item shall include all labor, equipment, materials, and incidentals required to haul and properly dispose of material, to be complete in place and in accordance with these plans and specifications.

DE-1 Demolish Storage Structure: The Lump Sum (LS) bid for this pay item shall include all labor, equipment, materials, and incidentals required to demolish the existing storage structure, to be complete in place, and in accordance with these plans and specifications.

LP-1 Lightning Protection System: The Lump Sum (LS) bid for this pay item shall include all labor, equipment, materials, and incidentals required to remove, reinstall, and certify the existing lightning protection system, to be complete in place and in accordance with these plans and specifications, and in close coordination with Lightning Protection Bonded System Ltd or equal. Also, included is the recertification and making updated improvements to meet current codes as required. Any improvements made to meet current codes shall be paid for under Lightning Protection System Pay Item LP-1.

CO-1 Owner's Contingency Allowance: The Owner's Contingency Allowance shall be a cash allowance for the Owner's use. In the event there are additions and/or changes to the work in the contract, the Owner will have the ability to use funds out of the Contingency Allowance to pay the contractor for these items of work. Items included under the Contingency Allowance shall be first approved by the Owner and the Engineer prior to commencing the work. Any work completed without approval from the Owner/Engineer is at risk of non-payment.

APPENDIX

APPENDIX A:

**SITE MAP &
TECHNICAL SPECIFICATIONS**



The image is an aerial photograph of the C.C. Williams Wastewater Treatment Facility. A large, rectangular building with a flat roof is the central focus. To the left of the building is a long, narrow structure, possibly a conveyor or a series of tanks, with the text 'YEEND LOOP' written vertically along its length. To the right of the main building is a large, open area of dirt and gravel, with several smaller structures and a parking lot containing several cars. Red arrows point from various text boxes to specific areas on the building and surrounding site, indicating planned construction or demolition work.

Site Map

C.C. Williams Wastewater Treatment Facility

Perimeter Edge Will Need to Be Raised to Accommodate New Insulation System

Both Roofs are Flat Concrete

Remove All Roof Systems To Concrete Decking

Higher Roof Area (Shop) Non Conditioned Space. Recommend Base Layer of 1.5" Flat ISO as Required for Uplift Test. 1/4" Tapered Insulation for Drainage

Raise Perimeter Edge with Wood to Accommodate New Insulation

Demo Attached Storage Structure

Overhang on Side and Back of Building - Add Tapered Insulation for Positive Slope

Glass Block to Remain in Place

SECTION 07 54 19

POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 GENERAL

1.01 SUMMARY

- A. Work shall include, but is not limited to, the following:
 - 1. Preparation of existing concrete deck
 - 2. SBS Modified Membrane Vapor Barrier
 - 3. Insulation adhered in insulation adhesive
 - 4. Coverboard adhered in insulation adhesive
 - 5. PVC membrane (adhered).
 - 6. PVC membrane flashings (adhered).
 - 7. PMMA liquid applied flashings optional as needed.
 - 8. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

1.02 RELATED SECTIONS

- A. Division 010000 – General Requirements
- B. Division 011000 – Summary of Work
- C.

1.03 DEFINITIONS

- A. ASTM D 1079 - Definitions of Term Relating to Roofing and Waterproofing.
- B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.

1.04 REFERENCES

- A. AMERICAN SOCIETY OF CIVIL ENGINEERS - Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.
- B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
 - 1. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
 - 2. ASTM D 751 - Standard Test Methods for Coated Fabrics.
 - 3. ASTM D 4434 - Standard for Polyvinyl Chloride Sheet Roofing.
 - 4. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
 - 5. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
- C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::

1. ANSI/SPRI FX-1, Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
2. ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.
- D. COOL ROOF RATING COUNCIL (CRRC)
- E. FACTORY MUTUAL (FM):
 1. FM 4450 - Approval Standard - Class I Insulated Steel Roof Decks.
 2. FM 4470 - Approval Standard - Class I Roof Covers.
- F. INTERNATIONAL CODES COUNCIL (ICC):
 1. 2015 International Building Code (IBC).
- G. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA).
- H. SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION INC. (SMACNA) Architectural Sheet Metal Manual.
- I. SINGLE PLY ROOFING INDUSTRY (SPRI)
- J. UNDERWRITERS LABORATORY (UL):
 1. UL 790 Standard Test Methods for Fire Tests of Roof Coverings.

1.05 ACTION SUBMITTALS

- A. Product Data Sheets: Submit manufacturer's product data sheets, installation instructions and/or general requirements for each component.
- B. Quality Compliance (QC)/Certificate of Analysis (COA): Submit manufacturers QC or COA signed by company's Quality Department certifying membrane materials meet the specified properties listed in the specification.
- C. Material Safety Data Sheets: Submit manufacturer's Material Safety Data Sheets (MDS) for each component.
- D. Sample/Specimen Warranty from the manufacturer and contractor.
- E. Shop Drawings: Provide roof plan and applicable roof system detail drawings.

1.06 INFORMATIONAL SUBMITTALS

- A. Contractor Certification: Submit written certification from roofing system manufacturer certifying that the applicator is authorized by the manufacturer to install the specified materials and system.

1.07 CLOSEOUT SUBMITTALS

- A. Warranty: Provide manufacturer's and contractor's warranties upon substantial completion of the roofing system.

1.08 QUALITY ASSURANCE

- A. MANUFACTURER QUALIFICATIONS:

ROOF REPLACEMENT AT
C.C. WILLIAMS WASTEWATER
TREATMENT FACILITY

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POLYVINYL-CHLORIDE ROOFING

1. Manufacturer shall have 20 years of experience manufacturing roofing materials.
 2. Trained Technical Field Representatives, employed by the manufacturer, independent of sales.
 3. Provide reports in a timely manner of all site visit reports.
 4. Provide specified warranty upon satisfactory project completion.
- B. CONTRACTOR QUALIFICATIONS:
1. Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
 2. Applicators shall have completed projects of similar scope using same materials as specified herein.
 3. Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roof system through satisfactory project completion.
 4. Applicators shall be skilled in the application methods for all materials.
 5. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
 6. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.

1.09 DELIVERY, STORAGE AND HANDLING

- A. Refer to each product data sheet or other published literature for specific requirements.
- B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.
- C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location. During cold weather, store materials in a heated location, removed only as needed for immediate use.
- D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with "breathable" tarpaulins to protect materials from precipitation and to prevent exposure to condensation.
- E. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

1.10 SITE CONDITIONS

- A. SAFETY:
 1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.

2. Hot-air welding shall include heating the specified membrane ply using electric hot-air welding equipment. The contractor shall determine when and where conditions are appropriate to utilize hot-air welding equipment. When conditions are determined by the contractor to be unsafe to proceed, materials and methods shall be utilized to accommodate requirements and conditions.
 3. The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.
- B. ENVIRONMENTAL CONDITIONS:
1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun, cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.
 2. Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.
 3. Hot-air Welding Application: Take all necessary precautions and measures to monitor conditions to ensure all environmental conditions are safe to proceed with the use hot-air welding equipment. Combustibles, flammable liquids and solvent vapors that represent a hazard shall be eliminated and primers shall be fully dry before proceeding with hot air welding operations.

1.11 PERFORMANCE REQUIREMENTS

- A. WIND UPLIFT RESISTANCE:
1. Performance testing shall be in accordance with ANSI/FM 4474, FM 4450, FM 4470, UL 580 or UL 1897.
 - i. Uplift Pressures
 - a) Field: -315psf ASD (FM 630 equivalent)
 - b) Perimeter: Prescriptively enhance per FM 4450
 - c) Corners: Prescriptively enhance per FM 4450
- B. FIRE CLASSIFICATION:
1. Performance testing shall be in accordance with UL 790, ASTM E108, FM 4450 or FM 4470 to meet the 3:12 roof slope requirement.
 - a. Meets requirements of UL Class A or FM Class A.

2. Performance testing shall be in accordance with UL 1256, FM 4450 or FM 4470 to meet the specified requirements for interior flame spread and fuel contribution.
 - a. Meets requirements of UL 1256, or FM Class 1.
- C. ROOF SLOPE:
 1. Finished roof slope for PVC surfaces shall be 1/4 inch per foot minimum for roof drainage.
- D. IMPACT RESISTANCE:
 1. Performance testing for impact resistance shall be in accordance with FM 4450, FM 4470 or ASTM D4272 to meet the specified impact resistance requirements.
 - a. Meets requirements for FM-SH (Severe Hail)
- E. COOL ROOF RATING COUNCIL (CRRC):
 1. SOPREMA® SENTINEL® P150, bright white PVC membrane shall be listed by the Cool Roof Rating Council (CRRC) with the following minimum published values:

a. Solar Reflectance:	Initial: 0.87 3 Year: 0.67
b. Thermal Emittance:	Initial: 0.89 3 Year: 0.89
c. Solar Reflectance Index (SRI):	Initial: 110 3 Year: 81
- F. LEED SUSTAINABLE SITES (SS) CREDITS:
 1. SS 7.2, Heat Island Effect-Roof. Membrane surface shall be bright white:
 - a. Seventy-five percent of the low-slope (equal to or less than 2:12) roof area shall have an SRI value greater than, or equal to, 78 as published by the Cool Roof Rating Council (CRRC).
 - b. Seventy-five percent of the steep-slope (greater than 2:12) roof area shall have an SRI value greater than, or equal to, 29 as published by the Cool Roof Rating Council (CRRC).

1.12 WARRANTY

- A. Manufacturer's No Dollar Limit (NDL) Warranty. The manufacturer shall provide the owner with the manufacturer's warranty providing labor and materials to for 20 years from the date the warranty is issued.
- B. The contractor shall guarantee the workmanship and shall provide the owner with the contractor's warranty covering workmanship for a period of 2 years from completion date.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. PRODUCT QUALITY ASSURANCE PROGRAM: Manufacturer shall be an ISO 9001 registered company.

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C.C. WILLIAMS WASTEWATER
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POLYVINYL-CHLORIDE ROOFING

- B. ACCEPTABLE MANUFACTURER:
1. SOPREMA, located at: 310 Quadral Dr.; Wadsworth, OH 44281; Tel: 800-356-3521; Tel: 330-334-0066; Website: www.soprema.us.
 2. Acceptable Alternate Manufacturers: Must meet ALL physical performance requirements and physical characteristics including minimum 30 mils compound above scrim.

2.02 ROOFING SYSTEM

- A. ROOFING SYSTEM BASIS OF DESIGN: SOPREMA®

2.03 MEMBRANES

- A. ADHERED MEMBRANE:

1. SBS Membrane Vapor Barrier: SOPREMA SOPRALENE 180 SP 3.0: SBS-modified bitumen membrane with a plastic burn-off film on the bottom surface and a sanded top surface. Non-woven polyester reinforcement. Meets or exceeds ASTM D6164, Type I, Grade S, per ASTM D5147 test methods:
 - a. Thickness: 118 mils (3.0 mm)
 - b. Width: 39.4 in (1 m)
 - c. Length: 32.8 ft (10 m)
 - d. Roll weight: 83 lb (37.6 kg)
 - e. Net mass per unit area, lb/100 sq ft (g/sq m): 77 lb (3758 g)
 - f. Peak load @ 0°F (-18°C), lbf/in (kN/m): MD 115 lbf/in (20.1 kN/m), XMD 90 lbf/in (15.8 kN/m)
 - g. Elongation at peak load @ 0°F (-18°C), lbf/in (kN/m): MD 35%, XMD 40%
 - h. Peak load @ 73.4°F (23°C), lbf/in (kN/m): MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
 - i. Elongation at peak load @ 73.4°F (23°C), lbf/in (kN/m): MD 55%, XMD 60%
 - j. Ultimate Elongation @ 73.4°F (23°C), lbf/in (kN/m): MD 65%, XMD 80%
 - k. Tear Strength @ 73.4°F (23°C), lbf (N): MD 125 lbf (556 N), XMD 85 lbf (378 N)
 - l. Low temperature flexibility, °F (°C): MD/XMD: -15°F (-26°C)
 - m. Dimensional stability, %: MD/XMD: Less than 0.5%
 - n. Compound stability, °F (°C): MD/XMD: 240°F (116°C)
1. PVC MEMBRANE, ADHERED:
 - a. SOPREMA® SENTINEL® PVC P150: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a smooth back underside.
 - i. **Overall Thickness ASTM D4434 (ASTM D638): 60 mils minimum**

- a) **Manufacturer shall provide membrane at specified minimum 60 mils**
 - b) **ASTM D4434 +/- tolerance for membrane thickness will not be accepted.**
- ii. **Thickness over Scrim (ASTM D7635): 30 mils minimum**
 - a) **Manufacturer shall provide membrane with minimum 30 mils compound thickness above reinforcement/scrium**
- iii. Width: 10 ft (3.0 m)
- iv. Length: 100 ft (30.5 m)
- v. Physical Properties ASTM D4434.
 - a) Breaking Strength, lbf/in
 - i) 430 (MD) 300 (XMD)
 - b) Elongation at Break - %
 - i) 25 (MD) 25(XMD)
 - c) Tear Strength, lbf
 - i) 150 (MD) 80 (XMD)
 - d) Linear Dimensional Change - %
 - i) <0.1%
- vi. Color: white

2. **PVC FLASHING, ADHERED:**

- a. SOPREMA® SENTINEL® PVC P150: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a smooth back underside. Mechanically fastened in 6 in (minimum) side-laps. Overall Thickness ASTM D4434 (ASTM D638): 60 mils minimum
 - a) Manufacturer shall provide membrane at specified minimum 60 mils
 - b) ASTM D4434 +/- tolerance for membrane thickness will not be accepted.
- ii. Thickness over Scrim (ASTM D7635): 30 mils minimum
 - a) Manufacturer shall provide membrane with minimum 30 mils compound thickness above reinforcement/scrium
- iii. Width: 10 ft (3.0 m)
- iv. Length: 100 ft (30.5 m)
- v. Physical Properties ASTM D4434.
 - a) Breaking Strength, lbf/in
 - i) 430 (MD) 300 (XMD)
 - b) Elongation at Break - %
 - i) 25 (MD) 25(XMD)
 - c) Tear Strength, lbf
 - i) 150 (MD) 80 (XMD)
 - d) Linear Dimensional Change - %

- i) <0.1%
- vi. Color: white

2.04 ACCESSORIES

A. RIGID INSULATION & COVER BOARD

1. POLYISOCYANURATE INSULATION:

- a. SOPREMA SOPRA-ISO: Closed cell polyisocyanurate foam core bonded on each side to a glass fiber-reinforced felt facer.
 - i. Thickness: 1.5 in minimum board thickness. Total thickness to meet specified insulation system thermal resistance 'R' value
 - ii. Dimensions: 4 x 4 ft boards
 - iii. Meets or exceeds ASTM C1289, Type II, Class 1, Grade 2 (20 psi).
- b. SOPREMA SOPRA-ISO Tapered: Closed cell polyisocyanurate foam core bonded on each side to a glass fiber-reinforced felt facer, tapered to provide slope.
 - i. Taper: 1/8, 1/4, 1/2 in per foot. Insulation, crickets and saddles provided with taper as required for positive roof slope.
 - ii. Dimensions: 4 x 4 ft boards
 - iii. Meets or exceeds ASTM C1289, Type II, Class 1, Grade 2 (20 psi).

2. GYPSUM ROOF BOARD

- a. National Gypsum Company, DEXcell FA Glass Mat Roof Board:
 - i. Gypsum core, glass fiber-faced, roof board:
 - ii. Thickness 1/2 in
 - iii. Dimensions: 4 x 4 ft boards
 - iv. Facer: Glass fiber.
 - v. Meets or exceeds ASTM C1177/C1177M.
- b. Georgia Pacific Gypsum LLC, DensDeck Prime Roof Board: Gypsum core, glass fiber-faced, factory primed, roof Cover-board.
 - i. Thickness: 1/2 in
 - ii. Dimensions: 4 x 4 ft boards.
 - iii. Facer: Factory primed, glass fiber.
 - iv. Meets or exceeds ASTM C1177/C1177M.

B. INSULATION ADHESIVE

1. POLYURETHANE FOAM INSULATION ADHESIVE

- a. SOPREMA DUOTACK: Two-component, polyurethane foam insulation adhesive, applied in ribbons from cartridges or two-component bulk packaging with pump-driven delivery system.
 - i. Ribbon size: 1/2 in to 3/4 in wide.
 - ii. Ribbon spacing: As required to meet specified wind uplift resistance performance.
 - a) Field of Roof (Zone 1): 12 in on-centers
 - b) Perimeter of Roof (Zone 2): 6 in on-centers
 - c) Corners of Roof (Zone 3): 4 in on-centers
- C. MEMBRANE ADHESIVES:
 - 1. SOPREMA® SENTINEL® H2O BONDING ADHESIVE: Waterborne polymeric adhesive. Formulated to adhere smooth and fleece back PVC membranes.
 - a. VOC Content: 179.0 g/L or less.
- D. FLASHING ADHESIVES:
 - 1. SOPREMA® SENTINEL® S BONDING ADHESIVE: Solvent-based adhesive. Formulated to adhere smooth back PVC flashings.
 - a. VOC Content: 199.5 g/L or less.
- E. SEALANTS
 - 1. SOPREMA® SENTINEL® Universal Sealant: Gun grade, moisture curing, polyether, elastomeric sealant for SENTINEL® PVC membrane terminations.
 - a. VOC Content: 20 g/L or less
 - b. Meets or exceeds ASTM C920, Type S, Grade NS, Class 25
 - c. Color: White
 - 2. Butyl Sealant Tape: Butyl rubber and polyisobutylene water resistant sealant tape for concealed sheet metal joints and water cutoff.
 - 3. Butyl Sealant: Butyl rubber and polyisobutylene water resistant sealant for concealed sheet metal joints and water cutoff.
- F. MEMBRANE ACCESSORIES:
 - 1. SOPREMA® SENTINEL® MOLDED CORNER: Injection Molded Corner
 - a. Color: white
 - 2. SOPREMA® SENTINEL® PVC PREFABRICATED CORNER: Prefabricated Outside Corner
 - a. Color: white
 - 3. SOPREMA® SENTINEL® T-JOINT PATCHES: 4.5 in Round T-Joint Patch
 - a. Color: white
 - 4. SOPREMA® SENTINEL® PVC PIPE FLASHING: Prefabricated PVC pipe flashing.
 - a. Size: 1 in, 2 in, 3 in, 4 in, 5 in, 6 in. Size as required.
 - b. Color: white

5. SOPREMA® SENTINEL® PVC SPLIT PIPE BOOT: Prefabricated PVC pipe flashing.
 - a. Size: 1"-6"
 - b. Color: white
 6. SOPREMA® SENTINEL® PVC SPLIT PIPE BOOT: Prefabricated PVC pipe flashing.
 - a. Size: 6"-12"
 - b. Color: white
 7. SOPREMA® SENTINEL® PVC CLOSED PIPE BOOT: Prefabricated PVC pipe flashing.
 - a. Size: 6"-12"
 - b. Color: white
 8. SOPREMA® SENTINEL® WALKWAY PAD: PVC walkway protection mat.
 - a. Width: 30 in (0.762 m)
 - b. Length: 50 ft (15.24 m)
 - c. Color: grey
- G. SHEET METAL FLASHING:
1. Contractor shall furnish all sheet metal flashings, counter flashings, roof edge system, and all other related sheet metal flashings and associated fasteners necessary to flash and counter flash the specified roofing system.
 2. Sheet metal flashing materials and fasteners shall be compatible with adjacent materials, to accommodate all project related exposures.
 3. Vinyl Coated Metal: 24 gauge galvanized sheet steel with a 20 mil, UV-resistant PVC coated topside.
 - a. SOPREMA® SENTINEL® VCM: PVC coated metal.
 - i. Width: 4 ft (1.219 m)
 - ii. Length: 10 ft (3.048 m)
 - iii. Color: White, grey or tan
 4. Pre-Finished (Mill Finished) Sheet Metal Flashing Material: Aluminum, Galvanized Steel
 5. Roof Edge System: Tested per ANSI/SPRI ES-1 to meet or exceed design pressures at roof edge.
- H. LIQUID-APPLIED REINFORCED PENETRATION & DETAILFLASHING SYSTEM:
1. SOPREMA® ALSAN® RS 230 FLASH, Catalyzed polymethyl methacrylate (PMMA) resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully-reinforced waterproofing membrane flashings.
 - a. VOC Content: No VOC content.
 - b. SOPREMA® ALSAN® RS 230 FLASH: Polymethyl methacrylate (PMMA) liquid resin.
 - c. SOPREMA® ALSAN® RS CATALYST POWDER: Reactive agent added to the PMMA liquid resin to induce curing.
 - d. SOPREMA® ALSAN® RS FLEECE: Polyester reinforcement fabric.

- e. Color: Flash color and finish to match Field.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.
- B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.
- C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.
- D. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

- A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning.
- B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3.03 INSULATION ADHESIVE APPLICATION

- A. Apply the specified two-component insulation adhesive to adhere (Insulation Base Layer, Insulation Layers, Cover-board) to the deck and insulation substrate(s).
- B. Follow insulation adhesive product data sheets and published general requirements for installation requirements.
- C. Apply insulation adhesive in uniform ribbons, 1/2 in to 3/4 in wide.
- D. Immediately install insulation components into insulation adhesive, and apply weight to ensure the materials maintain full contact with all ribbons for complete adhesion. Do not allow insulation adhesive to skin-over before placing the insulation materials into the adhesive.
- E. Adhere the insulation system to meet the specified wind uplift resistance performance and specified warranty requirements.
- F. Minimum insulation adhesive ribbon spacing:

1. Field of Roof (Zone 1): 12 in on-centers.
2. Perimeter of Roof (Zone 2): 6 in on-centers.
3. Corners of Roof (Zone 3): 4 in on-centers.

3.04 INSULATION SYSTEM APPLICATION

- A. Follow insulation system component product data sheets, published general requirements and, approvals.
- B. Install all insulation system components on clean, dry, uniform and, properly prepared substrates.
- C. All insulation system boards shall be carefully installed and fitted against adjoining sheets to form tight joints.
- D. Insulation system boards that must be cut to fit shall be saw-cut or knife-cut in a straight line, not broken. Chalk lines shall be used to cut insulation components. Uneven or broken edges shall not be accepted. Remove dust and debris that develops during cutting operations.
- E. Stagger successive layers of insulation 12 in vertically and laterally to ensure board joints do not coincide with joints from the layers above and below.
- F. Crickets, saddles, and tapered edge strips shall be installed before installing Cover-boards.
- G. Install tapered insulation, saddles and crickets as required to ensure positive slope for complete roof drainage.
- H. Cover-boards shall be installed to fit tight against adjacent boards. When required by the Cover-board manufacturer, a uniform gap shall be provided between Cover-boards using a uniform guide placed between board joints to form a gap between all boards during installation.
- I. The finished insulation system surface shall be tight to, and flush with, adjacent substrates to form a satisfactory substrate to install specified roof membrane and flashings.
- J. Install specified cants where required for membrane flashing transitions.

3.05 HOT-AIR WELDING

- A. The Contractor is responsible for project safety. Hot-air shall be used to seal membrane side and end laps. Refer to NRCA CERTA, local codes and building owner's requirements for hot work operations.
- B. Position the membrane so that it overlaps the adjacent membrane at the required side lap width. Ensure the laps are dry, clean and free of foreign material.
- C. Weld the laps together with an automatic welding machine or hand welder maintaining a minimum 1.5 in continuous weld. All seams shall be inspected for a continuous weld.
- D. At end-laps of bare back membranes, round the corners by cutting a radius on both corners.

- E. Fleece back membrane end laps shall be butted to one another and a 6 in membrane coverstrip welded on top.
- F. SOPREMA® T-JOINT PATCHES shall be hot-air welded to the membrane at all t-joint intersections. Chamfer the welding seam prior to installing T-Joint patches using an edging tool or by heating the edge and rolling.
- G. SOPREMA® SENTINEL® PVC CUT EDGE SEALANT shall be installed at all non-factory cut edges.

3.06 ADHERED MEMBRANE APPLICATION (SENTINEL® H2O BONDING ADHESIVE)

- A. The ambient temperature shall be above 50°F (10°C).
- B. SOPREMA® SENTINEL® H2O BONDING ADHESIVE may be applied using a 3/8 in nap solvent resistant roller.
- C. Apply adhesive to clean, dry and prepared compatible substrates only as required to ensure full adhesion.
- D. Apply a uniform application of membrane adhesive at the application rate published on the product data sheet.
- E. Mate the membrane to the substrate while the adhesive is wet avoiding any air entrapment or wrinkles. Apply pressure with a roller or push broom to ensure complete bonding.
- F. Hot-air weld all side and end laps.
- G. At PVC terminations at roof edges, walls and curbs, fasten the perimeter edge of the membrane with appropriate fasteners, seam plates or flat termination bars to the horizontal deck or vertical substrate along the termination.
- H. Fasten membrane termination 12 in on-centers maximum along membrane terminations. Locate the edge of the fastener plate 1 in or more back from the edge of the membrane.
- I. Probe all seams/laps once the hot air welds have thoroughly cooled.
- J. Repair all seam deficiencies the same day they are discovered.

3.07 PVC FLASHING MEMBRANE APPLICATION (SENTINEL® S BONDING ADHESIVE)

- A. Follow material product data sheets and published general requirements for installation instructions.
- B. Ensure field membrane is fastened and secure to the substrate at all membrane terminations before PVC flashing is installed.
- C. Ensure PVC membrane and substrates are dry, clean and free of asphalt and all bitumen-based products. Do not allow bare PVC to come in contact with asphalt or bitumen-based products.

- D. Where required, cover walls and other flashing substrates using specified wood, gypsum or cement roof boards securely fastened in place.
- E. The ambient temperature shall be above 40°F (4.4°C) during adhesive application. Ensure temperature is well above the dew point temperature to prevent condensation during adhesive application.
- F. Apply SOPREMA® SENTINEL® S BONDING ADHESIVE using 3/8 in nap solvent resistant rollers to clean, dry and prepared flashing substrates, and onto the underside of the bare PVC membrane. Refer to product data sheet for application rate.
- G. Prevent adhesive from contacting the membrane at the side and end-laps that are to be hot-air welded.
- H. Allow the adhesive on both surfaces to dry to the touch. Adhesive may be tacky to-the-touch, but not wet. Adhesive should not transfer to the finger tips when touched.
- I. Mate the PVC flashing membrane to the flashing substrate. Prevent air entrapment and wrinkles. Apply pressure with hands, roller or broom to ensure complete adhesion.
- J. Hot-air weld all laps with minimum 1-1/2 in welds.
- K. Probe all seams/laps once the hot air welds have thoroughly cooled.
- L. Repair all seam deficiencies the same day they are discovered
- M. Fasten top leading edge of vertical PVC flashings. Refer to detail drawings.

3.08 LIQUID-APPLIED, PMMA MEMBRANE AND FLASHING SYSTEM APPLICATION ALSAN® RS

- A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions.
- B. PVC membrane preparation:
 - 1. Ensure the PVC field membrane is fastened and secure to the substrate at all membrane terminations before liquid-applied flashing is installed.
 - 2. Install a welded PVC cover-strip over fasteners where applicable. Ensure cover-strip is welded tight, with no loose ends or open laps.
 - 3. Ensure PVC membrane and substrates are dry, clean and free of asphalt and all bitumen-based products. Do not allow bare PVC to come in contact with asphalt or bitumen-based products.
 - 4. Lightly abrade the PVC membrane surface where liquid-applied membrane is to be applied.
 - 5. Wipe PVC membrane surface clean using ALSAN® RS CLEANER, and allow to fully dry.
- C. Pre-cut SOPREMA® ALSAN® RS FLEECE polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.

- D. Apply the base coat of catalyzed SOPREMA® ALSAN® RS resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.
- E. Immediately apply the SOPREMA® ALSAN® RS FLEECE reinforcing into the wet base coat of resin. Using a brush or roller, work the SOPREMA® ALSAN® RS FLEECE reinforcing fabric into the wet resin while applying the second coat of catalyzed SOPREMA® ALSAN® RS resin to completely encapsulate the fleece.
- F. Refer to reinforced, polymethyl-methacrylate (PMMA) specification section and application instructions, details drawings, product data sheets and published general requirements for complete installation instructions.

3.09 SHEET METAL FLASHING APPLICATION

- A. Refer to sheet metal flashing detail drawings, and follow product data sheets and published general requirements for installation instructions.
- B. Follow the most recent edition of the SMACNA Architectural Sheet Metal Manual for fabrication and installation requirements.

3.10 WALKWAYS

- A. At areas outlined on the drawings, and around the perimeter of all rooftop equipment and at all door and stair landings, install walkway protection.
- B. Cut walkway from end of SOPREMA® SENTINEL® WALKWAY PAD.
- C. Hot-air weld the entire perimeter of the SOPREMA® SENTINEL® WALKWAY PAD to the membrane.

3.11 CLEAN-UP

- A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION