CITY OF WILSONVILLE
COOPERATIVE PROCUREMENT
CONSTRUCTION CONTRACT

This Cooperative Procurement Construction Contract ("Contract") for the Water Treatment Plant Reroofing Project ("Project") is made and entered into on _____ ("Effective Date") by and between the **City of Wilsonville**, a municipal corporation of the State of Oregon (hereinafter referred to as the "City"), and **Garland/DBS, Inc.**, a Delaware corporation (hereinafter referred to as "Contractor").

RECITALS

WHEREAS, the Oregon Revised Statutes authorize cooperative procurements in accordance with ORS 279A.200, et seq.; and

WHEREAS, the City requires construction services which Contractor is capable of providing, under terms and conditions hereinafter described; and

WHEREAS, Contractor represents that Contractor, together with its Subcontractor, is qualified to perform the construction services described herein on the basis of specialized experience and technical expertise; and

WHEREAS, Contractor is prepared to provide such services, as the City does hereinafter require.

NOW, THEREFORE, in consideration of these mutual promises and the terms and conditions set forth herein, the parties agree as follows:

AGREEMENT

Section 1. Contract Documents

This Contract includes and incorporates by reference all of the foregoing Recitals, all of the following additional "Contract Documents", and any and all terms and conditions set forth in such Contract Documents: OMNIA Partners Invitation for Bid #PW1925, dated August 7, 2019; Contractor's Bid submitted in response thereto; the Master Intergovernmental Cooperative Purchasing Agreement (MICPA) between Contractor and Racine County, WI, dated September 27, 2019, and all attachments and/or amendments thereto; Contractor's Proposal #25-OR-250646, dated July 1, 2025; and the provisions of Oregon Revised Statutes (ORS) 279C, as more particularly set forth in this Contract. Contractor must be familiar with all of the foregoing and comply with them. Any conflict or inconsistency between the Contract Documents shall be called to the attention of the City by Contractor before proceeding with affected work. All Contract Documents should be read in concert and Contractor is required to bring any perceived inconsistencies to the attention of the City before executing this Contract. In the event a provision of this Contract conflicts with standards or requirements contained in any of the foregoing Contract Documents, the provision that is more favorable to the City, as determined by the City, will apply.

Section 2. Term

The term of this Contract shall be from the Effective Date until all work required to be performed hereunder ("Work") is completed and accepted, or no later than December 31, 2025, whichever occurs first, unless earlier terminated in accordance herewith or an extension of time is agreed to, in writing, by the City. All Work must be at Final Completion by no later than December 31, 2025. See **Section 22** for the definition of Final Completion.

Section 3. Contractor's Work

3.1. Contractor shall diligently perform the Work as more particularly described in the Scope of Work attached hereto as **Exhibit A** and incorporated by reference herein, and in the other Contract Documents for the Project.

3.2. All written documents, drawings, and plans submitted by Contractor in conjunction with the Work shall bear the signature, stamp, or initials of Contractor's authorized Project Manager. Any documents submitted by Contractor that do not bear the signature, stamp, or initials of Contractor's authorized Project Manager, will not be relied upon by the City. Interpretation of plans and answers to questions regarding the Work or Scope of Work given by Contractor's Project Manager may be verbal or in writing, and may be relied upon by the City, whether given verbally or in writing. If requested by the City to be in writing, Contractor's Project Manager will provide such written documentation.

3.3. The existence of this Contract between the City and Contractor shall not be construed as the City's promise or assurance that Contractor will be retained for future services beyond the Scope of Work described herein.

3.4. Contractor shall maintain the confidentiality of any confidential information that is exempt from disclosure under state or federal law to which Contractor may have access by reason of this Contract. Contractor warrants that Contractor's employees assigned to perform any of the Work provided in this Contract shall be clearly instructed to maintain this confidentiality. All agreements with respect to confidentiality shall survive the termination or expiration of this Contract.

Section 4. Contract Sum, Retainage, and Payment

4.1. Except as otherwise set forth in this **Section 4**, the City agrees to pay Contractor the not-to-exceed amount of SEVEN HUNDRED ONE THOUSAND FIVE HUNDRED EIGHTY-THREE DOLLARS ($701,583), based on the unit pricing described in **Exhibit A** and in the Contract Documents, for performance of the Work ("Contract Sum"). Any compensation in excess of the Contract Sum will require an express written Change Order between the City and Contractor. Unit Prices are as more particularly described in the Contract Documents.

4.2. During the course of Contractor's performance, if the City, through its Project Manager, specifically requests Contractor to provide additional services that are beyond the Scope of Work described in the Contract Documents, Contractor shall provide such additional services and bill the City a reasonable agreed upon fee, pursuant to a written Change Order, executed in compliance with the provisions of **Section 24**.

4.3. Contractor will be paid for Work for which an itemized invoice is received by the City within thirty (30) days of receipt, unless the City disputes such invoice, less a five percent (5%) withholding for retainage. Retainage shall be as outlined in the Contract Documents and as specified under ORS 279C.550 to 279C.570. If the City disputes an invoice, the undisputed portion of the invoice will be paid by the City within the above timeframe, less the retainage. The City will set forth its reasons for the disputed claim amount and make good faith efforts to resolve the invoice dispute with Contractor as promptly as is reasonably possible. Final payment will be held until completion of the final walkthrough, as described in **Section 22**.

4.4. The City will be responsible for the direct payment of required fees payable to governmental agencies, including but not limited to plan checking, land use, zoning, permitting, and all other similar fees resulting from this Project that are not specifically otherwise provided for in the Contract Documents.

4.5. Contractor's unit prices and Contract Sum are all inclusive and include, but are not limited to, all work-related costs, expenses, salaries or wages, plus fringe benefits and contributions, including payroll taxes, workers compensation insurance, liability insurance, profit, pension benefits, and all other contributions and benefits, technology and/or software charges, licensing, trademark, and/or copyright costs, office expenses, travel expenses, mileage, and all other indirect and overhead charges, including, but not limited to, the Oregon Corporate Activity Tax (CAT).

4.6. Contract provisions regarding payment policies, progress payments, interest, etc. are as outlined in the Contract Documents and in ORS 279C.570.

Section 5. Prevailing Wages

This is a Contract for a Public Works Project, subject to ORS 279C.800 to 279C.870. Therefore, not less than the current applicable state prevailing wage must be paid on this Project. Wage rates for this Project are those published by the Oregon Bureau of Labor and Industries (BOLI), entitled "Prevailing Wage Rates for Public Works Contracts," effective July 5, 2025, and all subsequent amendments. The BOLI prevailing wage rate for public works contracts can be found at the following website: http://www.oregon.gov/boli/employers/pages/prevailing-wage-rates.aspx. Because this is a public works contract subject to payment of prevailing wages, each worker in each trade or occupation employed in the performance of the Work, either by Contractor, a subcontractor, or other person doing or contracting to do, or contracting for the whole or any part of the Work, must be paid not less than the applicable state prevailing wage for an hour's work in the same trade or occupation in the locality where such labor is performed, in accordance with ORS 279C.838 and 279C.840, if applicable. Contractor must comply with all public contracting wages required by law. If applicable, Contractor and any subcontractor, or their sureties, shall file a certificate of rate of wage as required by ORS 279C.845. If the City determines at any time that the prevailing rate of wages has not been or is not being paid as required herein, it may retain from the moneys due to Contractor an amount sufficient to make up the difference between the wages actually paid and the prevailing rate of wages, and may also cancel the Contract for breach. Contractor shall be liable to the workers affected for failure to pay the required rate of wage, including all fringe benefits under ORS 279C.840(5). If applicable, Contractor must include a contract provision in compliance with this paragraph in every subcontract and shall require each subcontractor to include it in subcontract(s).

See **Contractor's Responsibilities** below and other Contract Documents for additional requirements and responsibilities regarding compliance with wage and hour laws and regulations.

Section 6. Filing of Certified Statement

As required in ORS 279C.845(7), the City will retain twenty-five percent (25%) of any amount earned by Contractor under the Contract until Contractor has filed the certified statements required in ORS 279C.845(1). The City will pay to Contractor the amount withheld within fourteen (14) days after Contractor files the required certified statements. As required in ORS 279C.845(8), Contractor shall retain twenty-five percent (25%) of any amount earned by a first-tier subcontractor on the Project until the first-tier subcontractor has filed with the City the certified statements required in ORS 279C.845(1). Before paying any amount withheld, Contractor shall verify that the first-tier subcontractor has filed the certified statement. Within fourteen (14) days after the first-tier subcontractor files the required certified statement, Contractor shall pay the first-tier subcontractor any amount withheld. Contractor shall require all other sub-subcontractors to file certified statements regarding payment of prevailing wage rates with the City.

Section 7. Reports to Department of Revenue

When a public contract is awarded to a nonresident bidder and the contract sum exceeds Ten Thousand Dollars ($10,000), Contractor shall promptly report to the Department of Revenue, on forms to be provided by the Department, the total contract sum, terms of payment, length of contract, and such other information as the Department may require, before the City will make final payment on the Contract.

Section 8. City's Rights and Responsibilities

8.1. The City will designate a Project Manager to facilitate day-to-day communication between Contractor and the City, including timely receipt and processing of invoices, requests for information, and general coordination of City staff to support the Project.

8.2. If applicable, the City will pay the required Bureau of Labor and Industries fee of one/tenth of one percent (0.1%) of the Contract Sum, or as required by statute.

8.3. The City reserves the right to reject any bid or to refuse delivery of materials or services at or from any manufacturer, supplier, or contractor with which the City has reasonable grounds to believe is or may be operating in violation of any local, state, or federal law or which is the subject of pending litigation.

8.4. If Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with the Contract as such claim becomes due, the City may, but shall not be obligated to, pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due Contractor by reason of the Contract. The payment of a claim in the manner authorized hereby shall not relieve Contractor or its surety from the obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or services furnished, the City may withhold from any current payment due Contractor an amount equal to said claim until its validity is

determined, and the claim, if valid, is paid by Contractor or the City. There shall be no final acceptance of the Work under the Contract until all such claims have been resolved.

8.5. Award of this Contract is subject to budget appropriation. Funds are approved for Fiscal Year 2025-26. If not completed within this fiscal year, funds may not be appropriated for the next fiscal year. The City also reserves the right to terminate this Contract early, as described in **Section 21**.

Section 9. City's Project Manager

The City's Project Manager is Delora Kerber. The City shall give Contractor prompt written notice of any re-designation of its Project Manager.

Section 10. Contractor's Project Manager

Contractor's Project Manager is Travis Cox. In the event that Contractor's Project Manager is changed, Contractor shall give the City prompt written notification of such re-designation. Recognizing the need for consistency and knowledge in the administration of the Project, Contractor's Project Manager will not be changed without the written consent of the City, which consent shall not be unreasonably withheld. In the event the City receives any communication from Contractor that is not from Contractor's Project Manager, the City may request verification by Contractor's Project Manager, which verification must be promptly furnished.

Section 11. Project Information

Except for confidential information designated by the City as information not to be shared, Contractor agrees to share Project information with, and to fully cooperate with, those corporations, firms, contractors, public utilities, governmental entities, and persons involved in the Project. No information, news, or press releases related to the Project, whether made to representatives of newspapers, magazines, or television and radio stations, shall be made without the written authorization of the City's Project Manager.

Section 12. Duty to Inform

If at any time during the performance of this Contract, Contractor becomes aware of actual or potential problems, faults, environmental concerns, or defects in the Project, Contract Documents, or Scope of Work, or any portion thereof; or of any nonconformance with federal, state, or local laws, rules, or regulations; or if Contractor has any objection to any decision or order made by the City with respect to such laws, rules, or regulations, Contractor shall give prompt written notice thereof to the City's Project Manager. Any delay or failure on the part of the City to provide a written response to Contractor shall neither constitute agreement with nor acquiescence to Contractor's statement or claim, nor constitute a waiver of any of the City's rights.

Section 13. Subcontractors and Assignments

13.1. Contractor shall not subcontract with others for any of the Work prescribed herein, assign this Contract, or assign any of Contractor's rights acquired hereunder without obtaining prior written approval from the City, which approval may be granted or denied in the City's sole discretion.

Any attempted assignment of this Contract without the written consent of the City will be void. Some Work may be performed by persons other than Contractor, provided Contractor advises the City of the names of such subcontractors and the services which they intend to provide, and the City specifically agrees, in writing, to such subcontracting. The City hereby approves any subcontractors identified in the Contract Documents. Contractor acknowledges such services will be provided to the City pursuant to a subcontract(s) between Contractor and subcontractor(s) and no privity of contract exists between the City and the subcontractor(s). In all cases, processing and payment of billings from subcontractors is solely the responsibility of Contractor. References to "subcontractor" in this Contract mean a subcontractor at any tier.

13.2. Contractor shall defend, indemnify, and hold the City harmless against, any liability, cost, or damage arising out of Contractor's use of such subcontractor(s) and subcontractor's negligent acts, errors, or omissions. Unless otherwise agreed to, in writing, by the City, Contractor shall require that all of Contractor's subcontractors also comply with and be subject to the provisions of **Section 14**, below, and meet the same insurance requirements of Contractor under this Contract.

13.3. The City has the right to enter into other agreements for the Project, to be coordinated with this Contract. Contractor shall cooperate with the City and other firms, engineers, or subcontractors on the Project so that all portions of the Project may be completed in the least possible time and within normal working hours. Contractor shall furnish other engineers, subcontractors, and affected public utilities, whose designs are fitted into Contractor's design, detail drawings giving full information so that conflicts can be avoided.

Section 14. Contractor's Responsibilities

In addition to the obligations and responsibilities set forth in ORS 279C or any of the Contract Documents, Contractor agrees to the following terms and conditions:

14.1. Except as otherwise provided under ORS 30.265, the performance of Work under this Contract is at Contractor's sole risk. All damages or loss to Work, equipment, or materials incurred during the performance of the Work shall be at Contractor's sole risk. Any injury to persons or property incurred during the performance of the Work shall be at Contractor's sole risk. The service or services to be rendered under the Contract are those of an independent contractor who is not an officer, employee, or agent of the City, as those terms are used in ORS 30.265. Notwithstanding the Oregon Tort Claims Act or provisions of any other contract, Contractor is acting as and assumes liability of an independent contractor as to claims between the City and Contractor. Contractor is solely liable for any workers compensation coverage, social security, unemployment insurance or retirement payments, and federal or state taxes due as a result of payments under the Contract. Any subcontractor hired by Contractor shall be similarly responsible. Contractor shall be liable to the City for any failure of any subcontractor(s) to comply with the terms of the Contract.

14.2. Contractor is an independent contractor for all purposes and shall be entitled to no compensation other than the Contract Sum provided for under **Section 4** of this Contract. Contractor will be solely responsible for determining the manner and means of accomplishing the end result of Contractor's Work. The City does not have the right to control or interfere with the manner or method of accomplishing said Work. The City, however, will have the right to specify and control the results of Contractor's Work so such Work meets the requirements of the Project.

14.3. Contractor must make prompt payment for any claims for labor, materials, or services furnished to Contractor by any person in connection with this Contract as such claims become due. Contractor shall not permit any liens or claims to be filed or prosecuted against the City on account of any labor or material furnished to or on behalf of Contractor. If Contractor fails, neglects, or refuses to make prompt payment of any such claim, the City may pay such claim to the person furnishing the labor, materials, or services, and offset the amount of the payment against funds due, or to become due, to Contractor under this Contract. The City may also recover any such amounts directly from Contractor.

14.4. Contractor must comply with all Oregon and federal wage and hour laws, including BOLI wage requirements, if applicable. Contractor shall make all required workers compensation and medical care payments on time. Contractor shall be fully responsible for payment of all employee withholdings required by law, including but not limited to taxes, including payroll, income, Social Security (FICA), and Medicaid. Contractor shall also be fully responsible for payment of salaries, benefits, taxes, and all other charges due on account of any employees. Contractor shall pay all contributions or amounts due the Industrial Accident Fund from Contractor or subcontractor incurred in the performance of this Contract. Contractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167. All costs incident to the hiring of subcontractors or employees shall be Contractor's responsibility. Contractor shall defend, indemnify, and hold the City harmless from claims for payment of all such expenses.

14.5. No person shall be discriminated against by Contractor or any subcontractor in the performance of this Contract on the basis of sex, gender, race, color, creed, religion, marital status, age, disability, sexual orientation, gender identity, or national origin. Any violation of this provision shall be grounds for cancellation, termination, or suspension of the Contract, in whole or in part, by the City. Contractor shall comply with all federal, state, and local laws, regulations, executive orders, and ordinances applicable to the Contract or to the implementation of the Project. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following laws, regulations, and executive orders to the extent they are applicable to the Contract or the implementation of the Project: (a) all applicable requirements of state civil rights and rehabilitation statutes, rules, and regulations; (b) Titles VI and VII of the Civil Rights Act of 1964, as amended; (c) Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; (d) the Americans with Disabilities Act of 1990, as amended, and ORS 659A.142; (e) Executive Order 11246, as amended; (f) the Health Insurance Portability and Accountability Act of 1996; (g) the Age Discrimination in Employment Act of 1967, as amended, and the Age Discrimination Act of 1975, as amended; (h) the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended; (i) all regulations and administrative rules established pursuant to the foregoing laws; and (j) all other applicable requirements of federal civil rights and rehabilitation statutes, rules, and regulations.

14.6. Contractor certifies that Contractor has not discriminated against minority, women, or small business enterprises in obtaining any subcontract.

14.7. Pursuant with ORS 279C.505(2), by execution of this Contract, Contractor agrees to have an employee drug testing program in place at the time of executing the Contract, acknowledges that such a program will be maintained throughout the Contract period, including any extensions, and shall demonstrate to the City that such drug testing program is in place. The failure of Contractor to have, or to maintain, such a drug-testing program is grounds for immediate termination of the

Contract. Contractor shall require each subcontractor providing labor for the Project to also comply with this drug testing program requirement.

14.8. Contractor agrees that the City shall not be liable, either directly or indirectly, in any dispute arising out of the substance or procedure of Contractor's drug testing program. Nothing in this drug testing provision shall be construed as requiring Contractor to violate any legal, including constitutional, rights of any employee, including but not limited to selection of which employees to test and the manner of such testing. The City shall not be liable for Contractor's negligence in establishing or implementing, or failure to establish or implement, a drug testing policy or for any damage or injury caused by Contractor's employees acting under the influence of drugs while performing Work covered by the Contract. These are Contractor's sole responsibilities, and nothing in this provision is intended to create any third party beneficiary rights against the City.

14.9. Contractor is solely responsible for ensuring that any subcontractor selection and substitution is in accordance with all legal requirements. The City shall not be liable, either directly or indirectly, in any dispute arising out of Contractor's actions with regard to subcontractor selection and/or substitution.

14.10. Contractor shall make payment promptly, as due, to all parties supplying to such Contractor labor or material for the prosecution of the Work provided for in the Contract Documents, and shall be responsible for payment to such persons supplying labor or material to any subcontractor.

14.11. By execution of this Contract, as required by ORS 305.385(6), Contractor certifies under penalty of perjury that to the best of Contractor's knowledge, Contractor is not in violation of any tax laws described in ORS 305.380(4).

14.12. Contractor agrees that if Contractor or a first-tier subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with this Contract within thirty (30) days after receiving payment from the City or a contractor, Contractor or the first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the ten (10) day period within which payment is due under ORS 279C.580(3)(a) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest on the amount due shall be calculated in accordance with ORS 279C.515(2). The amount of interest may not be waived.

14.13. Contractor agrees that if Contractor or a subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with this Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

14.14. Contractor shall make payment promptly, as due, to any party furnishing medical, surgical, hospital, or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums which Contractor agreed to pay or collected or deducted from the wages of employees pursuant to any law, contract, or agreement for the purpose of providing payment for such service.

14.15. Contractor and all subcontractors shall comply with the provisions of ORS 279C.540 pertaining to maximum hours, holidays, and overtime. With certain exceptions listed below,

Contractor shall not require or permit any person to work more than ten (10) hours in any one (1) day, or forty (40) hours in any one (1) week, except in case of necessity, emergency, or where public policy requires it, and in such cases the person shall be paid at least time and a half for:

14.15.1. All overtime in excess of eight (8) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is five (5) consecutive days, Monday through Friday; or

14.15.2. All overtime in excess of ten (10) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is four (4) consecutive days, Monday through Friday; and

14.15.3. All work performed on the days specified in ORS 279C.540(1)(b) for public improvement contracts.

14.16. Contractor and all subcontractors shall comply with the provisions of ORS 279C.545 pertaining to time limitation on claims for overtime and requirements for posting circulars containing said provisions.

14.17. For personal/professional service contracts, as designated under ORS 279A.055, instead of 14.15.1, 14.15.2, and 14.15.3 above, a laborer shall be paid at least time and a half for all overtime worked in excess of forty (40) hours in any one (1) week, except for individuals under these contracts who are excluded under ORS 653.010 to 653.261 or under 29 USC §§ 201 to 209 from receiving overtime.

14.18. Contractor shall follow all other exceptions, pursuant to ORS 279B.235 (for non-public improvement contracts) and ORS 279C.540 (for public improvement contracts), including contracts involving a collective bargaining agreement, contracts for services, and contracts for fire prevention or suppression.

14.19. Contractor must give notice to employees who work on a public contract, in writing, either at the time of hire or before commencement of Work on the Contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

14.20. The hourly rate of wage to be paid by any Contractor or subcontractor to employed workers or other persons doing or contracting to do all or part of the work contemplated by a public contract shall be not less than the applicable wage required by law.

14.21. Contractor, its subcontractors, and all employers working under the Contract are subject employers under the Oregon Workers Compensation Law and shall comply with ORS 656.017 and provide the required workers compensation coverage, unless otherwise exempt under ORS 656.126. Contractor shall ensure that each of its subcontractors complies with these requirements.

14.22. In the performance of this Contract, Contractor shall comply with all applicable federal, state, and local laws, municipal codes, regulations, rules, and ordinances, including but not limited to those dealing with public contracts (ORS Chapter 279C) and with the prevention of

environmental pollution and the preservation of natural resources (and avoidance of natural resource damages) in the performance of the Contract, including but not limited to ORS 279C.525. To the extent that known environmental and natural resource risks are specifically noted, shown, or specified in the Contract Documents or on the construction drawings, such risks are allocated to Contractor pursuant with ORS 279C.525(8)(a). If new or amended statutes, ordinances, rules, or regulations are adopted, or Contractor encounters a condition not referred to in this Contract, not caused by Contractor, and that was not discoverable by reasonable site inspection which requires compliance with federal, state, or local laws, codes, or regulations dealing with the preservation of the environment, both the City and Contractor shall have all the rights and obligations set forth in ORS 279C.525.

14.23. Contractor shall be liable for any fine imposed against Contractor, the City or the 'Project' as a result of a violation of any laws or permitting requirements by Contractor or any of its subcontractors or their sub-subcontractors or any suppliers.

14.24. Contractor must maintain a City of Wilsonville or Metro business license at all times while performing Work under this Contract.

14.25. Contractor must maintain and provide proof of a statutory public works bond throughout the term of this Contract.

Section 15. Subcontractor Requirements

15.1. If subcontractors are permitted, Contractor's relations with subcontractors shall comply with ORS 279C.580. Pursuant with ORS 279C.580(3), each subcontract for property or services that Contractor enters into with a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, shall include:

15.1.1. A payment clause that obligates Contractor to pay the first-tier subcontractor for satisfactory performance under the subcontract within ten (10) days out of such amounts as are paid to Contractor by the City under the public improvement contract; and

15.1.2. An interest penalty clause that obligates Contractor, if payment is not made within 30 days after receipt of payment from the City, to pay to the first-tier subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause outlined in **Subsection 15.1.1** above. A contractor or first-tier subcontractor may not be obligated to pay an interest penalty if the only reason that the contractor or first-tier subcontractor did not make payment when payment was due is that the contractor or first-tier subcontractor did not receive payment from the City or Contractor when payment was due. The interest penalty period shall begin on the day after the required payment date and end on the date on which payment of the amount due is made and shall be computed at the rate specified in ORS 279C.515(2).

15.2. Contractor shall include in each subcontract, as a condition of performance of such contract, a provision requiring the first-tier subcontractor to include a payment clause and interest penalty clause, conforming to the standards set forth in **Subsections 15.1.1 and 15.1.2** above, in each

of its subcontracts and requiring that the same clauses be included in any of the first-tier subcontractors' subcontracts with a lower-tier subcontractor or supplier.

15.3. Contractor shall certify that all subcontractors, as described in ORS 701.005(2), will be registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board in accordance with ORS 701.035 or 701.026, respectively, before the subcontractors commence Work under the Contract.

15.4. In no event shall any subcontract be awarded to any person or entity debarred, suspended, or disqualified from federal, state, or municipal contracting.

15.5. Contractor shall include this Contract by reference in any subcontract and require subcontractors to perform in strict compliance with this Contract.

Section 16. Environmental Laws

16.1. In compliance with the provisions of ORS 279C.525, the following is a list of federal, state, and local agencies, of which the City has knowledge, that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of the Contract:

FEDERAL AGENCIES:	Agriculture, Department of
Forest Service	Soil Conservation Service
Defense, Department of	Army Corps of Engineers
Environmental Protection Agency	Interior, Department of
Bureau of Sport Fisheries and Wildlife	Bureau of Outdoor Recreation
Bureau of Land Management	Bureau of Indian Affairs
Bureau of Reclamation	Labor, Department of
Occupational Safety and Health Administration	Transportation, Department of
Coast Guard	Federal Highway Administration
STATE AGENCIES:	Agriculture, Department of
Environmental Quality, Department of	Fish and Wildlife, Department of
Forestry, Department of	Geology and Mineral Industries, Department of
Human Resources, Department of	Land Conservation and Development Commission
Soil and Water Conservation Commission	National Marine Fisheries Service (NMFS)
State Land Board	State Engineer
	Water Resources Board
LOCAL AGENCIES:	City Council
County Courts	County Commissioners, Board of
Port Districts	Metropolitan Service Districts
County Service Districts	Sanitary Districts
Water Districts	Fire Protection Districts

This list may not be all-inclusive, and it is the responsibility of Contractor to know all applicable laws and to comply with them in the performance of this Contract.

16.2. Pursuant with ORS 279C.510(1), if this Contract calls for demolition work, Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective.

16.3. Pursuant with ORS 279C.510(2), if this Contract calls for lawn or landscape maintenance, Contractor shall compost or mulch yard waste material at an approved site, if feasible and cost-effective.

16.4. Contractor shall be responsible for the immediate clean-up, remediation, reporting, and payment of fines, if any, related to the release of any hazardous substance or material by Contractor or any subcontractor.

Section 17. Indemnity

17.1. Indemnification. Contractor acknowledges responsibility for liability arising out of the performance of this Contract, and shall defend, indemnify, and hold the City harmless from any and all liability, settlements, loss, costs, and expenses in connection with any action, suit, or claim resulting or allegedly resulting from Contractor's negligent acts, omissions, errors, or willful or reckless misconduct pursuant to this Contract, or from Contractor's failure to perform its responsibilities as set forth in this Contract. The review, approval, or acceptance by the City, its Project Manager, or any City employee of documents or other work performed, prepared, or submitted by Contractor shall not be considered a negligent act, error, omission, or willful misconduct on the part of the City, and none of the foregoing shall relieve Contractor of its responsibility to perform in full conformity with the City's requirements, as set forth in this Contract, or as subsequently amended, and to indemnify the City as provided above and to reimburse the City for any and all costs and damages suffered by the City as a result of Contractor's negligent performance of this Contract, failure of performance hereunder, violation of state or federal laws, or failure to adhere to the standards of performance and care described in **Subsection 17.2**. For those claims based on professional liability (as opposed to general liability or automobile liability), Contractor shall not be required to provide the City's defense but will be required to reimburse the City for the City's defense costs incurred in any litigation resulting from the negligent acts, omissions, errors, or willful or reckless misconduct by Contractor.

17.2. Standard of Care. In the performance of the Work, Contractor agrees to use at least that degree of care and skill exercised under similar circumstances by reputable members of Contractor's profession practicing in the Portland metropolitan area. Contractor will re-perform any Work not meeting this standard without additional compensation. Contractor's re-performance of any Work, even if done at the City's request, shall not be considered as a limitation or waiver by the City of any other remedies or claims it may have arising out of Contractor's failure to perform in accordance with the applicable standard of care of this Contract and within the prescribed timeframe.

Section 18. Insurance

18.1. Insurance Requirements. Contractor must maintain insurance coverage acceptable to the City in full force and effect throughout the term of this Contract. Such insurance shall cover all risks arising directly or indirectly out of Contractor's activities or work hereunder. Any and all agents or subcontractors with which Contractor contracts for any portion of the Work must have insurance that conforms to the insurance requirements in this Contract. Additionally, if a subcontractor is an engineer, architect, or other professional, Contractor must require the subcontractor to carry Professional Errors and Omissions insurance and must provide to the City proof of such coverage. The amount of insurance carried is in no way a limitation on Contractor's liability hereunder. The

policy or policies maintained by Contractor shall provide at least the following minimum limits and coverages at all times during performance of this Contract:

18.1.1. Commercial General Liability Insurance. Contractor and all subcontractors shall obtain, at each of their own expense, and keep in effect during the term of this Contract, comprehensive Commercial General Liability Insurance covering Bodily Injury and Property Damage, written on an "occurrence" form policy. This coverage shall include broad form Contractual Liability insurance for the indemnities provided under this Contract and shall be for the following minimum insurance coverage amounts: The coverage shall be in the amount of **$2,000,000** for each occurrence and **$3,000,000** general aggregate and shall include Products-Completed Operations Aggregate in the minimum amount of **$2,000,000** per occurrence, Fire Damage (any one fire) in the minimum amount of **$50,000**, and Medical Expense (any one person) in the minimum amount of **$10,000**. All of the foregoing coverages must be carried and maintained at all times during this Contract.

18.1.2. Professional Errors and Omissions Coverage. Contractor agrees to carry Professional Errors and Omissions Liability insurance on a policy form appropriate to the professionals providing the Work hereunder with a limit of no less than **$2,000,000** per claim. Contractor shall maintain this insurance for damages alleged to be as a result of errors, omissions, or negligent acts of Contractor. Such policy shall have a retroactive date effective before the commencement of any work by Contractor on the Work covered by this Contract, and coverage will remain in force for a period of at least three (3) years after termination of this Contract.

18.1.3. Business Automobile Liability Insurance. If Contractor or any subcontractors will be using a motor vehicle in the performance of the Work herein, Contractor shall provide the City a certificate indicating that Contractor and its subcontractors have business automobile liability coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than **$2,000,000**.

18.1.4. Workers Compensation Insurance. Contractor, its subcontractors, and all employers providing work, labor, or materials under this Contract that are subject employers under the Oregon Workers Compensation Law shall comply with ORS 656.017, which requires them to provide workers compensation coverage that satisfies Oregon law for all their subject workers under ORS 656.126. Out-of-state employers must provide Oregon workers compensation coverage for their workers who work at a single location within Oregon for more than thirty (30) days in a calendar year. Contractors who perform work without the assistance or labor of any employee need not obtain such coverage. This shall include Employer's Liability Insurance with coverage limits of not less than **$500,000** each accident.

18.1.5. Insurance Carrier Rating. Coverages provided by Contractor and its subcontractors must be underwritten by an insurance company deemed acceptable by the City, with an AM Best Rating of A or better. The City reserves the right to reject all or any insurance carrier(s) with a financial rating that is unacceptable to the City.

18.1.6. Additional Insured and Termination Endorsements. The City will be named as an additional insured with respect to Contractor's liabilities hereunder in insurance coverages. Additional Insured coverage under Contractor's Commercial General Liability,

Automobile Liability, and Excess Liability Policies, as applicable, will be provided by endorsement. Additional insured coverage shall be for both ongoing operations via ISO Form CG 2010 or its equivalent, and products and completed operations via ISO Form CG 2037 or its equivalent. Coverage shall be Primary and Non-Contributory. Waiver of Subrogation endorsement via ISO Form CG 2404 or its equivalent shall be provided. The following is included as additional insured: "The City of Wilsonville, its elected and appointed officials, officers, agents, employees, and volunteers." An endorsement shall also be provided requiring the insurance carrier to give the City at least thirty (30) days' written notification of any termination or major modification of the insurance policies required hereunder. Contractor must be an additional insured on the insurance policies obtained by its subcontractors performing any of the Work contemplated under this Contract.

18.1.7. Certificates of Insurance. As evidence of the insurance coverage required by this Contract, Contractor shall furnish a Certificate of Insurance to the City. This Contract shall not be effective until the required certificates and the Additional Insured Endorsements have been received and approved by the City. Contractor agrees that it will not terminate or change its coverage during the term of this Contract without giving the City at least thirty (30) days' prior advance notice and Contractor will obtain an endorsement from its insurance carrier, in favor of the City, requiring the carrier to notify the City of any termination or change in insurance coverage, as provided above.

18.2. Primary Coverage. The coverage provided by these policies shall be primary, and any other insurance carried by the City is excess. Contractor shall be responsible for any deductible amounts payable under all policies of insurance. If insurance policies are "Claims Made" policies, Contractor will be required to maintain such policies in full force and effect throughout any warranty period.

Section 19. Bonding Requirements

19.1. Payment and Performance Bonds. Contractor shall obtain a Payment Bond and a Performance Bond, each in a form acceptable to the City and from a surety acceptable to the City, and each in the full amount of the Contract Sum.

19.2. Public Works Bond. Pursuant to ORS 279C.830(2), in addition to the Payment and Performance bonds, before starting work on this Contract or any subcontract hereunder, Contractor and all subcontractors, unless exempt under ORS 279C.836(4), (7), (8), or (9), must have on file with the Construction Contractors Board a public works bond with a corporate surety authorized to do business in the State of Oregon in the minimum amount of **$30,000**. The bond must provide that the Contractor or subcontractor will pay claims ordered by the Bureau of Labor and Industries to workers performing labor upon public works projects. The bond must be a continuing obligation, and the surety's liability for the aggregate of claims that may be payable from the bond may not exceed the penal sum of the bond. The bond must remain in effect continuously until depleted by claims paid under ORS 279C.836, unless the surety sooner cancels the bond. Contractor further certifies that Contractor will include in every subcontract a provision requiring a subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the Project, unless exempt under ORS 279C.836(4), (7), (8), or (9).

19.3. Bond Claims. Any notice of claim on a payment or performance bond shall comply with the requirements of ORS 279C.605.

Section 20. Warranty

Warranties are as set forth in the City of Wilsonville Special Provisions of the Contract Documents.

20.1. If Contractor, after written notice, fails within **ten (10) days** to proceed to comply with the terms of this Section, the City may have the defects corrected, and Contractor and Contractor's surety shall be liable for all expense incurred. In case of an emergency where, in the opinion of the City's Project Manager, delay would cause serious loss or damage, repairs may be made without notice being given to Contractor, and Contractor or Contractor's surety shall pay the cost of repairs. Failure of the City's Project Manager to act in case of an emergency shall not relieve Contractor or Contractor's surety from liability and payment of all such costs.

20.2. Current State Law (ORS 12.135) provides for a ten (10) year period, from the time of substantial completion, for the City to file a claim for repairs of defective Work due to Contractor's improper use of materials and/or workmanship, and Contractor agrees it is bound thereby.

Section 21. Early Termination; Default

21.1. This Contract may be terminated prior to the expiration of the agreed upon terms:

21.1.1. By mutual written consent of the parties;

21.1.2. By the City, for any reason, and within its sole discretion, effective upon delivery of written notice to Contractor by mail or in person. The City retains the right to elect whether or not to proceed with actual construction of the Project; or

21.1.3. By the City if Contractor breaches this Contract and fails to cure the breach within ten (10) days of receipt of written notice of the breach from the City.

21.2. If the City terminates this Contract in whole or in part, due to default or failure of Contractor to perform Work in accordance with the Contract, the City may procure, upon reasonable terms and in a reasonable manner, services similar to those so terminated. In addition to any other remedies the City may have, both at law and in equity, for breach of contract, Contractor shall be liable for all costs and damages incurred by the City as a result of the default by Contractor, including, but not limited to all reasonable costs incurred by the City in procuring services from others as needed to complete this Contract. This Contract shall be in full force to the extent not terminated by written notice from the City to Contractor. In the event of a default, the City will provide Contractor with written notice of the default and a period of ten (10) days to cure the default. If Contractor notifies the City that it wishes to cure the default but cannot, in good faith, do so within the ten (10) day cure period provided, then the City may elect, in its sole discretion, to extend the cure period to an agreed upon time period, , which agreed upon extension must be in writing and signed by the parties prior to the expiration of the cure period. Unless a written, signed extension has been fully executed by the parties, if Contractor fails to cure prior to expiration of the cure period, the Contract is automatically terminated.

21.3. If the City terminates this Contract for its own convenience not due to any default by Contractor, payment of Contractor shall be prorated to, and include the day of, termination and shall be in full satisfaction of all claims by Contractor against the City under this Contract.

21.4. Termination under any provision of this Section shall not affect any right, obligation, or liability of Contractor or the City that accrued prior to such termination. Contractor shall surrender to the City items of work or portions thereof, referred to in **Section 27**, for which Contractor has received payment or the City has made payment.

Section 22. Final Completion and Liquidated Damages

22.1. Contractor's Project Manager and City's Project Manager shall conduct a final inspection of the Project when Contractor believes the Work is complete, and create a project corrections list ("punch list") of any remaining items to be completed before the Final Completion date of December 31, 2025. All punch list items must be fully addressed and corrected on or before the Final Completion date.

22.2. The City and Contractor recognize that time is of the essence of this Contract and that the City will suffer financial loss and public detriment if all Work is not fully completed by December 31, 2025, plus any extensions thereof granted, in writing, by the City. Both parties also recognize the delays, expenses, and difficulties involved in proving in a legal proceeding the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the City the amount of One Thousand Three Hundred Fifty-Two Dollars ($1,352) per day for each and every day that expires after December 31, 2025. Retainage will not be released before Final Completion is established.

22.3. The parties further agree that this amount of liquidated damages is a reasonable forecast of just compensation for the harm caused by any breach and that this harm is one which is impossible or very difficult to estimate. In addition to the liquidated damages above, Contractor shall reimburse the City for all costs incurred by the City for engineering, inspection, and project management services required beyond the time specified for Final Completion. Contractor shall also reimburse the City for all costs incurred for inspection and project management services required due to punch list items not completed within the time allotted for Final Completion. If Contractor fails to reimburse the City directly, the City will deduct the cost from Contractor's final pay request.

22.4. Contractor will not be responsible for liquidated damages or be deemed to be in default by reason of delays in performance due to circumstances beyond Contractor's reasonable control, including but not limited to strikes, lockouts, severe acts of nature, or actions of unrelated third parties not under Contractor's direction and control that would preclude any reasonable Contractor from performing the Work ("Force Majeure"). In the case of the happening of any Force Majeure event, the time for completion of the Work will be extended accordingly and proportionately by the City, in writing, but the City will not be responsible for any additional costs as a result of the Force Majeure event. Poor weather conditions, unless extreme, lack of labor, supplies, materials, or the cost of any of the foregoing shall not be deemed a Force Majeure event.

Section 23. Suspension of Work

The City may suspend, delay, or interrupt all or any part of the Work for such time as the City deems appropriate for its own convenience by giving written notice thereof to Contractor. An adjustment in the time of performance or method of compensation shall be negotiated as a result of such delay or suspension, unless the reason for the delay was within Contractor's control. The City shall not be responsible for Work performed by any subcontractors after notice of suspension is given by the City to Contractor.

Section 24. Contract Modification; Change Orders

Any modification of the provisions of this Contract shall not be enforceable or binding unless reduced to writing and signed by both the City and Contractor. A modification is a written document, contemporaneously executed by the City and Contractor, which increases or decreases the cost to the City over the agreed Contract Sum in **Section 4** of this Contract, or changes or modifies the Scope of Work or the time for performance. In the event Contractor receives any communication of whatsoever nature from the City, which communication Contractor contends gives rise to any modification of this Contract, Contractor shall, within five (5) days after receipt, make a written request for modification to the City's Project Manager in the form of a Change Order. Contractor's failure to submit such written request for modification in the form of a Change Order shall be the basis for refusal by the City to treat said communication as a basis for modification or to allow such modification. In connection with any modification to this Contract affecting any change in price, Contractor shall submit a complete breakdown of labor, material, equipment, and other costs. If Contractor incurs additional costs or devotes additional time on Project tasks, the City shall be responsible for payment of only those additional costs for which it has agreed to pay under a signed Change Order. To be enforceable, the Change Order must describe with particularity the nature of the change, any delay in time the Change Order will cause, or any increase or decrease in the Contract Sum. The Change Order must be signed and dated by both Contractor and the City before the Change Order may be implemented.

Section 25. Dispute Resolution

In the event of a dispute concerning performance of this Contract, the parties agree to meet to negotiate the problem. If such negotiation fails, the parties will mediate the dispute using a professional mediator, and the parties will split the cost. If the dispute cannot be resolved in either of the foregoing ways within thirty (30) days, either party may file suit in Clackamas County Circuit Court. In the alternative, at the City's election, the parties may follow the dispute resolution procedures found in the Special Provisions.

Section 26. Access to Records

The City shall have access, upon request, to such books, documents, receipts, papers, and records of Contractor as are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts during the term of this Contract and for a period of four (4) years after termination of the Contract, unless the City specifically requests an extension. This clause shall survive the expiration, completion, or termination of this Contract.

Section 27. Property of the City

All documents, reports, and research gathered or prepared by Contractor under this Contract, including but not limited to spreadsheets, charts, graphs, drawings, tracings, maps, surveying records, mylars, modeling, data generation, papers, diaries, inspection reports, photographs, and any originals or certified copies of the original work forms, if any, shall be the exclusive property of the City and shall be delivered to the City prior to final payment. Any statutory or common law rights to such property held by Contractor as creator of such work shall be conveyed to the City upon request without additional compensation.

Section 28. Notices

Any notice required or permitted under this Contract shall be in writing and shall be given when actually delivered in person or forty-eight (48) hours after having been deposited in the United States mail as certified or registered mail, addressed to the addresses set forth below, or to such other address as one party may indicate by written notice to the other party.

To City:	City of Wilsonville Attn: Delora Kerber, Public Works Director 29799 SW Town Center Loop East Wilsonville, OR 97070
To Contractor:	Garland/DBS, Inc. Attn: Travis Cox 3800 East 91st Street Cleveland, OH 44105

Section 29. Miscellaneous Provisions

29.1. Integration. This Contract, including all exhibits attached hereto, contains the entire and integrated agreement between the parties and supersedes all prior written or oral discussions, representations, or agreements. In case of conflict among these or any other documents, the provisions of this Contract shall control, and the terms most favorable to the City, within the City's sole discretion, will apply.

29.2. Legal Effect and Assignment. This Contract shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors, and assigns. This Contract may be enforced by an action at law or in equity.

29.3. No Assignment. Contractor may not assign this Contract, nor delegate the performance of any obligations hereunder, unless agreed to in advance and in writing by the City.

29.4. Adherence to Law. This Contract shall be subject to, and Contractor shall adhere to, all applicable federal, state, and local laws (including the Wilsonville Code and Public Works Standards), including but not limited to laws, rules, regulations, and policies concerning employer and employee relationships, workers compensation, and minimum and prevailing wage requirements. Any certificates, licenses, or permits that Contractor is required by law to obtain or maintain in order

to perform the Work described in this Contract shall be obtained and maintained throughout the term of this Contract. Permits are excluded per **Exhibit A**.

29.5. Governing Law. This Contract shall be construed in accordance with and governed by the laws of the State of Oregon, regardless of any conflicts of laws. All contractual provisions required by ORS Chapters 279A, 279B, 279C, and related Oregon Administrative Rules to be included in public agreements are hereby incorporated by reference and shall become a part of this Contract as if fully set forth herein.

29.6. Jurisdiction. Jurisdiction and venue for any dispute will be in Clackamas County Circuit Court.

29.7. Legal Action/Attorney Fees. If a suit, action, or other proceeding of any nature whatsoever (including any proceeding under the U.S. Bankruptcy Code) is instituted in connection with any controversy arising out of this Contract or to interpret or enforce any rights or obligations hereunder, the prevailing party shall be entitled to recover attorney, paralegal, accountant, and other expert fees and all other fees, costs, and expenses actually incurred and reasonably necessary in connection therewith, as determined by the court or body at trial or on any appeal or review, in addition to all other amounts provided by law. If the City is required to seek legal assistance to enforce any term of this Contract, such fees shall include all of the above fees, whether or not a proceeding is initiated. Payment of all such fees shall also apply to any administrative proceeding, trial, and/or any appeal or petition for review.

29.8. Nonwaiver. Failure by either party at any time to require performance by the other party of any of the provisions of this Contract shall in no way affect the party's rights hereunder to enforce the same, nor shall any waiver by the party of the breach hereof be held to be a waiver of any succeeding breach or a waiver of this nonwaiver clause.

29.9. Severability. If any provision of this Contract is found to be void or unenforceable to any extent, it is the intent of the parties that the rest of the Contract shall remain in full force and effect, to the greatest extent allowed by law.

29.10. Modification. This Contract may not be modified except by written instrument executed by Contractor and the City.

29.11. Time of the Essence. Time is expressly made of the essence in the performance of this Contract.

29.12. Calculation of Time. Except where the reference is to business days, all periods of time referred to herein shall include Saturdays, Sundays, and legal holidays in the State of Oregon, except that if the last day of any period falls on any Saturday, Sunday, or legal holiday observed by the City, the period shall be extended to include the next day which is not a Saturday, Sunday, or legal holiday. Where the reference is to business days, periods of time referred to herein shall exclude Saturdays, Sundays, and legal holidays observed by the City. Whenever a time period is set forth in days in this Contract, the first day from which the designated period of time begins to run shall not be included.

29.13. Headings. Any titles of the sections of this Contract are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

29.14. Number, Gender and Captions. In construing this Contract, it is understood that, if the context so requires, the singular pronoun shall be taken to mean and include the plural, the masculine, the feminine and the neuter, and that, generally, all grammatical changes shall be made, assumed, and implied to individuals and/or corporations and partnerships. All captions and paragraph headings used herein are intended solely for convenience of reference and shall in no way limit any of the provisions of this Contract.

29.15. Good Faith and Reasonableness. The parties intend that the obligations of good faith and fair dealing apply to this Contract generally and that no negative inferences be drawn by the absence of an explicit obligation to be reasonable in any portion of this Contract. The obligation to be reasonable shall only be negated if arbitrariness is clearly and explicitly permitted as to the specific item in question, such as in the case of where this Contract gives the City "sole discretion" or the City is allowed to make a decision in its "sole judgment."

29.16. Other Necessary Acts. Each party shall execute and deliver to the other all such further instruments and documents as may be reasonably necessary to carry out this Contract in order to provide and secure to the other parties the full and complete enjoyment of rights and privileges hereunder.

29.17. Interpretation. As a further condition of this Contract, the City and Contractor acknowledge that this Contract shall be deemed and construed to have been prepared mutually by each party and it shall be expressly agreed that any uncertainty or ambiguity existing therein shall not be construed against any party. In the event that any party shall take an action, whether judicial or otherwise, to enforce or interpret any of the terms of the contract, the prevailing party shall be entitled to recover from the other party all expenses which it may reasonably incur in taking such action, including attorney fees and costs, whether incurred in a court of law or otherwise.

29.18. Defined Terms. Capitalized terms not otherwise defined herein shall have the meaning given to them in the Contract Documents.

29.19. Entire Agreement. This Contract, all documents attached to this Contract, and all Contract Documents and laws and regulations incorporated by reference herein, represent the entire agreement between the parties.

29.20. Counterparts. This Contract may be executed in one or more counterparts, each of which shall constitute an original Contract but all of which together shall constitute one and the same instrument.

[Signatures on following page]

29.21. Authority. Each party signing on behalf of Contractor and the City hereby warrants actual authority to bind their respective party.

The Contractor and the City hereby agree to all provisions of this Contract.

CONTRACTOR:

GARLAND/DBS, INC.

By:_____

Name:_____

As Its:_____

EIN/Tax I.D. No. _____

CITY:

CITY OF WILSONVILLE

By:_____

Name:_____

As Its:_____

APPROVED AS TO FORM:

_____
Amanda Guile-Hinman, City Attorney
City of Wilsonville, Oregon

EXHIBIT A
SCOPE OF WORK

Garland/DBS, Inc.
3800 East 91st Street
Cleveland, OH 44105
Phone: (800) 762-8225
Fax: (216) 883-2055

ROOFING MATERIAL AND SERVICES PROPOSAL

City of Wilsonville
Water Treatment Facility
10350 SW Arrow Creek Ln
Wilsonville, OR 97070

Date Submitted: 7/01/2025
Proposal #: 25-OR-250646
MICPA # PW1925
Oregon General Contractor License #: 192939

Purchase orders to be made out to: Garland/DBS, Inc.

Please Note: The following budget/estimate is being provided according to the pricing established under the Master Intergovernmental Cooperative Purchasing Agreement (MICPA) with Racine County, WI and OMNIA Partners, Public Sector (U.S. Communities). The line item pricing breakdown from Attachment C: Bid Form should be viewed as the maximum price an agency will be charged under the agreement. Garland/DBS, Inc. administered an informal competitive process for obtaining quotes for the project with the hopes of providing a lower market-adjusted price whenever possible.

Scope of Work:

1. Remove existing counter flashing metal, drip edge, coping cap, and all accessory metal and properly dispose of.
2. Cut out and remove existing all vertical flashings and properly dispose of. Relief cut the membrane into a 10'x10' grid pattern.
3. Pending thermal scan results and where applicable replace wet insulation/cover board with like kind.
4. Application rates and details for installation of roofing system to be installed per Garland standard details.
5. Remove existing scuppers/drains/gutters and replace them with new scuppers/lead drain inserts. Reuse existing collection boxes and downspouts.
6. Furnish and mechanically attach primed 1⁄2' densdeck coverboard in accordance with wind-up lift calculations.
7. Install HPR Torchbase in the field of the roof using torch applied methods.
8. Install Stressply IV Plus Mineral using torch applied methods.
9. Install SA Base IV on all base flashings. Install ply of Stressply IV Plus Mineral directly over SA Base IV.
10. Install new wall skirt metal along all base flashings, including the perimeter and penetrations, to extend to the CANT strip
11. Furnish and install new R-Mer edge pre-mfg. coping cap assembly.
12. Contractor to furnish and install pre-engineered CB-12 anchors (6).

13. Contractor to remove the clean and prepare the existing gas-line. Furnish and paint the gas line safety yellow.
14. Remove all debris, material, equipment, and related materials leaving the job in a clean and orderly fashion.

Attachment C: Bid Form - Line Item Pricing Breakdown

Item #	Item Description	Unit Price	Quantity	Unit	Extended Price
2.09	Tear-off & Dispose of Debris: SYSTEM TYPE Single-Ply W/ Insulation - Metal Deck	$ 2.99	15,000	SF	$ 44,887.50
4.03	Insulation Recovery Board & Insulations Options: RECOVERY BOARD TYPE 1/2" Wood Fiber or Perlite Board Installed Over an Existing Roof Mechanically Fastened to Roof Deck - Metal Deck	$ 1.54	15,000	SF	$ 23,152.50
12.03.02	2-PLY ROOF SYSTEMS - COMBINATIONS OF A BASE PLY & A CAP SHEET (TOP PLY) PLEASE NOTE: BASE PLY & CAP SHEET COMBINATIONS MUST BE APPROVED BY THE MANUFACTURER: ROOF CONFIGURATION 1 Ply of Torch Base Sheet Installed with Torch Application: BASE PLY OPTION: ASTM D 6163 SBS Fiberglass Reinforced Modified Bituminous Sheet Material Type III - 210 lbf/in tensile	$ 5.79	15,000	SF	$ 86,782.50
12.11.01	2-PLY ROOF SYSTEMS - COMBINATIONS OF A BASE PLY & A CAP SHEET (TOP PLY) PLEASE NOTE: BASE PLY & CAP SHEET COMBINATIONS MUST BE APPROVED BY THE MANUFACTURER: ROOF CONFIGURATION 1 Ply of Mineral Surfaced, Torch-Applied Cap Sheet Installed with Torch Application: ROOFING MEMBRANE OPTION: ASTM D 6162 SBS Fiberglass/Polyester Reinforced Modified Bituminous Sheet Material Type III - Minimum 300 lbf/in tensile Torch-Applied Membrane	$ 10.40	15,000	SF	$ 155,925.00
20.02.01	NEW FLASHINGS FOR ROOFING SYSTEMS & RESTORATION OPTIONS: Torch Applied Flashings - Minimum 1 Ply of Torch Base and Torch Mineral Cap Sheet; Torch Applied FLASHING OPTION: BASE PLY: SBS Modified Polyester/Fiberglass Reinforced Base Torch Applied Flashing Ply - 80 lbf/inch tensile (ASTM D 5147); TOP PLY: ASTM D 6162 SBS Fiberglass/Polyester Reinforced Modified Bituminous Sheet Material Type III - 300 lbf/in Tensile Torch Applied Membrane	$ 28.53	1,500	SF	$ 42,795.00
	Metal Stretch Out: Edge metal 050 Aluminum	$ 69.62	1,500	LF	$ 104,430.00
1.08.01	Roof Management, Design Assistant and/or Professional Services: Infrared Moisture Scanning: Non destructive infrared roof scan, up to 20 000 SF	$ 2,047.50	1	EA	$ 2,047.50
	Sub Total Prior to Multipliers				**$ 460,020.00**

22.21	MULTIPLIER - ROOF SIZE IS GREATER THAN 10,000 SF, BUT LESS THAN 20,000 SF Multiplier is applied when Roof Size is greater than 10,000 SF, but less than 20,000 SF. Situation creates the fixed costs: equipment, mobilization, demobilization, disposal, & set-up labor to be allocated across more of an average roof area resulting in fixed costs being a slightly larger portion of the overall job costs	10	460,020.00	%	$ 46,002.00
22.03	MULTIPLIER - MULTIPLE MATERIAL STAGINGS Multiplier is applied when labor production is effected by the time it takes to stage a roof multiple times. Situations include, but are not limited to staging materials to perform work on multiple roof levels, planned shutdowns and restarts, portion of the job is over sensitive work areas requiring staging from more than one point, etc.	25	460,020.00	%	$ 115,005.00
	Prevailing Wage Multiplier Clackamas County	16.60%	460,020.00		$ 76,363.32
	Total After Multipliers				**$ 697,390.32**

Base Bid Total Maximum Price of Line Items under the MICPA:	**$ 697,390**
Proposal Price Based Upon Market Experience: Base Bid	**$ 644,284**

Garland/DBS Price Based Upon Local Market Competition:

Tecta	**$**	**644,284**
McDonald Wettle	$	710,340
Arrow Roofing	$	719,511

Proposal Price Based Upon Market Experience: Add Alt #1	**$ 181,145**

Garland/DBS Price Based Upon Local Market Competition:

Tecta	**$**	**181,145**

Proposal Price Based Upon Market Experience: Add Alt #2	**$ 57,299**

Garland/DBS Price Based Upon Local Market Competition:

Tecta	**$**	**57,299**

Contractor Name - Unforeseen Site Conditions:

Wet-insulation replacement	$	9.28	per Sq Ft.

Potential issues that could arise during the construction phase of the project will be addressed via unit pricing for additional work beyond the scope of the specifications. This could range anywhere from wet insulation, to the replacement of deteriorated wood nailers.

Clarifications/Exclusions:

1. Permits are excluded. If permits are required this will be addressed via change order.
2. Plumbing, Mechanical, Electrical work is excluded.
3. Masonry work is included to which it obtains to the scope of work.
4. Interior Temporary protection is excluded.
5. Prevailing Wages are included.
6. Any work not exclusively described in the above proposal scope of work is excluded.

SECTION 07 20 00

MODIFIED BITUMINIOUS MEMBRANE RE-ROOFING PROCEDURES

1. GENERAL

1.1 SUMMARY

A. Section includes removal of existing roofing base flashing system in preparation for new roof system.

B. Remove the including the vertical base flashings.

C. Cut the existing field of the membrane in a 10’x10’ grid pattern.

D. Remove existing counter flashing, coping cap, pipe boots, and similar penetration flashings.

E. Removal of the wet insulation and coverboard.

1.2 SYSTEM DESCRIPTION

A. Roof Areas as Indicate: Remove all vertical base flashings and properly dispose of.

B. Remove roof mounted equipment as required to install new roof, membrane and curbs.

1.3 RELATED SECTIONS

A. Division 7 Section “Modified Bituminous Membrane Roofing – Torch Applied”.

B. Division 7 Section “Roof Insulation”.

C. Division 7 Section “Sheet Metal Flashing and Trim”.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with industry standards.

1.5 QUALIFICATIONS

A. Materials Removal Firm: Company specializing in performing Work of this section with minimum three years documented experience.

1.6 PRE-INSTALLATION MEETINGS

A. Convene a minimum two weeks prior to commencing work of this section.

1.7 ENVIRONMENTAL REQUIREMENTS –

A. Do not remove existing roofing membrane when weather conditions threaten integrity of building contents or intended continued occupancy.

B. Maintain continuous temporary protection prior to and during installation of new roofing system to keep building weather tight.

1.8 SCHEDULING

A. Schedule Work to coincide with commencement of installation of new roofing system.

1.9 COORDINATION

A. Remove only existing roofing materials being replaced with new materials, as weather will permit.

B. Coordinate Work with other affected mechanical and electrical work associated with roof penetrations.

2. PRODUCTS

2.1 COMPONENTS

A. Temporary Protection: Sheet polyethylene or fiber reinforced plastic; furnish weights to retain sheeting in position.

3. EXECUTION

3.1 EXAMINATION

A. Verify existing roof surface is clear and ready for work of this section.

B. Perform pullout testing on roof decks as necessary.

3.2 PREPARATION

A. Remove vertical base flashings and properly dispose of.

B. Relief cut the roof in a 10’x10’ grid pattern.

C. Sweep roof surface clean of loose matter.

D. Remove loose refuse and dispose off site in a manner compliant with all local, state and federal laws / regulations for waste disposal.

E. Ensure existing substrate is sloped, and/or level and plumb, as per the project documents prior to the laying of new insulation.

3.3 EXISTING CONSTRUCTION

A. Remove metal counter flashings.

B. Remove existing roofing system(s) components, perimeter base flashings, flashings around roof protrusions, metal edge systems, coping cap systems, pitch pans and pockets, insulation vents, and leaders as necessary

C. Remove inadequate or damaged curbing.

D. Sweep exposed roof surface clean of loose matter.

E. Remove loose refuse and dispose off site in a manner compliant with all local, state, and federal laws/regulations for waste disposal.

F. Remove and dispose of all metal flashings and coping cap.

3.4 PROTECTION OF INSTALLED CONSTRUCTION

A. Install temporary protective sheeting over uncovered deck surfaces.

B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with weights.

C. Provide for surface drainage from sheeting to existing and new drainage facilities.

D. Do not permit traffic over unprotected or repaired deck surface.

END OF SECTION 07 20 00

SECTION 07 22 00 - ROOF INSULATION

PART 1 - GENERAL

1.1 SUMMARY:

A. This section includes information for the installation of the flat and tapered polyisocyanurate insulation system, and roof recovery board, over the properly installed and prepared membrane substrate section for the Modified Bituminous Membrane Roof System. Backfill wet insulation and coverboard with like-kind.

B. Install tapered crickets/saddles at all roof top equipment and between scuppers and drains where necessary. Install crickets or extend existing crickets where positive drainage is not achieved.

C. Install new ½" densdeck prime recovery board directly over the existing assembly using mechanical fasteners.

3.5

1.2 RELATED SECTIONS

A. Division 07 20 00 "Modified Bituminous Membrane Re-Roofing Procedures"
B. Division 07 55 00 "Modified Bituminous Membrane Roofing – Torch Applied"
C. Division 07 60 00 "Sheet Metal Flashing and Trim".

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM C-1289, Specification for Faced Rigid Polyisocyanurate Thermal Insulation
   2. ASTM D-312-00, Specification for Asphalt Used in Roofing.
   3. ASTM D-1863, Specification for Mineral Aggregate Used on Built-Up Roofs.
   4. ASTM D-2178, Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing.
   5. ASTM D-4601, Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
   6. ASTM D-5147, Sampling and Testing Modified Bituminous Sheet Material.
   7. ASTM E108-00, Test Methods for Fire Test of Roof Coverings.

B. Cast Iron Soil Pipe Institute, Washington, D.C. (CISPI)

C. Factory Mutual Research (FM):
   1. Roof Assembly Classifications.

D. National Roofing Contractors Association (NRCA):
   1. Roofing and Waterproofing Manual.

E. Underwriters Laboratories, Inc. (UL):
   1. Fire Hazard Classifications.

F. Warnock Hersey (WH):
   1. Fire Hazard Classifications.

G. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

H. Steel Deck Institute, St. Louis, Missouri (SDI)

I. Southern Pine Inspection Bureau, Pensacola, Florida (SPIB)

J. Insulation Board, Polyisocyanurate (FS HH-I-1972)

K. Insulation Board, Thermal (Fiberboard) (FS LLL-1-535B)

1.4 QUALITY ASSURANCE

A. Certify that roof system furnished is approved by an approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.

B. Pre-installation Meeting: Refer to Division 7 Section Modified Bituminous Membrane Roofing specifications for pre-installation meeting requirements.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.

B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.

C. Keep materials enclosed in a watertight, ventilated enclosure (i.e. tarpaulins).

D. In accordance with the manufacturer’s recommendations, immediately remove the plastic wrapping on the recovery boards and cover with a watertight, ventilated enclosure (i.e. tarpaulins). Prevent the formation of condensation on the boards.

E. Store materials off the ground and roof surfaces. Any warped, broken or wet insulation boards shall be removed from the site.

F. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.

G. It is the responsibility of the contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the contractor will be the sole responsibility of the contractor and will be repaired or replaced at his expense.

PART 2 - PRODUCTS

2.1 APPROVED EQUIVALENT

A. Basis of Design: Materials, manufacturer’s product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance.

2.2 INSULATION MATERIALS

A. Thermal Insulation Properties and Approved Insulation Boards.

1. Tapered Polyisocyanurate Roof Insulation; ASTM C-1289: (**Where needed)**

Qualities:	Factory Tapered, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
Compressive Strength:	Minimum 20 psi
Tapered Slope:	.5”:12”.

2. Non-structural, water-resistant, fiber-reinforced gypsum substrate recovery board:

Qualities:	Non-structural, water-resistant, fiber-reinforced gypsum roof board
Board Size:	Four feet by four feet (4’ x 4’)
Thickness:	One-Half (1/2) inch
R-Value:	0.50

2.3 RELATED MATERIALS

A. Fiber Cant and Tapered Edge Strips: Preformed perlite (torch applied system), or fiberboard (cold applied system) insulation units of sizes/shapes indicated as per the approved manufacturer.

B. Crickets: Shall be fabricated from tapered polyisocyanurate insulation and shall ensure complete drainage of the roof system.

1. Crickets shall be fabricated from ½”:1’ tapered polyisocyanurate. The width of the cricket shall be a minimum ratio of 3:1 when compared to distance between sumps.

C. Internal Drain Sumps: Shall be fabricated from tapered polyisocyanurate insulation and shall ensure complete drainage of the roof system.

1. Sumps shall be 4’ x 4’ in size and fabricated from ½”:1’ tapered polyisocyanurate

D. Asphalt Primer**:** V.O.C. compliant, ASTM D41.

PART 3 - EXECUTION

3.1 INSPECTION OF SURFACES

A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation.

1. Verify that deck surfaces and project conditions are ready to receive work of this section.
2. Verify that deck is supported and secured to structural members.
3. Verify that drain bowl assemblies are installed and set at proper height to permit a slope of ½" per foot within the sump. The sump shall be a four (4) foot square sump, unless noted otherwise and/or required to be smaller or larger to accommodate drainage around equipment.
4. Verify that work which penetrates roof deck has been completed.
5. Verify that wood nailers are properly and securely installed.
6. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
7. Verify that existing wood blocking and nailers that are of the size and type specified to be used are sound and not rotted or deteriorated. Replace deteriorated wood with new wood of like kind, size and configuration per the project details and specifications. Install new wood blocking as specified in the project documents.
8. Verify that deck surfaces are dry, free of snow or ice, not corroded/rotten or deteriorated, and are structurally sound.
9. Do not proceed until defects are corrected.
10. Do not apply insulation until substrate is dry. Confirm that moisture content of the concrete roof deck, wood blocking and nailers does not exceed twelve (12) percent by moisture meter tests.
11. Broom or air blow clean substrate immediately prior to application.
12. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
13. Contractor is responsible to verify existing and new substrates are sloped as stated in/on the project documents prior to installation of insulation system. All defects in roof pitch to be accommodated with tapered insulation to ensure a positive pitch to all roof drains.
14. Contractor is responsible for removal of wet-insulation as identified in the thermal scan. Contractor is to furnish and install like-kind insulation and coverboard to match the existing profile and height.

3.2 INSTALLATION

A. Mechanically attached Polyisocyanurate Insulation or Coverboard:

1. The surface must be thoroughly cleaned using compressed air, vacuum equipment or hand/power brooms to remove dust, loose dirt or debris.
2. Approved insulation boards shall be installed with joints in continuous straight lines, perpendicular to roof slopes with joints staggered between rows. Tightly butt substrate boards together. Boards shall be fully attached to the deck with an approved mechanical fastening system. As a minimum, the amount of fasteners shall be in accordance with the following:

- Six (11) fasteners per 4' x 8' board in Zone 1 (field of roof)
- Nine (17) fasteners per 4' x 8' board in Zone 2 (perimeter of roof)
- Twelve (22) fasteners per 4' x 8' board in Zone 3 (corners of roof)

3.4 CLEANING

A. Remove debris and cartons from roof deck. Leave insulation clean and dry, ready to receive roofing membrane.

END OF SECTION 07 22 00

SECTION 07 52 00
MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Torch Applied 2-Ply Asphalt Roofing (StressPly IV Plus)

B. Accessories. (2.12)

C. Edge Treatment and Roof Penetration Flashings. (2.13)(3.9)

1.2 RELATED SECTIONS

A. 07 20

B. 07 22

C. 07 60

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.
2. Underwriters Laboratory Class A Rating.
3. Intertek/Warnock Hersey 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) IV
3) Importance Factor of:
a) 0.77
b) 1.0
c) 1.15
d) 2.0
4) Wind Speed: 107 mph
5) Exposure Category:
a) C.

6) Design Roof Height: 20 feet.
7) Minimum Building Width: 115 feet.
8) Roof Pitch: .25:12.
9) Roof Area Design Uplift Pressure:
a) Zone 1' Interior Field of Roof 18.9psf -

b) Zone 1 - Field of roof 29.4 psf
c) Zone 2 - Eaves, ridges, hips and rakes 37.2 psf
d) Zone 3 - Corners 48.9 psf

2. Snow Load: 320 psf.
3. Live Load: 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.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.

B. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.

C. For torch applications, installer must be NRCA - CERTA trained and must utilize CERTA compliant application methods.

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. Manufacturer: Garland Field Supervision: A representative of the roof system manufacturer must be present (2) days per week during the roof system installation.

F. Job progress reports will be emailed by Garland representative weekly.

G. Manufacturer, Garland Co., will provide assistance with job close out and warranty requirements.

1.5 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.

1.6 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

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.

1.7 COORDINATION

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

1.8 PROJECT CONDITIONS

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

1.9 WARRANTY

A. Upon completion of the work, provide the Manufacturer's written and signed NDL Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, 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.
   1. Warranty Period:
      a. 30 years from date of acceptance.

B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
   1. Warranty Period:
      a. 2 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Garland Company, Inc. (The); 3800 E. 91st St., Cleveland, OH 44105. ASD. Toll Free: 800-321-9336. Phone: 216-641-7500. Fax: 216-641-0633. Web Site: www.garlandco.com.

2.2 TORCH APPLIED 2-PLY ASPHALT ROOFING

A. Base (Ply) Sheet:
   1. HPR Torch Base:
   2. SA Base IV: (required for use around perimeters, flashings, curbs and penetrations)

B. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with interplay adhesive.
   1. StressPly IV Plus Mineral:

C. Interply Adhesive:
   1. NA

D. Intumescent primer for wood components at perimeters, flashings and penetrations:
   1. Pro-Stop FR:

E. Flashing Base Ply:
   1. HPR Torch Base:
   2. SA Base IV: (required)

F. Flashing Cap (Ply) Sheet:
1. StressPly IV Plus Mineral:

G. Flashing Ply Adhesive:
1. None for torch sheets only.

2.3 ACCESSORIES:

A. Roof Insulation Cover Board: Provide GP Gypsum DensDeck Prime, GP Gypsum DensDeck Storm-X Prime, USG Securock for proper adhesion of the self-adhered base sheet in accordance with Section 07 22 16.

B. Pipe supports: Rubber, with pipe strap.

1. Contractor is remove the existing wood pipe supports and replace with new rubber blocking.

2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

A. Pre-Manufactured Coping Cap: R-Mer Edge Coping Cap Cover and Splice Plate.
1. Aluminum, ASTM B209, alloy 3105-H14, in thickness of .050" nom.

B. Pre-Manufactured Coping Cap: R-Mer Edge Coping Chairs.

C. Pre-Manufactured Edge Metal Finishes:
1. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, as shipped from the mill.
2. Exposed surfaces for coated panels:
a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer.
Weathering finish as referred by National Coil Coaters Association (NCCA).
Provided with the following properties.
1) Pencil Hardness: ASTM D3363, HB-H / NCCA II-2.
2) Bend: ASTM D-4145, O-T / NCCA II-19.
3) Cross-Hatch Adhesion: ASTM D3359, no loss of adhesion.
4) Gloss (60 deg. angle): ASTM D523, 25+/-5%.
5) Reverse Bend: ASTM D2794, no cracking or loss of adhesion.
6) Nominal Thickness: ASTM D1005.
a) Primer: 0.2 mils.
b) Topcoat: 0.7 mils min.
c) Clear Coat 0.3 mils.
7) Color: Provide as specified. (Subject to minimum quantities)

D. Drain Flashings should be 4lb (1.8kg) sheet lead formed and rolled.

E. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.

F. Liquid Flashing - Tuff-Flash Plus LO: An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
1. Tensile Strength, ASTM D 412: 650 psi.
2. Elongation, ASTM D 412: 325%.
3. Density @77 deg. F 8.3 lb/gal typical.

G. Fabricated Flashings: Fabricated flashings and trim are specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.

H. Manufactured Roof Specialties: Shop fabricated copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07 71

23.

1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

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.

B. Torch Applied Vapor Retarder: Install one torch on fiberglass base sheet using a suitable heat source adhere one ply to the entire surface. Shingle in direction of slope of roof to shed water on each area of roof. Intumescent Primer must be applied to all wood components around perimeters, flashings, curbs and penetrations. SA Base IV must be installed around perimeters, flashings, curbs and penetrations.

C. Fiberglass Vapor Retarder Plies: Install two fiberglass ply sheets in 25 lbs. per square (11.3kg) of ASTM D 312 Type III bitumen shingled uniformly to achieve two plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof.

D. Insulation: Roof insulation is specified in Section 07 22
   1. All joints between layers should be staggered when multiple layers of insulation are installed. Insulation greater than 2.5 inches shall be installed in multiple layers.
   2. Insulation shall be kept dry at all times. Install only as much insulation as can be covered with the completed roofing membrane before the end of the day's work or prior to onset of inclement weather.

3. Edges shall butt tightly, and all cuts shall fit neatly against adjoining surfaces to provide a smooth overall surface. Gaps of greater than 1/4-inch width shall be filled with insulation.
4. Install tapered insulation around roof drains and penetrations to provide adequate slope for proper drainage.
5. Mechanically attached insulation shall be fastened in accordance with code and insurance requirements for the applicable geographic zone with the required number and type of fasteners and plates.
6. When asphalt or cold adhesive attachment is specified, the proposed insulation shall be compatible with the roof substrate, the proposed bitumen and the requirements of the specific membrane.
7. Hot asphalt application:
    a. Maximum 4 foot by 4-foot insulation boards shall be attached with hot asphalt.
    b. Asphalt for insulation attachment shall meet ASTM D 312 Type III or IV criteria, as dictated by the roof slope or other design conditions.
    c. Expanded polystyrene (EPS) materials shall not be installed with hot bitumen products.

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 TORCH APPLIED 2-PLY ASPHALT ROOFING

A. Base Ply Field Rolls: Install torch base sheet to a properly prepared substrate. Shingle in proper direction to shed water on each area of roofing. If wood components are present at perimeters, flashings and penetration locations, an intumescent primer must be applied to the wood components prior to the application of the torch applied cap membrane. A self-adhering base sheet, intended for use with torch-applied cap sheets must also be applied around all perimeters, flashings, curbs and penetrations.

1. Lay out the roll in the course to be followed and unroll 6 feet (1.8 m).
2. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
3. After the major portion of the roll is bonded, re-roll the first 6 feet (1.8 m) and bond it in a similar fashion.
4. Repeat this operation with subsequent rolls with side laps of 4 inches (101 mm) and end laps of 8 inches (203 mm).
5. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.
6. Extend underlayment 2 inches (50 mm) beyond top edges of cants at wall and projection bases.
7. Install base flashing ply to all perimeter and projections details.

B. Base Ply SA IV: Prior to installation sweep or blow away any dust, dirt or sand particles, on the surface that could interfere with adhesion. If wood components are present at perimeters, flashings and penetration locations, an intumescent primer must be applied to the wood components prior to the application of the base sheet.
   1. Prime the torch-grade roof cover board at the recommended coverage rate with SA Primer at a rate of 0.50 gal per 100 sq.ft. Allow the primer to dry before installing the base sheet but it should be tacky for the base sheet application.
   2. Start SA Base IV Base Sheet application at the low point of the roof with appropriate roll width to offset side laps 18 inches (457 mm) from side laps of base sheet. Install flush to roof edge if over base sheet, otherwise turn the HPR SA FR Base Sheet over the fascia minimum 2 inches (50 mm) and nail 9 inches (230 mm) o.c. At perimeter flashing extend the SA Base IV Base Sheet up a minimum of 8 inches (203 mm). Design so that side laps are against the flow of water.
   3. Fold membrane back halfway lengthwise to remove the split release film. Press membrane securely into place and repeat with the opposite half of the membrane. Use a heavy, weighted roller over entire surface of the SA Base IV Base Sheet membrane to secure membrane. Work outwards to eliminate voids. When working with full rolls on large roofs, leave the membrane in position and remove the split release film from underneath the membrane.
   4. Overlap side laps of subsequent SA Base IV Base Sheet membrane lengths 4 inches (100 mm) and end laps 8 inches (203 mm). Offset (stagger) end laps minimum 3 feet (0.9 m). Cut end laps at opposing diagonal corners at a 45-degree angle approximately 3 inches (76 mm) from the corners to minimize "T"- seams. Hot-air heat weld the edge of the angled cut to avoid a capillary.
   5. Use of a hand-held hot air gun at joint area prior to rolling membrane to maximize adhesion. Hot air heat weld all SA Base IV Base Sheet side and end laps to eliminate a capillary.
   6. Use a heavy, weighted roller over the entire surface of HPR SA FR Base Sheet to secure it in place and prevent voids, working outward from center of sheet.
   7. Do not leave the installed SA Base IV Base Sheet exposed to the weather; cover with the torch applied cap sheet the same day.

C. Modified Cap (Ply) Sheet: Over torch base sheet underlayment, lay out the roll in the course to be followed and unroll 6 feet (1.8 m). Stagger seams over the torch base sheet seams.
   1. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
   2. After the major portion of the roll is bonded, re-roll the first 6 feet (1.8 m) and bond it in a similar fashion.
   3. Repeat this operation with subsequent rolls with side laps of 4 inches (101 mm) and

end laps of 8 inches (203 mm).

4. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.

D. 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.

E. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06 11 00.
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.
5. All wood blocking, nailers, and cant strips, must be primed with an intumescent primer prior to the application of the base sheet.

F. Wood Component Intumescent Primer: Intumescent primer shall be applied to all wood components within perimeter conditions, flashing and penetrations, such as wood nailers, blocking sheathing, etc.
1. Before and during primer application, the substrates' surfaces shall be dry, clean and free from loose debris, dust, dirt, grease, oil, and all prior coating materials, such as paint, stains and sealers. The substrate shall not have, nor have been exposed to, treatments, chemicals, coatings, etc. prior to the application of the primer
2. Prior to application of primer, moisture content of the substrate must be verified to less than 16%
3. Apply intumescent at a rate of 1/2 gallon per 100 square feet (200 square feet per gallon)
4. Allow primer to cure prior to application of the base sheet and/or flashing plies.

G. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07 62 00 or Section 07 71 23. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.

H. 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.

I. Flashing Base Ply: Seal all 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.
1. Prepare all walls, penetrations, expansion joints, and other surfaces to be flashed with asphalt primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
2. Adhere modified flashing base to the underlying base flashing ply with specified flashing ply adhesive. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
3. Solidly adhere the entire sheet of flashing membrane to the substrate. Tops of all flashings that are not run up and over curb shall be secured through termination bar 6 inches (152 mm) o.c. and sealed at top.
4. Seal all vertical laps of flashing membrane with a three-course application of trowel-

grade mastic and fiberglass mesh.

5. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work.
6. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work. When using mineralized cap sheet all stripping plies type IV felt / VersiPly 40 shall be installed prior to cap sheet installation.

J. Flashing Cap Ply: Install flashing cap 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 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 o.c. and covered with an acceptable counter flashing.

K. Roof Walkways: Provide walkways in areas indicated on the Drawings.

3.5 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

A. Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07 62 00.
1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.

B. Scupper Through Wall (Overflow):
1. Inspect the nailer to ensure proper attachment and configuration.
2. Run one ply over nailer up the overflow, into the scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
3. Install scupper box in a 1/4-inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4-inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
4. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
5. Strip in flange scupper box with base flashing ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.
6. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.

C. Pre-manufactured Snap-On Coping Cap:
1. Install miters first.

2. Position base flashing of the Built-Up and/or Modified Roofing membrane over the wall edge covering nailers completely, fastening 8 inches o.c.. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
3. Install minimum 16-gauge, 16 inch long by specified width anchor chair at [Contact Garland Representative] feet on center.
4. Install 6-inch-wide splice plate by centering over 16 inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately 2 inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

D. Surface Mounted Counterflashing:
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
6. Secure counterflashing set on butyl tape above flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.

E. Reglet Mounted Counterflashing:
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
6. Cut reglet in masonry one joint above flashing.
7. Secure reglet counterflashing with expansion fasteners and caulk reglet opening.

F. Area Divider:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical curb at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm)on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers through slotted holes. Furnish all joint cover laps with butyl tape between metal covers.

G. Equipment Support:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

H. Curb Detail/Air Handling Station:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

I. Exhaust Fan:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

J. Passive Vent/Air Intake:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb with 6 inches (152mm) on to the field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.

K. Roof Drain:
1. Plug drain to prevent debris from entering plumbing.
2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.

3. Run roof system plies over drain. Cut out plies inside drain bowl.
4. Set lead/copper flashing (30-inch square minimum) in 1/4-inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
5. Install base flashing ply (40-inch square minimum) in bitumen.
6. Install modified membrane (48-inch square minimum) in bitumen.
7. Install clamping ring and assure that all plies are under the clamping ring.
8. Remove drain plug and install strainer.

L. Plumbing Stack:
1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4-inch (6 mm) bed of roof cement.
4. Install base flashing ply in bitumen.
5. Install membrane in bitumen.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.

M. Heat Stack:
1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4-inch (6 mm) bed of roof cement.
4. Install base flashing ply in bitumen.
5. Install modified membrane in bitumen.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Install new collar over cape. Weld collar or install stainless steel draw brand.

N. Liquid Flashing:
1. Mask target area on roof membrane with tape.
2. Clean all non-porous areas with isopropyl alcohol.
3. Apply 32 wet mil base coat of liquid flashing over masked area.
4. Embed polyester reinforcement fabric into the base coat of the liquid flashing.
5. Apply 48-64 wet mil topcoat of the liquid flashing material over the fabric extending 2 inches (51 mm) past the scrim in all directions.
6. Apply minerals immediately or allow the liquid flashing material to cure 15-30 days and then install reflective coating.

3.6 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.

3.7 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.

3.8 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.

3.9 SCHEDULES

A. Base (Ply) Sheet:
   1. HPR Torch Base: 110 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim. Designed for torch applications with a burn-off backer that indicates when the material is hot enough to be installed.
      a. Tensile Strength, ASTM D 5147
         1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 210 lbf/in XD 210 lbf/in
         2) 50 mm/min. @ 23 +/- 2 deg. C MD 36.75 kN/m XD 36.75 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 1,334 N XD 1,334 N
      c. Elongation at Maximum Tensile, ASTM D 5147
         1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 6% XD 6%
         2) 50 mm/min. @ 23 +/- 2 deg. C MD 6% XD 6%
      d. Low Temperature Flexibility, ASTM D5147, Passes -30 deg. F (-34.4 deg. C)

B. Thermoplastic/Modified Cap (Ply) Sheet:
   1. StressPly IV Plus Mineral: 195 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced rubber modified roofing membrane with a fiberglass and polyester composite scrim. Designed for torch applications with a burn-off backer that indicates when the material is hot enough to be installed.
      a. Tensile Strength, ASTM D 5147
         1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
         2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
      b. Tear Strength, ASTM D 5147
         1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 510 lbf XD 510 lbf
         2) 50 mm/min. @ 23 +/- 2 deg. C MD 2269 N XD 2269 N
      c. Elongation at Maximum Tensile, ASTM D 5147
         1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 9% XD 8%
         2) 50 mm/min. @ 23 +/- 2 deg. C MD 9% XD 8%
      d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)

C. Interply Adhesive:
1. Intumescent Primer: Water-based, non-corrosive primer used on wood components (required on torch applied projects). Performance Requirements:
   a. Dry Time: 60-90 minutes
   b. Density at 77 degrees F: 11 lbs/gal
   c. Non-Volatile by Volume: 62%
   d. VOC (EPA Method 24): 18 g/L

D. Flashing Base Ply:
1. HPR Torch Base: SBS modified, torch applied sheet material. ASTM D 6163, Type II.
   a. Tensile Strength, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 210 lbf/in XD 210 lbf/in
      2) 50 mm/min. @ 23 +/- 2 deg. C MD 210 lbf/in XD 210 lbf/in
   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 1334 N XD 1334 N
   c. Elongation at Maximum Tensile, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 6 % XD 6 %
      2) 50 mm/min@ 23 +/- 2 deg. C MD 6 % XD 6 %
   d. Low Temperature Flexibility, ASTM D 5147:
      1) Passes -30 deg. F (-34 deg. C). Meets or Exceeds ASTM D 4601 Type II Performance Criteria.
2. SA Base IV Base Sheet: 110 mil SBS (Styrene-Butadiene-Styrene) self-adhered base sheet with a woven fiberglass scrim reinforcement.
   a. Tensile Strength, ASTM D 5147
      1) 2 in/min. @73.4 +/- 3.6 deg. F MD 75 lbf/in XD 50 lbf/in
      2) 50 mm/min. @23 +/- 2 deg. C 13 kN/m XD 9 kN/m
   b. Tear Strength, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 105 lbf XD 100 lbf
      2) 50 mm/min. @ 23 +/- 2 deg. C 467 N XD 445 lbf
   c. Elongation at Maximum Tensile, ASTM D 5147)
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 5% XD 5%
      2) 50 mm/min. @ 23 +/- 2 deg. C MD 5% XD 5%

E. Flashing Cap (Ply) Sheet:
1. StressPly IV Plus Mineral: 195 mil SBS (Styrene-Butadiene- Styrene) mineral surfaced rubber modified roofing membrane with a dual fiberglass scrim. This membrane is designed for torch applications and has a burn-off backer that indicates when the material is hot enough to be installed. Surfaced with a highly reflective Sunburst mineral.
   a. Tensile Strength, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in CMD 225 lbf/in
      2) 50 mm/min. @ 23 +/- 3 deg. C MD 39.0 kN/m CMD 39.0 kN/m
   b. Tear Strength, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf CMD 300 lbf
      2) 50 mm/min. @ 23 +/- 3 deg. C MD 1335 N CMD 1335 N
   c. Elongation at Maximum Tensile, ASTM D 5147
      1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 9% CMD 8%
      2) 50 mm/min. @ 23 +/- 3 deg. C MD 9% CMD 8%
   d. Low Temperature Flexibility, ASTM D 5147: Passes -20 deg. F (-29 deg. C)
   e. Reflectivity (DNS Method) 73%

END OF SECTION

SECTION 07 60 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Provide all labor, equipment, and materials fabricate and install the following.
1. Pre-manufactured metal coping cap system and trim.
2. Surface mounted wall counterflashings over all vertical base flashing.
3. Counterflashings at roof mounted equipment and vent stacks.
4. Counterflashings for roof accessories.
5. Counterflashings at walls and penetrations.
6. Lead flashing for bituminous membranes.
7. Drip edge
8. Raise metal edge, gravel stop
9. Other components.

1.2 RELATED SECTIONS

A. Division 7 Section 07 20
B. Division 7 Section 07 22
C. Division 7 Section 07 55

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (galvanized) or Zinc-Iron Alloy-Coated (galvannealed) by the Hot-Dip Process.

2. ASTM A792 Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by the Hot-Dip Process.

3. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

4. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

5. ASTM D692 Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.

6. ASTM B32 Solder Metal

7. ASTM B486 Paste Solder

8. ASTM D226 Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

9. ASTM D486 Asphalt Roof Cement, Asbestos-free

B. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI)

1. ANSI/SPRI ES-1 Testing and Certification Listing of Pre-Manufactured Fabricated Edge Metal and Pre-Manufactured Metal Coping Cap System.

C. Warnock Hersey International, Inc., Middleton, WI (WH)

D. Factory Mutual Research Corporation (FMRC

E. Underwriters Laboratories (UL)

F. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

1. 1993 Edition Architectural Sheet Metal Manual

G. National Roofing Contractors Association (NRCA)

1. Roofing and Waterproofing Manual

H. American Society of Civil Engineers (ASCE)

1. ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.

I. FS QQ-L-201 - Specification for Lead Sheet

J. FS O-F-506 - Flux, Soldering, Paste and Liquid

1.4 SUBMITTALS

A. Submit under provisions of this specification.

B. Product Data: Provide manufacturer's specification data sheets for each product.

C. Sample Warranty

1. Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner. Warranty shall be provided from one manufacturer and part of a total Edge-to-Edge roof warranty that includes the modified bitumen membrane roof system, pre-manufactured metal coping cap system, pre-manufactured metal edge system, and flashing systems.

D. ANSI/SPRI ES-1 (Pre-manufactured Metal Edge Fascia/Coping System)

1. Test report must be submitted for specific project wind uplift requirements.

1.5 QUALITY ASSURANCE

A. Reference Standards

1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.

B. If required, fabricator/installer shall submit work experience and evidence of adequate financial Responsibility. The owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

C. Successful contractor must obtain all components of roof system from a single manufacturer including any roll good materials if required. Any secondary products that are required, must be recommended and approved in writing by primary manufacturer prior to bid submittal.

D. Manufacturer shall have in place a documented, standardized method for maintaining quality control such as ISO-9001 approval.

E. The roof material manufacturer shall conduct all required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.

B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

C. Prevent contact with materials which may cause discoloration or staining.

1.7 JOB CONDITIONS

A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal roofing system.

B. Protection:

1. Provide protection or avoid traffic on completed roof surfaces.

2. Do not overload roof with stored materials.

3. Support no roof-mounted equipment directly on the roofing system.

C. Ascertain that work of other trades which penetrates the roof or is to be made watertight by the roof, is in place and approved prior to installation of roofing.

1.8 DESIGN AND PERFORMANCE CRITERIA

A. ANSI/SPRI ES-1 (Pre-manufactured Metal Edge System)

1. ANSI/SPRI ES-1 test reports must be submitted for specific project wind uplift requirements per Section 1.16 Design and Performance Criteria within Modified Bituminous Membrane Roofing specification.

B. Thermal expansion and contraction:

1. Completed metal edge coping and extruded anchor bar system shall be capable of withstanding unlimited thermal expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

1.9 WARRANTIES

A. Material Manufacturer's Warranty

1. Pre-finished metal material shall require a written 20-year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D-2244 or chalking excess of 8 units per ASTM D-659. If either occurs material shall be replaced per warranty, at no cost to the Owner.

2. Warranty shall be an Edge-to-Edge roof warranty provided by one manufacturer, and shall include the modified bitumen roof system, pre-manufactured metal coping cap system, pre-manufactured metal edge fascia system, flashings, and the transition between all systems.

3. Provide a manufacturer’s Edge-to-Edge roof warranty. The manufacturer will also furnish their standard decorative finish warranty.

4. At the request of the Owner, the Manufacturer will provide an annual inspection. The request for annual inspections shall be applicable for the life of the warranty.

B. Contractor's Warranty

1. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two (2) years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Metal systems (surface mounted counterflashings, etc.), are to be comprised of Aluminum, coated on both sides with an epoxy primer and on the weathering surface with a polyvinylidene fluoride (Kynar) coated finish. Equipment counterflashings and equipment slip flashings shall be mill finish.

1. Materials

a. Aluminum

Aluminum, ASTM B209, alloy 3105-H14, in thickness of 0.040" nominal for all metal fascia extenders, reglet mounted counterflashings, and surface mounted counterflashings. All equipment counterflashings, area dividers, and slip flashings shall have a thickness of 0.040".

1. Minimum thickness of Aluminum to be specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations.

b. Color shall be selected by Owner from manufactures standard color range. Counterflashings, expansion joint covers and slip flashings shall be mill finish.

B. Pre-Manufactured Metal Edge System: The Garland Company, Inc. (503-522-7626) R-Mer Edge Coping (Basis of Design)

1. Metal shall be aluminum, ASTM B209, alloy 3105-H14, in thickness of 0.050" nominal with Kynar 500 or approved equal. Color to be selected by Owner from Manufacturer's standard color chart.
2. Anchor Chair: 16 gauge G-90 Galvanized steel
3. ANSI/spri es-1 approved
4. Provide a manufacturer's standard warranty: Warranted materials shall be free of defects in material and workmanship for five years after shipment. The manufacturer will also furnish their standard decorative finish warranty.

B. New Surface Mounted Wall Counterflashing system shall be Mill finished Aluminum, 0.040 inch thick counterflashing system. Flashings shall be formed to be secured with lead plugs on 12" on center, with a continuous bead of specified polyurethane sealant.

C. Raised Metal edge, gravel stop

1. Kynar finished galvanized steel, 24 GA. Thick

D. Miscellaneous Metals and Flashings:

1. Reglet Mounted Counter-Flashings: Mill finished Aluminum, 0.040 inch thick

2. Equipment Slip Flashing: Mill finished Aluminum, 0.040 inch thick.

3. Equipment Support Flashing: Mill finished Aluminum, 0.040 inch thick.

4. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened. Exposed fasteners shall have a neoprene or other suitable weatherproofing washer.

5. Asphalt Mastic: SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coat.

6. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

7. Sealing Tape: Pressure sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.

8. Adhesives: Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.

9. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

10. Roofing Cement: ASTM D 4586, Type I, asbestos free, asphalt based.

11. Zinc-Coated Steel Sheet: ASTM A526, 0.20% copper, 26 gauges (0.0179"); designation G90 hot-dip galvanized, mill phosphatized.

12. Stainless Steel Sheet: Type 302/304, ASTM A167, 26-gauge, (0.0217"), annealed except dead soft where fully concealed by other work, 2D (dull) finish.

2.2 RELATED MATERIALS

A. Metal Primer: Zinc chromate type.

B. Plastic Cement: ASTM D 4586

C. Metal Edge Anchor Bar Sealant: GREENLOCK SEALANT XL or approved equal

D. Sealant: As required by material manufacturer.

E. Lead: Meets Federal Specification QQ-L-201, Grade B, four (4) pounds per square foot.

F. Solder: ANSI/ASTM B32; 95/05 type.

G. Flux: FS O-F-506.

H. Underlayment: Ply of specified base flashing modified membrane or approved equal.

I. Fasteners:

1. Nails and Fasteners: Non-ferrous metal or hot dipped galvanized fasteners complying with ASTM A153 and connectors complying with ASTM A653, Class G185; Type 304 or Type 316 stainless steel fasteners and connectors shall be used with new generation of pressure-treated wood; except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel. Fasteners shall be self-clinching type of penetrating type as recommended by the manufacturer of the wood blocking/nailer material. Nails and fasteners shall be flush-driven through flat metal discs of not less than one (1) inch diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than one (1) inch diameter are used.

2. Fastening shall conform to ANSI/SPRI ES-1 requirements, SMACNA, or as stated on section details, whichever is more stringent and per the manufacturer's requirements.

J. Metal Termination Bars:

1. Shall be heavy flat bar aluminum unless otherwise recommended by membrane manufacturers.

2. Material shall be .125" x 1" (minimum) aluminum conforming to ASTM B-221, mill finish. Bars shall have holes for fasteners at 6" o.c. maximum.

PART 3 - EXECUTION

3.1 PROTECTION

A. Isolate contact areas of dissimilar metals with heavy asphalt or other approved coating, specifically made to stop electrolytic action.

3.2 GENERAL

A. Install work watertight, without waves, warps, buckles, fastening stress, or distortion, allowing for expansion and contraction.

D. Fastening of metal to walls and wood blocking shall comply with ANSI-SPRI ES-1, SMACNA Architectural Sheet Metal Manual and/or manufacturer's recommendations whichever is of the highest standard.
E. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
F. Install miters first.
G. Position base flashing ply over the wall edge covering nailers completely, fastening 8 inches on center. Install base ply and thermoplastic cap ply with proper material and procedure according to manufacturer's recommendations.
H. Install minimum 16 gauge, 16 inch long by specified width anchor chair.
I. Install six (6) inch wide splice plate by centering over 16 inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately two (2) inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

3.3 INSPECTION

A. Verify metal wall panels, roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, cant strips and reglets are in place, and nailing strips located.

B. Verify membrane termination and base flashings are in place, sealed, and secure.

C. Beginning of installation means acceptance of existing conditions.

D. Field measure site conditions prior to fabricating work.

3.4 SHOP FABRICATED SHEET METAL

A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.

B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.

C. Hem exposed edges.

D. Angle bottom edges of exposed vertical surfaces to form drip.

E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.

D. All corner/miter anchor bars for the pre-manfuctured metal edge system shall be installed prior to straight length anchor bars. All anchor bars shall be set in two (2) ¼” wide beads of the specified sealant, and with adjoining pieces fastened together with splices. Joints for the anchor bars shall be formed with a ¼” opening between sections.

E. Joints for pre-manufactured metal edge fascia system fasica covers, and metal edge fascia extenders shall be formed with a 3/8” opening between sections. The joints of the metal edge fascia system fascia covers, and the metal edge fascia extenders shall be offset a minimum of twelve (12) inches. The joint openings shall be backed by an internal drainage plate formed to the profile of fascia piece. The pre-manufactured metal edge fascia system fascia covers, and metal fascia extenders shall be embedded in two rows of butyl sealant over the internal drainage plate. The internal drainage plate shall be embedded in two rows of butyl sealant.

F. Joints for counterflashings shall be overlapped a minimum of 3”, and counterflashings shall extend 4” below the roof flashing termination bar.

G. Install sheet metal to comply with ANSI/SPRI, SMACNA and NRCA standards, and per the manufacturer’s instructions.

3.5 FLASHING MEMBRANE INSTALLATION

A. ROOF DRAIN

1. Prime lead at a rate of 100 square feet per gallon and allow to dry.

2. Set lead flashing (30" square minimum) in a 1/4" bed of mastic.

3. Install specified roof flashing system.

4. Install metal clamping ring and strainer.

B. PLUMBING STACK

1. Prime flange and sleeve at a rate of 100 square feet per gallon and allow to dry.

2. Install properly sized sleeves in a 1/4" bed of roof cement.

3. Turn sleeve a minimum of 1" down inside of stack or lead caps on pipes 2” or less in diameter.

4. Caulk intersection of the membrane and flange with elastomeric asphaltic sealant or roof cement.

END OF SECTION 07 60 00

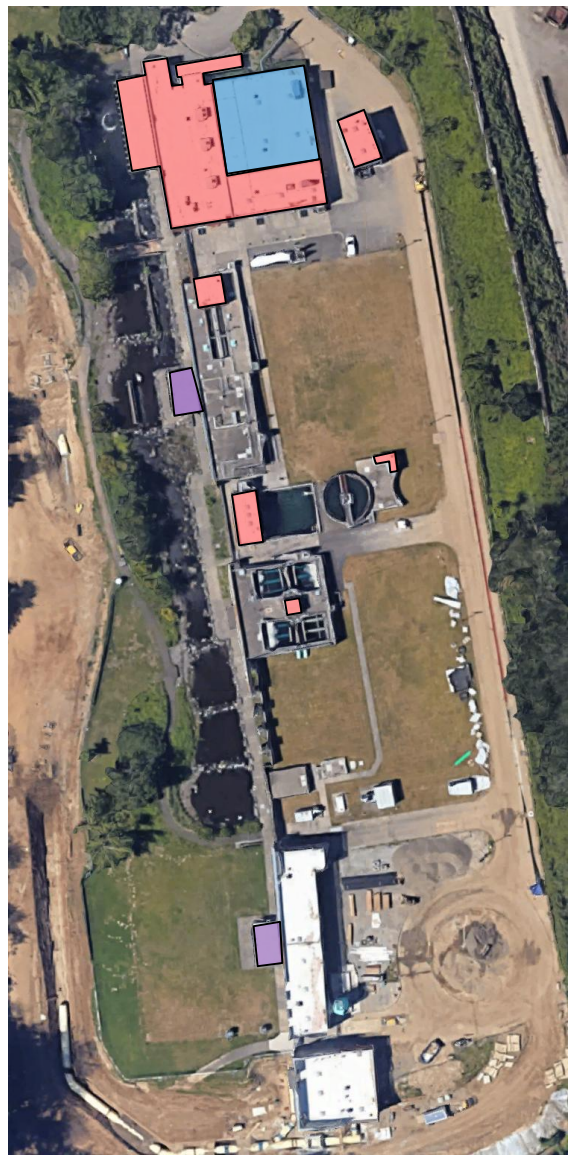
Site Map

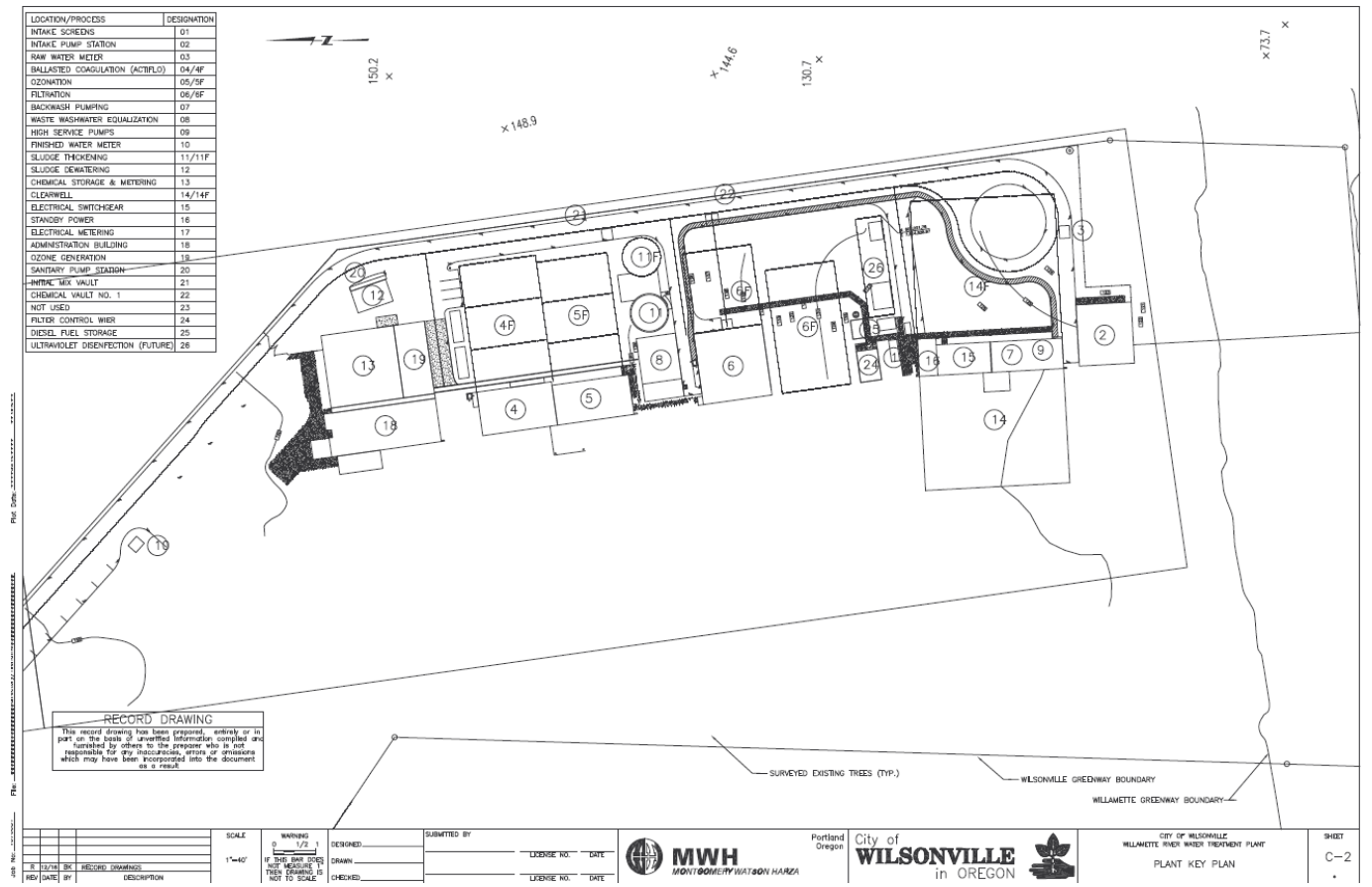
Water Treatment Plant

Base Bid

Alternate 1

Alternate 2





LOCATION/PROCESS	DESIGNATION
INTAKE SCREENS	01
INTAKE PUMP STATION	02
RAW WATER METER	03
BALLASTED COAGULATION (ACTIFLO)	04/4F
OZONATION	05/5F
FILTRATION	06/6F
BACKWASH PUMPING	07
WASTE WASHWATER EQUALIZATION	08
HIGH SERVICE PUMPS	09
FINISHED WATER METER	10
SLUDGE THICKENING	11/11F
SLUDGE DEWATERING	12
CHEMICAL STORAGE & METERING	13
CLEARWELL	14/14F
ELECTRICAL SWITCHGEAR	15
STANDBY POWER	16
ELECTRICAL METERING	17
ADMINISTRATION BUILDING	18
OZONE GENERATION	19
SANITARY PUMP STATION	20
INTERCTEK VAULT	21
CHEMICAL VAULT NO. 1	22
NOT USED	23
FILTER CONTROL WIER	24
DIESEL FUEL STORAGE	25
ULTRAVIOLET DISINFECTION (FUTURE)	26

REV	DATE	BY	DESCRIPTION
0	10/16	BK	RECORD DRAWINGS

SCALE 1"=40'

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED
DRAWN
CHECKED

SUBMITTED BY
LICENSE NO. DATE
LICENSE NO. DATE

MWH MONTGOMERY WATSON HARZA Portland Oregon

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE
WILLAMETTE RIVER WATER TREATMENT PLANT
PLANT KEY PLAN

SHEET C-2

THE GARLAND COMPANY INC.
3800 E 91ST ST. | CLEVELAND, OH 44105-2197
PHONE (216)641-7500 | FAX (216)641-0633

10350 Arrowhead Creek Ln,
Wilsonville, OR 97070

June 2025

Travis Cox
503-522-7626

Not to scale – contractor responsible for field measurements