



REQUEST FOR PROPOSALS

PROPOSAL NO. 24000529

Sheldon Neeley
Mayor

SCOPE OF WORK:

The City of Flint, Finance Department of Purchases & Supplies, is soliciting sealed bids for providing:

FLINT WATER PLANT ROOF REPLACEMENT

Per the attached additional requirements.

If your firm is interested in providing the requested services, please submit:

Submit to City:

1 original, printed, signed, original proposals and signed addenda

2 additional copies unbound

1 electronic copy

Please follow the following bid timeline.

Questions

All written questions shall be directed to Lauren Rowley, Purchasing Manager by **Thursday, December 21, 2023, by 10am EST** to lrowley@cityofflint.com.

Mandatory Pre-Bid Meeting

A mandatory pre-bid conference will take place **Wednesday, December 20, 2023, at 10am** at the **Flint Water Plant, 4500 Hwy, Flint, MI, 48506**. This meeting is to answer any questions contractors may have and give a brief presentation. Please submit a letter of intent to attend to Scott Dungee, Water Plant Supervisor at sdungee@cityofflint.com by **Tuesday, December 19, 2023, at 2pm**. Failure to participate in this meeting may result in the disqualification of your bid.

Bid Submission Requirements

1. The mail in **HARD COPY** with the original signature (signed documents) must be received by **Wednesday, January 3, 2024, by 1:00 P.M. (EST)**, City of Flint, Finance Department - Division of Purchases and Supplies, 1101 S. Saginaw St., Room 203, Flint, MI, 48502. Bids must be in a sealed envelope clearly identifying the proposal name and proposal number.
2. **Electronic Copy**, please email to PurchasingBids@cityofflint.com by **Wednesday, January 3, 2024, by 1:00 P.M. (EST)**. Please note that in the subject line of the email, type in the proposal name and number.
3. Faxed bids are not accepted.
4. Both mail in proposal and electronic submittal must be received by due date and time.

Bid Opening

Bids will be opened publicly at the McKenzie Conference Room on the 2nd floor of Flint City Hall. The public is welcome to join in person or via Google Meet.

Google Meet Information

Bid Opening

Wednesday, January 3, 2024 · 1:00pm-1:30pm

Time zone: America/New_York

Google Meet joining info

Video call link: <https://meet.google.com/pox-qcve-nfj>

Or dial: (US) +1 240-712-4496 PIN: 694 088 306#

More phone numbers: <https://tel.meet/pox-qcve-nfj?pin=1149155467950>

PLEASE NOTE: When dropping off a bid, please do not put bids in drop boxes on the outside of City Hall. Please call if you have any questions and need to drop off a bid.

All additional proposal documents, requirements, addendums, specifications, and plans/drawings (if utilized) are available on the Purchasing page of the City of Flint's web site at <https://www.cityofflint.com/purchasing/>.

Effective immediately upon release of these Bidding Documents, and until notice of contract award, all official communications from proposers regarding the requirements of this Bid shall be directed to:

Lauren Rowley

810-766-7340

lrowley@cityofflint.com

The City, or designee, shall distribute all official changes, modifications, responses to questions or notices relating to the requirements of this Bid. Addendum to this Bid may be developed and shared with all Vendors. Any other information of any kind from any other source shall not be considered official, and proposers relying on other information do so at their own risk.

NOTICE TO VENDOR Offers, subject to the conditions made a part hereof, will be received at this office, ***1101 S. Saginaw St., Flint, MI 48502 for the following:***

City of Flint has partnered with BidNet as part of the [MITN Purchasing Group](#) (branded page link) to post bid opportunities to this site. As a vendor, you can register with the [MITN Purchasing Group](#) and be sure that you see all available bids and opportunities. By selecting automatic bid notification, your company will receive emails once the City of Flint has a bid opportunity that matches your company's business. In addition, the site handles bid opportunities, RFPs, and RFQs for other member governmental agencies throughout Michigan. City of Flint looks forward to providing you with more bid information and simplifying the entire bid, proposal, and quote processes for everyone involved. We appreciate your cooperation and welcome your participation. If you need help registering, please call the MITN Purchasing Group support department toll free 1-800-835-4603 option #2.

Link to City of Flint open solicitations:

[MITN Purchasing Group](#) (branded page link)

INSTRUCTIONS TO VENDORS

- 1) PRE-BID INFORMATION AND QUESTIONS:** Each bid that is timely received will be evaluated on its merit and completeness of all requested information. In preparing bids, Bidders are advised to rely only upon the contents of this Request for Proposals (RFP) and accompanying documents and any written clarifications or addenda issued by the City of Flint. If a Bidder finds a discrepancy, error or omission in the RFP package, or requires any written addendum thereto, the Bidder is requested to notify the Purchasing contact noted on the cover of this RFP, so that written clarification may be sent to all prospective Bidders. **THE CITY OF FLINT IS NOT RESPONSIBLE FOR ANY ORAL INSTRUCTIONS.** All questions must be submitted in writing to the Finance Department of Purchases and Supplies before any pre-bid deadline (if specified) or at least one (1) week prior to the proposal

opening date indicated on the front of this document.

- 2) **RFP MODIFICATIONS:** The City of Flint has the right to correct, modify or cancel the RFP, in whole or in part, or to reject any Bid, in whole or in part, within the discretion of the City of Flint, or their designee. If any such changes are made, all known recipients of the RFP will be sent a copy of such changes. If any changes are made to this RFP document by any party other than the City of Flint, the original document in the City of Flint's files takes precedence.
- 3) **PROPOSAL SUBMISSION:**
 - a) The Bidder must include the following items, or the proposal may be deemed non-responsive:
 - i) All forms contained in this RFP, fully completed.
 - b) Bids must be submitted to the Finance Department of Purchases and Supplies, City of Flint, 1101 S. Saginaw Street, Room 203, Flint, Michigan 48502 by the date and time indicated as the deadline. The Purchasing Department time stamp will determine the official receipt time. It is each Bidder's responsibility to insure that their proposal is time stamped by the Purchasing Department by the deadline. This responsibility rests entirely with the Bidder, regardless of delays resulting from postal handling or for any other reasons. Proposals will be accepted at any time during the normal course of business only, said hours being 8:00 a.m. to 5:00 p.m. local time, Monday through Friday, legal holidays as exception.
 - c) Bids must be enclosed in a sealed, non-transparent envelope, box or package, and clearly marked on the outside with the following: RFP Title, RFP Number, Deadline and Bidder's name.
 - d) Submission of a bid establishes a conclusive presumption that the Bidder is thoroughly familiar with the Request for Proposals (RFP), and that the Contractor understands and agrees to abide by each and all of the stipulations and requirements contained therein.
 - e) All prices and notations must be typed or printed in ink. No erasures are permitted. Mistakes may be crossed out and corrections must be initialed in ink by the person(s) signing the bid.
 - f) Proposals sent by email, facsimile, or other electronic means will not be considered unless specifically authorized in this RFP.
 - g) All costs incurred in the preparation and presentation of the bid are the Bidder's sole responsibility; no pre-bid costs will be reimbursed to any Bidder. All documentation submitted with the proposal will become the property of the City of Flint.
 - h) Proposals must be held firm for a minimum of 120 days.
- 4) **EXCEPTIONS:** Bidder shall clearly identify any proposed deviations from the Terms or Scope in the Request for Proposals. Each exception must be clearly defined and referenced to the proper paragraph in this RFP. The exception shall include, at a minimum, the proposed substitute language and opinion as to why the suggested substitution will provide equivalent or better service and performance. If no exceptions are noted in the bid, the City of Flint will assume complete conformance with this specification and the successful Bidder will be required to perform accordingly. Bids not meeting all requirements may be rejected.
- 5) **DUPLICATE BIDS:** No more than one (1) bid from any Bidder including its subsidiaries, affiliated companies and franchises will be considered by the City of Flint. In the event multiple proposals are submitted in violation of this provision, the City will have the right to determine which bid will be considered or, at its sole option, reject all such multiple proposals.
- 6) **WITHDRAWAL:** Bids may only be withdrawn by written notice prior to the date and time set for the opening of bids. No bid may be withdrawn after the deadline for submission.

- 7) **REJECTION/GOOD STANDING:** The City of Flint reserves the right to reject any or all bids, or to accept or reject any bid in part, and to waive any minor informality or irregularity in bids received if it is determined by the City of Flint, or their designee, that the best interest of the City will be served by doing so. No bid will be considered from any person, firm or corporation in arrears or in default to the City on any contract, debt, taxes or other obligation, or if the Bidder is debarred by the City of Flint from consideration for a contract award pursuant to Section 18-21.5 (d) of Article IV of the "Purchasing Ordinance of the City of Flint".
- 8) **PROCUREMENT POLICY:** Procurement for the City of Flint will be handled in a manner providing fair opportunity to all businesses. This will be accomplished without abrogation or sacrifice of quality and as determined to be in the best interest of the City. The City of Flint and their officials have the vested authority to execute a contract, subject to City Council and Mayoral approval where required.
- 9) **BID SIGNATURES:** Bids must be signed by an authorized official of the Bidder. Each signature represents binding commitment upon the Bidder to provide the goods and/or services offered to the City of Flint if the Bidder is determined to be the lowest Responsive and Responsible Bidder.
- 10) **CONTRACT AWARD/SPLIT AWARDS:** The City of Flint reserves the right to award by item and/or group of items. The Bidder to whom the award is made will be notified at the earliest possible date. Tentative acceptance of the bid, intent to recommend award of a contract and actual award of the contract will be provided by written notice sent to the Bidder at the address designated in the bid if a separate Agreement is required to be executed. After a final award of the Agreement by the City of Flint, the Contractor/Vendor must execute and perform said Agreement. All proposals must be firm for at least 120 days from the due date of the proposal. If, for any reason, a contract is not executed with the selected Bidder within 14 days after notice of recommendation for award, then the City may recommend the next lowest responsive and responsible Bidder.
- 11) **NO RFP RESPONSE:** Bidders who receive this RFP but who do not submit a bid should return this RFP package stating "No Bid" and are encouraged to list the reason(s) for not responding. Failure to return this form may result in removal of the Bidder's name from all future lists.
- 12) **FREEDOM OF INFORMATION ACT (FOIA) REQUIREMENTS:** Bids are subject to public disclosure after the deadline for submission in accordance with state law.
- 13) **ARBITRATION:** Contractor/Vendor agrees to submit to arbitration all claims, counterclaims, disputes and other matters in question arising out of or relating to this agreement or the breach thereof. The Contractor's/Vendor's agreement to arbitrate shall be specifically enforceable under the prevailing law of any court having jurisdiction to hear such matters. Contractor's/Vendor's obligation to submit to arbitration shall be subject to the following provisions:
 - a) Notice of demand for arbitration must be submitted to the City in writing within a reasonable time after the claim, dispute or other matter in question has arisen. A reasonable time is hereby determined to be fourteen (14) days from the date the party demanding the arbitration knows or should have known the facts giving rise to their claim, dispute or question. In no event may the demand for arbitration be made after the time when institution of legal or equitable proceedings based on such claim dispute or other matters in question would be barred by the applicable statute of limitation.
 - b) Within fourteen (14) days from the date that demand for arbitration is received by the City, each party shall submit to the other the name of one person to serve as an arbitrator. The two arbitrators together shall then select a third person, the three together shall then serve as a panel in all proceedings. Any decision concurred in by a majority of the three shall be a final binding decision.
 - c) The final decision rendered by said arbitrators shall be binding and conclusive and shall be subject to specific enforcement by a court of competent jurisdiction.

- d) The costs of the arbitration shall be split and borne equally between the parties and such costs are not subject to shifting by the arbitrator.
- e) This provision shall survive the expiration or termination of this Agreement in perpetuity.
- 14) **BID HOLD:** The City of Flint may hold bids for a period of one hundred twenty (120) days from opening, for the purpose of reviewing the results and investigating the qualifications of bidders prior to making an award.
- 15) **NONCOMPLIANCE:** Failure to deliver in accordance with specifications will be cause for the City of Flint and they may cancel the contract or any part thereof and purchase on the open market, charging any additional cost to the Contractor/Vendor.
- 16) **DISCLAIMER OF CONTRACTUAL RELATIONSHIP:** Nothing contained in these documents shall create any contractual relationship between the City and any Subcontractor or Sub-subcontractor.
- 17) **ERRORS AND OMISSIONS:** Bidder is not permitted to take advantage of any obvious errors or omissions in specifications.
- 18) **INTERPRETATION:** In the event that any provision contained herein shall be determined by a court of competent jurisdiction or an appropriate administrative tribunal to be contrary to the provision of law or to be unenforceable for any reason, then, to the extent necessary and possible to render the remainder of this Agreement enforceable, such provision may be modified or severed by such court or administrative tribunal having jurisdiction over this Agreement and the interpretation thereof, or the parties hereto, so as to, as nearly as possible, carry out the intention of the parties hereto, considering the purpose of the entire Agreement in relation to such provision.
- 19) **LAWS AND ORDINANCES:** The Bidder shall obey and abide by all of the laws, rules and regulations of the Federal Government, State of Michigan, Genesee County and the City of Flint, applicable to the performance of this Agreement, including, but not limited to, labor laws, and laws regulating or applying to public improvement, local government, and its operational requirements.
- 20) ~~**LOCAL PREFERENCE:** Contractors/bidders located within the corporate city limits of Flint, Michigan may be given a seven percent (7%) competitive price advantage. Additionally, if the lowest responsible bidder is not located within the limits of the City of Flint, but is located within the County of Genesee, and said bidder does not exceed the bid of the lowest non-local bidder by more than three and one-half percent (3-1/2%), then said lowest Genesee County bidder may be determined to be the lowest responsible bidder, and make the award to such Genesee County bidder accordingly, subject to the approval of the City Council. If the lowest non-local bidder does not exceed that of any Proposers/bidders by (7%) inside the City of Flint or (3-1/2%) inside the County of Genesee, then the Purchasing Director shall be allowed to request that the lowest local vendor match the price offered by the lowest non-local vendor.~~
- 21) **MATERIAL WORKMANSHIP AND STANDARDS OF PERFORMANCE:** The Bidder agrees to exercise independent judgment and to complete performance under this Agreement in accordance with sound professional practices. In entering into this Agreement, the City is relying upon the professional reputation, experience, certification and ability of the Bidder by her/him/themselves or by others employed by her/him/them and working under their direction and control. The continued effectiveness of this Agreement during its term or any renewal term shall be contingent, in part, upon the Bidder maintaining her/his/their operating qualifications in accordance with the requirements of federal, state and local laws. All materials furnished must be new, of latest model and standard first grade quality, or best workmanship and design, unless otherwise expressly specified. Bidder, if required, must furnish satisfactory evidence of quality materials; offers of experimental or unproven equipment may be disregarded.

- 22) **MODIFICATIONS/CHANGES:** Any modification to this agreement must be in writing and signed by the authorized employee, officer, board or council representative authorized to make such modifications pursuant to the State law and local ordinances.
- 23) **NON-COLLUSION:** The Bidder acknowledges that by signing this document that she/he/they is/are duly authorized to make said offer on behalf of the company she/he/they represent(s) and that said bid is genuine and not sham or collusive and not made in the interests or on behalf of any person not therein named, and that she/he/they and said bidder have not directly induced or solicited any other person(s) or corporation to refrain from responding to this solicitation and that she/he/they and said bidder have not in any manner sought by collusion to secure to themselves and said bidder any advantage over any other bidder.
- 24) **NON-DISCRIMINATION:** Pursuant to the requirements of 1976 P.A. 453 (Michigan Civil Rights Act) and 1976 P.A. 220 (Michigan Handicapped Rights Act), the local unit and its agent agree not to discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, marital status or because of a handicap that is unrelated to the person's ability to perform the duties of nondiscrimination provision identical to this provision and binding upon any and all contractors and subcontractors. A breach of this covenant shall be regarded as a material breach of this contract.
- 25) **SUBCONTRACTING:** No subcontract work shall be started prior to the written approval of the subcontractor by the City. The City reserves the right to accept or reject any subcontractor.
- 26) **UNION COMPLIANCE:** Bidder agrees to comply with all regulations and requirements of any national or local union(s) that may have jurisdiction over any of the materials, facilities, services or personnel to be furnished by the City.
- 27) **WAIVER:** Failure of the City to insist upon strict compliance with any of the terms, covenants or conditions of this Agreement shall not be deemed a waiver of that term, covenant or condition or of any other term, covenant or condition. Any waiver or relinquishment of any right or power hereunder at any one or more times shall not be deemed a waiver or relinquishment of that right or power at any other time.
- 28) **CITY INCOME TAX WITHHOLDING:** Contractor and any subcontractor engaged in this contract shall withhold from each payment to his employees the City income tax on all of their compensation subject to tax, after giving effect to exemptions, as follows:
- a) Residents of the City:
At a rate equal to 1% of all compensation paid to the employee who is a resident of the City of Flint.
 - b) Non-residents:
At a rate equal to 1/2% of the compensation paid to the employee for work done or services performed in the City of Flint.
- These taxes shall be held in trust and paid over to the City of Flint in accordance with City ordinances and State law. Any failure to do so shall constitute a substantial and material breach of this contract.
- 29) **CONTRACT DOCUMENTS:** The invitation for proposal, instructions to proposal, proposal, affidavit, addenda (if any), statement of Bidder's qualifications (when required), general conditions, special conditions, performance bond, labor and material payment bond, insurance certificates, technical specifications, and drawings, together with this agreement, form the contract, and they are as fully a part of the contract as if attached hereto or repeated herein.
- 30) **DISCLAIMER OF CONTRACTUAL RELATIONSHIP WITH SUBCONTRACTORS:** Nothing contained in the Contract Documents shall create any contractual relationship between the City and any Subcontractor or Sub-

subcontractor.

- 31) **EFFECTIVE DATE:** Any agreement between the City and the Bidder shall be effective upon the date that it is executed by all parties hereto.
- 32) **FORCE MAJURE:** Neither party shall be responsible for damages or delays caused by Force Majeure nor other events beyond the control of the other party and which could not reasonably have anticipated the control of the other party and which could not reasonably have been anticipated or prevented. For purposes of this Agreement, Force Majeure includes, but is not limited to, adverse weather conditions, floods, epidemics, war, riot, strikes, lockouts, and other industrial disturbances; unknown site conditions, accidents, sabotage, fire, and acts of God. Should Force Majeure occur, the parties shall mutually agree on the terms and conditions upon which the services may continue.
- 33) **INDEMNIFICATION:** To the fullest extent permitted by law, Bidder agrees to defend, pay on behalf of, indemnify, and hold harmless the City of Flint, its elected and appointed officials, employees and volunteers and others working on behalf of the City of Flint, including the Project Manager, against any and all claims, demands, suits, or losses, including all costs connected therewith, and for any damages which may be asserted, claimed, or recovered against or from the City of Flint, its elected and appointed officials, employees, volunteers or others working on behalf of the City of Flint, by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof, which may arise as a result of Bidder's acts, omissions, faults, and negligence or that of any of his employees, agents, and representatives in connection with the performance of this contract. Should the Bidder fail to indemnify the City in the above-mentioned circumstances, the City may exercise its option to deduct the cost that it incurs from the contract price forthwith. These provisions shall survive the termination or expiration of any agreement entered into as a result of this request.
- 34) **INDEPENDENT CONTRACTOR:** No provision of this contract shall be construed as creating an employer-employee relationship. It is hereby expressly understood and agreed that Bidder is an "independent contractor" as that phrase has been defined and interpreted by the courts of the State of Michigan and, as such, Bidder is not entitled to any benefits not otherwise specified herein.
- 35) **NO THIRD-PARTY BENEFICIARY:** No contractor, subcontractor, mechanic, material man, laborer, vendor, or other person dealing with the principal Contractor shall be, nor shall any of them be deemed to be, third-party beneficiaries of this contract, but each such person shall be deemed to have agreed (a) that they shall look to the principal Contractor as their sole source of recovery if not paid, and (b) except as otherwise agreed to by the principal Contractor and any such person in writing, they may not enter any claim or bring any such action against the City under any circumstances. Except as provided by law, or as otherwise agreed to in writing between the City and such person, each such person shall be deemed to have waived in writing all rights to seek redress from the City under any circumstances whatsoever.
- 36) **NON-ASSIGNABILITY:** Contractor shall not assign or transfer any interest in this contract without the prior written consent of the City provided, however, that claims for money due or to become due to Contractor from the City under this contract may be assigned to a bank, trust company, or other financial institution without such approval. Notice of any such assignment or transfer shall be furnished promptly to the City.
- 37) **NON-DISCLOSURE/CONFIDENTIALITY:** Contractor agrees that the documents identified herein as the contract documents are confidential information intended for the sole use of the City and that Contractor will not disclose any such information, or in any other way make such documents public, without the express written approval of the City or the order of the court of appropriate jurisdiction or as required by the laws of the State of Michigan.
- 38) **RECORDS PROPERTY OF CITY:** All documents, information, reports and the like prepared or generated by Contractor as a result of this contract shall become the sole property of the City of Flint.

- 39) **SEVERABILITY:** In the event that any provision contained herein shall be determined by a court or administrative tribunal to be contrary to a provision of state or federal law or to be unenforceable for any reason, then, to the extent necessary and possible to render the remainder of this Agreement enforceable, such provision may be modified or severed by such court or administrative tribunal so as to, as nearly as possible, carry out the intention of the parties hereto, considering the purpose of the entire Agreement in relation to such provision. The invalidation of one or more terms of this contract shall not affect the validity of the remaining terms.
- 40) **TERMINATION:** This contract may be terminated by either party hereto by submitting a notice of termination to the other party. Such notice shall be in writing and shall be effective 30 days from the date it is submitted unless otherwise agreed to by the parties hereto. Contractor, upon receiving such notice and prorated payment upon termination of this contract shall give to the City all pertinent records, data, and information created up to the date of termination to which the City, under the terms of this contract, is entitled.
- 41) **TIME PERFORMANCE:** Contractor's services shall commence immediately upon receipt of the notice to proceed and shall be carried out forthwith and without reasonable delay.
- 42) **EVALUATION OF PROPOSAL:** In the City's evaluation of proposals, at minimum: cost, serviceability, financial stability, and all requirements set forth in this document shall be considered as selection and award criteria unless otherwise specified.
- 43) **PREVAILING WAGE:** When applicable, all work for this project, including that of any subcontractor or sub-subcontractor, must meet Davis-Bacon Act requirements and full prevailing wage. Information on Davis-Bacon reporting and requirements, including payroll reporting, can be found at: <https://www.dol.gov/whd/govcontracts/dbra.htm>
- 44) **INSURANCE & BONDS:** The bidder whose proposal is accepted will be required to furnish bonds and evidence of insurance within five days from date of Notice of Award. In case of failure or refusal on the part of the bidder to furnish bonds, if required, within the set period, the amount of deposit may be forfeited to the county and the contract may be awarded to the next lowest responsible bidder. Upon the notification of award and approval of the bond, the deposit will be returned to the proposer. The deposit of persons other than the one to whom and award is made will be returned to the person or persons making the proposal immediately after the contract and bonds have been executed.
- 45) **PROPOSAL SUBMISSION:** Proposals and all information requested of the vendor shall be entered in the appropriate spaces. Failure to do so may disqualify the vendor's offer. An authorized officer or employee of the bidder shall submit the proposal.
- 46) **PRICES:** Prices proposed shall be for new products in current production unless otherwise specified. Where refurbished or discontinued items are offered they must be clearly identified as such. Prices proposed shall be exclusive of any rebates due the City. Any rebates the City may be entitled to should be shown as a separate line item and include expiration date.
Corrections and/or modifications received after the bid closing time specified will not be accepted. Unit prices prevail.
All prices will be bid F.O.B. DESTINATION, INCLUDE ALL DELIVERY AND ANY ADDITIONAL CHARGES, and remain in effect as specified in the quotation.
- 47) **AWARD:** Unless otherwise stated in the proposal documents, the City cannot guarantee exclusivity of the contract for the proposed products or services.
Award of the proposal shall be based upon a combination of factors, including but not limited to, adherence to proposal requirements, references and any other factors that may be in the City's best interest.

The City reserves the right to reject any and all bids, and to waive any defect or irregularity in bids. The City reserves the right to accept and separate items in the bid; and to accept the proposal that in the opinion of the City is to the best advantage and interest of the public we serve. The City also has the right to re-solicit bids if it is deemed to be in the best interest of the City. The City reserves the right to reject low bids which have major deviations from our specification; to accept a higher quotation which has only minor deviations. By signing the bid, the vendor agrees to accept a split award unless the awarded vendor clearly indicates that it takes exception. The bid will be awarded to that responsible, responsive bidder whose proposal conforms to this solicitation, and will be most advantageous to the City, with regard not only to price, but also to availability of product, location and quality of product considered.

The City reserves the right to award all line items, to make no award or to award on an individual line item basis, whichever is deemed to be in the best interest of the City.

Time of delivery may be a consideration in the award.

- 48) **ETHICS IN PURCHASING:** Bidders and proposers are required to comply with Flint City Ordinance 3865 in its entirety. It is incumbent upon and the responsibility of the bidder to become familiar with and comply with the Purchasing ordinances as outlined in 3865 covering chapter 18 of the Flint City Ordinances. Bidder/Proposer acknowledges in accordance with Flint City Ordinance Section 18-21.19 Ethics in Purchasing, any and all communication about the bid selection process should be directed to those City employees delegated with the authority with respect to all purchases of goods and services.

Bidder/Proposer acknowledges and agrees that while a procurement is pending, bidders and proposers shall not communicate about the solicitation with any City employee, agent, or elected official, other than the purchasing director or other City personnel identify in the solicitation. This means that bidder and proposer are prohibited from communicating orally or by written communications, including but not limited to voicemail messages, social media, email, in person, among any other form of communication while the award is pending, to the aforementioned, with the exception to those employees designated by the City. If you are unclear about the process, it is your duty and obligation to contact the designated employee(s) for clarification.

Violations of the ethics provision of the ordinance, without regard to if the violation rises to the level of a criminal violation, may subject the bidder or proposer to debarment.

- 49) **BID PROTESTS:** If Bidder/Proposal believe that they are aggrieved in connection with the solicitation or award of the purchase order or contract, they may protest the action to the City as outlined in Flint City Charter Section 18-21.15.

THE FOLLOWING PAGES MUST BE COMPLETED AND INCLUDED WITH SUBMITTAL IN THE FOLLOWING ORDER.

Purchasing Checklist:

- Exhibit A - Complete Proposal Submittal with detailed Summary of Pricing
- Exhibit B –Qualifications and Licenses Requirements
- Exhibit C – Disclosure of Supplier Responsibility Statement
- Exhibit D - List of References
- Exhibit E - Certificate of Insurance
- Exhibit F – Non-Bidder’s Response
- Exhibit G – City of Flint Affidavit



❖ EXHIBIT A - SUBMITTAL WITH DETAILED SUMMARY OF PRICING

SCOPE OF WORK ATTACHED BELOW.

EXHIBIT B - QUALIFICATIONS AND LICENSES REQUIREMENTS

Please give a synopsis of your qualifications and experience with this service:

Please list Licenses:

How long have you been in business?

Have you done business with the City of Flint?

If yes, please state the project name.

EXHIBIT C – DISCLOSURE OF SUPPLIER RESPONSIBILITY STATEMENT

1. List any convictions of any person, subsidiary, or affiliate of the company, arising out of obtaining, or attempting to obtain a public or private contract, or subcontract, or in the performance of such contract or subcontract.

2. List any convictions of any person, subsidiary, or affiliate of this company for offenses such as embezzlement, theft, fraudulent schemes, etc. or any other offense indicating a lack of business integrity or business honesty which affect the responsibility of the contractor.

3. List any convictions or civil judgments under state or federal antitrust statutes.

4. List any violations of contract provisions such as knowingly (without good cause) to perform, or unsatisfactory performance, in accordance with the specifications of a contract.

5. List any prior suspensions or debarments by any government agency.

6. List any contracts not completed on time.

7. List any documented violations of federal or state labor laws, regulations or standards, or occupational safety and health rules.

**❖ EXHIBIT D – LIST OF REFERENCES: (3) SIMILAR SCOPE OF WORK FROM
THE LAST 5 YEARS**

Providing the following contact information enables the City of Flint to contact those accounts as references.

Reference #1:

Company/Municipality: _____

Contact Person: _____ Title: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Type of Project: _____

Project Timeline (Dates): _____ Budget: _____

Reference #2:

Company/Municipality: _____

Contact Person: _____ Title: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Type of Project: _____

Project Timeline (Dates): _____ Budget: _____

**❖ EXHIBIT D – LIST OF REFERENCES: (3) SIMILAR SCOPE OF WORK FROM
THE LAST 5 YEARS (CONTINUES)**

Reference #3:

Company/Municipality: _____

Contact Person: _____ Title: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Type of Project: _____

Project Timeline (Dates): _____ Budget: _____

❖ EXHIBIT E – CERTIFICATE OF INSURANCE

INSURANCE REQUIREMENTS

The Contractor shall notify all insurance agents and companies retained by the Contractor that these insurance requirements shall be included in any Agreement between the Contractor and the City of Flint.

The Contractor shall purchase and maintain, at its sole expense and as long as it is providing services to the City, the following insurance coverage:

Commercial General Liability - Occurrence form, including coverage for bodily injury, personal injury, property damage (broad form), premises/operations, blanket contractual, and products/completed operations. Coverage shall be endorsed to include the City as an additional insured for work performed by the Contractor in accordance with the Agreement.

Minimum Limits:

- \$1,000,000 per occurrence/\$2,000,000 general aggregate
- \$2,000,000 aggregate for products and completed operations
- \$1,000,000 personal and advertising injury

Automobile - Michigan "no-fault" coverage, and residual automobile liability, comprehensive form, covering owned, hired, and non-owned automobiles. Coverage shall be endorsed to include the City as an additional insured for work performed by the Contractor in accordance with the Agreement.

Minimum Limits:

- No-fault coverages - statutory
- \$500,000 per person/\$1,000,000 per accident - bodily injury
- \$500,000 per occurrence - property damage
- A combined single limit of \$1,000,000 per occurrence

Workers' Compensation and Employer's Liability- Statutory coverage or proof acceptable to the City of approval as a self-insurer by the State of Michigan.

❖ EXHIBIT E – CERTIFICATE OF INSURANCE (CONTINUES)

Minimum Limits:

- Workers' Compensation - statutory
- Employer's Liability - \$100,000 each accident/\$100,000 disease - each employee
- \$500,000 disease - policy limit

Professional Liability – Covering acts, errors or omissions of a professional nature committed or alleged to have been committed by the Contractor or any of its subcontractors. Coverage shall be effective upon the date of the Agreement and shall remain effective for a period of three (3) years after the date of final payment thereunder. Such coverage shall be endorsed to include any subcontractors hired by the City.

Minimum Limits:

- \$1,000,000 per occurrence, \$1,000,000 annual aggregate

Insurance coverage shall cover all claims against the City of Flint, its officials and employees, arising out of the work performed by the Contractor or any subcontractors under the Agreement. Should any work be subcontracted, it shall be the responsibility of the Contractor to maintain Independent Contractor's Protective Liability Insurance with limits equal to those specified above for Commercial General Liability Insurance. In addition, the Contractor shall provide proof of Workers' Compensation Insurance for all subcontractors in compliance with the required statutory limits of the State of Michigan.

Said policies of insurance shall be with companies licensed to do business in the State of Michigan and in a form satisfactory to the City. All insurance companies must maintain a rating of B+, VIII or better from AM. Best Company. Certificates of insurance with a thirty-(30) day cancellation clause shall be filed with and approved by the City at least five (5) days in advance of commencing work under the Agreement. Cancellation, material restriction, non-renewal or lapse of any of the required policies shall be grounds for immediate termination of the Agreement by the City.

The City reserves the right to request a complete certified copy of the policies for the above coverage's.

Any reduction or exhaustion in the limits of required insurance coverage shall not be deemed to limit the indemnification afforded in accordance with the Agreement or any amendments thereto.

Depending on the subject matter of the transaction, the City may require other insurance coverage in addition to the coverage's contained herein.

THE BID NUMBER IS TO APPEAR ON ALL INSURANCE CERTIFICATES

❖ EXHIBIT F – NON-BIDDER'S RESPONSE

VENDOR'S NAME: _____

NON-BIDDER'S RESPONSE

For the purpose of facilitating your firm's response to our invitation to bid, the City of Flint is interested in ascertaining reasons for prospective bidder's failure to respond to "Invitations to Bid". If your firm is not responding to this bid, please indicate the reason(s) by checking any appropriate item(s) below and return this form to the above address.

We are **not** responding to this "Invitation to Bid" for the following reason(s):

_____ Items or materials requested not manufactured by us or not available to our company.

_____ Our items and/or materials do not meet specifications.

_____ Specifications not clearly understood or applicable (too vague, too rigid, etc.).

_____ Quantities too Small.

_____ Insufficient time allowed for preparation of bid.

_____ Incorrect address used. Our correct mailing address is:

_____ Our branch / division handles this type of bid. We have forwarded this bid on to them but for the future the correct name and mailing address is: _____

_____ **OTHER:** _____

Thank you for your participation in this bid.

AFFIDAVIT FOR INDIVIDUAL

STATE OF _____

S.S.

COUNTY OF _____

_____ being duly sworn,
deposes and says that they are the person making the above bid; and that said bid is genuine and not sham or collusive, and is not made in the interest of or on behalf of any person not therein named, and that they have not directly or indirectly induced or solicited any bidder to put in a sham bid; that they have not directly or indirectly induced or solicited any other person or corporation to refrain from bidding, and that they have not in any manner sought by collusion to secure themselves any advantage over other bidders.

Subscribed and sworn to before me at _____, in said County and State,

this _____ day of _____, A.D. 20_____,

*Notary Public, _____ County, _____

My Commission expires _____, 20_____

❖ EXHIBIT G – CITY OF FLINT AFFADAVIT

FOR CORPORATION

STATE OF _____

S.S.

COUNTY OF _____

_____ being duly sworn, deposes and says that she/he/they
is _____ of _____

(Official Title)

(Name of Corporation)

a corporation duly organized and doing business under the laws of the State of _____
the corporation making the within and foregoing bid; that they executed said bid in behalf of said corporation by
authority of its Board of Directors; that said bid is genuine and not sham or collusive and is not made in the
interests of or on behalf of any person not herein named, and that they have not and said bidder has not directly
or indirectly induced or solicited any other person or corporation to refrain from bidding; that they have not and
said bidder has not in any manner sought by collusion to secure to themselves or to said corporation an advantage
over other bidders.

Subscribed and sworn to before me at _____, in said County and State,
this _____ day of _____, A.D. 20 _____,

*Notary Public, _____ County, _____

My Commission expires _____, 20 _____

ROOF REPLACEMENT SPECIFICATIONS

ROOF PROJECT 2023/24

City of Flint – Water Plant Priority Roof Sections

Note:

Pre-bid: Wednesday, December 20, 2023 at 10:00am EST
4500 Dort Hwy.
Flint, Mi 48506

Questions By: Thursday, December 21, 2023 at 10:00am EST
Lauren Rowley
LRowley@cityofflint.com

Quotes Due: Wednesday, January 3, 2024 at 1:00pm EST
Sealed Bid, hard-copy; Bid Form and Bid Compliance Form

Hard-copy, sealed bids will be accepted by:

Lauren Rowley, Purchasing
City of Flint

BID FORM - A

The owner has established a level of minimum performance for the contractor, primary roofing system components and manufacture involvement for this project. This minimum standard of quality has been established to protect the long-term interest of the **City of Flint**. Substandard performance or incomplete information for any of the following criteria will result in a non-compliant bid.

ROOF CONTRACTOR QUALIFICATION QUESTIONARE

- | | | | |
|----|--|-----|----|
| 1. | 10+ YEARS OF COMMERCIAL ROOFING EXPERIENCE | YES | NO |
| 2. | QTY. OF INSTALLATIONS WITH SPECIFIED SYSTEM (LAST 12 MONTHS) _____ | | |
| 3. | (3) MUNICIPAL REFERENCES PROVIDED? | YES | NO |
| 4. | PROXIMITY TO PROJECT LOCATION (GREATER THAN 65 MILES?) | YES | NO |
| 5. | <u>ALL</u> SPECIFICATION CRITERIA MET OR EXCEEDED? | YES | NO |

ROOFING SYSTEM AND MANUFACTURER QUALIFICAITON FORM

- | | | | |
|-----|---|-----|------------|
| 1. | PREBID ATTENDENCE | YES | NO |
| 2. | PRIMARY ROOF SYSTEM MFG. PROPOSED _____ | | |
| 3. | ROOFING SYSTEM MFG ISO 9002 CERTIFICATIONS _____ | | |
| 4. | ROOFING SYSTEM MFG CURRENT RATIO OF ASSETS TO LIABILITIES _____ | | |
| 5. | ROOFING SYSTEM MFG WARRANTY CLAIMS VS PERCENT OF SALES _____ | | |
| 6. | ROOFING SYSTEM MFG NUMBER OF YEARS IN BUSINESS _____ | | |
| 7. | ROOFING SYSEM MFG. NON PRO-RATED WARRANTY TERM | 20 | 25 30 |
| 8. | ROOFING SYSTEM MFG. INSPECTIONS & WRITTEN REPORTS INCL. | YES | NO |
| 9. | REDUNDANT LAYER ROOFING SYSTEM | YES | NO |
| 10. | ROOFING MEMBRANE MADE FROM RECYCLED MATERIALS | YES | NO |
| 11. | TOTAL MEMBRANE ROOF SYSTEM MINIMUM THICKNESS IN MILS _____ MILS | | |
| 12. | LITIGATION; SETTLEMENT/FINES AGAINST GREATER THAN \$20M? | YES | NO |

BID FORM B
City of Flint
Roof Replacement – Water Treatment Plant
Priority Roof Sections

To: Lauren Rowley
City of Flint
1101 Saginaw St.
Flint, MI 48502

Bid Due Date: Wednesday, January 3, 2024 at 10:00am EST.

Sealed bids are to be submitted to the above address by the time and date listed above. Bids received after the Due Date and Time will not be considered.

Pursuant to notices given, the undersigned proposes to furnish all materials and labor necessary to complete the replacement as described below and in strict accordance to the plans and specifications dated **11-15-23**. I, the undersigned, having familiarized myself with the attached Contract Documents do hereby propose to furnish all labor, equipment, materials, drayage, tolls, supervision, etc. and to complete all work as specified in these Documents and Specifications. By my submission of this Bidding Proposal, I acknowledge the receipt of the Package containing the following: General Conditions & Requirements, General Instructions to Bidders, Detailed Specifications, Detailed Rooftop Diagrams, and Detailed Specification Drawings. To provide supervision, labor, materials and equipment for roof repairs of the following items, per the attached:

Base Bid: Priority #1: Sections D, I, J & Q

The base bid shall include the removal and replacement of the existing roofing system in its entirety. New roof system is to consist of a redundant layer, SBS rubber modified roofing system per specifications provided. This shall include all necessary flashings, copings, pitch pockets, and necessary materials in accordance with the specifications, scope of work, and details provided in the bid documents. Work is to be completed by June 30th, 2024.

All labor, materials, services and equipment necessary for completion of the work shown on the drawings and in the specifications.

_____ DOLLARS (\$ _____)

Add Alt. #1: Priority #2: Sections C, F, G, H, N & O

The base bid shall include the removal and replacement of the existing roofing system in its entirety. New roof system is to consist of a redundant layer, SBS rubber modified roofing system per specifications provided. This shall include all necessary flashings, copings, pitch pockets, and necessary materials in accordance with the specifications, scope of work, and details provided in the bid documents. Work is to be completed by June 30th, 2024.

All labor, materials, services and equipment necessary for completion of the work shown on the drawings and in the specifications.

_____ DOLLARS (\$ _____)

Company Name: _____

Add Alt. #2: Priority #3: Sections A

The base bid shall include the removal and replacement of the existing roofing system in its entirety. New roof system is to consist of a redundant layer, SBS rubber modified roofing system per specifications provided. This shall include all necessary flashings, copings, pitch pockets, and necessary materials in accordance with the specifications, scope of work, and details provided in the bid documents. Work is to be completed by June 30th, 2024.

All labor, materials, services and equipment necessary for completion of the work shown on the drawings and in the specifications.

_____ DOLLARS (\$ _____)

*****Note: Important Info**

5% Bid Bond

100% Performance Bond

Bid Compliance Form Completion Required

Extra work may be necessary other than required by the plans and specifications, extra work will be completed according to the written instructions of the Owner for the following unit prices:

Unit Cost Items: **Repair to existing vapor barrier** – _____ per sq. ft.

Addenda Numbers _____ are hereby acknowledged

Respectfully Submitted,

SIGNATURE: _____

TITLE: _____

BUSINESS NAME: _____

CONTRACTOR ADDRESS: _____

DATE: _____

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attached GENERAL CONDITIONS, BID FORM, forms a component part of this section.

1.2 SUMMARY OF WORK – FLINT WATER PLANT

- A. Remove existing built-up roofing system and components down to existing vapor barrier.
- B. Repair vapor barrier and/or concrete at provided line-item costs as needed. Approval from owner required prior to the acceptance of all change orders.
- C. Remove debris and ensure surface is dry; apply asphaltic roof primer to deck at specified rate.
- D. Install ¼:12 tapered polyisocyanurate insulation (R-30) in hot asphalt, staggering joints throughout.
- E. Install 1/2:12 slope tapered saddles between drain sumps.
- F. Attach a ½” pre-primed recovery board in insulation adhesive.
- G. Install fiberglass reinforced SBS modified base sheet specified in hot asphalt. Base sheet to be installed in a shingle fashion starting at the low point.
- H. Install fiberglass/polyester reinforced SBS modified smooth cap sheet specified in hot asphalt.
- I. Using a notched squeegee, apply cold-process, polymer modified flood-coat at specified rate and immediately broadcast pea gravel per specifications.
- J. Flashing to be comprised of fiberglass reinforced SBS modified base and fiberglass/polyester reinforced SBS modified mineral cap sheet installed in trowel-grade flashing adhesive.
- K. Sump all drains at 8’ diameter using 1/2:12 slope; install new pans and gravel stop.
- L. New edge metal to be fabricated and installed per wind up-lift calculations and local code.
- M. Apply two coats of aluminized surface protection to all exposed flashings, drain assemblies and rooftop penetrations.
- N. Replace (16) existing pipe supports with composite supports; secure to electrical conduit.
- O. Furnish and install new roof hatch to replace existing.

- P. Charcoal filters are to be used at all roof penetrations throughout the installation process. HVAC units and intakes nearest the working area should be powered down during the day.
- Q. All Sections: Clean up all debris and/or damage done to grounds, building and roof top (if any). **Contractor is responsible for any clean up and cost accrued.**
- R. Contractor to provide a written (2) year workmanship warranty to manufacturer. The Primary roofing system manufacturer is to provide a single (30) year warranty directly to the City of Flint which includes materials and labor.

1.3 INTENT OF THE SPECIFICATIONS

- A. The intent of these specifications is to describe the material and methods of construction required for the performance of the work. In general, it is intended that the drawings shall delineate the detailed extent of the work. When there is a discrepancy between drawings, referenced specifications, and standards and this specification, this specification shall govern.

1.4 PROTECTION

- A. The contractor shall use every available precaution to provide for the safety of the property owner, visitors to the site, and all connected with the work under the Contract.
- B. All existing facilities both above and below ground shall be protected and maintained free of damage. Existing facilities shall remain operating during the period of construction unless otherwise permitted. All access roadways must remain open to traffic unless otherwise permitted.
- C. Barricades shall be erected to fence off all construction areas from operations personnel.
- D. Safety Requirements:
 - 1. All application, material handling, and associated equipment shall conform to and be operated in conformance with OSHA safety requirements.
 - 2. Comply with federal, state, and local and owner fire and safety requirements.
 - 3. Advise owner whenever work is expected to be hazardous to owner employees and/or operations.
 - 4. Maintain a crewman as a floor guard whenever roof decking is being repaired or replaced and whenever any roofing is being removed.
 - 5. Maintain proper fire extinguisher within easy access whenever power tools, roofing kettles, and torches are being used. A MINIMUM OF A 2 HOUR FIRE WATER SHALL BE STRICTLY ADHERED TO WHENEVER PROPANE TORCHES ARE IN USE.
 - 6. ALL SAFETY REQUIREMENTS OF THE BUILDING OWNER MUST BE FOLLOWED. NO EXCEPTIONS WILL BE PERMITTED. SAFETY ORIENTATION MEETING REQUIRED PRIOR TO PERFORMING ANY WORK.

1.5 HOUSEKEEPING

- A. Keep materials neat and orderly.

- B. Remove scrap, waste and debris from the project area.
- C. Maintenance of clean conditions while work is in progress and cleanup when work is completed shall be in strict accordance with the "General Conditions" of this contract.
- D. Fire protection during construction.
- E. Follow all requirements established by the building owner.

END OF SECTION

SECTION 00 72 00

GENERAL CONDITIONS

PART 1 GENERAL

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL CONDITIONS of the contract, the DRAWINGS and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the roof contract is awarded.
- C. The term Owner shall be understood to be City of Flint.
- D. The term Owner's Representative shall be understood to mean the representative of the primary material manufacturer.

1.2 OWNER'S REPRESENTATIVE STATUS

- A. The Owner's Representative shall have general Rights of Inspection of the work and is the agent of the Owner in all matters pertaining to the work as provided in the Contract Documents. The Owner's Representative has the authority to stop work whenever such stoppage may be necessary to ensure the proper execution of the contract and shall have authority to reject any and all materials, whether worked or unworked, if such materials are not in accordance with the plans and specifications.

1.3 CONDITON OF SITE

- A. The bidders shall visit the site before submitting their bids and determine the field conditions affecting their work. In considering the bids, the Owner will assume that the bidders are aware of all items, pertinent to their work and have made allowance for same in their bids.

1.4 VERIFICATION OF DIMENSIONS AND ELEVATIONS

- A. Dimensions and elevations indicated on the drawings in reference to existing structures or utilities are the best available data but are not guaranteed by the Owner's Representative and the Owner's Representative will not be responsible for their accuracy. Before bidding on any paperwork dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, lines, levels or other conditions of limitations at the site to avoid construction errors. If any work is performed by the Contractor or any of his/her subcontractors prior to adequate verification or applicable data, any resultant extra cost for adjustment of work as required to conform to existing limitations, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

1.5 PROTECTION OF OWNER'S OPERATIONS

- A. The Contractor shall erect such barriers, tarpaulins, doors, etc., as may be necessary to protect the Owner's operations while work is in progress. Any such openings that are essential to carrying on the work shall be securely closed by the Contractor when not in use to protect the Owner's operations.

1.6 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all his/her work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. He/she shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and his/her workmen from any dangers inherent with or created by the work in progress. He/she shall hold the Owner harmless from any loss arising due to injury or accident to the public or his/her workmen, or from theft of materials stored at the job site. All materials will be stored in locations other than on roof surfaces except as necessary and shall then be placed on plywood or other type of material to protect the roof surface at all times.
- B. Before starting any work, the Contractor shall protect all grounds, copings, paving and exterior of all buildings where work will be performed.
- C. In those areas where materials and/or hot asphalt will be raised to the roof area, a protective covering shall be placed from the base of the wall extending up and over the top edge of the roof. This coverage shall be wide enough to assure that the exterior walls do not become stained or soiled during roofing operations.
- D. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

1.7 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange his/her material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean and the building shall be broom cleaned. If the Contractor refuses at any time to remove his/her debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor.
- B. The Contractor shall also remove drippage of bitumen or adhesive from all walls, windows, floors, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- C. Materials must be delivered with manufacturer's label in tact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

1.8 INSPECTION OF WORK

- A. Where the drawings or specifications require the inspection and approval of any work in progress by the Owner's Representative, the Contractor shall give that Representative

ample notice to allow for scheduling the inspection, which shall be made promptly to avoid delay of work. If work has progressed without the required inspections or approval by the Representative, it shall be uncovered for inspection at the Contractor's expense.

- B. Uncovering of work not originally inspected, or uncovering questioned work may be ordered by the Owner's Representative and it shall be done by the Contractor. If examination proves such work to be incorrectly done or not done in accordance with the plans and specifications, the Contractor shall bear all cost of the reexamination. If the work is proven correctly installed, all such expense shall be born by the Owner.

1.9 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. If directed by the Owner's Representative, the Contractor shall cut not more than four (4) cores, of approximately 200 square inches each, from every newly constructed roof area, in order to establish the amount of materials used per square foot, and shall restore all such areas to sound and watertight conditions as prior to the core testing.
- B. In the event that such core cuts disclose any deficiency in materials, or soundness of construction, the Contractor shall, at his/her own expense, apply additional materials or otherwise correct the deficiencies to the satisfaction of the Owner's Representative.
- C. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the Contractor's expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner
- D. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractor's expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- E. The Owner will require the Owner's Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- F. The authorized Owner's Representative shall be responsible for:
 - 1. Keeping the Owner informed on a periodic basis as to the progress and quality of the work;
 - 2. Calling to the attention of the Contractor those matters he/she considers to be in violation of the contract requirements;
 - 3. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices;
 - 4. Conducting preliminary and subsequent job-site meetings with the Contractor's official job representative;
 - 5. Supervising the taking of test cuts, and the restoration of such areas;
 - 6. Rendering any other inspection services which the Owner may designate; and
 - 7. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.

- G. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of his/her contractual responsibilities.

1.10 MISCELLANEOUS UTILITIES

- A. Electrical power will be furnished by the Owner for small tools only. All connections to the electrical system will be furnished by the Contractor.
- B. Water for concrete, mortar, washing and drinking purposes will be furnished by the Owner. Any connections to the water system shall be completed by the Contractor.
- C. At the completion of the work, or when the above connections are no longer required, the Contractor shall remove all connections and leave the facilities in a condition at least as satisfactory as prior to the commencement of his/her work.
- D. Toilet facilities will be provided by the Contractor. The Contractor will be responsible for supplying a portable toilet on the job-site. The Contractor's personnel are not permitted to enter the building without proper authorization from the Owner or Owner's Representative.

1.11 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such adjustments in extension of time as may be acceptable to the Owner. The value of such extra work shall be determined in one of the following ways:
 - 1. By firm adjustment;
 - 2. By cost plus with a guaranteed maximum;
 - 3. By cost with a fixed fee; or
 - 4. By unit cost.
- B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owner's Representative shall have authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.
- C. All work covered by unit prices submitted by the Contractor in his/her proposal must be covered by a written work order. The Owner's Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order which will be written at the end of each day, will be signed by the Owner's Representative and the Contractor's foreman and/or superintendent.

1.12 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

- A. The Contractor shall promptly remove any work that does not meet the requirements of the plans and specifications or is incorrectly installed or otherwise disapproved by the Owner of the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.13 CORRECTION OF WORK AFTER FINAL PAYMENT

- A. The Contractor shall guarantee all materials and workmanship for two (2) years from date of final payment of the contract by the Owner. Any defects which may arise during this period shall be promptly repaired by the Contractor including any damage done to the Owner's property due to such defects.

1.14 DEDUCTION FOR UNCORRECTED WORK

- A. If the Owner deems it unacceptable to have the Contractor correct work which has been incorrectly done, a deduction from the contract price shall be agreed upon therefore. Such a deduction from the contract price shall in no way affect the Contractor's responsibility for defects which may occur nor his/her ability for correcting them, and damage caused by them.

1.15 LIENS

- A. The Contractor shall, if required by the Owner, furnish him/her with a release in full of all liens arising out of this contract or in lieu thereof, and receipts in full for all materials and labor on the job. In either case, the Contractor shall furnish an affidavit that the liens or receipts include all the labor and material for which a lien could be filed. In lieu of the above, the Contractor may at his/her option furnish a bond to indemnify the Owner against all hazard of liens. Neither part nor final payment shall in any way release the Contractor from the above obligation and in the event that part or full payment has been made and any lien remains undischarged, the Contractor shall refund to the Owner the necessary funds to discharge such a lien including all cost and attorney's fees.

1.16 JOB CONDITIONS

- A. All surfaces to be covered shall be smooth, dry, and free from dirt, debris, and foreign material before any of this work is installed. Pumping equipment shall be located on the ground at a safe distance from building; the location being subject to the approval of the Owner. The Contractor shall be responsible for guarding against fires, and shall provide suitable fire extinguishers conveniently located at the site. Competent operators shall be in attendance at all times equipment is in use. Materials shall be stored neatly in areas designated by the Owner and dispersed so as to present a minimum fire hazard. Loads placed on the roof at any point shall not exceed the safe load for which the roof is designed.
- B. There is NO SMOKING allowed inside any buildings and the Contractor shall be responsible for enforcement of this job rule at all times with his/her personnel.

- C. The Contractor should be aware of Owner's property when tearing off the existing roof. This is required for removal of dirt, silt, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions and protect building faces. Specific locations will be discussed at the pre bid conference.
- D. Rolled Roofing Materials: All rolled roofing materials must be stored standing on end on a pallet or otherwise raised off of the roof. The materials are to be covered in a proper manner to assure that they will not become wet prior to application. Any materials that become wet or damaged must be removed from the job-site and replaced at the Contractor's expense.
- E. Asphalt Kettle: Placement of the kettle shall be in a position so as not to interfere with the ongoing operations of the Owner. The asphalt to be used must be placed on a protective covering of some type until it is raised to the roof. A minimum of two (2) fire extinguishers and "Fire Out" must be adjacent to the kettle.
- F. Ladders: Any ladders used on this project must be in good condition. The ladder must also be secured at the roof line at all times while in use. All ladders must be O.S.H.A. approved.
- G. No drugs or alcoholic beverages are permitted on the grounds.
- H. The Contractor shall place necessary barriers and/or protection around or under all work areas where his/her operations involve risk of injury to plant.
- I. The Contractor will also protect the building structure from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owner's work in process, notification must be made within two (2) working days of the incidents to the Owner and Owner's Representative.
- J. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractor's operations is found, or the Contractor does not comply with the requirement by keeping the premises free of accumulations and correct the damage, it shall be the Owner's prerogative to hire personnel to do so; and the cost of this work will be deducted from the balance due the Contractor.
- K. Existing roof top equipment walls, windows, etc. shall be completely protected by masking or other effective methods. Any mastics or asphalt must be cleaned off metal surfaces.
- L. The Contractor is responsible for protecting all materials from the elements. If any material, such as insulation, becomes wet, it cannot be installed and must be replaced at the Contractor's expense. NOTE: Insulation and rolled roofing materials must be covered with waterproof tarps at the end of each work day. Plastic wrappers supplied by the insulation manufacturer are not acceptable substitutes for tarps. The Owner's Representative will reject any covering method material which does not adequately protect roofing materials.
- M. Anyone guilty of willful destruction or unlawful removal of company property will be dismissed from the job and is subject to prosecution by law.

- N. Any lawns damaged by Contractor vehicles will be restored with a stand of grass at the Contractor's expense. Any damaged pavements will likewise be restored at the Contractor's expense.
- O. The Contractor must verify that all materials can be installed to accommodate the building design, pertinent codes and regulations, and the manufacturer's current recommendations.
- P. The Contractor will ensure that all substances are clean, dry, sound, smooth, and free of dirt, debris, and other contamination before any materials are supplied.
- Q. Any isolated areas that must be torn off and replaced will be built-up to the height of the existing roof prior to the installation of the new roofing membrane system.

1.17 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval of the Owner or Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of specifications and drawings on the job-site at all times.
- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

1.18 INSULATION

- A. Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cantos, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back ½" from vertical surfaces and sumps. Insulation shall be protected from the weather at all times. No more insulation shall be laid than can be completely covered with roof materials on the same day. A base sheet shall not be considered as a proper weather barrier.
- B. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation. If roofing is in place, the roofing shall be also replaced. All replacing work shall be done at no added cost to the Owner.

1.19 ROOF DECK

- A. Contractor shall notify the Owner or Owner's Representative of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owner's prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier, if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

1.20 SAFETY

- A. Contractor shall conform to requirements as designated by the United States Federal Government (O.S.H.A.). Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.

- B. Contractors hereby acknowledged that they and their workers have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.

1.21 INSURANCE

- A. The following standard indemnity agreement and minimum insurance requirements are incorporated in the Specifications for all work performed by Contractors for the Owner, its affiliated and associated organizations or subsidiaries, hereinafter referred to as Owner.
 - 1. THE CONTRACTOR AGREES TO INDEMNIFY AND SAVE THE OWNER AND OWNER'S REPRESENTATIVE HARMLESS FROM AND AGAINST ANY AND ALL COSTS, LOSS AND EXPENSE, LIABILITY DAMAGES, OR CLAIMS FOR DAMAGES, INCLUDING COST FOR DEFENDING ANY ACTION, ON ACCOUNT OF ANY INJURY TO PERSONS (INCLUDING DEATH) OR DAMAGE TO OR DESTRUCTION OF PROPERTY OF THE OWNER, ARISING OR RESULTING FROM THE WORK PROVIDED FOR OR PERFORMED, OR FROM ANY ACT, OMISSION, OR NEGLIGENCE OF THE CONTRACTOR, SUBCONTRACTOR AND THEIR AGENTS OR EMPLOYEES. THE FOREGOING PROVISIONS SHALL IN NO WAY BE DEEMED RELEASED, WAIVED OR MODIFIED IN ANY RESPECT BY REASON OF ANY INSURANCE OR SURETY PROVIDED BY THE CONTRACTOR.
 - 2. All sub-contractors are required to file Certificated of Insurance properly completed and signed by an authorized insurance company representative before their work commences on the job or job site. No monies will be paid until the acceptable certificates are on file with the Contractor. Such certificates shall provide that there will be no cancellation, reduction or modification of coverage without thirty (30) days prior written notice to the Contractor. In the event such certificates are not provided to the Contractor prior commencement of work, Contractor's failure to demand such certificates shall not be deemed a waiver of Subcontractor's requirement to obtain the subject insurance.
 - 3. The Contractor shall provide and maintain standard fire, extended coverage perils, vandalism and malicious mischief insurance to protect the interest of both the Contractor and the Owner for materials brought into the job or stored on the premises. Such insurance shall be for 100% of the insurable value of the work to be performed including all items of labor and materials incorporated therein, materials stored at the job-site to be used in completing the work, and such other supplies and equipment incidental to the work as are not owned or rented by the Contractor, the cost of which are included in the direct cost of the work. This insurance shall not cover any tools, derricks, machinery, tar buckets, ladders, engines, workmen's quarters, boilers, pumps, wagons, scaffolds, forms, compressors, shanties, or other items owned or rented by the Contractor, the cost of which is not included in the direct cost of the work.
 - 4. In accordance with Section (1.21), the Contractor and subcontractor(s) shall maintain the following insurance:
 - a. Workmen's Compensation and Employer's Liability Insurance affording:
 - 1) Protection under the Workmen's Compensation Law of the States in which the work is performed; and
 - 2) Employer's Liability protection subject to a minimum limit of \$100,000.
 - b. Comprehensive General Liability Insurance in amounts not less than:
 - 1) Personal Injury: \$1,000,000 per person (including bodily injury) \$1,000,000 per occurrence
 - 2) Property Damage: \$1,000,000 per occurrence
 - c. Comprehensive Automobile Liability Insurance in the following minimum amounts:
 - 1) Bodily Injury \$1,000,000 per person \$1,000,000 per occurrence

- 2) Property Damage \$1,000,000 per occurrence
- d. This insurance shall:
 - 1) Include coverage for the liability assumed by the Contractor under this section (section 1.21.A.1) (Indemnity);
 - 2) Includes coverage for:
 - a) Premises, operations and mobile equipment liability
 - b) Completed operations and products liability
 - c) Contractual liability insuring the obligation assumed by the subcontractor in this agreement.
 - d) Liability which subcontractor may incur as a result of the operations, acts or omissions of subcontractors, suppliers or material men and their agents or employees; and
 - e) Automobile liability including owned, non-owned and hired automobile.
- e. All coverage will be on an occurrence basis and on a form acceptable to the Contractor.
 - 1) Include completed operation coverage which is to be kept in force by the Contractor for a period of not less than one year after completion of the work provided for or performed under these specifications;
 - 2) Not be subject to any of the special property damage liability exclusions commonly referred to as the exclusions pertaining to blasting or explosion, collapse or structural damage and underground property;
 - 3) Not be subject to any exclusion of property used by the insured or property in the case, custody or control of the insured or property as to which the insured for any purpose is exercising physical control; and
 - 4) The Certificate of Insurance furnished by the Contractor shall show specific reference that each of the foregoing items have been provided for.
5. The Certificates of Insurance furnished by the Contractor as evidence of the Insurance maintained by him shall include a clause obligating the Insurer to give the Owner thirty (30) days prior written notice or cancellation of any material change in the insurance.

1.22 WORK HOURS AND DAYS

- A. When the Contract is awarded, the Contractor will contact the Owner's Representative to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is to be bid under the assumption that all work will be performed on a straight time basis.

1.23 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

1.24 OWNER'S RULES

- A. The Contractor and all his/her personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Owner's Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to roof areas with very poor condition and which will be worked on. After such notification, the Contractor must take all necessary precautions to ensure the safety of his/her employees as well as the building personnel.

- C. THE CONTRACTOR SHALL "HOLD HARMLESS" THE MATERIAL MANUFACTURER, AGAINST ANY LITIGATION ARISING FROM ANY ACCIDENTS DURING THE COURSE OF THE CONTRACT.

1.25 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the United States Federal Governments (e.g., O.S.H.A).

1.26 ANTI-DISCRIMINATION IN EMPLOYMENT

- A. Contractors and subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of his/her contract, with respect to his/her hire, tenure, terms, conditions or privileges of employment because of his/her race, color, gender, sexual preference, religion, national origin, or ancestry.

PART 2 INSTRUCTIONS TO BIDDERS

2.1 WITHDRAWAL OR MODIFICATION OF BID

- A. Any Bidder may withdraw his/her bid at any time before the scheduled closing date of the bid by appearing in person or by sending an authorized representative of the Bidder. An appointment should first be scheduled by calling the Owner's Representative. The Bidder or his/her representative shall be asked to sign, in writing that the bid was returned to him/her/ after the withdrawal from the contract, the Bidding Contractor may not resubmit them.

2.2 BID OPENINGS

- A. Bids will be opened publicly and read aloud at the published date and time. Notice of award will be made by written correspondence.

2.3 QUESTIONS

- A. Questions regarding this bid must be submitted in writing to: Lauren Rowley, Purchasing Manager for the City of Flint.
- B. If the Contractor feels a conflict exists between what is considered good roofing practice and these specifications, he/she shall state in writing all objections prior to submitting quotations.
- C. It is the Contractor's responsibility, during the course of the work, to bring to the attention of the Owner's Representative any defective membrane, insulation or deck discovered which has not been previously identified.

2.4 RESPONSIBILITY FOR MEASUREMENTS AND QUANTITIES

- A. The Bidding Contractors shall be solely responsible for all accuracy of all measurements and for estimating the material required to satisfy these specifications.

2.5 DISCREPANCIES AND ADDENDA

- A. Should a Bidder find any discrepancies in the Drawings and Specifications, or should he be in doubt as to their meaning, he/she shall notify the Owner's Representative at once, who

will send a written Addendum to all Bidders concerned. Oral instructions or decisions, unless confirmed by Addenda, will not be considered valid, legal or binding.

- B. No extras will be authorized because of the Contractor's failure to include work called for in the Addenda in his/her bid.
- C. It shall be the responsibility of all Bidders to call to the Owner's Representative's attention at the pre bid meeting, any discrepancies which may exist between or with any of the contract documents, or any questions which may arise as to their true meaning.
- D. Modifications to the specifications (if necessary) will be followed by an addendum; no verbal discussions or agreements shall be recognized.

2.6 COMPETENCY OF THE BIDDERS

- A. To enable the Owner to evaluate the competency and financial responsibility of a Contractor, the low Bidder shall, when requested by the Owner, furnish the information indicated in Section 5.0 below, entitled Contractor's Qualification Statement, which shall be sworn to under oath by him/her or by a properly authorized representative of the Bidder.

2.7 DISQUALIFICATION OF BIDDERS

- A. Any one or more of the following causes may be considered sufficient for the disqualification of a Bidder and the rejection of his/her bid(s):
 1. Failure to attend the pre bid meeting;
 2. Evidence of collusion among Bidders;
 3. Lack of responsibility as revealed by either financial, experience or equipment statements, as submitted;
 4. Lack of expertise as shown by past work, and judged from the standpoint of workmanship and performance history;
 5. Uncompleted work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded; or
 6. Being in arrears on existing contracts, in litigation with an Owner, or having defaulted on a previous contract.
 7. Failure to complete/submit Bid Form A & Bid Form B.

2.8 NOTICE OF AWARD

- A. The award of this contract for the work is contingent upon receipt of an acceptable bid. Any part of or all bids may be rejected. All bids shall be good for a period of sixty (60) days following the date the bids are due. The contract shall be deemed as having been awarded when the formal notice of acceptance of his/her proposal has been duly served upon the intended awardee by an authorized officer or agent of the Owner.

2.9 WARRANTY

- A. A written warranty which will commence from date of acceptance by primary Manufacturer must be supplied with the roof installation. This warranty will cover all defects in workmanship and materials. Damages caused by storm, vandalism and other trades are not included in the warranty. This warranty shall be from the manufacturer (See further, Statement of Policy).

- B. A two (s) year workmanship warranty is required from the Contractor for all remedial maintenance done under the terms of this contract.

2.10 START AND COMPLETION DATE

- A. Work shall begin within thirty (30) days from the award of this contract, or as agreed upon by all parties.
- B. All work as required in these specifications and drawings shall be completed within sixty (60) days of the start date, or as agreed upon by the parties.
- C. Unless work is hampered by long period of inclement weather, by due proof of material unavailability, or by strike, the Owner will assess a penalty in the amount of \$300.00 a day for each day beyond the agreed completion date.
- D. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out his/her work, so that it will be started and completed in a professional manner within the time period indicated on his/her Proposal form.
- E. If the Contractor sets equipment onto the job-site without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the Contractor at no cost to the Owner, must remove his/her equipment and possessions from the job-site upon notification by the Owner.

2.11 PAYMENT

- A. Payment for materials shall only be made after the material has been delivered to the job-site. An invoice for the material must be presented to the Owner for payment. Materials are not to be delivered to the job-site until the project is ready to begin. The Contractor must provide a release of lien from the Material Manufacturer. Subsequent requests for payment can be made monthly. Final payment for the project will be made following completion, after final inspection has been made and an invoice presented to the Owner. A 10% retainer shall be held until delivery of the warranty.
- B. When the job in progress is interrupted for two (2) weeks or longer by causes beyond the Contractor's control such as a strike, weather, acts of God, etc., the Owner agrees to pay, upon request of the Contractor, a price equivalent to the percentage of work completed at that time. Regular progress payments shall be made for labor and/or materials.
- C. Each invoice shall be accompanied by a detailed estimate of the amounts and values of labor expended and materials purchased up to the last day of the preceding month. The amount of the invoice shall not exceed ninety percent (90%) of the labor and material values estimated for the preceding month.
- D. Such payments shall be viewed by both parties as progress payments and shall not in any way relieve the Contractor of performance obligations under this contract, nor shall such payments be viewed as approval or acceptance of work performed under this contract.

- E. Final payment shall be withheld until all provisions of the specifications are met, including all necessary clean-up, and the Owner receives written verification of completion.
- F. Upon completion of the job, the Owner, the Owner's Representative, and the Contractor will make final inspection of the work done, and the Owner's Representative if requested by Owner's Representative.
- G. All payments for material used in the execution of this contract can be made by a check issued jointly, payable to the Contractor and Owner's Representative will sign a completion slip authorizing final payment.
- H. If requested by the Owner and/or Owner's Representative, the Contractor shall provide a Letter of Credit from the bank to secure payment to material supplier.
- I. If requested by the Owner and/or Owner's Representative, a certified check shall be paid by the Contractor to material supplied prior to release of order.
- J. If requested by the Owner and/or Owner's Representative, a certified check shall be paid by the Contractor to material supplier via common carrier upon receipt of delivery.
- K. Contractor shall have a pre-approved line of credit from the material supplier.
- L. Final payment shall be made to the Contractor no later than thirty (30) days after job approval, providing the Contractor submits waivers of lien with his/her final invoice indicating that all suppliers have been paid.

2.12 PERFORMANCE AND PAYMENT BOND

- A. The successful Contractor will be responsible for securing a performance and payment bond from an acceptable bonding company. The cost of the bond will be paid directly by the Contractor. Contractor has to identify his/her bonding company and agent, submitting this documentation with his/her proposal. Note: See "Instruction to Bidders."
- B. Financial documentation prescribed by the Owner to ensure that the Contractor is financially sound and capable of supporting the project to its conclusion.
- C. If the successful Bidder is incorporated, an affidavit authorizing persons to sign for the Corporation. This should be in the form of minutes of the meeting of the Board of Directors, authorizing person or persons to sign for this contract work and indicating a quorum being present.

2.13 TERMINATION BY THE OWNER FOR CAUSE

- A. The Owner may terminate the contract and finish the work by whatever reasonable method he/she deems expedient if the Contractor:
 - 1. Persistently or repeatedly refuses to supply specified materials or to provide enough skilled workers to ensure the project will be completed within the time period indicated on his/her Proposal form;

2. Fails to make payment to sub-contractors and/or suppliers for labor and materials as stipulated in the contract documents; and
 3. Is guilty of substantial breach of a provision of the contract documents.
- B. When the Owner terminates the contract for any of the above reasons, the Contractor shall not be entitled to receive further payment until the work is finished. If the unpaid balance of the contract sum exceeds the cost of finishing the work, it will be paid to the Contractor. If the cost to finish the work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner.

2.14 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

PART 3 --- CONTRACTOR'S INSTRUCTIONS

3.1 TAXES

- A. Contractor must comply with all state, federal and local taxes. The Contractor shall accept sole and exclusive responsibility for any and all state federal taxes with respect to Social Security, old age benefits, unemployment benefits, withholding taxes and sales taxes.

3.2 CONTRACTOR'S LICENSE

- A. All pertinent state and local licenses will be required.

3.3 QUALIFICATION OF BIDDERS

- A. Provide State of Michigan pre-certification forms.

3.4 BUILDING PERMITS

- A. The acquisition of the applicable permits and associated costs to obtain said permits will be the responsibility of the successful Contractor.

3.5 JOB COORDINATION

- A. Contractor is responsible for daily communication with the Owner or Owner's Representative relating to areas of roof work in order that the Owner may adequately protect tenant's personal belongings, and the people themselves against possible damage or injury. Contractor is also responsible for policing and protecting areas involving removal and replacement of roof projections, defective decking or other work involving deck penetration.
- B. Twenty-four hours prior to starting of the project and/or delivery of materials, the Contractor shall notify _____ Owner _____.

3.6 CLEAN-UP

- A. Accumulated debris shall be removed periodically to assure maximum safety and sanitation at all times. At completion of work, the Contractor shall remove all excess material and debris from the site and leave all roof surfaces free from accumulations of dirt, debris and other extraneous materials. The Contractor shall also remove any and all drippage of

bituminous materials from the face of the buildings, floor, window, ladders and other finished surfaces.

3.7 SUPERINTENDENT

- A. The Contractor shall keep a competent superintendent, satisfactory to the Owner and Owner's Representative, on the job at all times when work is in progress. The superintendent shall not be changed without notifying the Owner and the Owner's Representative unless the superintendent ceases to be in the employ of the Contractor.
- B. The superintendent shall represent the Contractor in his/her absence and all directions and instructions given to the superintendent shall be as binding as if given directly to the Contractor.
- C. The superintendent shall be responsible for the conduct of all the Contractor's employees on the premises and shall promptly take necessary measures to correct any abuses called to his/her attention by the Owner.

3.8 INSPECTIONS

- A. Before any material applications are made, the Owner or his/her representative and the material supplier representative shall be available to ensure a complete understanding of the specification.
- B. The accepted Material Manufacturer will have a representative on site a minimum of three (3) times a week to verify compliance with the specifications, answer questions that may arise and provide on-going inspection services.
- C. A final inspection shall be conducted by Owner, Contractor, and the Owner's Representative upon being notified of completion of specified work and clean-up.

PART 4 – STATEMENT OF POLICY

4.1 ENGINEERING

- A. In addition to high-quality products, the Material Manufacturer provides recommendations and/or specifications for the proper installation of its material. However, the Material Manufacturer does not, nor does its representative, practice engineering or architecture. The Material Manufacturer makes no judgments on, and hereby disclaim any responsibility for the soundness of any roof deck or other structural component of buildings upon which the Material Manufacturer products are applied, and further recommend a structural engineer to examine the deck conditions. Re-roofing or Ballasted Roofing Systems will require certification from a structural engineer that the structure will support the proposed additional weight.

4.2 GUARANTEES

- A. A roofing guarantee is available for review from the Material manufacturer for the roofing systems published in these specifications. The guarantee will be issued only upon completion of all the guarantee requirements by an approved Contractor. Such guarantees cannot be

altered or amended, nor may any other warranties, guarantees or representations be made by an agent or employee of the Material Manufacturer unless such alteration, amendment or additional representation is issued in writing and is signed by a duly authorized officer of the Material Manufacturer, and sealed with the Material Manufacturer seal. This guarantee does not cover cosmetic deficiencies. THE MATERIAL MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO THE BUILDING OR ITS CONTENTS OR ANY OTHER CONSEQUENTIAL DAMAGES, AND ITS RESPONSIBILITY IS LIMITED TO REPAIRING LEAKS. The Contractor will warranty the roof to the Material Manufacturer for a period of two (2) years. The Contractor will inspect the roof with the Owner's Representative 18 months after completion, and, at the Contractor's expense, correct any workmanship defects before the 24th month following completion of the project.

4.3 APPROVED CONTRACTORS

- A. The roof systems must be applied only by those contractors who have received approval from the Material Manufacturer for such installations. No guarantees will be issued when installation has been performed by a non-approved contractor.

4.4 ROOFING SEQUENCE

- A. Phase roofing is not acceptable. Any insulation or base layers laid in any one day must be covered with the properly installed roof system that same day. Failure to do so will void any warranties and no guarantee will be issued for the roofing system.

4.5 ACCEPTABILITY OF COMPLETED WORK

- A. The acceptability of completed roofing work will be based on its conformance to the contract requirement. The Material Manufacturer is not obligated to accept non-conforming work, and such non-conforming work may be rejected. The rejected work shall be promptly replaced or corrected in a manner and by methods approved by the Material Manufacturer at the Contractor's expense. The Material Manufacturer will instruct the Contractor's foreman and work crew on the proper methods of installation of the roofing system, and will follow-up on a regular basis to inspect the work being done. Any deficiencies from the specified work noted by the Material Manufacturer will be immediately reported to the Owner, along with recommended corrective actions necessary. The Material Manufacturer will not act in a supervisory capacity, and will not be responsible for the Contractor's errors or omissions.

4.6 ENGINEERING AND ROOF DECK

- A. The Material Manufacturer nor its representatives, practice engineering nor architecture. It makes no judgments on, and hereby disclaim any responsibility for the soundness of any roof deck or other structural component of buildings upon which its products are applied. Re-roofing and general building structuring require certification from a structural engineer that the structure will support the proposed additional weight. In addition, the Contractor must notify the Owner or his/her representative on the job-site of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owner's prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

4.7 ASBESTOS IDENTIFICATION

- A. The Material Manufacturer routinely conducts roof surveys and inspections in order to provide recommendations and/or specifications for the use of its products. However, the MATERIALS MANUFACTURER IS NOT, NOR ARE ITS REPRESENTATIVES, CERTIFIED

TO IDENTIFY, HANDLE OR MONITOR ASBESTOS IN ROOFING, DECKING OR INSULATION. THEREFORE, IT MAKES NO JUDGMENTS ON AND HEREBY DISCLAIMS ANY RESPONSIBILITY FOR IDENTIFYING, HANDLING OR MONITORING ASBESTOS. If a building owner suspects that an asbestos condition exists on or under the roof area in question, Material Manufacturer can recommend licensed laboratories and technicians that can identify, remove, dispose of, and monitor the project.

4.8 ASBESTOS LIMITATIONS

- A. The Owner has been informed, acknowledges and agrees that Material Manufacturer is not engaged in the business of identifying, abating, encapsulating or removing asbestos or asbestos containing materials from the work site and has not agreed to do so herein.

- B. IN CONSIDERATION OF THE PROVISION HEREOF, THE OWNER HEREBY AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS THE MATERIAL MANUFACTURER, ITS OWNERS, OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS, INCLUDING THE ENGINEER FROM AND AGAINST ANY AND ALL LIABILITIES, DAMAGES, LOSSES AND EXPENSES (INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES) ARISING OUT OF, OR RELATING TO, ANY CLAIMS, DEMANDS, OR CAUSES OF ACTION OF ANY KIND,, ATTRIBUTABLE TO, ARISING OUT OF, OR RELATING TO THE PRESENCE OF ASBESTOS OR ASBESTOS-CONTAINING MATERIALS ON OR AT THE WORK SITE AND/OR THE ABATEMENT, ENCAPSULATION AND/OR THE REMOVAL THEREOF.

4.9 MOLD LIMITATIONS

- A. The roofing system manufacturer makes no representation or warranty, express, implied, or otherwise, regarding mold, fungi, rust, corrosion or other bacteria or organism. Neither shall roofing system manufacturer have any duty to identify, nor accept any responsibility or liability for any claims associated with mold, fungi, rust, corrosion or other bacteria or organism related claims.

5.0 CONTRACTOR'S QUALIFICATION STATEMENT

The undersigned certified oath that the information provided herein is true and sufficiently complete so as not to be misleading.

Submitted to: _____

Submitted by (Firm Name): _____

Address: _____

Principal Office Location_____

Qualification Statement Submitted for- Project Name

Type of Work:

Site Preparation_____

General Construction_____

Roofing_____

Plumbing_____

HVAC_____

Sprinkler_____

Electrical_____

Other_____

Electrical_____

(File separate form for each classification of work)

Organization:

Please provide the following information concerning your organization:

Type of Entity:

Corporation_____

Partnership_____

Individual_____

Other_____

Name of Principal, Owners or Partners

Years of Service

Name Position with Organization

Number of years this organization has been in business_____

Have members of this organization operated under former names/business?

Yes_____ No_____

If "yes," list name, type of entity and names of principal, owners or partners.

Provide a brief description of the general type of construction the firm performs. Please indicate for this project the work you intend to subcontract or perform.

Perform Subcontract

Earth Work_____

Concrete Work_____

Masonry Work_____

Structural Work_____

Roofing Work_____

Sprinkler_____

Plumbing_____

HVAC_____

Electrical_____

Experience

Please list the type and number of educational projects your firm has constructed which were subject to the Owner Guidelines and other Ohio regulatory agency construction requirements:

Type Number

New Construction – Primary _____

New Construction – Secondary _____

Renovations – Primary_____

Renovations – Secondary_____

Please list on a separate sheet marked “Appendix A” the major construction projects your organization has in progress providing the name of project, owner, architect, contract amount, bonding company, insurance carrier, percentage complete and scheduled completion date.

Please list on a separate sheet marked “Appendix B” the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, bonding company, date of completion and percentage of the cost of the work performed with your own forces.

Insurance and Bonds

Please list names of current insurance carrier and number of projects insured by carrier:

Please list names of bonding company/agent utilized for projects constructed during the last five years:

Claims and Suits

Has your organization ever failed to complete any construction work it has been awarded? Yes____
No____

Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please describe in full.) Yes____ No____

Has there been in the last ten years, or is there now pending or threatened, any litigation, arbitration, investigation, or governmental or regulatory proceeding involving claims in excess of \$100,000 or requesting a declaratory judgment or injunctive relief with respect to the construction or operation of any building which your firm, its principals, predecessors or affiliates constructed? Yes____ No____

Are all city, county, state and Federal taxes of any type, including real estate, FICA and Workmen's Compensation paid to date? Yes____ No____

Is there any potential claim, demand, litigation, arbitration, investigation, governmental proceeding or regulatory proceeding involving your firm, or its principals, predecessors or affiliates? Yes____ No____

If the answer to either of the preceding questions is "Yes," please describe in full in an attachment referred to in the preceding paragraphs, is there any litigation, arbitration, investigation or governmental or regulatory proceeding.

In addition to the litigation, arbitration, investigation, governmental proceeding or regulatory proceeding now pending or threatened to which your firm is or may be a party, or are you aware of any potential claim or demand, which might otherwise affect the capacity of your firm to perform with respect to your involvement with the Owner, whether or not it concerns other work which you have undertaken? If so, please describe in full. Yes____ No____

Bankruptcy

Has your firm, its principals, predecessors, or affiliates been the subject of any proceeding under the federal bankruptcy laws or any other proceedings under state or federal law in which a court or government agency has assumed jurisdiction over any of the assets or business of your firm, its principals, predecessors or affiliates? If so, please identify the proceedings, the court or governmental body and the date such jurisdiction was assumed in an attachment. Yes____ No____

Change Order History

Describe each instance the last five (5) years where change orders applied for during construction amounted in the aggregate to more than five percent (5%) of the contract price for any

building which your firm constructed, or in which actual construction costs exceeded the contract price by more than five percent (5%) in an attachment.

Financial Condition

Please attach your organizations' last two (2) years' financial statements including your latest balance sheet and income statement showing the following:

Current assets (e.g., cash, joint venture accounts, receivable, accrued income, deposits, materials inventory and prepaid expenses):

Net Fixed Assets:

Other Assets:

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes): List all older than 60 days.

Other Liabilities (e.g., capital stock, authorized and outstanding shares per values, earned surplus and retained earnings):

Name and address of firm preparing attached financial statement and date thereof.

References

Please list below Trade References:

Please list below Bank References:

END OF SECTION



SECTION 01 43 33.75

ROOFING MANUFACTURER'S FIELD SERVICES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 07 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes Manufacturer's field services for roofing assemblies.

1.3 REFERENCES

- A. International building Code (current edition) or local authority building code.
- B. American Society of Civil Engineers (ASCE): ASCE 7, Minimum Design Loads for Buildings and Other Structures.
- C. Factory Mutual Global (FMG): Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- E. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI): ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal.

1.4 SUBMITTALS FOR REVIEW

- A. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- B. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- C. Roofing System Manufacturer's Evaluation: Provide a comprehensive written assessment comparing available roofing solutions with validation of why the roofing system selection for the specific project is suitable and appropriate.
- D. Roofing System Manufacturer's Report Form: Provide a copy of the report form utilized by the roofing system manufacturer for progress inspections to monitor installation and quality.

- E. Online Reporting Capabilities: Provide a sample of the roofing system manufacturer's online roof inspection report as well as information about how long inspection reports are available to owner.

1.5 SUBMITTALS FOR INFORMATION

- A. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- B. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual Global, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- C. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- D. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
- E. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
- F. Design Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7, Method 2 for Components and Cladding. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article of this specification.
- G. Qualification data for firms and individuals identified in Quality Assurance Article below.
- H. Test Reports: Submit ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal Products.
- I. Substitutions: Products proposed as equal to the products specified for this project shall meet all of the requirements in the appropriate Division 7 specifications and shall be submitted for consideration at least 4 days prior to the date that bids must be submitted.
 - 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification Section. That specification Section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 2. Manufacturer's checklist will be accompanied with any substitution to verify equal performance characteristics to those specified in Division 7 specification.
 - 3. The Owner's decision regarding substitutions will be considered final.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.

- B. Roofing Maintenance Instructions: Provide a roof care and maintenance manual of manufacturer's recommendations for maintenance of installed roofing systems.
- C. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.
- D. Inspection Logs: Copy of inspection reports as performed by the manufacturer shall be submitted at project closeout and include photographic documentation of installation progress, weather conditions, and personnel on the project at the time of every inspection.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with not less than [12] years documented experience and have ISO 9001 certification.
- B. Installer Qualifications: Company specializing in specified roofing installation with not less than [5] years experience and authorized by roofing system manufacturer as qualified to install manufacturer's roofing materials.
- C. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress. Maintain proper supervision of workmen.
- D. Maintain a copy of the roof plans, details, and specifications in the possession of the Supervisor/Foreman and on the roof at all times.
- E. Source Limitations: Obtain all primary components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer.
 - 1. The manufacturer providing the roofing system warranty must verify that they manufacture a minimum of 75% of the products utilized in the roofing system of this project. Products that are private labeled shall not be considered as manufactured by the roofing system supplier.
 - 2. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
- F. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001.

1.8 PRE-INSTALLATION CONFERENCE

- A. Pre-Installation Roofing Conference: Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installer of each component of associated work: installers of deck or substrate construction to receive roofing work: installers of rooftop units and other work in

and around roofing that must precede or follow roofing work (including mechanical work if any): architect and/or engineer: owner: roofing system manufacturer's full time employee: and other representatives directly concerned with performance of the Work, including (where applicable) owner's insurers, testing agencies and governing authorities. Objectives of conference include:

1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 4. Review roofing system requirements (drawings, specifications and other contract documents).
 5. Review required submittals both completed and yet to be completed.
 6. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 7. Review required inspection, testing, certifying and material usage accounting procedures.
 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).
 9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish a copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
- C. The Owner's Representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
- D. The intent of the conference is to resolve issues affecting the installation and performance of roofing work. Do not proceed with roofing work until such issues are resolved to the satisfaction of the owner and [architect and/or engineer] of record. This shall not be construed as interference with the progress of Work on the part of the owner.

1.9 MANUFACTURER'S INSPECTIONS

- A. When the Project is in progress, a full-time employee of the roofing system manufacturer must provide the following:
1. Report progress and quality of the work as observed. Progress reports must be published to an online system as referenced in Section 1.4.
 2. Provide periodic (3, 4, or 5 days per week) roofing installation inspections: Inspections must include; photographic documentation of work in-progress and written statements of compliance with details/shop drawings.
 3. Report to the owner, architect and/or engineer in writing any failure or refusal of the contractor to correct unacceptable practices called to the contractor's attention.
 4. Confirm after project completion that the manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.10 WARRANTY

- A. Upon completion of installation, and acceptance by the owner and architect and/or engineer, the manufacturer will supply to the owner the specified warranty.
- B. Installer will submit a five (2)-year workmanship warranty to the membrane manufacturer with a copy directly to the owner.
- C. The roofing system manufacturer must have been in continuous business operation for a period of time at least as long as the length of the roof system warranty provided for this project.

1.11 DESIGN AND PERFORMANCE CRITERIA

- A. Uniform Wind Uplift Load Capacity (required for each roof section)
 - 1. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
 - Attachment shall be installed exactly as given in Part 3.
 - a. Design Code: ASCE 7-05, Method 2 for Components and Cladding.
 - b. Category III Building with an Importance Factor of 1.15
 - c. Wind Speed: 120 mph
 - d. Ultimate Pullout Value: Fully-adhered
 - e. Exposure Category: B
 - f. Design Roof Height: [25] feet.
 - g. Minimum Building Width: [30] feet.
 - h. Roof Pitch: [¼:12] inches per foot.
- B. Snow Load: [25] psf.
- C. Live Load: 20 psf, or not to exceed original building design.
- D. Dead Load: Loading of the roof structure, due to tear off of existing and/or installation of new roofing materials shall not exceed the present loading due to weight of the existing roofing system by more than [1] psf.
- E. Drainage Calculations: Drainage shall be calculated by primary roofing system manufacture for all roof areas to determine suitability of all plumbing and gutter accommodations are sized appropriately to manage storm water runoff.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of related Division 07 Section.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.

- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.

3.3 FIELD QUALITY CONTROL

- A. Roofing Manufacturer Representative shall perform field inspection as specified in Article titled: MANUFACTURER'S INSPECTIONS above. Inspections must include photographic documentation of installation progress, weather conditions, and personnel on the project at the time of inspection.
- B. Correct defects or irregularities discovered during field inspection. Issues deemed defective must be re-inspected and determined suitable by the roofing manufacturer.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system. A copy of the specification shall also be on site at all times.
- D. Frequent progress meetings shall be conducted during the performance of roof system installation and must be attended by the owner, architect or engineer, roofing system manufacturer's full time employee, and other representatives directly concerned with performance of the work.

3.4 FINAL INSPECTION

- A. At the completion of the roofing installation and associated work, meet with contractor, architect or engineer, installer, installer of associated work, owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Notify the owner upon completion of corrections.
- D. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the roofing contractor.
- E. If core cuts verify the presence of damp or wet materials, the roofing contractor shall be required to replace the damaged areas at his own expense.
- F. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- G. Immediately correct roof leakage during construction. If the contractor does not respond within twenty four (24) hours, the owner may exercise right to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION

SECTION 07550
MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hot Applied 2-Ply Asphalt Roofing

1.2 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- E. ASTM D 1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- F. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- G. ASTM D 2824 Standard Specification for Aluminum-Pigmented Asphalt Roof Coating.
- H. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- I. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- J. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- K. Factory Mutual Research (FM): Roof Assembly Classifications.
- L. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- M. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- N. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- O. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- P. UL - Fire Resistance Directory.
- Q. FM Approvals - Roof Coverings and/or RoofNav assembly database.

1.3 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Exterior Fire Test Exposure: Roof system shall achieve a UL, FM or WH Class rating for roof slopes indicated on the Drawings as follows:
 - 1. Factory Mutual Class A Rating.
- C. Design Requirements:
 - 1. Uniform Wind Uplift Load Capacity
 - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
 - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
 - 2) Importance Category:
 - a) III.
 - 3) Importance Factor of:
 - a) 1.15
 - 4) Wind Speed: 120 mph
 - 5) Ultimate Pullout Value:
 - 6) Exposure Category:
 - a) B.
 - 7) Design Roof Height: 25 feet.
 - 8) Minimum Building Width: 30 feet.
 - 9) Roof Pitch: 1/4 :12.
 - 2. Snow Load: 25 psf.
 - 3. Live Load: 20 psf, or not to exceed original building design.
 - 4. Dead Load:
 - a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.
- D. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.
- E. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio-based materials.
- F. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

- G. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- H. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- I. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Factory Mutual (FM), Underwriters Laboratories (UL), Warnock Hersey (WH) or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- J. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Primary Roofing Materials Manufacturer, Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to commencing Work of this section.
- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
 - 1. Record minutes of the conference and provide copies to all parties present.
 - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
 - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Architect.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50-degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner.
- F. Adhesive storage shall be between the range of above 50-degree F (10 degree C) and below 80-degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.8 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

1.9 PROJECT CONDITIONS

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

1.10 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed Limited Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due to defective material, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition. Periodic roof inspections required at no additional cost of the Owner throughout the duration of the warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Mule-Hide Products
 - 2. Garland Co.
 - 3. Malarkey
 - 4. Tamko
- B. Requests for substitutions to be submitted in writing to the City of Flint Purchasing Manager along with all necessary documentation four business days prior to the published Due Date.
- C. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.

1. Bidder will not be allowed to change materials after the bid opening date.
2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to acceptance.
3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
 - a. Personally, investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - b. Will provide the same guarantee for substitution as for the product and method specified.
 - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
 - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
 - f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.
4. Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractor request for manufacturer substitution.
6. Chosen primary roofing system manufacturer must provide quality assurance installation inspections, at no additional cost the Owner, performed by full-time employee of said manufacturer.
- 7.

2.2 HOT APPLIED 2-PLY ASPHALT ROOFING – Minimum Performance Criteria

- A. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
 1. StressBase 80 or equal
- B. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive.
 1. StressPly or equal
- C. Interply Adhesive: (1 and 2)
 1. Generic Type IV Asphalt:
- D. Flashing Base Ply: One ply bonded to the prepared substrate with Interply Adhesive: except torch sheet.
 1. StressBase 80 or equal
- E. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive: except torch sheet.
 1. StressPly EUV Mineral or equal
- F. Flashing Ply Adhesive:
 1. Flashing Bond of equal
- G. Surfacing:
 1. Aggregate/Flood Coat
 - a. Black-Knight/Black-Stallion Cold or equal

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
 - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
 - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
 - 4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
 - 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 - 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
 - 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.

3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
 - 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 - 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use

ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

3.4 INSTALLATION HOT APPLIED ROOF SYSTEM

- A. Base/Felt Ply(s): Install base sheet or felt plies in twenty five (25) lbs (11.3kg) per square of bitumen shingled uniformly to achieve one or more plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof. Do not step on base rolls until asphalt has cooled, fish mouths should be cut and patched.
1. Lap ply sheet ends 8 inches (203 mm). Stagger end laps 2 inches (304mm) minimum.
 2. Install base flashing ply to all perimeter and projection details after membrane application.
 3. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 4. Install base flashing ply to all perimeter and projection details.
 5. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Modified Cap Ply(s): Solidly bond the modified membrane to the base layers with specified material at the rate of 25 to thirty 30 lbs. (11-13kg) per 100 square feet.
1. Roll must push a puddle of hot material in front of it with material slightly visible at all side laps. Use care to eliminate air entrapment under the membrane. Exercise care during application to eliminate air entrapment under the membrane.
 2. Apply pressure to all seams to ensure that the laps are solidly bonded to substrate.
 3. Install subsequent rolls of modified membrane as above with a minimum of 4 inch (101 mm) side laps and 8 inch (203 mm) end laps. Stagger end laps. Apply membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
 4. Apply hot material no more than 5 feet (1.5 m) ahead of each roll being embedded.
 5. Extend membrane 2 inches (50 mm) beyond top edge of all cants in full moppings of the specified hot material.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
 3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.

- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and surfaces to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base flashing ply with specified hot material unless otherwise noted in these specifications. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Solidly adhere the entire sheet of flashing membrane to the substrate.
 5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and mesh.
 6. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work as specified.
 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
- H. Flood Coat/Aggregate:
1. Install after cap sheets and modified flashing, tests, repairs and corrective actions have been completed and approved.
 2. Apply flood coat materials in the quantities recommended by the manufacturer.
 3. Uniformly embed aggregate in the flood coat of cold adhesive at a rate recommended by the manufacturer.
 4. Aggregate must be dry and placed in a manner required to form a compact, embedded overlay. To aid in embedment, lightly roll aggregate.
- I. Flashing Cap Ply: Install flashing cap sheets by the same application method used for the cap ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
 5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
 6. All stripping shall be installed prior to flashing cap sheet installation.
 7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
 8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.
- J. Roof Walkways: Provide walkways in areas indicated on the Drawings.

3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
 - 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
 - 2. Field observations shall be performed by a Sales Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
 - 3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
 - 4. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

3.8 SCHEDULES

- A. Base (Ply) Sheet:
 - 1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in./min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
 - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in./min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
 - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in./min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
 - 2) 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)
- B. Thermoplastic/Modified Cap (Ply) Sheet:
 - 1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane with dual fiberglass reinforced scrim and superior low temperature capabilities. ASTM D 6163,

Type III Grade S

- a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 39.0 kN/m XD 39 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 1335 N XD 1335 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 6% XD 7%
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 6% XD 7%
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -50 deg. F (-46 deg. C)
- C. Interply Adhesive:
1. Generic Type IV Asphalt: Hot Bitumen, ASTM D 312, Type IV special steep asphalt having the following characteristics:
 - a. Softening Point 210 deg. F - 225 deg. F
 - b. Flash Point 500 deg. F
 - c. Penetration @ 77 deg. F 15-25 units
 - d. Ductility @ 77 deg. F 1.5 cm
- D. Flashing Base Ply:
1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
 - 2) 50 mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
 - 2) 50 mm/min. @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
 - d. Low Temperature Flexibility, ASTM D 5147
 - 1) Passes -40 deg. F (-40 deg. C)
- E. Flashing Ply Adhesive:
1. Asphalt roofing mastic V.O.C. compliant, ASTM D 4586, Type II trowel grade flashing adhesive.
 - a. Non-Volatile Content ASTM D 4479 70 min.
 - b. Density ASTM D 1475 8.3 lbs./gal. (1kg/l)
 - c. Flash Point ASTM D 93 103 deg. F (39 deg. C)
- F. Surfacing:
1. Flood Coat/Aggregate:
 - a. Coal Tar protective roof coating; heavy-bodied, fiber reinforced, cold process polymer modified, coal tar roof coating having the following characteristics:
 - 1) Weight/Gallon 9.0 lbs./gal. (1.07 g/cm³)
 - 2) Solids by weight 87%
 - 3) Viscosity; Brookfield Heliopath, 2.5 rpm 120,000 cPs
 - 4) Roofing Aggregate: ASTM D 1863
 - a) Pea gravel.
 2. Flashing Cap (Ply) Sheet:
 - a. 160 mil SBS and SIS (Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene) rubber modified membrane incorporating post-consumer recycled rubber, fire retardant additives and reinforced with a fiberglass and polyester

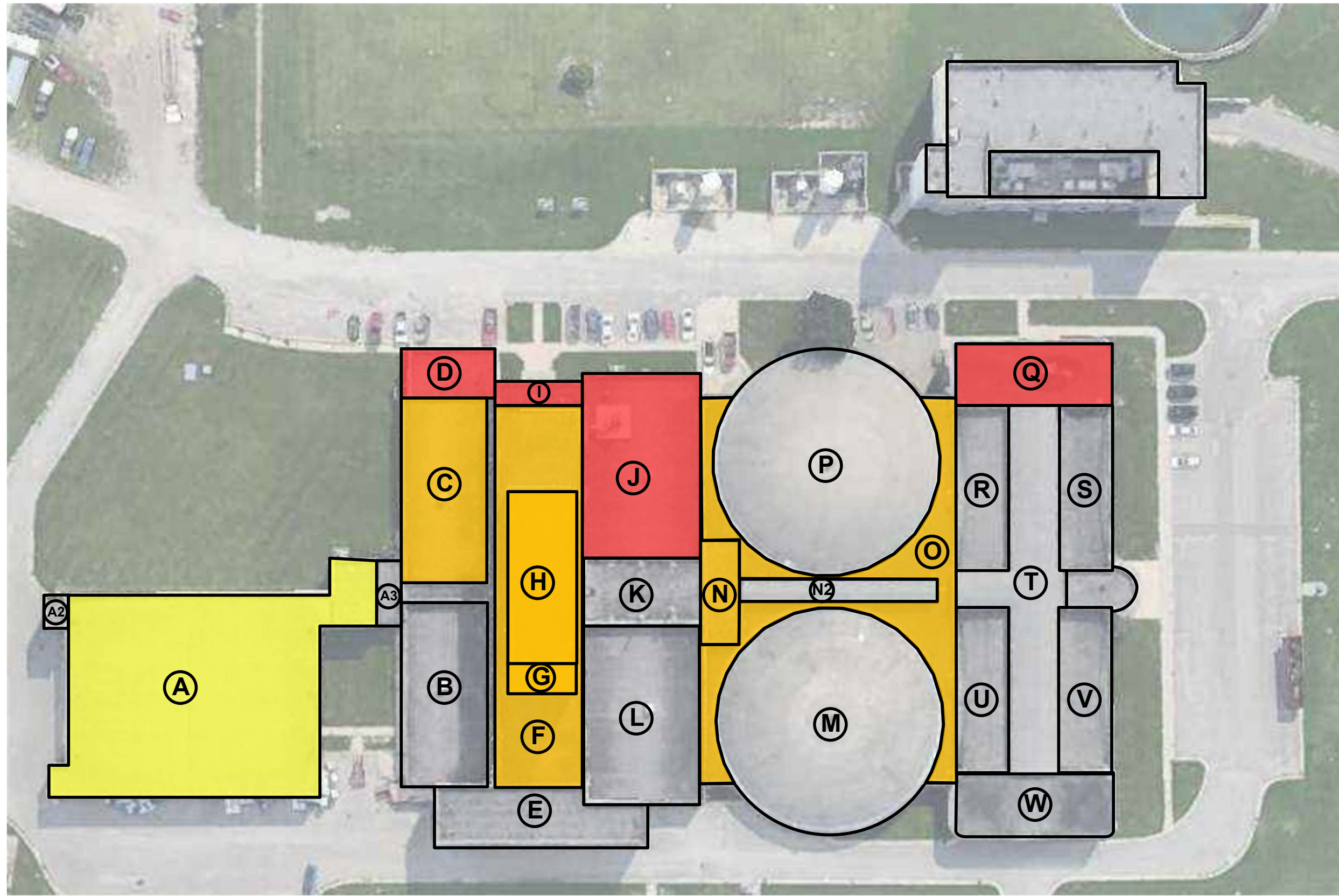
composite scrim. Surfaced with the highly reflective Sunburst white mineral.
ASTM D 6162, Type III Grade G

- 1) Tensile Strength, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 700 lbf/in XD 750 lbf/in
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 122.5 kN/m XD 131.25 kN/m
- 2) Tear Strength, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 1300 lbf XD 1400 lbf
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 5783 N XD 6227 N
- 3) Elongation at Maximum Tensile, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 6.0% XD 6.0%
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 6.0% XD 6.0%
- 4) Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)
- 5) Reflectivity, ASTM C 1549: 73%

END OF SECTION



CITY OF FLINT



PRIORITY #1
 D, I, J & Q

PRIORITY #2
 C, F, G, H, N & O

PRIORITY #3
 A

THE GARLAND COMPANY INC.
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WATER TREATMENT PLANT

SECTION

DATE: 2023

SHEET: 1 OF 1

REVISION:
 DWG BY:
 CHK BY: