


COUNCIL ACTION SHEET

To:	The Mayor and Members of City Council	
From:	Mouhamad Zaher, Public Works Director	
Date:	April 19, 2023	
Subject:	Replacement of the IA15-IA15A Sanitary Sewer Main Located at S 3rd St and Tualatin St	

Background: The existing IA15-IA15A sanitary sewer main located at S 3rd Street and Tualatin Street has been experiencing progressive settling over time which is adversely affecting the normal operation of the sewer to properly convey flow. Repeated sewer backups have prompted Public Works to investigate and jet the sewer main multiple times in the past few weeks. The failure of the sanitary sewer main to function normally may put adjacent properties connected to the sewer at risk.

The Engineering Division of Public Works has developed plans and specifications for the replacement of the sewer line and the Work will include replacing approximately 140 linear feet of existing 6-inch sewer with new 6-inch diameter ductile pipe, ground stabilization, reconnecting existing sewer services to the new sewer main, installation of new sewer manhole, and installation of a new 6-inch diameter cleanout.

Quotes for the work was requested from three contractors with the following results,

FIRM	LOCATION	BID
Turney Excavating	Keizer, OR	\$68,250.000
T.F.T. Construction	Scappoose, OR	Chose to not submit a Bid
Advanced Excavating Specialists	Longview, WA	\$84,697.00

Recommendation: Council award the contract and authorize the Mayor to execute a Construction Contract for the replacement of IA15-IA15A sanitary sewer main located at S 3rd Street and Tualatin Street to Turney Excavating for construction services. Contract will be for the amount specified in their bid, plus a standard 10% contingency.

Attachment: Copy of Bids

BID SCHEDULE
SANITARY SEWER MAIN IMPROVEMENTS ON S 3RD ST AND LEE ST, PROJECT NO. S-676

Item No	Description	Unit	Estimated Quantity	Unit Price	Estimated Total Price
1	Mobilization, Bonds, Insurance, and Demobilization	LS	1	\$7,500.00	\$7,500.00
2	Temporary Work Zone Traffic Control	LS	1	\$2,000.00	\$2,000.00
3	Erosion and Sediment Control	LS	1	\$600.00	\$600.00
4	New 24-inch Diameter Manhole	EA	1	\$4,800.00	\$4,800.00
5	Replace 6-inch Diameter Sewer Cleanout	EA	1	\$1,800.00	\$1,800.00
6	Reconnect Sanitary Sewer Laterals	EA	4	\$1,800.00	\$7,200.00
7	6-inch Diameter Class 52 Ductile Iron Pipe Installed by Open-Cut Pipe Replacement Method	LF	138	\$247.00	\$34,086.00
8	2 1/2"-0 Stabilized Base Course (Sheet S3)	CY	31	\$248.00	\$7,688.00
9	Post Construction: CCTV of Replaced or Rehabilitated Sewer Mains and As-Built Survey	LS	1	\$10,000.00	\$10,000.00
10	Remove and Replace Existing Wooden Deck	LS	1	\$5,000.00	\$5,000.00
11	Geotextile Fabric	SY	31	\$33.00	\$1,023.00
12	Rock Excavation	CY	10	\$300.00	\$3,000.00
TOTAL PRICE			\$ 84,697.00		

TURNEY EXCAVATING, INC.

BID SCHEDULE

SANITARY SEWER MAIN IMPROVEMENTS ON S 3RD ST AND LEE ST, PROJECT NO. S-676

Item No	Description	Unit	Estimated Quantity	Unit Price	Estimated Total Price
1	Mobilization, Bonds, Insurance, and Demobilization	LS	1	6000.00	6000.00
2	Temporary Work Zone Traffic Control	LS	1	2150.00	2150.00
3	Erosion and Sediment Control	LS	1	1100.00	1100.00
4	New 24-inch Diameter Manhole	EA	1	3100.00	3100.00
5	Replace 6-inch Diameter Sewer Cleanout	EA	1	1500.00	1500.00
6	Reconnect Sanitary Sewer Laterals	EA	4	3050.00	12200.00
7	6-inch Diameter Class 52 Ductile Iron Pipe Installed by Open-Cut Pipe Replacement Method	LF	138	140.00	19320.00
8	2 1/2"-0 Stabilized Base Course (Sheet S3)	CY	31	100.00	3100.00
9	Post Construction: CCTV of Replaced or Rehabilitated Sewer Mains and As-Built Survey	LS	1	1650.00	1650.00
10	Remove and Replace Existing Wooden Deck	LS	1	15000.00	15000.00
11	Geotextile Fabric	SY	31	20.00	620.00
12	Rock Excavation	CY	10	250.00	2500.00
TOTAL PRICE			\$	68,240.00	

ADVANCED EXCAVATING

BID SCHEDULE

SANITARY SEWER MAIN IMPROVEMENTS ON S 3RD ST AND LEE ST, PROJECT NO. S-676

Item No	Description	Unit	Estimated Quantity	Unit Price	Estimated Total Price
1	Mobilization, Bonds, Insurance, and Demobilization	LS	1	\$7,500.00	\$7,500.00
2	Temporary Work Zone Traffic Control	LS	1	\$2,000.00	\$2,000.00
3	Erosion and Sediment Control	LS	1	\$600.00	\$600.00
4	New 24-inch Diameter Manhole	EA	1	\$4,800.00	\$4,800.00
5	Replace 6-inch Diameter Sewer Cleanout	EA	1	\$1,800.00	\$1,800.00
6	Reconnect Sanitary Sewer Laterals	EA	4	\$1,800.00	\$7,200.00
7	6-inch Diameter Class 52 Ductile Iron Pipe Installed by Open-Cut Pipe Replacement Method	LF	138	\$247.00	\$34,086.00
8	2 1/2"-0 Stabilized Base Course (Sheet S3)	CY	31	\$248.00	\$7,688.00
9	Post Construction: CCTV of Replaced or Rehabilitated Sewer Mains and As-Built Survey	LS	1	\$10,000.00	\$10,000.00
10	Remove and Replace Existing Wooden Deck	LS	1	\$5,000.00	\$5,000.00
11	Geotextile Fabric	SY	31	\$33.00	\$1,023.00
12	Rock Excavation	CY	10	\$300.00	\$3,000.00
TOTAL PRICE			\$ 84,697.00		

T.F.T. CONSTRUCTION

From: [Erik Olsen](#)
To: [Alex Bird](#)
Cc: [Sharon Darroux](#)
Subject: Re: [External] Emergency Procurement Work - S 3rd Street Sanitary Sewer
Date: Thursday, March 30, 2023 7:04:18 AM
Attachments: [image001.png](#)

Hey Alex - Due our existing workload we won't be able to provide numbers for this. Thanks for reaching out - Erik

On Fri, Mar 24, 2023 at 8:02 AM Alex Bird <abird@sthelensoregon.gov> wrote:

Erik,

As far as commencement of work, the work could potentially start the week of April 10th or April 17th.

Thank you,

Alexander Bird, PE* | Engineer II

City of St. Helens | Public Works – Engineering Division

265 Strand Street, St. Helens, OR 97051 | www.sthelensoregon.gov

p: (503) 366-8223 | c: (971) 246-2000 | abird@sthelensoregon.gov

*Licensed to practice in the State of Oregon

From: Erik Olsen <erik@tftconstruction.net>
Sent: Friday, March 24, 2023 7:00 AM
To: Alex Bird <abird@sthelensoregon.gov>
Cc: Sharon Darroux <sdarroux@sthelensoregon.gov>
Subject: Re: [External] Emergency Procurement Work - S 3rd Street Sanitary Sewer

Hi Alex - Thanks for sending that over. I'll take a look and see if it's something we can work into our schedule. How soon would we need to start? - Erik

CITY OF ST. HELENS, OREGON

PO Box 278
ST. HELENS OR 97051
(503) 397-6272

CONSTRUCTION CONTRACT

(\$50,000 OR MORE)

PROJECT: Replacement of the IA15-IA15A Sanitary Sewer Main
CONTRACTOR: Turney Excavating, Inc
P.O. Box 21597
Keizer, Oregon 97307
Ph: 503-307-7522 Fax: _____
DESIGN PROFESSIONAL ("Designer"): Alexander Bird, Engineer II

CONTRACT No.: S-676
Corporation ☒ Partnership ☐
Ltd Liability Co. ☐ Individual ☐
Const. Cont. Board Reg.: 214481
Taxpayer ID: 82-0663449
Workers' Comp Carrier: SAIF
Policy: 100037120
Exp. Date: 8/1/23
City Business License No.: 04692

WORK: Contractor will furnish labor, materials, and services necessary to complete the following work ("Work") [attach additional sheets as Attachment A if necessary]: The work will include includes the installation of over 140 linear feet of 6-inch diameter Class 52 ductile iron complete with the installation of new cleanout, manhole, and all required fittings and appurtenances. Work also includes the reconnection of 4 sanitary laterals, the installation, maintenance, and removal of temporary traffic control and erosion control measures, rock excavation, and the removal and replacement of existing pavement.

CONTRACT PRICE: Owner will pay Contractor for the Work following the bid items listed under Attachment B with a total Not to Exceed Contract Price of Seventy-Five Thousand Sixty Four Dollars and Zero Cents (\$75,064.00).

Contractor represents that it has inspected the Project and has made all investigations essential to a full understanding of the difficulties, which it may encounter in performing the Work. Contractor further represents that it has carefully reviewed and examined: (a) all of the Drawings, Specifications, General and Supplemental Conditions, addenda, amendments, modifications, and other document relevant to the Work.; and, (b) this Construction Contract and its terms and conditions ((a) and (b) collectively, "Contract Documents"). All of the Contract Documents, including the terms and conditions of this Construction Contract, are incorporated into this Construction Contract by this reference.

TERMS: Unless specifically stated otherwise, the Contract Price will be paid as specified in the payment schedule attached as Attachment B to this Construction Contract, which is by this reference incorporated into this Construction Contract, and according to the payment terms included in the Terms and Conditions of this Construction Contract. At a minimum, Owner shall pay per ORS 279C.570.

CONTRACT TIME & LIQUIDATED DAMAGES: Contractor agrees to substantially complete the Work in 60 calendar days after the Commencement of the Work ("Contract Time"). **Time is of the essence of this Construction Contract.** If the Work is not substantially completed within the Contract Time, the resulting damages and loss to the Owner will be difficult to accurately ascertain. Therefore the Contractor agrees to pay Owner and Owner agrees to accept liquidated damages for late completion in the amount of \$500.00 per calendar day for each day elapsing from expiration of the Contract Time until Substantial Completion of the Work. The Owner and Contractor agree these liquidated damages represent a reasonable forecast of the Owner's actual damages and that they are not a penalty. The Owner may deduct liquidated damages from any unpaid amounts due Contractor. Any liquidated damages not so deducted shall be payable to the Owner at the written demand of the Owner, together with simple interest at 9% after 15 days of the date of the written demand.

COMMENCEMENT OF THE WORK: Unless a different date is stated below, the date of Commencement of the Work will be the later of the expressed date of execution by the Owner or execution by the Contractor, or in the case that only one of the parties dated their execution, Commencement of the Work will be the date of execution by that party. If the date of execution is not written below the signature of both the Owner and the Contractor and a date is not provided below, the date of Commencement will be the first day of performance of the Work by the Contractor at the Project location. Date of Commencement of the Work: April 24th, 2023.

TAXES: Contractor represents and warrants that Contractor has complied with the tax laws of this state or a political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317 and 318. Contractor covenants that contractor will continue to comply with the tax laws of this state or a political subdivision of this state during the term of this Contract. Failure by the Contractor to comply with the tax laws of this state or a political subdivision of this state before the execution of this Contract or during the term of this Contract is a default for which the Owner may terminate this Contract and seek damages and other relief available under the terms of this Contract or under applicable law.

ACCEPTANCE: Contractor accepts this Construction Contract, including all of its terms and conditions, by execution below or by commencing any part of the Work. Any additional or different terms proposed by the Contractor are hereby rejected unless expressly identified and agreed to in writing by the Owner.

OWNER:

CITY OF ST. HELENS

Council Meeting Date: April 19, 2023

Signature: _____

Print: _____

Title: _____

Date: _____

CONTRACTOR:

Turney Excavating, Inc

Signature: 

Print: Mitchell Turney

Title: President

Date: 4/16/23

TERMS & CONDITIONS

1. Definitions. The following definitions apply to this Construction Contract:

1.1 “Contract Documents” means the Construction Contract and these terms and conditions, and all of the Drawings, Specifications, General and Supplemental Conditions, addenda, amendments, modifications, and other document relevant to the Work. Unless specifically enumerated in the Contract Documents as a Contract Document, the Contract Documents do not include the invitation to bid, instructions to bidders, the Contractor’s bid or proposal, or other documents relating to bidding instructions and requirements.

1.2 “Drawings” means pictorial or graphic portions of the Contract Documents showing the design, location, dimensions, and details of the Work.

1.3 “Project” means the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by other contractors.

1.4 “Specifications” means the portions of the Contract Documents consisting of written requirements for and descriptions of the Work.

1.5 “Work” means the construction required under the Contract Documents including all work reasonably inferable as necessary to produce the results intended by the Contract Documents. The Work may include performing labor, furnishing and incorporating materials, equipment, and other components into the Project, and supplying goods.

2. Owner.

2.1 The Owner is the City of St. Helens, Oregon. The Owner will designate a construction representative who will be the Contractor’s point of contact for the Project and will coordinate the activities of the Contractor, the Owner, and any designer, on behalf of the Owner. The Owner may, in its discretion, designate a new construction representatives before, during, and after the life of the Project. “Owner” means the Owner or the Owner’s designated representative.

2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, the Owner will secure necessary approvals and permits necessary for the Work.

2.3 As a convenience, utilities will be indicated on the Drawings if the location is known to the Owner or the designer, and the Owner will provide the Contractor with any readily known information in the Owner’s possession concerning existing utilities. Notwithstanding the foregoing, the Contractor is solely responsible for determining the location of utilities and for reviewing and confirming information provided by Owner or designer with utility owners and for sources otherwise available.

2.4 If the Contractor fails to correct Work that is not in conformance with the Contract Documents or materially fails to carry out the Work in accordance with the Contract Documents or without reasonable promptness, the Owner may, but is not obligated to, issue a written order to the Contractor to stop the Work, or any portion thereof. The Owner’s exercise of its right to stop the Work will not relieve the Contractor of any of its responsibilities and obligations under the Contract Documents.

3. Contractor.

3.1 The Contractor will remain properly licensed with the Oregon Construction Contractors Board throughout the performance of the Work. Prior to Commencement of the Work, Contractor will designate in writing a representative who shall have the authority to bind the Contractor with respect to all

matters under this Construction Contract. "Contractor" means the Contractor or the Contractor's designated representative.

3.2 The Contractor will perform the Work in strict accordance with the Contract Documents and in a workmanlike manner. Unless otherwise expressly provided for in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, machinery, water, heat, electricity, utilities, transportation, and other facilities, goods or services necessary for the proper execution and full completion of the Work.

3.3 Before starting each portion of the Work, the Contractor shall carefully study and compare the Contract Documents and the Project location relative to that portion of the Work, and shall take field measurements of any existing conditions related to that portion of the Work, to insure that the Work will be properly integrated with the Project location or existing Work. The Contractor shall promptly notify the Owner of any errors, omissions, or inconsistencies in the Contract Documents of which it becomes aware or that a qualified contractor should recognize with the use of reasonable diligence. The Contractor's review will be made in the Contractor's capacity as a contractor and not as a licensed design professional.

3.4 The Contractor will be solely responsible for, and have control over, the construction means and methods for the Work unless the Contract Documents give other specific instructions concerning certain matters. If the Construction Documents give specific instructions for the means and methods, the Contractor shall evaluate the job safety of performing under those means and methods before performing any such work and notify the Owner and not proceed if it determines that the means and methods specified are not safe. Contractor is solely responsible for the safety of all construction means and methods for the Work and the safety of its employees.

3.5 The Contractor may make substitutions only with the written consent of the Owner. Notwithstanding the Owner's consent for a substitution, Contractor remains solely responsible for the substitution's compliance with the requirements of the Contract Documents.

3.6 The Contractor shall comply with and give all notices required by applicable laws, rules, and regulations, or otherwise required by public agencies or authorities applicable to the performance of the Work.

4. Schedule.

4.1 Before Commencement of the Work, the Contractor will prepare and submit to the Owner a construction schedule for the Work. The schedule shall not exceed the Contract Time for the Work and shall be updated during the performance of the Work at least on a bi-weekly basis. Bi-weekly schedule updates shall be submitted to the Owner. The Contractor shall perform the Work in general accordance with the most recent schedules submitted to and approved by the Owner. The construction schedule shall be in a detailed precedence-style critical path method (CPM) type format, which shall include any interim dates that are critical in insuring the timely completion of the Work. The Contractor shall indicate in the schedule updates any Work that is not proceeding according to the original schedule and shall provide a written plan of action to bring the Work into compliance with the approved schedule or to ensure that the Work will be completed within the Contract Time. Any modifications to the Contractor's schedule notwithstanding, the Contractor shall remain responsible to complete the Work within the Contract Time.

4.2 If the Work is not proceeding according to the schedule and the Owner does not reasonably believe Contractor's proposed actions or schedule modifications are sufficient to accomplish completion of the Work within the Contract Time, the Owner may find the Contractor to be in default. If the Contractor fails to cure such default by submitting proposed actions or schedule modifications, reasonably acceptable to the Owner, within seven (7) days of receiving written notice of the default, the Owner may perform such work as the Owner deems necessary to bring the Work into compliance with the current approved schedule and to credit the costs thereof against payments due to the Contractor. Such action shall not constitute the Owner's waiver of any other rights, claim or claims against the Contractor resulting from the Contractor's failure to perform on schedule or within the Contract Time.

5. Subcontracting.

5.1 Any work that is performed by a person which is not hired and paid as an employee of the Contractor, including Work performed with construction equipment that is rented with an operator, must be performed under a written subcontract that meets the requirements of this Article. A prospective subcontractor or sub-subcontractor must qualify as an independent contractor under ORS 670.600. Each subcontract shall require the subcontractor to assume toward the Contractor all obligations and responsibilities which the Contractor, by the Contract Documents, assumes toward the Owner. Each subcontract agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. The Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors.

5.2 Each subcontract and materials contract shall require that the subcontracted portion of the Work be performed and materials to be supplied in accordance with the requirements of the Contract Documents.

5.3 Each Subcontract must include a provision requiring the subcontractor or sub-subcontractor, as the case may be, to carry the same liability insurance and workers' compensation insurance coverage that the Contractor is required to carry under the Contract Documents.

5.4 Each subcontract must state that the subcontractor or sub-subcontractor will defend and indemnify Owner and its officers, employees, and agents against any and all third party claims arising out of the subcontractor's or sub-subcontractor's performance of the Work, negligence or other wrongful acts or omissions.

5.5 No subcontractor, sub-subcontractor, or supplier will be deemed to have any contractual relationship with the Owner, nor deemed to be a third-party beneficiary of this Construction Contract. Notwithstanding any provision of the Contract Documents or Oregon Revised Statutes, the Owner had no, and will have no, obligation to pay or to assure the payment of any amounts due any subcontractor, or sub-subcontractor, or any supplier, and the Contractor shall defend and hold the Owner harmless from any claims asserted by a subcontractor, sub-subcontractor, or supplier who has not received payment when due.

5.6 The Contractor will schedule, supervise, and coordinate the operations of all Subcontractors. No subcontracting of any of the Work shall relieve the Contractor from its responsibility for the performance or any other of its obligations under the Contract Documents. Contractor remains fully responsible and liable for any Work performed by subcontractors.

6. Shop Drawings.

6.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

6.2 Shop Drawings and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review and/or approval by the Owner does not constitute approval of any change from the requirements of the Contract Documents, any safety precautions, or of any construction means, methods, techniques, sequences or procedures. The Owner's review is solely for the benefit and protection of the Owner and the Contractor may not rely upon any such review or approval as an acknowledgement or certification that the submittal is adequate, accurate, complete, or proposes work in compliance with all aspects of the Contract Documents. Contractor remains solely responsible for ensuring that all Work complies with the Contract Documents.

6.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Owner, Shop Drawings and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay to the Work or to the activities of the Owner or of its separate contractors.

6.4 By submitting Shop Drawings and similar submittals, the Contractor represents to the Owner that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Contract Documents.

6.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings or similar submittals until the respective submittal has been approved and returned by the Owner.

6.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Owner's approval of Shop Drawings or similar submittals unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submittal and a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings or similar submittals by the Owner's approval thereof.

6.7 The Contractor shall make all corrections to Shop Drawings or similar submittals requested by the Owner and provide a corrected Submittal without change in the Contract Price or Contract Time.

7. Concealed and Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents; or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner before the conditions are disturbed and in no event later than three (3) calendar days after first observance of the conditions. Failure of Contractor to notify Owner before proceeding with work affected by a concealed and unknown condition shall constitute a waiver by Contractor of any additional costs or time associated with the condition. The Owner will promptly investigate such conditions and the Owner will make a determination whether they will cause an increase or decrease in the cost of the Work or the time required for performance of the Work. The Owner will notify the Contractor of the Owner's decision. If the Contractor does not agree with the Owner's decision, Contractor shall proceed with the Work and the disagreement will be subject to the provisions of the Contract Documents on resolution of Claims and Disputes. No adjustment in the Contract Time or Price will be allowed, however, in connection with concealed or unknown conditions which reasonably should have been disclosed by the Contractor's prior inspections, tests, reviews and preconstruction services.

8. Changes.

8.1 A "Change Order" is a written instrument signed by the Owner and Contractor stating their agreement upon a change in the Work, a change, if any, in the Contract Price, and a change, if any, in the Contract Time. Agreement on any Change Order shall constitute a final settlement of all matters relating to the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with changes and any and all direct and indirect adjustments to the Contract Price and the Contract Time.

8.2 A "Construction Change Directive" is a written order prepared by the Owner or an authorized representative of the Owner or the Owner's designer, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Price or Contract Time, or both. The Owner, its authorized representative or its designer may by Construction Change Directive, without invalidating the Contract, order

changes in the Work. A Construction Change Directive shall be used in the absence of agreement on the terms of a Change Order.

8.3 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work and advise the Owner of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Price or Contract Time.

8.4 The Owner and the Contractor shall attempt to negotiate fair and reasonable adjustments for changes in the Work prior to the time when the Owner directs changed Work to be performed. If the Owner and the Contractor are unable to agree upon change order terms prior to the time for performance of the changed Work as stated in or reasonably inferable from the Owner's direction, the Contractor will proceed with the changes. In such event, the Contractor shall keep daily records as to all labor employed and materials and equipment supplied in connection with the changes. The Contractor's records shall itemize costs for labor, materials, equipment rental, and transportation. The Contractor shall submit the records for approval by the Owner daily. If the Contractor fails to keep such records, all such Work will be deemed to have been performed at the Contractor's own risk and without any change in Contract Price or Contract Time.

8.5 In the absence of applicable unit prices or other agreement, the changed Work will be priced as follows: for additional Work to be performed by Contractor's own forces, Contractor shall add an amount equal to Contractor's direct costs for labor, materials, equipment rental, and transportation, plus ten percent (10%) for profit, overhead, and to cover all other charges for or in connection with such work. The percentage fee includes, but is not limited to, all charges for layout, supervision (field and home office), small tools and related items, general expenses, overhead, and profit.

8.6 For work to be deleted, Contractor shall deduct an amount equal to the direct cost savings for labor, material, equipment, transportation, and taxes deleted from the work, plus ten percent (10%).

8.7 In no event shall the Contractor proceed with changes in the Work without a written order from the Owner or an authorized representative of the Owner or the Owner's designer to so proceed. The Owner will be under no obligation to pay for unauthorized extra, additional, or changed Work performed by the Contractor without a written Change Order or other written order to proceed executed by the Owner or an authorized representative of the Owner or the Owner's designer.

8.8 Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Owner will make an interim determination for purposes of monthly payment and make payment for the amount that the Owner determines to be reasonably justified. The Owner's interim determination and payment for the changed Work shall change the Contract Price on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim.

8.9 The Contractor shall maintain books, records, documents, and other evidence pertaining to the costs incurred by the Contractor in connection with the Contract ("the Records") to such extent and in such detail as will properly reflect and fully support all costs, charges, and other amounts of whatever nature for which reimbursement or payment is or may be claimed under the Contract. The Contractor shall preserve such Records for a period of three (3) years following the date of final payment under the Contract. The Contractor agrees to make available at the office of the Contractor at all reasonable times all Records for inspection, audit, and reproduction by the Owner. The Owner reserves the right to audit the Contractor's books and Records at any time with respect to the cost of changes in the Work. If the audit determines that the Contractor has billed or has been paid one hundred and two percent (102%) or more of the amount due under the Contract Documents, the Contractor shall reimburse the Owner for the cost of such audit.

9. Delay & Acceleration.

9.1 No claim for delay shall be allowed the Contractor, including claims for delay on account of the Owner's failure or interference, unless the Contractor provides written notice of the delay to the Owner within three (3) days of the occurrence of the event giving rise to the delay. If the Contractor fails to provide timely notice of delay, the Contractor shall be deemed to have waived its right to recover additional compensation or time because of the delay.

9.2 The Owner reserves the right to accelerate the schedule from time to time upon written direction to the Contractor to so accelerate. If the forces of the Contractor or any of its subcontractors are required to work overtime as a result of such acceleration, the Owner will reimburse the Contractor for the premium portion of overtime wages paid plus applicable federal and state payroll taxes and other actual payroll costs attributable to the overtime premium. Reimbursement for such acceleration shall not include any markup for overhead or profit of the Contractor or its subcontractors on the premium portion of overtime wages. This provision shall have no application to overtime work that the Contractor is required to perform due to its own failure to meet the schedule or, without limitation, due to any other fault of the Contractor.

10. Payment.

10.1 The Contractor shall submit to the Owner, before the first Application for Payment or other invoice, a schedule of values allocating the entire Contract Price to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule of values, unless objected to by the Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

10.2 Based upon the percentage of the Work completed and Contractor's Applications for Payment, including all supporting documentation submitted to the Owner by the Contractor, the Owner shall make progress payments to the Contractor as provided below.

10.3 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month. Provided that an Application for Payment is received by the Owner not later than the 30th day of a month, the Owner shall make payment not later than 30 days after receipt of the invoice from the Contractor or 15 days after the payment is approved by the contracting agency, whichever is the earlier date.

10.4 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. In addition to other required items, each Application for Payment shall be accompanied by (1) a current sworn statement from the Contractor setting forth all subcontractors and material suppliers with whom the Contractor has subcontracted, the amount of such subcontract, the amount requested for any subcontractor or material supplier in the Application for Payment and the amount to be paid to the Contractor from such progress payment, together with a current, duly executed conditional claim waiver from the Contractor establishing satisfaction of the payment requested in the current Application for Payment; and (2) commencing with the second Application for Payment, duly executed unconditional waivers of claims from Contractor and all subcontractors, material suppliers and lower tier subcontractors, with respect to payments disbursed prior to the current Application for Payment.

10.5 The amount of each progress payment shall be computed as follows:

10.5.1 Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Price allocated to that portion of the Work in the approved schedule of values, less retainage of five percent (5%) (pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be permitted to be included);

10.5.2 Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed

construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5%); and

10.5.3 Subtract the aggregate of previous payments made by the Owner.

10.6 Upon Substantial Completion of the Work and with consent of surety, retainage withheld shall be paid to the Contractor, less the amount the Owner determines in its reasonable discretion to represent one hundred and fifty percent (150%) of the cost to complete unfinished Work and one hundred and fifty percent (150%) of the amount reasonably necessary to protect the Owner from unsettled claims.

10.7 The Owner shall have the option, but not the obligation, to reduce the retainage requirements of this Construction Contract or release any portion of retainage prior to the date specified above. Any reduction or release of retainage, or portion thereof, however, shall not be a waiver of (1) any of the Owner's rights to retainage in connection with other payments to the Contractor or (2) any other right or remedy that the Owner has under the Contract Documents, at law or in equity.

10.8 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when the Contractor has fully performed the Contract and Owner has accepted the Work. The Owner's final payment to the Contractor shall be made no later than 30 days after receipt of the Contractor's final Application for Payment and inspection of and approval of the Work by the Owner. The Owner will inspect the Work within 15 days from receipt from the Contractor of notice that the Project is fully complete.

10.9 Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

10.10 In accordance with ORS 279C.570, the Owner shall pay to the Contractor interest on the progress payment, not including retainage, due the Contractor. The interest shall commence 30 days after receipt of the invoice from the Contractor or 15 days after the payment is approved by the Owner, whichever is the earlier date. The rate of interest shall be the rate provided under ORS 279C.570(2). If an invoice is filled out incorrectly, when there is any defect or impropriety in any submitted invoice or when there is a good faith dispute, the Owner will notify the Contractor within 15 days stating the reason or reasons the invoice is defective or improper or the reasons for the dispute. If a defective or improper invoice is corrected by the Contractor and received by the Owner within seven days of the Owner's notice, payment will not be delayed beyond the date otherwise due unless interest is also paid.

10.11 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which payment has been received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

10.12 Pursuant to ORS 279C.505, Contractor will:

10.12.1 Make payment promptly, as due, to all persons supplying to the contractor labor or material for the performance of the work provided for in the contract;

10.12.2 Pay all contributions or amounts due the Industrial Accident Fund from the contractor or subcontractor incurred in the performance of the contract;

10.12.3 Not permit any lien or claim to be filed or prosecuted against the state or a county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished;

10.12.4 Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.

10.12.5 Demonstrate that an employee drug testing program is in place;

10.12.6 To the extent the Work includes demolition, salvage or recycle construction and demolition debris, if feasible and cost-effective; and

10.12.7 To the extent the Work includes lawn and landscape maintenance, compost or mulch yard waste material at an approved site, if feasible and cost-effective.

10.13 Pursuant to ORS 279C.515, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with the public improvement contract as the claim becomes due, the proper officer or officers representing the contracting agency may 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 the Contractor by reason of the Contract.

10.14 Pursuant to ORS 279C.515, if the Contractor or its subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the Contract within 30 days after receiving payment from Owner, Contractor or its subcontractor owes the person the amount due plus interest charges that begin at the end of the 10-day period within which payment is due under ORS 279C.580 (4) and that end 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 is nine percent per annum. The amount of interest may not be waived .

10.15 Pursuant to ORS 279C.515, if Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with the public improvement 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.

10.16 Paying a claim in the manner authorized in 10.13 through 10.15 above does not relieve the Contractor or the Contractor's surety from obligation with respect to an unpaid claim.

10.17 No person may not be employed for more than 10 hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in such cases the employee shall be paid at least time and a half pay:

10.17.1

10.17.1.1 For all overtime in excess of eight hours in any one day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; or

10.17.1.2 For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and

10.17.2 For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.

10.18 Contractor shall give notice in writing to employees who work on Work covered by the Agreement, either at the time of hire or before commencement of work on the Agreement, 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.

10.19 Pursuant to ORS 279C.530, Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to the employees of the contractor, of all sums that the contractor agrees to pay for the services and all moneys and sums that the contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services.

10.20 Contractor shall comply with ORS 656.017 unless exempt under ORS 656.126.

10.21 The withholding of retainage by Contractor and its subcontractors shall be in accordance with ORS 701.420.

10.22 Pursuant to ORS 279C.580(3), Contractor must include in each subcontract for property or services entered into by Contractor, including a material supplier, for the purpose of performing this Construction Contract:

10.22.1 A payment clause that obligates Contractor to pay the first-tier subcontractor for satisfactory performance under its subcontract within 10 days out of such amounts as are paid to the Contractor by the contracting agency under the Contract; and

10.22.2 A clause that requires Contractor to provide subcontractor with a standard form that the subcontractor may use as an application for payment or as another method by which the subcontractor may claim a payment due from Contractor.

10.22.3 A clause that requires Contractor, except as otherwise provided in this paragraph, to use the same form and regular administrative procedures for processing payments during the entire term of the subcontract. Contractor may change the form or the regular administrative procedures Contractor uses for processing payments if Contractor: (i) Notifies the subcontractor in writing at least 45 days before the date on which the contractor makes the change; and (ii) Includes with the written notice a copy of the new or changed form or a description of the new or changed procedure.

10.22.4 An interest penalty clause that obligates Contractor, if the Contractor does not pay the subcontractor within 30 days after receiving payment from Owner, to pay subcontractor an interest penalty on amounts due in each payment Contractor does not make in accordance with the payment clause included in the subcontract under 10.21.1 of this subsection. Contractor or subcontractor is not obligated to pay an interest penalty if the only reason that Contractor or subcontractor did not make payment when payment was due is that Contractor or subcontractor did not receive payment from Owner or Contractor when payment was due. The interest penalty: (i) Applies to the period that begins on the day after the required payment date and that ends on the date on which the amount due is paid; and (ii) Is computed at the rate specified in ORS 279C.515 (2).

10.22.5 Contractor shall, in each of the Contractor's subcontracts, require the first-tier subcontractor to include a payment clause and an interest penalty clause that conforms to the standards of subsection (n) of this section in each of the first-tier subcontractor's subcontracts and to require each of the first-tier subcontractor's subcontractors to include such clauses in the first-tier subcontractors' subcontracts with each lower-tier subcontractor or supplier.

10.23 Contractor expressly agrees to be bound by and comply with prevailing rate of wage laws applicable to Contractor's Work in accordance with ORS 279C.800 et seq. The prevailing wage rates in effect when this Project was first advertised are hereby expressly incorporated into this Contract by reference. Information on BOLI Prevailing Wage Rates may be obtained at the following site: www.oregon.gov/BOLI/WHDPWR/pwr_state.shtml. A copy of these rates may be requested by calling the Bureau of Labor and Industries directly (Bureau of Labor and Industries – (971) 673-0838). Information on the Federal Davis-Bacon Act rates may be obtained at the following site: www.oregon.gov/ODOT/HWY/SPECS/wages.shtml. Contractor's workers must be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and 279C.840.

10.24 Contractor shall have a public works bond filed with the Construction Contractors Board and shall provide Owner with a copy of such bond before starting work unless Contractor is exempt under ORS 279C.836(4), (7), (8) or (9). Contractor shall include a similar provision in any subcontract.

10.25 Contractor shall keep the prevailing rates of wage for Project posted in a conspicuous and accessible place in or about the Project and, if it provides a health and welfare plan or pension plan or both, shall post a notice describing the plan, including information on how and where to make claims and where to obtain further information, in a conspicuous and accessible place in or about the Project.

10.26 Contractor shall furnish to Owner a weekly affidavit with supporting detailed exhibits in a form that complies with the certified statement requirements of ORS 279C.845, certifying wages paid and to whom during each proceeding weekly payroll period, for itself and all subcontractor who are required to submit such certified statements under ORS 279C.845. If Contractor has failed to timely submit a required certified statement, Owner, pursuant to ORS 279C.845(8), shall withhold twenty-five percent (25%) from any amount owed to Contractor until Contractor provides the required certified statement.

10.27 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Designer shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

10.28 A payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

10.29 The Owner may condition any payment otherwise due to Contractor upon the Contractor's prior submission of unconditional lien waivers from subcontractors and suppliers covering any work for which Contractor has received payment from the Owner.

11. Completion.

11.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Owner's receipt of all certificates of occupancy and any other permits, approvals, licenses, and documents from any governmental authority having jurisdiction necessary for the beneficial occupancy of the Project shall be a condition precedent to Substantial Completion.

11.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

11.3 The Owner may use any completed or partially completed portions of the Work. If such use unreasonably interferes with the continued performance of the Work by the Contractor, the Contractor will be entitled to an equitable adjustment in Contract Price and Contract Time.

11.4 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied; (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner; (3) a written statement that the Contractor knows of no substantial reason that the

insurance will not be renewable to cover the period required by the Contract Documents; (4) consent of surety, if any, to final payment; and (5) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and unconditional waivers of claims arising out of the Contract.

11.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

12. Obligations of the Contractor.

12.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. The Contractor shall not perform any Work on or near and will not disturb any utility lines, fiber-optic cables, or similar equipment and structures without the prior written consent of the Owner and the utility or service company owning such lines, cables, or structures.

12.2 The Contractor shall keep the Project site and surrounding area free from accumulation of waste materials or rubbish caused by Contractor. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project. If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

12.3 The Contractor shall provide the Owner access to the Work, or portions of the Work, in preparation and progress wherever located.

12.4 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and any designer harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner. However, if the Contractor has reason to believe that the required design, process, or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Owner.

12.5 In addition to the Contractor's indemnity obligations under this Construction Contract, Contractor will hold the Owner, and its agents and employees, harmless from all fines, penalties, damages, liability, costs, expenses (including, without limitation, reasonable attorneys' fees), and punitive damages (if any) to the full extent arising out of any (1) violation of or failure to comply with any law, statute, ordinance, rule, regulation, code, or requirement of a public authority that bears upon the performance of the Work by the Contractor, its subcontractors, or any person or entity for whom either is responsible; (2) the exercise of discretion with respect to means, methods, procedures, techniques, or sequences of execution or performance of the Work; and (3) failure to secure and pay for permits, fees, approvals, licenses, and inspections as required under the Contract Documents, or any violation of any permit or other approval of a public authority applicable to the Work, by the Contractor, a Subcontractor, or any person or entity for whom either is responsible.

12.6 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Owner apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

12.7 The Contractor acknowledges and agrees that it alone has the duty and obligation to furnish its employees, and the employees of others, a safe place to work whether on-site or off-site. Contractor shall furnish its agents and employees with all necessary protective clothing, protective equipment, and monitoring equipment, and shall conduct a “Safety Orientation” for all new hires.

12.8 In the performance of the work, the Contractor shall conform to the highest safety practice standards. To that effect, Contractor shall organize and vigorously maintain a comprehensive Safety Program covering all phases of the Work which shall conform to all safety practices required by all federal, state, or local laws, rules or regulations applicable to health and safety and all other legally required safety and health standards, orders, rules, regulations, and other laws. Contractor shall be solely responsible for ensuring compliance with Contractor’s Safety Program and such laws, rules, or regulations, and may not rely on the Owner to enforce the same.

12.9 Contractor shall designate a “Safety Representative” to implement and maintain Contractor’s Safety Program on all shifts worked. The Safety Representative shall have the authority to stop Contractor’s Work in the event of unsafe or potentially unsafe conditions.

12.10 Within 24 hours after each occurrence, Contractor shall furnish to Owner a written report of all injuries to persons or damage to property. A complete accident investigation report shall be submitted at the same time.

12.11 Contractor is required to comply with all applicable “Hazard Communication/Right to Know” laws concerning toxic or hazardous substances. Contractor shall maintain an index of those materials that are stored or used in the performance of the Work which contain toxic or hazardous substances. A copy of said list shall be provided to Owner. Contractor shall make Material Safety Data Sheets available to all its employees. Copies of all reports made pursuant to the Material Safety Data Sheets shall be furnished to Owner.

12.12 Contractor and all its subcontractors are required to maintain a drug and alcohol free working environment. Contractor shall conduct new-hire, post-accident, and reasonable-cause drug and alcohol screening tests.

12.13 Contractor shall keep the Project and its premises free from debris and unsafe conditions resulting from Contractor’s Work. If Contractor fails to commence compliance with the duties of this Article within 24 hours after receipt from Owner of written notice of non-compliance, Owner may, but is not obligated to, perform such necessary cleanup or implement safety measures without further notice and deduct the cost thereof from any amounts due or to become due Contractor.

13. Hazardous Materials.

13.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing.

13.2 Upon receipt of the Contractor’s written notice, the Owner shall verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume.

13.3 The Owner shall not be responsible for materials or substances, including hazardous materials, whether or not called for in the Contract Documents, the Contractor brings to the site.

13.4 The Contractor shall indemnify the Owner for the reasonable cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles; or (2) where the Contractor fails to perform its obligations to stop Work and notify the Owner of the hazardous materials, except to the extent that the cost and expense are due to the Owner's fault or negligence.

14. Bonds. Prior to starting work under this Construction Contract, Contractor shall execute and deliver to the Owner good and sufficient performance and payment bonds under ORS 279C.380, in a form acceptable to Owner, in a sum equal to 100% of the Contract Price.

15. Warranty & Correction.

15.1 The Contractor warrants that materials and equipment furnished by Contractor will be new, of good quality unless the Contract Documents require or permit otherwise, and free from defects. The Contractor warrants that the Work will be performed in a workmanlike manner and conform to the requirements of the Contract Documents and will be free from defects. The Contractor's warranties exclude normal wear and tear and damage caused by abuse. Any equipment or machinery incorporated into the Work must be cleaned, conditioned, installed, and tested in accordance with the instructions of the manufacturer. The Contractor shall assign to the Owner, at the time of final completion, any and all manufacturer's warranties or guarantees relating to any components of the Work and shall perform the Work so as to preserve all such warranties.

15.2 If a portion of the Work has been covered that the Owner has not specifically requested to examine prior to its being covered, the Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

15.3 Before Substantial Completion, the Contractor shall promptly correct Work failing to conform to the requirements of the Contract Documents. Costs of correcting such Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for any services and expenses of the Owner made necessary thereby, shall be at the Contractor's expense.

15.4 If, within two years after the date of Substantial Completion of all of the Work, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If, after 10 days of receipt of the Owner's notice, the Contractor fails to correct nonconforming Work, the Owner may correct it and the Contractor agrees to reimburse the Owner for the cost of correction promptly upon the Owner's demand. In case of an emergency where, in the opinion of the Owner, delay would cause serious loss or damage, corrective work may be undertaken without advance notice to the Contractor, but Contractor and its surety will remain liable for such expenses incurred. The two-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work. The two-year period for correction of Work shall also be extended for corrective Work performed by the Contractor.

15.5 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

15.6 No correction obligation of the Contractor shall be construed to establish a period of limitation with respect to other obligations, such as warranty obligations, the Contractor has under the Contract Documents. Establishment of the two-year period for correction of Work relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to

comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

16. Claims & Disputes.

16.1 A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. A Claim also is any other dispute between the Owner and Contractor arising out of or relating to the Construction Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

16.2 If the Contractor claims that any instructions issued after the effective date of this Construction Contract, by drawings or otherwise, involve extra costs, Contractor shall be entitled to reimbursement for such extra costs only to the extent the Contractor so notifies the Owner in writing before proceeding to execute the affected Work and within seven (7) calendar days after receipt of such instructions, otherwise such claim for costs is waived. Claims and demands for costs for any other cause, whatsoever, by the Contractor against the Owner must be served in writing upon the Owner within seven (7) calendar days from the occurrence of the cause giving rise to the claim or the claim for costs is waived. Timely compliance with the written claim requirements of this Construction Contract are a condition precedent to the Contractor's right to payment on account of any claim and failure to provide such written claim or demand or notice shall constitute a waiver of such claim.

16.2.1 Pending final resolution of a Claim, except as otherwise agreed in writing by the Owner, the Contractor shall proceed diligently with performance of the Construction Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

16.2.2 If the Contractor wishes to make a Claim for a delay, written notice shall be given within three (3) calendar days of the occurrence of the event giving rise to the delay or the claim for time is waived. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary. The Contractor will not be entitled to additional Contract Time for delays that do not affect the critical path of the Work. Timely compliance with the written claim requirements of this Construction Contract are a condition precedent to the Contractor's right to additional time on account of any delay claim and failure to provide such written claim or demand or notice shall constitute a waiver of such claim.

16.2.3 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction. Contractor will not be entitled to additional compensation for delays caused by adverse weather conditions or any caused beyond the Owner's control.

16.2.4 Upon timely receipt of a properly completed Claim and any documentation and/or evidence necessary to substantiate the Claim, the Owner shall evaluate the Claim and provide the Contractor with its written decision either accepting the Claim (in whole or in part) or rejecting the Claim (in whole or in part) within 20 days. The Owner may, but is not required to, seek the recommendation of any designer on any Claim. Should the Owner reject the Claim in whole or in part, the Owner shall generally explain the reasons for such rejection.

16.2.5 As a condition precedent to arbitration, the Contractor and the Owner agree that any dispute that may arise under this Construction Contract will be submitted to a mediator agreed to by both parties as soon as such dispute arises, but in any event prior to commencement of arbitration. Such mediation shall occur at the place where the Project is located, and the mediation fee and expenses shall be shared equally by the parties who agree to exercise their best efforts in good faith to resolve all disputes in mediation.

16.2.6 Any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Portland Arbitration in accordance with its Rules in effect on the date of the Contract. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded. A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim. The award rendered by the arbitrator shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof. Subject to the rules of the Portland Arbitration or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Contract with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting the arbitrator. Subject to the rules of the Portland Arbitration or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent. The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Contract.

17. Termination.

17.1 The Owner may terminate this Construction Contract if the Contractor:

- 17.1.1** Materially refuses or fails to supply enough properly skilled workers or proper materials;
- 17.1.2** Fails to make proper payment to Subcontractors for materials or labor;
- 17.1.3** Materially disregards applicable laws, statutes, ordinances, or rules and regulations; or
- 17.1.4** Otherwise is guilty of material breach of the Contract Documents.

17.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, ten days' written notice, terminate the Contractor (a termination "for Cause") and may, subject to any prior rights of the surety, finish the Work by whatever reasonable method the Owner may deem justified.

17.3 When the Owner terminates the Construction Contract for Cause, the Contractor shall not be entitled to receive further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds costs of finishing the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The right of payment under Article 17 to the Contractor or Owner, as the case may be, shall survive termination of the Contract.

17.4 Suspension. The Owner may, without cause, order the Contractor in writing to suspend, delay, or interrupt the Work in whole or in part for such period of time as the Owner may determine. The Contract Price and Contract Time shall be equitably adjusted for any such suspension.

17.5 Assignment. Each subcontract for a portion of the Work is assigned by the Contractor to the Owner, provided that the (1) assignment is effective only after termination of the Contract by the Owner for Cause pursuant to Article 17 herein and only for those subcontracts that the Owner accepts by notifying the Subcontractor and Contractor in writing; and (2) assignment is subject to the prior rights of the surety, if any, obligated under Contractor's bond relating to the Contract. When the Owner accepts the assignment of a subcontract, the Owner assumes the Contractor's future rights and obligations under the subcontract but Contractor remains liable for obligations incurred prior to the assignment.

17.6 Termination for Convenience. The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

17.6.1 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall:

17.6.1.1 Cease operations as directed by the Owner in the notice;

17.6.1.2 Take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

17.6.1.3 Except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

17.6.2 In case of a termination for the Owner's convenience, the Contractor shall be entitled to receive payment, including reasonable overhead and profit, for Work executed, and costs incurred by reason of such termination. Contractor shall not be entitled to recover any overhead or profit on Work not performed by reason of the termination or otherwise.

17.7 Conversion. Any Termination for Cause found to be improper for any reason shall be converted into a Termination for Convenience and Contractor's remedies shall be limited as if the termination was a Termination for Convenience from inception.

18. Indemnity & Insurance.

18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner and the Owner's agents and employees for, from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work. Contractor is not required to indemnify Owner for Owner's own negligence. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist.

18.2 Prior to the start of the Contractor's Work, and before any payment is made to the Contractor, Contractor will purchase and maintain in force the following minimum insurance coverage and limits of liability:

18.2.1 Worker's Compensation and Employer's Liability meeting statutory limits mandated by State and Federal laws.

18.2.2 Commercial or Comprehensive General Liability including all major divisions of coverage, including, but not limited to, Premises/Operations, Completed Operations, Independent Contractors' Protective, Products-Completed Operations, Contractual Liability (including coverage for the Contractor's indemnity obligations and other contractual indemnity obligations assumed by the Contractor),

Personal Injury, and Broad Form Property Damage (including coverage for Explosion, Collapse, and Underground Hazards)

Employer's Liability Insurance

\$ 2,000,000.00 Each Occurrence
\$ 2,000,000.00 Disease – Each Employee
\$ 2,000,000.00 Disease – Policy

Commercial or Comprehensive General Liability insurance

\$ 2,000,000.00 Each Occurrence Limit
\$ 2,000,000.00 General Aggregate
\$ 2,000,000.00 Products/Completed Operations Aggregate
\$ 2,000,000.00 Personal and Advertising Injury
\$ 2,000,000.00 Limited Job Site Pollution Occurrence Sub-Limit

Comprehensive Automobile Liability Insurance

\$ 2,000,000.00 Each Occurrence Combined Single Limit
\$ 2,000,000.00 Aggregate Bodily Injury & Property Damage
or
\$ 2,000,000.00 Each Person Bodily Injury
\$ 2,000,000.00 Each Occurrence Bodily Injury
\$ 2,000,000.00 Each Occurrence Property Damage
\$ 2,000,000.00 Each Occurrence Pollution Occurrence Sub-Limit

The policy shall be endorsed to have the General Aggregate apply to this Project Only.

18.2.3 Products and Completed Operations insurance shall be maintained for a minimum period of at least two (2) years after completion of the Contractor's Work.

18.2.4 The Comprehensive General Liability and Commercial General Liability insurance policies shall provide aggregate limits per project, and shall evidence such coverage by use of endorsement CG 25 03 or equivalent. Comprehensive Automobile Liability insurance required shall also include coverage for all owned, hired, leased, and non-owned automobiles.

18.2.5 If the Contractor, in performing the Work, will be required to perform any design work, Contractor shall carry Professional Liability (Errors and Omissions) Insurance in the amount of \$2,000,000. If the Contractor, in performing the Work, will be required to employ workers who are required to be covered under the Federal Longshore and Harbor Worker's Act, then Contractor shall obtain such coverage. If the Contractor's Work involves the use of watercraft, the Contractor shall procure and maintain Protection and Indemnity insurance coverage (which coverage shall apply to all of the crewmembers as well as passengers) with limits of \$5,000,000 or the value of the watercraft, whichever is greater. If the Contractor's Work involves the use of aircraft, the Contractor shall procure and maintain Aircraft Liability coverage on an occurrence basis for owned and non-owned aircraft, with limits of \$1,000,000 per passenger or \$5,000,000, whichever is greater.

18.2.6 The Contractor shall maintain in effect all insurance coverage required under this Article, or by the other Contract Documents, at the Contractor's sole expense and with insurance companies acceptable to the Owner. The Owner expressly reserves the right to disapprove of any insurance company(ies) proposed to be used by the Contractor and to require that the Contractor's policies be written by an acceptable company. The Owner may not, however, arbitrarily or unreasonably withhold its acceptance of a proposed insurance company. In the event the Contractor fails to obtain or maintain any insurance coverage required, the Owner may purchase such coverage and charge the expense thereof to the Contractor. The Owner's approval, purchase, or maintenance of any insurance will not constitute a limitation on the Contractor's liability.

18.3 The Contractor's insurance policies, except Professional Liability, must be written on an occurrence basis, with no "sunset" clauses, and shall not contain coverage exclusions for explosion,

building collapse, or damage to underground facilities. The Contractor's insurance policies that insure against claims for damages to or destruction of property must also insure against claims for the loss of use of such property. In addition, insurance policies provided by the Contractor shall contain an endorsement that specifically provides primary coverage for the benefit of the Owner when it is alleged that the Owner has "borrowed" a servant from the Contractor, or from the Contractor's subcontractors, and the Owner is allegedly liable because of the "Borrowed Servant Doctrine."

18.4 Any deductible amount applied to any loss payable under Builders Risk Insurance shall be borne by the insured's interest whose Work is damaged in direct proportion as their individual losses shall bear to the total loss, regardless of whether such loss is to work installed and completed, to materials stored on or off site, or to materials in transit.

18.5 Except for Worker's Compensation and Professional Liability insurance policies, the Contractor shall endorse all policies to name the Owner (including its affiliates, parents, and subsidiaries) as additional insured on a primary and noncontributory basis with respect to liability arising out of (1) operations performed for the Owner by the Contractor, and (2) claims for bodily injury or death brought against the Owner by the Contractor's employees, or employees of the Contractor's subcontractors of any tier, however caused, related to the performance of operations under the Contract Documents. To the fullest extent allowable under applicable state law, such insurance afforded to the Owner as additional insureds under the Contractor's policies shall be primary insurance and not excess over, or contributing with, any insurance purchased or maintained by the Owner.

18.6 If owners of the Contractor perform work on or in connection with the Project, they shall each elect coverage for themselves under the applicable workers' compensation law and insurance policies.

18.7 Prior to commencement of the Work, or within five (5) days from the date of execution of this Construction Contract, whichever is sooner, and as a condition precedent to any payment, the Contractor shall provide the Owner with Certificates of Insurance in a form acceptable to the Owner which shall provide satisfactory evidence that the Contractor has complied with all insurance requirements of this Construction Contract. Certificates shall evidence existence of endorsement CG2010 (1985) or the equivalent. At the Owner's sole option, it may require, in addition to Certificates of Insurance, properly completed and executed insurance endorsement forms, in a form acceptable to the Owner, evidencing the required insurance coverage and/or certified copies of policies. Such Certificates of Insurance and/or endorsement forms shall include a provision that the coverages afforded thereunder shall not be cancelled, nor non-renewed, nor restrictive modifications added, unless at least thirty (30) days' prior written notice is given to the Owner. If the Certificate of Insurance includes language to the effect that – "This certificate is issued as a matter of information only and confers no rights upon the certificate holder" – such language shall be deleted.

18.8 The Owner and the Contractor waive all rights against each other and the Designer, separate contractors, and all other subcontractors for loss or damage to the extent covered by builder's risk or any other property insurance, except such rights as they may have to the proceeds of such insurance; provided, however, that such waiver shall not extend to the acts of any architect or designer. In addition, the Contractor's workers compensation insurance policy shall contain a provision that the Contractor and its insurer waive all rights of subrogation or "claims over" against the Owner.

19. Compliance with Law.

19.1 Applicable Laws. This Construction Contract will be construed in accordance with the laws of the State of Oregon. Contractor shall comply with all applicable federal, state, and local statutes, regulations, administrative rules, codes, ordinances, and other legal requirements in performance of this Construction Contract. Contractor shall comply with all applicable laws, including but not limited to ORS 279C.505, 279C.510, 279C.515, 279C.520, 279C.525(3) and (4), 279C.530, 279C.555, 279C.570, and 279C.580, which are incorporated herein by this reference.

19.2 Contractor certifies that it currently has a City business license or will obtain one prior to delivering services under this Agreement. All subcontractors will also be required to obtain a City business license prior to delivering services under this agreement.

19.3 Nonresident Contractors. If Contractor is a nonresident Contractor as defined in ORS 279A.120, and the Contract Price exceeds \$10,000, Contractor shall comply with ORS 279A.120(3).

19.4 Preference for Oregon Goods and Services. Pursuant to ORS 279A.120, Contractor shall use products that have been manufactured in Oregon, provided that price, fitness, availability, and quality are otherwise equal.

19.5 No Discrimination. In connection with its performance under this Construction Contract, Contractor agrees not to discriminate against any employee or applicant for employment because of age, race, religion, sex, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post hereafter, in conspicuous places, available for employees and applicants for employment, notices, prepared by Contractor, and approved by the government when required, setting forth the provisions of this Article.

20. Miscellaneous.

20.1 Governing Law. The Contract shall be governed by the laws of the State of Oregon.

20.2 Successors & Assigns. The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Neither party to this Construction Contract shall assign the Construction Contract as a whole without written consent of the other.

20.3 Notice. Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice. Notices may also be served by telecopy or facsimile transmission, or any other form of electronic communication, and shall be effective upon receipt.

20.4 Severability and Waiver. The partial or complete invalidity of any one or more provisions of this Construction Contract shall not affect the validity or continuing force and effect of any other provision. The failure of either party hereto to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of this Construction Contract, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition, or right as respect further performance.

20.5 Risk of Loss. Contractor shall bear the risk of loss of the Work or any portion of the Work until Final Completion.

Tests. Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals by public agencies or by independent testing laboratories as may be required by the permitting jurisdiction. The Contractor shall forward to the Owner copies of all inspection results, test results, orders, permits, and other directives or correspondence received by the Contractor from any inspector, testing laboratory, or agency with jurisdiction over the Work. If tests or inspections reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated tests and inspections shall be at the Contractor's expense.

20.6 Integration. This Construction Contract constitutes the complete and final agreement of the parties and supersedes and replaces all prior written or oral agreements.

20.7 Contractor is Independent Contractor.

20.7.1 Contractor shall perform the Work required by this Contract as an independent contractor. Although Owner reserves the right (i) to specify the desired results; (ii) to determine (and modify) the delivery schedule for the Work to be performed; and (iii) to evaluate the quality of the completed performance, Owner cannot and will not control the means, methods or manner of the Contractor's performance. The Contractor is responsible for determining the appropriate means, methods and manner of performing the Work.

20.7.2 The Contractor represents and warrants that Contractor (i) is not currently an employee of the federal government or the State of Oregon, and (ii) meets the specific independent contractor standards of ORS 670.600.

20.7.3 Contractor will be responsible for any federal, state or local taxes applicable to any compensation or payment paid to Contractor under this Contract.

20.7.4 Contractor is not eligible for any federal Social Security, unemployment insurance, state Public Employees' Retirement System, or workers' compensation benefits from compensation or payments to Contractor under this Contract.

ATTACHMENT A
WORK SCOPE
(Continued from Page 1)

Included with the scope of work mentioned on Page 1, the following items are included within Attachment A:

- S-676 Contract Specifications
- S-676 Project Plans (Separately Bound)

Project #S-676
SANITARY SEWER MAIN IMPROVEMENTS ON S 3RD ST

TECHNICAL SPECIFICATIONS
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SECTION 01100

SUMMARY OF WORK

1.1 GENERAL

These general requirements, special provisions, and technical specifications supplement and amplify certain sections of the Standard Terms and Conditions for Public Improvement Contracts, and Supplementary General Conditions. Work shall be in accordance with the 2021 or most current version of the Oregon Standard Specifications for Construction (OSSC), including all revisions at date of bid opening except as may be modified herein. These specifications shall apply in all particulars insofar as they are applicable to this project. In the case of discrepancy, unless noted herein, the more restrictive provisions shall apply.

1.2 SCOPE OF WORK

The work will include includes the installation of over 140 linear feet of 6-inch diameter Class 52 ductile iron complete with the installation of new cleanout, manhole, and all required fittings and appurtenances. Work also includes the reconnection of approximately 4 sanitary laterals, the installation, maintenance, and removal of temporary traffic control and erosion control measures, rock excavation, and the removal and replacement of existing pavement.

The general outline of the principal features of the work does not in any way limit the responsibility of the Contractor to perform all work and furnish all equipment, labor, and materials necessary to successfully complete the work required by the Contract Documents. The Contractor shall not change any material, design values, or procedural matters stated or approved herein, without informing the Engineer and receiving written approval of the change. Unapproved changes shall be considered unauthorized work and shall result in rejection and removal of work done with the unapproved materials or with an unapproved process at no cost to the City.

1.3 LOCATION OF WORK

Work on this project is located within the city limits of St. Helens, Oregon as shown on the vicinity map on Sheet G1 of the project plans.

1.4 INTENT OF WORK

The intent of the Work is to produce a complete and finished work, which the Contractor undertakes to do in full compliance with the Contract Documents, properly installed sewer main and associated appurtenances which meet all specifications as described in these Contract Documents. It is not intended to mention every item of work in the specifications that can be adequately shown on the drawings nor to show on the drawings all items of work described or required by the specifications. All materials or labor for work shown on the drawings or reasonably inferable therefrom as being necessary to produce a finished job shall be provided by the Contractor whether not it is expressly covered in the specifications. The Contractor shall do all work as provided in the plans, specifications, special provisions, bid and contract, and shall do such additional extra work as may be considered necessary to complete the work in a satisfactory manner acceptable to the City.

SECTION 01120

DEFINITIONS AND REGULATORY REQUIREMENTS

1.1 DEFINITIONS

In addition to the words and terms defined herein, the following shall be understood to have the meanings given:

- Owner/City City of St. Helens
- Engineer City of St. Helens
- Project Manager City of St. Helens
- Construction Inspector City of St. Helens
- County Columbia County
- Sewer District City of St. Helens
- Water District City of St. Helens
- Gas Company Northwest Natural Gas
- Power Company Columbia River PUD
- Telephone Company Lumen, Inc
- Cable Company Comcast Cable
- Fire Department Columbia River Fire & Rescue

1.2 ABBREVIATIONS

- AASHTO American Association of State Highway and Transportation Officials
- ACI American Concrete Institute
- ADA Americans with Disabilities Act
- ANSI American National Standards Institute
- ASTM American Society for Testing and Materials
- AWWA American Water Works Association
- BOLI Oregon Bureau of Labor & Industries
- DEQ Department of Environmental Quality, State of Oregon
- EPA U.S. Environmental Protection Agency
- IBC International Building Code
- MUTCD Manual on Uniform Traffic Control Devices
- NACWA National Association of Clean Water Agencies
- NASSCO National Association of Sewer service Companies
- NEC National Electrical Code
- NESC National Electrical Safety Code
- OAR Oregon Administrative Rules
- ODOT Oregon Department of Transportation
- OR-OSHA Oregon Occupational Safety & Health Administration
- ORS Oregon Revised Statutes
- OSSC Oregon Standard Specifications for Construction
- UBC Uniform Building Code (as adopted by the State of Oregon)
- UMC Uniform Mechanical Code
- UPC Uniform Plumbing Code (as adopted by the State of Oregon)

1.3 CODE REQUIREMENTS

All work shall be done in strict compliance with the requirements and current revisions, as applicable, of:

- Oregon Standard Specifications for Construction (OSSC)
- Oregon Department of Transportation (ODOT)
- Uniform Plumbing Code
- Uniform Mechanical Code
- National Electric Code
- National Electric Safety Code
- City of St. Helens Engineering Standards Manual (Municipal Code Title 18)
- City of St. Helens Development Code
- State of Oregon Bureau of Labor and Industries (BOLI)
- Oregon Department of Environmental Quality (DEQ)
- Manual of Uniform Traffic Control Devices (MUTCD)
- American National Standards Institute (ANSI)
- American Water Works Association (AWWA)

In case of disagreement between these codes or specifications, the more restrictive shall prevail.

1.4 PREVAILING WAGE RATES FOR PUBLIC WORKS CONTRACTS

Prevailing wage rates apply for public works construction projects costing over \$50,000. If a project begins with a total project cost under \$50,000, but change orders increase the project cost to more than \$50,000, the entire project will be subject to the prevailing wage rate law, including all work already performed on the project. OAR 839-025-0100(1)(a).

For each labor classification, the Contractor shall abide by the requirements of the prevailing wage rates for the State of Oregon Bureau of Labor and Industries (BOLI), as required. Applicable Oregon prevailing wage rates are contained in the publication, Prevailing Wage Rates for Public Works Contracts in Oregon. Effective January 1, 2022. ORS 279C.830(1)(a). The Contractor and every subcontractor must have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt. ORS 279C.830(2); OAR 839-025-0020(4).

1.5 PERMITS, FEES, AND LICENSES

Unless provided for otherwise in these Contract Documents, all permits, licenses, and fees shall be obtained by the Contractor and all costs shall be borne by the Contractor. Contractor shall be responsible for compliance with all permit provisions and shall accommodate all special inspections required thereof, all at no additional expense to the City beyond prices as bid. Contractor and Subcontractors shall obtain required business licenses from the City of St. Helens. Contractor shall stay fully informed of all permits required by various jurisdictions having authority over the Work and shall also bear all costs of fines or claims arising from, or based on, the violation of permit requirements.

There will be no measurement of work performed under this section and all permit requirements will be considered incidental to the work and no separate payment will be made.

1.6 US MAIL SERVICE

Contractor shall comply and cooperate fully with the requirements of the local authority of the U.S. Postal Service to maintain mailboxes and uninterrupted mail service during construction.

1.7 ADDITIONS OR DELETIONS TO THE OSSC

1. Section 120.00. ADD: Pre-qualification is required. Bidders are required to be registered with the State of Oregon Construction Contractors Board, pursuant to ORS701-055 (1), prior to submitting proposal.
2. Section 120.65. ADD: In the event that the product of a unit price and an estimated quantity do not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amount(s) quoted, the individual item amounts shall govern the correct total and shall be deemed to be the amount bid.
3. Section 1150. ADD: Public Works Supervisor, Dave Elder, (503) 397-3532 must be notified 48 hours in advance to coordinate any taps and or water valve operation. The Contractor is not allowed to operate any water valves controlling flow to or from the City's potable water system.
4. Section 120.25. ADD: No subsurface information is available.
5. Section 280. ADD: In addition to the requirements stated, the Contractor shall provide to the City for review and approval prior to construction, a definitive procedure or system of watering for dust control. There will be no separate payment made for dust control and the costs therefore shall be borne by the Contractor.
6. Section 170.70. ADD: Insurance coverage shall be in the amount specified in the "STANDARD TERMS & CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS". The Contractor shall also protect the City, its officers, agents, and employees and name them as an additional insured party.
7. Section 170.65. ADD: The general wage decision provided is the latest information available. It is the Contractor's responsibility to establish the prevailing rate of wages, which is in effect ten (10) days prior to bid opening in Columbia County.
8. Section 170.10. ADD to the first paragraph the following: The Contractor shall also:
 - a. Pay all contributions or amounts due the Industrial Accidental Fund from such Contractor or subcontractor incurred in the performance of the contract.
 - b. Not permit any lien or claim to be filed or prosecuted against the City of St. Helens or subdivision thereof, on account of any labor or material furnished.
 - c. Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167
9. Section 180.41. ADD: The Contractor shall submit a written schedule prior to or at the pre-construction conference. The written schedule shall be updated on a weekly basis and submitted to the City for the duration of construction activities.

10. Section 195. ADD: Payment for Work. All parts of the work shown on the plans and not specifically identified in the proposal shall be considered incidental and, therefore, not subject to additional compensation.
11. Section 197.40. ADD: Invoices. Additive or deductive change orders, initiated after start of construction, shall generally be bound in form and submittal to the following requirements:
- a. Breakdown, from the general and/or subcontractor and/or supplier, shall be provided to the City indicating deductive costs by item or scope for labor, materials, equipment, permits, fees, and bonds.
 - b. Time logs shall indicate dates and times for work performed, and by whom; and labor costs provided shall be by man/by rate per prevailing wage certifications as submitted to Labor Department.
 - c. Breakdown, from the general and/or subcontractor and/or supplier, shall be provided to the City indicating additive costs by item or scope for labor, materials, equipment, permits, fees and bonds.
 - d. Mark-up for overhead, including permits and bonds, relative to direct or indirect additive costs by General Contractor or subcontractor shall not exceed the ten (10) percent of the additive work.
 - e. Profit relative to direct or indirect additive costs by General Contractor or subcontractor shall not exceed five (5) percent of the additive work.
 - f. Change orders shall first indicate deductive costs then additive costs by item or scope in this sequence...labor, materials, equipment, overhead, and profit.
12. Section 195.80. DELETE: Allowance for Materials on Left Hand.
13. Section 405. ADD: Excavation is classified as common.

SECTION 01200

PROJECT MEETINGS

1.1 PRE-BID CONFERENCE

No Pre-Bid Conference is scheduled for this project; however, Bidders are strongly encouraged to visit the project sites at any time during the bidding phase of the project at their convenience.

1.2 PRE-CONSTRUCTION CONFERENCE

Prior to Contractor mobilization, a mandatory Pre-Construction Conference will be scheduled by the City's Project Manager. Representatives of the City, Contractor, subcontractors, and appropriate utility representatives shall attend. The purpose of this meeting will be to review and discuss the proposed methods and practices for accomplishing the required work, job site procedures, roles and responsibilities, schedule, and other requirements of the Contract. Contractor shall submit a detailed construction schedule, list of emergency contacts, and list of subcontractors, and other required documentation listed on the Project Documentation Checklist of the Supplementary section of these Contract Documents before or at the meeting for discussion.

1.3 CONSTRUCTION PROGRESS MEETINGS

Regular project progress meetings may be scheduled by the City's Project Manager. Project progress meetings shall be attended by representatives of the City, the Contractor's project manager and jobsite superintendent. Progress meetings may, at a minimum, be held every 30 days after the start of construction and at a maximum be held every two weeks. The Project Manager may adjust frequency and location of meetings, as necessary. In general, progress meetings shall review work progress, discuss field observations, problems and conflicts, construction schedule, and other project business.

1.4 PROJECT WALKTHROUGH

When the project is nearing completion, the City's Project Manager will schedule a walkthrough to be attended by representatives of the City and Contractor. A final project punch list will be developed from the walkthrough in the form of a list of tasks or items that need to be fixed or completed before Final Acceptance.

1.5 PROJECT CLOSEOUT MEETING

The project closeout meeting will generally be held virtually and shall be attended by representatives of the City and Contractor. The purpose of the project closeout meeting is for the City and Contractor to review the project i.e., what went well, what were the challenges, and to identify the lessons learned and establish recommended future actions for future projects.

SECTION 01210

ROLES & RESPONSIBILITIES

1.1 OWNER'S AUTHORITY AND RESPONSIBILITIES

The City has full authority over the Work and shall identify a representative or representatives to act on its behalf with respect to the project.

A. The Engineer

The Engineer has full authority over the Work and its suspension. The Contractor shall perform all Work to the complete satisfaction of the Engineer. The Engineer's determination shall be final on all matters, including, but not limited to, the following:

- Quality and acceptability of materials and workmanship
- Measurement of unit price Work
- Timely and proper prosecution of the Work
- Interpretation of Contract Documents
- Payments due under the Contract

Work performed under the Contract will not be considered complete until it has passed Final Inspection by the Engineer and has been accepted in writing by the City. Interim approvals issued by the Engineer will not discharge the Contractor from responsibility for errors in prosecution of the Work, for improper fabrication, for failure to comply with Contract requirements, or for other deficiencies, the nature of which are within the Contractor's control.

The Engineer's decisions will be final and binding. The Engineer may pursue actions against the Contractor, including but not limited to the withholding of estimates and suspending the work for noncompliance of the Contract. The Engineer may suspend the work without suspending working day charges for noncompliance of the Contract.

Engineer's decisions and estimates shall be final.

B. Project Manager

The Project Manager, as the Engineer's representative, has the authority to enforce the provisions of the Contract. The Contractor shall direct all requests for clarification or interpretation of the Contract, in writing, to the Project Manager. Contract clarification or interpretation obtained from persons other than the Project Manager will not be binding on the City. The Project Manager shall have the authority to appoint inspectors and other personnel as required to assist in the administration of the Contract, to observe, test, inspect, approve, accept or reject work, and answer all questions arising under the terms of the Contract.

The Project Manager manages all aspects of the project, including reviewing and approving construction plans, changes in construction, submittals, shop drawings and supporting calculations, and ensuring project compliance with all codes and ordinances and established engineering standards. The Project Manager manages the project's bid process, holds bid conferences, pre-construction conferences, project meetings, evaluates bids, makes bid award recommendations, and reviews

contractor pay requests, coordinates work with Contractor and other agencies, resolves construction difficulties and problems and makes adjustments in original designs as needed; performs inspections, and oversees all aspects of project closeout.

C. Project Construction Inspector

The City Project Construction Inspector is authorized to represent the Engineer and Project Manager to perform the following:

- Inspect Work performed and materials furnished, including, without limitation, the preparation, fabrication, or manufacture of materials to be used
- Verbally reject defective materials and to confirm such rejection in writing
- By verbal order, temporarily suspend the Work for improper prosecution pending the Engineer's or Project manager's decision
- Monitoring both work progress and performance testing results
- Inform the city engineer of all proposed plan changes, material changes, stop work orders, or errors or omissions in the approved plans or specifications as soon as practical. Any revision to approved plans must be under the direction of the engineer. It shall be at the discretion of the city's project inspector as to whether the revision is significant enough to warrant review by the city engineering plan review/permits unit.

Project Construction Inspector is not authorized to:

- Accept Work or materials that do not conform to the Contract Documents
- Alter or waive provisions of the Contract
- Give instructions or advice inconsistent with the Contract Documents

1.2 CONTRACTOR'S AUTHORITY AND RESPONSIBILITIES

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall ensure the completed work complies with the Contract Documents and shall supervise, direct, and control the work competently and efficiently. Contractor shall devote such attention thereto and applying such skill and expertise as necessary to perform the work in accordance with the Contract Documents and shall provide competent, qualified personnel to survey and lay out the work and to perform construction as required by the Contract Documents.

The Contractor shall do all work and furnish all labor, materials, equipment, tools, and machines necessary for the performance and completion of the project in accordance with Contract Documents within the specified time. Materials and construction details of forms, shoring, false work, and other structures built by the Contractor but not a part of the permanent project, shall meet approval of the Engineer, but such approval shall not relieve the Contractor from responsibility for their safety and efficiency.

The City shall not be liable or responsible for any accident, loss, or damage happening to work referred to in the Contract Documents prior to completion and acceptance thereof.

Contractor shall at all times maintain good discipline and order at the site. At the written request of the Engineer, the Contractor shall immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Such person shall not be employed again on the work. The Contractor, acting through an approved designated superintendent, shall give personal attention to and shall manage the work to the end that it

shall be prosecuted faithfully. When the superintendent is not personally present at the job site, an alternate previously designated representative shall be available and shall have the authority to act on the Contract. The Contractor alone shall at all times be responsible for the safety of his and his subcontractor's employees.

1.3 COMPETENT PERSON DESIGNATION

The Contractor shall designate, in writing, a qualified and experienced competent superintendent at the site whose duties and responsibilities shall include the enforcement of Oregon - OSHA regulations regarding excavations, the prevention of accidents, and the maintenance and supervision of construction site safety precautions and programs. The Superintendent must be experienced with the work being performed and capable of reading and understanding the Contract. The Contractor shall ensure the Superintendent is available at all times and able to receive instructions from the Engineer or authorized representatives and to act for the Contractor. The Engineer may suspend work without suspending working day charges if a Superintendent is not available or does not meet the above criteria. The designated superintendent shall not be replaced without written notice to Engineer except under extraordinary circumstances. An alternate representative may be designated. The alternate representative shall be present at the site whenever Work is in progress. Any order or communication given to this representative shall be deemed delivered to the Contractor.

In the absence of the Superintendent or his designated representative, necessary or desirable directions or instructions may be given by the Engineer to the superintendent or foreman having charge of the specific Work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or his representative. The designated Superintendent will act as the Contractor's representative and shall have the authority to act in all matters relating to this Contract. The superintendent shall have full authority to carry out all the provisions of the Contract and to supply materials, equipment, tools and labor without delay.

1.4 EMERGENCY MAINTENANCE SUPERVISOR

The Contractor shall submit to the Engineer the names, addresses and telephone numbers of at least three employees responsible for performing emergency maintenance and repairs when the Contractor is not working. These employees shall be designated, in writing by the Contractor, to act as its representatives and shall have full authority to act on its behalf. At least one of the designated employees shall be available for a telephone call any time an emergency arises with a maximum of one hour allowed to return phone call.

The Contractor will be responsible for reimbursing the City for all costs incurred by the City for performing emergency maintenance and repairs when the Contractor does not respond to the emergency calls or does not complete the emergency maintenance or repair.

SECTION 01220

COORDINATION OF WORK

1.1 COORDINATION OF CONTRACT DOCUMENTS

Drawings and specifications are intended to describe and provide for a complete work. Any requirement in one is as binding as if stated in all. The Contractor shall provide any work or materials clearly implied in the Contract Documents even if the Contract Documents do not mention it specifically. If there is a conflict within the Contract Documents, it will be resolved by the following order of precedence:

- Contract change orders
- Addenda to Contract Documents
- Technical Specifications & Special Provisions
- Bidding Rules and Contract Documents
- Plan drawings specifically applicable to the Project and bearing the Project title
- Contractor's Approved Proposal
- Outside agencies permits/requirements as may be required by law or loan agreements
- General and Supplementary Conditions of the Contract
- Standard Drawings
- Oregon Standard Specifications for Construction (most current version at bid opening)
- Reference Specifications

Change Orders, supplemental agreements, and approved revisions to Contract Drawings and specifications will take precedence over documents listed above. Detailed plans shall have precedence over general plans. Dimensions shown on Contract Drawings of that which can be computed shall take precedence over scaled dimensions. Notes on drawings are part of the drawings and govern in the order described above. Notes on drawings shall take precedence over drawing details. The intent of the drawings and specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform according to the terms of the Contract.

Where the drawings or specifications describe portions of the work in general terms, but details are incomplete or silent, it is understood that only the best general practice is to prevail and that only materials and workmanship of the best quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals, and do all the work involved in executing the Contract in a manner satisfactory to the City.

Contract Drawings for the project are designated by general title, sheet number and sheet title. The specific titles of each sheet are contained on Sheet G-1 in of the Contract Drawings. When reference is made to the drawings, the "Sheet Number" of the drawing will be used. Each drawing bears the general title, REPLACEMENT OF THE IA15-IA15A SANITARY SEWER MAIN, Project No. S-676.

1.2 CONFORMITY WITH PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Contractor shall furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract. Reasonably close conformity limits will be as defined in the respective items of the Contract or, if not defined, as determined by the Engineer. Contractor shall obtain approval before deviating from the plans and approved working drawings. The Contractor shall not perform

work beyond the lines and grades shown on the plans or any extra work without prior approval from the Engineer. Work performed beyond the lines and grades shown on the plans or any extra work performed without prior approval from the Engineer is considered unauthorized and shall be excluded from pay consideration. The City will not pay for materials rejected due to improper fabrication, excess quantity, or any other reason within the Contractor’s control.

1.3 NOTIFICATION OF UTILITIES AND AGENCIES

Utility locations shown on Contract Drawings are approximated. Contractor shall secure utility locates and pothole all known utility locations to determine utility depths prior to the commencement of any construction as needed. Before starting any site work, Contractor shall call One Call at 1-800-332-2444 for utility locates and to notify utility agencies. The Contractor is responsible for verifying the locations of all existing utilities prior to work. All excavators performing work on this project must comply with all the provisions of ORS 757.541 to 757.571, including notification of all owners of underground utilities at least forty-eight (48) business day-hours, but not more than ten (10) business days before commencing an excavation. Existing utilities, even if not specifically shown on the Contract Drawings or addressed in this document, that are damaged or disturbed by construction shall be restored and/or replaced to the original condition and up to the satisfaction of the utility owner at the Contractor’s expense. In the event of damage to power, gas, telephone or any other underground utility system, the Contractor shall make available to the utility owner any manpower or equipment that will facilitate the repair and the continuation of scheduled work. All cost of repairs shall be the responsibility of the Contractor.

Before exposing any utility, the utility having jurisdiction shall grant permission and be provided the opportunity to oversee the operation, with advance notice provided as the individual utility requires. Should service of any utility be interrupted due to the Contractor’s operation, the proper authority shall be notified immediately. It is of the utmost importance that the Contractor cooperates with the said authority in restoring the service as promptly as possible. Any costs shall be borne by the Contractor.

Utilities which may be impacted include the following:

- Streets City of St. Helens
- Watermain City of St. Helens
- Storm Sewer City of St. Helens
- Sanitary Sewer City of St. Helens
- Natural Gas Northwest Natural Gas
- Power/Electricity Columbia River PUD
- Telephone Lumen Inc.
- Cable Company Comcast

Contractor shall be responsible for the scheduling and coordination of the construction activities necessary to support the resolution of any utility conflicts with the appropriate utility agency. The City will not incur any financial responsibility for any construction delays related to the relocation of any utilities. If the Contractor fails to locate any known utility that interferes with construction, the cost of correcting the conflict shall be borne by the Contractor. Contractor shall be responsible for prompt notification to the City and the appropriate utility agencies of any known utility conflicts. Contractor shall give at least five (5) business days’ notice to the City or utility agency if a conflict arises and relocation of an existing utility is necessary. In areas where the Contractor’s operations are adjacent to or near a utility and such operations may cause damage which might result in significant expense, loss and inconvenience, the operations shall be suspended until all arrangements necessary for the protection thereof have been made by the Contractor.

There will be no separate payment made for the verification of utility depths or maintenance of utility markings and the costs thereof shall be considered incidental to construction.

1.4 COORDINATION WITH UTILITIES AND OTHER CONTRACTORS

It is the Contractor's responsibility to coordinate work with utility owners. The Contractor shall use established safety practices when working near utilities and shall consult with the appropriate utilities before beginning work. Contractor shall notify the Engineer immediately of utility conflicts. The Engineer will decide whether to adjust utilities or adjust the work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Contractor will make necessary arrangements with the utility owner when utility adjustments are required. Contractor shall use work procedures that protect utilities or appurtenances that remain in place during construction, cooperate with utilities to remove and rearrange utilities to avoid service interruption or duplicate work by the utilities, and allow utilities access to the right of way. Contractor shall immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities.

The following table lists the utility contacts during the period of the Contract. This information is subject to change at any time without prior notification:

Utility	Owner	Utility Contact Person
Water, Sewer, & Storm	City of St. Helens	Dave Elder 984 Oregon St St. Helens, OR 97051 delder@sthelensoregon.gov 503-936-8523
Natural Gas	Northwest Natural Gas	Jeremy Lorence 220 NW Second Ave Portland, OR 97209 Jeremy.lorence@nwnatural.com 503-610-7693
Power	Columbia River PUD	Brooke Sisco PO Box 1193, St. Helens, OR 97051 bsisco@crpud.org 503-366-3261
Telephone	Lumen	Heath A. Lins 4501 NE Minnehaha St Bldg 2 Vancouver, WA 98661 Heath.lins@lumen.com 971-284-2736
Cable	Comcast	Ryan Hennessey Construction Dept 750 11 th Ave. Longview, WA 98632 Ryan_hennessey@cable.comcast.com 503-366-9717

1.5 SITE INVESTIGATION AND PHYSICAL DATA

The Contractor acknowledges that it is satisfied as to the nature and location of the work and the general and local conditions, including but not limited to those bearing upon transportation, disposal, handling, and storage of materials. The Contractor shall verify all dimensions, quantities, and details shown on the Plans, Supplementary Drawings, Schedules, Specifications, or other data received from the Engineer, and shall notify the Engineer of all errors, omissions, conflicts, and discrepancies found therein. The Contractor shall assume all responsibility for making estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract. Any failure by the Contractor to become acquainted with the available information and existing conditions will not be a basis for relief from successfully performing the work and will not constitute justification for additional compensation. The Contractor shall verify the locations existing of structures, pipelines, grades, and utilities as needed, prior to construction. The City assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available. Information and data furnished or referred to herein is furnished for information only.

1.6 MEANS AND METHODS OF CONSTRUCTION

Unless otherwise expressly provided in the Contract Documents, the means and methods of construction shall be such as the Contractor may choose; subject, however, to the Engineer's right to prohibit means and methods proposed by the Contractor which in the Engineer's judgment:

- shall constitute a hazard to the work, or to persons or property, or shall violate express requirements of applicable laws or ordinances; or
- shall cause unnecessary or unreasonable inconvenience to the public; or
- shall not produce finished work in accordance with the requirements of the Contract documents; or
- shall not assure the work to be completed within the time allowed by the Contract.

The Engineer's approval of the Contractor's means or methods of construction, or the Engineer's failure to exercise Engineer's right to prohibit such means or methods, shall not relieve the Contractor of its responsibility for the work or of its obligation to accomplish the result intended by the Contract Documents; nor shall the exercise or non-exercise of such rights to prohibit create a cause of action for damages or provide a basis for any claim by the Contractor against the City. Where the Contract Documents do not require the use of specific means or methods for the Work, the Contractor shall submit its proposed means and methods of construction to the Engineer sufficiently in advance of the work affected to permit a reasonable time for review and comments. The means and methods of construction must be approved in advance by the Engineer before construction begins. Failure to submit the proposed plan within a reasonable time shall not create a claim for damages for resulting delay in the work or for damages, nor shall it be a cause for extension of working time to complete the work. Contractor further agrees to defend and indemnify City for any claim or cause of action brought by any third party against the City.

SECTION 01230

ACCESS TO WORK

1.1 ACCESS TO WORK

The City, Engineer, their consultants and other representatives and personnel of the City, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

1.2 ACCESSIBILITY OF PRIVATE ROADS AND DRIVEWAYS

Entrances to properties shall be provided and maintained. No private road or driveway may be closed without prior written permission by the affected property owner. Driveways shall be left open and ready for use at the end of the work shift. All expenses involved in providing for construction, maintenance, and use of private roads or driveways, shall be borne by the Contractor and the amount thereof absorbed in the unit prices of the Contractor's bid.

1.3 CONSTRUCTION WITHIN PUBLIC RIGHTS-OF-WAY

When the work contemplated is wholly or partly within the right-of-way of a public agency such as a city, county or state, the Contractor will obtain from these agencies any right-of-way and street opening permits and all other necessary permit(s) required for the work. The Contractor shall abide by all regulations and conditions stipulated in the permit(s). Such conditions and requirements are hereby made a part of these specifications, as fully and completely as though the same were fully set forth herein. The Contractor shall examine the permit(s) granted to the Owner by any city, county, state and federal agencies. Failure to do so will not relieve the Contractor from compliance with the requirements stated therein. The Contractor shall obtain all construction permits and pay all fees or charges and furnish any bonds and insurance coverages as necessary to ensure that all requirements of the city, county, state or federal agencies will be observed and roadways and ditches are restored to their original condition or one equally satisfactory. A copy of all permits shall be kept on the work site for use of the Engineer.

1.4 CONSTRUCTION WITHIN EASEMENTS ON PRIVATE PROPERTY

When portions of the work contemplated are within easements held by the City on private property, the Contractor shall ascertain for itself to what extent the width, status and special conditions attached to easements may have on its operations and all costs resulting therefrom shall be included and absorbed in the unit prices of the Contractor's bid. Contractor shall coordinate with private property owners and businesses if required. Landscaping, surface restoration and fence restoration shall be completed within 72 hours following piping installation and other construction work. Temporary fencing shall be provided continuously until such private fencing is properly restored.

The Contractor is responsible for site safety and the protection of property. Certain portions of this project may require working in close proximity to existing structures and private property. It is the Contractor's responsibility to conduct its operations and limit the size of equipment used in such a manner so as to prevent damage to existing property from excessive vibration or from other direct or indirect Contractor operations. The cost associated with repairing or replacing property that is damaged by the Contractor's operations shall be the responsibility of the Contractor, in accordance with the General Conditions. When

portions of this project require working in close proximity to private homes and businesses, it is the Contractor's responsibility to conduct its operations in a manner that respects residents and others with regard to strong language, garbage, ensuring that pets are not allowed to escape. Contractor shall adequately cover and barricade any open excavation to eliminate potential hazards to the property owner or others during construction.

SECTION 01300

CONSTRUCTION DOCUMENTATION

1.1 DOCUMENTATION

The following is a general list of documentation the Contractor shall provide to the Project Manager at various phases of the project. The Contractor is responsible for providing all materials, labor, and transportation for required construction documentation on this project.

A. Door Hangers

The Contractor is required to notify all residences and businesses in the project area of the Work at least 48-hours prior. The Contractor shall prepare and submit to the Project Manager a sample of their 48-Hour Notice of Construction door hanger template for approval prior to distribution. 48-Hour Notices shall have listed, at a minimum,

- The Contractor's 24-hour contact person's name and number
- The name of the project
- And the expected date of the work

The contact number on the notice shall remain unchanged throughout the duration of project. Notifications shall be distributed to all properties in the construction zone. A list of property owners and addresses for the properties in the construction zone will be provided to the successful Contractor, upon request.

B. Pre-Construction and Post-Construction Site Documentation

The Contractor shall perform pre-construction inspection video recordings and photographs of the existing surface and property conditions prior to the commencement of any work on site, including project staging, mobilization, and demolition. The pre-construction site video and photos shall be submitted to the Project Manager not less than ten days following the notice to proceed.

Upon completion of the project construction, the Contractor shall perform post-construction video recordings and photographs consistent with the pre-construction inspection video recordings and photographs, showing same catalog of surface items, locations, and surface and property conditions within project limits and submit to the Project Manager prior to submitting Exhibit F, Certificate of Compliance.

The areas to document will generally include,

- Road surface conditions
- Private Driveways
- Paved walkways
- Trees, shrubs, flower beds
- Fences and gates
- Retaining walls
- House foundations
- Parked vehicles

- Outdoor fixtures (sheds, lights, furniture, etc.)
- Any visible pre-existing conditions such as broken sidewalks, fences, etc.
- Unpaved ground conditions (lawn conditions, etc.)

Recorded video media for site documentation shall be submitted on a flash drive and viewable as standard MP4 file format. Photos shall be submitted in JPEG format. There will be no separate payment made for construction documentation and the costs thereof shall be considered incidental to “Mobilization, Bonds, Insurance, and Demobilization”.

SECTION 01310

1.1 NOTICE TO PROCEED

The Notice to Proceed with construction will be issued to the Contractor after the Contractor submits the signed Contract, Bonds, and Insurance Certificates to the City and those documents have been approved as to form and executed by the City. Generally, work shall begin within five days following issuance of the Notice to Proceed.

The Contractor shall be liable for any actions taken that delay, suspend, or retard the progress of work without the express written permission on the City and no additional Contract Time or Price shall be granted if the Engineer decides the cause of delay was solely caused by Contractor's actions. Contractor shall prosecute the work continuously to completion within the working days specified. Unless otherwise shown on the plans, work may be prosecuted in concurrent phases. The Contractor shall notify the Project Manager at least 24 hours before beginning work or before beginning any new operation.

1.2 TIME OF COMPLETION

The Contractor shall complete all work shown and specified within the time limits stated in the Agreement. All work on this project shall be completed by June 30, 2022, or as authorized by the City. Once started, the Work on shall continue uninterrupted except by weekends, authorized holidays, severe weather, or by written agreement with the City for an agreed upon time.

1.3 WORKING HOURS, OVERTIME, AND HOLIDAY WORK

Work shall be performed during normal working hours in St. Helens:

Mon – Fri: 8:00 A.M. – 4:30 P.M. Sun – Sat – Holidays: None

The Contractor is limited to these working hours unless permission is requested in writing and pre-approved by the Engineer. The Contractor will not be allowed to work during the hours of 10:00 P.M. to 7:00 A.M. as set by City of St. Helens Municipal Code Noise Regulations 8.16. The number of working days provided in the Contract is considered to be sufficient time to complete the project. There will be no separate payment made for working outside of normal work hours and the costs thereof shall be considered incidental to construction.

1.4 PROJECT SCHEDULE

Project Schedule -- Contractor shall prepare and submit a practicable Gantt chart schedule to the Engineer within ten (10) days after the Notice to Proceed. The schedule shall show at a minimum:

- Critical path
- Dates on which important features of the work will start
- Order in which Contractor proposes to carry out the work
- Estimated dates for completion of tasks

Schedule is to be updated whenever the Contractor's progress deviates from the previously approved schedule by more than 10 percent.

1.5 CONSTRUCTION DELAYS AND EXTENSION OF TIME

The Contractor shall notify the Project Manager immediately upon encountering any condition that the Contractor believes may cause a claim for a time extension. The Contractor shall be entitled to an extension of working time under this Contract only when claim for such extension is submitted to the City in writing by the Contractor within fourteen (14) days from and after the time when any alleged cause of delay shall occur, and then only when such time is approved by the City in writing.

In adjusting the Contract Time for the completion of the project, unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to inability to obtain supplies and materials when orders for such supplies and materials were timely made and materials are not available from other sources, naturally occurring inevitable unavoidable accidents, or public enemy acts, acts of the City, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather conditions, ozone alerts as determined by the National Weather Bureau or other authorized agency, or delays of subcontractors due to such causes beyond their control shall be taken into consideration. If the satisfactory execution and completion of the Contract should require work and materials in greater amounts or quantities than those set forth in the Contract, requiring more time for completion than the anticipated time, then the Contract time shall be increased, but not more than in the same proportion as the cost of the additional work bears to the cost of the original work contracted for.

No allowances shall be made for delays or suspension of the performance of the work due to the fault of the Contractor. No adjustment of the Contract time shall be made if, concurrently with the cause for delay, hindrance, disruption, force majeure, impact or interference, there existed a cause for delay due to the fault or negligence of the Contractor or Contractor's agents, employees or subcontractors. Notwithstanding any other provisions of the Contract Documents, including the General and Special Provisions, no adjustment shall be made to the Contract price and the Contractor shall not be entitled to claim or receive any additional compensation as a result of or arising out of any delay, hindrance, disruption, force majeure, impact or interference, foreseen or unforeseen, resulting in adjustment of the Contract time to complete the project, including but not limited to those caused in whole or in part by the acts, omissions, failures, negligence or fault of the City, its officers, officials, agents, Engineer, Consulting Engineer or employees. This provision is intended to cover all delays except as prohibited by law.

1.6 LIQUIDATED DAMAGES

The City will sustain damage if the work is not completed within the specified Contract Time. Not as a penalty but as liquidated damages, the Contractor agrees to pay to the City the amount specified in the Standard Terms and Conditions for this construction Contract for each Calendar Day the Contractor expends performing the Contract in excess of the Contract Time or adjusted Contract Time.

Payment by the Contractor of liquidated damages does not release the Contractor from its obligation to fully and timely perform the Contract according to its terms. Nor does acceptance of liquidated damages by the City constitute a waiver of the City's right to collect any additional damages it may sustain by reason of the Contractor's failure to fully perform the Contract according to its terms. The liquidated damages shall constitute payment in full only of damages incurred by the City due to the Contractor's failure to complete the Work on time. Liquidated damage payment to the City in the event the Contractor does not complete the work in the specified Contract Time shall be in the amount of Five Hundred Dollars (\$500.00) assessed for each calendar day of delay, including holidays and weekends, and shall run continuously until the work is substantially complete.

SECTION 01320

QUALITY CONTROL

1.1 WORKMANSHIP

The work shall be performed in accordance with the best modern practice with materials and workmanship of the highest quality and suitable for their purpose. The Engineer shall judge and determine the Contractor's compliance with these requirements. The Contractor shall ensure all work is of good quality, free from faults, defects, inferior materials, or equipment, will be performed by experienced knowledgeable personnel, and be in conformance with the Contract Documents. All work not conforming to these requirements, including substitutions not properly approved or authorized, shall be considered defective unless specifically accepted by the City.

1.2 INSPECTION OF WORK

It is the intent of the City to inspect all work on this project. The Contractor must pay for all testing needed to determine acceptability for any work done without inspection, as directed by the Engineer. The Contractor shall furnish the City with every reasonable facility for ascertaining whether the work performed was in accordance with the requirements and intent of the plans and specifications. Contractor shall provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. Contractor shall give the Inspector or the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. The Contractor shall remove or uncover portions of finished work as directed, and once inspected, restore work to Contract requirements. The City will provide general construction inspection services of the project. The City will not provide any special inspections services for the project.

1.3 QUALITY OF MATERIALS

The Contractor shall incorporate into the Work only materials conforming to the specifications and approved by the Engineer. The Contractor shall incorporate into the Work only manufactured products made of new materials unless otherwise specified in the Contract. The City may require additional testing or retesting to determine whether the materials or manufactured products meet specifications. Materials or manufactured products not meeting the specifications at the time they are to be used are unacceptable and must be removed immediately from the Project Site, unless otherwise directed by the Engineer.

1.4 "OR EQUAL" CLAUSE

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of material may be specified on the drawings or herein by designating a manufacturer's name and referring to its brand or product designation. It is not the intent of these specifications to exclude other processes, equipment or materials of a type and quality equal to those designated. When a manufacturer's name, brand or item designation is given, it shall be understood that the words "or equal" follow such name or designation, whether in fact they do so or not.

If the Contractor desires to furnish items by manufacturers other than those specified, he shall secure the approval of the Engineer prior to placing a purchase order. No extras will be allowed the Contractor for any changes required to adopt the substitute equipment, materials, or processes. Therefore, the Contractor's proposal for an alternate shall include all costs for any modifications to the drawings, such as additional

pipng or changes in piping, or other modifications which may be necessary or required for approval and adoption of the proposed alternate equipment.

1.5 MATERIALS AND EQUIPMENT

The Contractor warrants to the City that all materials and equipment furnished under this Contract shall be new unless otherwise specified in the Contract and that same shall be of good quality and workmanship, free from faults and defects and in conformance with the Contract documents. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the City. No material shall be delivered to the work without prior approval of the City. All materials and equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and shall be promptly repaired or replaced by the Contractor at the Contractor's sole cost upon demand of the City. If required by the City, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

1.6 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

All work which has been rejected or condemned shall be repaired. If it cannot be repaired satisfactorily, it shall be removed and replaced at the Contractor's expense. Defective materials shall be immediately removed from the site of the work. Work done without line and grade having been given, work done beyond the lines or not in conformity with the grades shown on the plans or as given, save as herein provided, work done without written authority and prior agreement in writing as to process, shall be done at the Contractor's risk and considered unauthorized and at the option of the Engineer may not be measured and paid for and may be ordered removed at the Contractor's expense.

Upon failure of the Contractor to repair satisfactorily or to remove and replace, if so directed, rejected, unauthorized or condemned work or materials immediately after receiving notice from the City, the Engineer shall, after giving written notice to the Contractor, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and to deduct the cost thereof from any monies due or to become due the Contractor. Alternatively, the City may, at its option, declare the Contractor in default, in which event the performance bond surety shall complete the Contract.

SECTION 01330

TESTING

1.1 MATERIALS AND COMPACTION TESTING

The Contractor shall provide the services of a licensed, independent agency to perform materials and compaction testing for this project, as required. The name of the agency must be submitted and approved by the Engineer. Materials and compaction tests will be required to show that specified densities of compacted backfill, crushed rock, asphaltic concrete surfacing are being achieved by the Contractor's compaction methods. Concrete compressive strength testing will be required to show that the requirements of the Contract Documents are being met.

The Contractor shall provide the Engineer with copies of Proctor tests performed for the project backfill and paving material in addition to copies of compaction tests performed in the field. After the Engineer is satisfied that the Contractor's method of compaction consistently meets specified compaction requirements, the testing frequency may be reduced. The Engineer may direct testing at a higher frequency upon failure to obtain specified densities or if the Contractor changes compaction equipment or methods of compaction.

Concrete compressive strength testing shall follow Section 00440 of the Oregon Standard Specifications for Commercial Grade Concrete. Concrete compressive strength shall be a minimum of 3,000 psi at 28 Days. Contractor will supply the Engineer with test results.

All test locations shall be determined by the Engineer. Materials and compaction testing is considered incidental to the Contract and no separate payment shall be made.

Additional testing requirements may be required elsewhere in these Contract Documents.

1.2 TESTING AND OPERATION OF FACILITIES

It is the intent of the City to have a complete and operable facility. All the work under this Contract will be fully tested and inspected in accordance with the specifications. Upon completion of the work, the Contractor shall operate the completed facilities as required to test the equipment under the direction of the Engineer. During this period of operation by the Contractor, the new facilities will be tested thoroughly to determine their acceptance.

1.3 TESTING AND LABORATORY SERVICES

Contractor shall perform all testing services of materials, equipment, and workmanship required by the Contract Documents. All materials and equipment used in the performance of work under are subject to inspection and testing at the point of manufacture or fabrication. Standard specifications for quality and workmanship are indicated in the Contract Documents. Unless otherwise stipulated in the Contract Documents, initial testing of all materials, construction items or products incorporated in the work shall be performed at the direction and expense of the Contractor and deemed necessary by the Engineer. In the event materials, construction items or products incorporated in the work fail to satisfy the minimum requirements of the initial test, appropriate prove out test shall be made as directed by the Engineer to determine the extent of the failure and to verify that the corrective measures have brought the item up to specification requirements.

The cost of all testing necessary to determine the extent of the failure and the adequacy of the corrective measures shall be the responsibility of the Contractor. The failure of the City to make any tests of materials shall in no way relieve the Contractor of its responsibility of furnishing materials conforming to the Contract Documents. Tests, unless otherwise specified, shall be made in accordance with the latest methods of the applicable ASTM regulation.

The Contractor shall provide such facilities as the City may require for collecting and forwarding samples and shall not use the materials represented by the samples until tests have been made. The Contractor shall furnish adequate samples without charge. Test materials and samples shall be stored so as to ensure the preservation of their quality and fitness for the Work. The inspections and tests made by the Engineer, its inspectors or agents, shall ordinarily be made without cost to the Contractor unless otherwise expressly specified in the Contract Documents. The Contractor shall furnish without additional cost to the City such materials for testing as may be reasonably necessary. Retesting after failure to pass tests shall be at the expense of the Contractor. Should the percentage of rejected material or equipment be unreasonably large, the additional cost of such inspection and tests resulting therefrom shall be borne by the Contractor. The Engineer shall determine what extra inspection is and shall determine the additional cost incurred thereby and payable by the Contractor and such determination shall be final. The City may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the City shall be allowed on account of such testing and certification.

SECTION 01400

CLARIFICATION AND MODIFICATION OF WORK

1.1 CLARIFICATION OF WORK AND CONTRACT MODIFICATIONS

The Contractor expressly agrees that it shall not consider any order, instruction, clarification, response to a Request for Information or any other communication either written or oral given intentionally or unintentionally by any other person to do work that would cause a change in Contract Time or Price unless it is in the form of a Change Order from the City.

1.2 INTERPRETATION AND MINOR CHANGES

The City has the authority to order minor changes in the Work including interpretations which are consistent with the intent of the Contract Documents, excluding:

- a change in Contract Price, or
- a change in the Contract Time, or
- a change in the means, methods, techniques, or sequence of work

If the Contractor considers that a minor change so ordered causes a Change in Contract Price or Contract Time, the Contractor shall notify the City in writing within 15 days of receipt of the order and shall not proceed with the work except in the case of an emergency endangering persons or property. If, after reviewing the Contractor's objection to a minor change, the City determines the work is required by the Contract Documents and does not involve a change in Price or Time, the City may direct the Contractor, in writing, to proceed with the work. If so directed, the Contractor may (1) accept the City's determination and proceed with the work or (2) give the City written notice 5 days in advance of beginning work stating that it intends to make a claim.

1.3 REQUESTS FOR INFORMATION

If the Contractor does not clearly understand the plans and specifications or is not sure of their meaning, the Contractor shall make a written request to the Engineer in the form of a RFI (Request for Information). The Engineer's written explanation and interpretation of the Contract Documents shall be final.

1.4 REQUESTS FOR QUOTATION

If a change involving Contract Price and/or Time or a new bid item is being considered, the Engineer will issue a Request for Quotation describing the proposed change. The Contractor shall submit a quotation promptly so not to delay or interfere with the progress of the Work, in accordance with the requirements for determining the cost of changes described in the Oregon Standard Specifications Construction.

1.5 CHANGES REQUESTS

The Engineer may, at the Contractor's request, authorize in writing changes in the Project Plans or specifications to facilitate or expedite the work of the Contractor, provided such changes are not detrimental to the work or to the best interests of the City. Requests for such changes shall be submitted in writing to the Engineer. Such changes, as are authorized under this provision, shall be made without

additional cost to the City, and the City reserves the right to receive an equitable adjustment in the Contract Price or Contract Time as a consideration for authorizing any such change. The Contractor shall maintain sole responsibility for assuring these changes meet all the requirements of the Contract.

1.6 CHANGE DIRECTIVES

When a change of work involves an addition, deletion, or adjustment of work or Contract Time which can be covered by Contract bid items and the estimated increase or decrease in Contract cost does not exceed \$5,000, a Change Directive will be issued. A change directive may be issued in the field by the Project Manager and the Contractor shall then proceed with the work without delay. Verbal change directives will be confirmed by written change directives and signed by the Contractor and the Engineer thereby adding, deleting, modifying work, increasing, or decreasing Contract bid items.

1.7 CHANGE ORDERS

If the City and the Contractor agree on a change in Contract Price and/or Time for a proposed change, a Change Order will be issued and signed by the Engineer and Contractor. An executed Change Order shall be conclusive and final settlement of the change in Contract Time and Price for the work covered by the Change Order including the effect of the change on all other portions of the work completed or not and shall include compensation for all related claims for disruption, impact, delay or extended overhead, if any, that may result from the change. Implied in every Change Order, unless expressly reserved by the City or Contractor, is a waiver of all known and unknown claims arising out of the Change Order. The City reserves the right to have changed work performed by a separate contractor or its own workers.

1.8 CHANGED OR UNFORESEEN CONDITIONS

During the progress of the work, if the Contractor should encounter conditions materially different from those shown on the Project Plans or indicated in the Project Specifications, or unknown conditions of a nature differing materially from those ordinarily encountered and generally recognized as being inherent in work of the character being performed, the Contractor shall, before proceeding further with work affecting or affected by such conditions, immediately notify the City which will promptly make an investigation. If the City determines conditions do materially differ and the Contractor could not reasonably have been expected to ascertain in advance the true nature of the existing conditions, a Change Order will be issued to provide for any increase or decrease in cost and difference in Contract Time resulting from any such condition.

1.9 EXTRA WORK

The Engineer shall have the right to require, and the Contractor agrees to do, extra work over and above that which is indicated by the Contract Documents and covered by the unit prices of the Contract or negotiated price or prices, which logically forms a part of the Contract, arising from reasonably unforeseeable conditions, changed requirements or new information. Such additional work shall be undertaken only upon written instructions from the Engineer. Payment for extra work will be made pursuant to Section 00197 of the Oregon Standard Specifications for Construction.

Extra Work performed on a Force Account Basis shall be used to equitably and uniformly compensate the Contractor for Extra Work when a negotiated price cannot be reached. Extra Work is defined as work that is significantly different from the Work included in the original or modified Contract, yet necessary for completing the Project. The Contractor shall maintain records in such a manner as to provide a clear distinction between direct cost of extra work paid for on force account basis and cost of other operations performed in connection with the Contract Documents.

Force Account procedures shall only be used as a last resort when an agreement cannot be reached on the price of a new Work item or when the extent of the Work is unknown or of such character that a price cannot be determined to a reasonable degree of accuracy. When the City orders Extra Work to be performed via Force Account, the Engineer will discuss the proposed work with the Contractor and will seek the Contractor's comments and advice concerning the formulation of Force Account Work specifications. The Engineer is not bound by the Contractor's comments and advice, and has final authority to: determine and direct the materials, equipment and labor to be used on the approved Force Account Work; and determine the time of the Contractor's performance of the ordered Force Account Work.

Before Extra Work to be performed on a Force Account Basis is authorized, the Project Manager will make the determination that Extra Work is necessary. Only work not included in the Contract as awarded or in executed Change Orders but deemed by the Project Manager to be necessary to complete the Project will be paid as Extra Work per Section 00197 of the Oregon Standard Specifications for Construction.

The following steps shall be followed to perform Extra Work:

1. The Project Manager will discuss the Extra Work with the Contractor, define the scope of work, and discuss the options, means and methods for completing the Extra Work.
2. The Project Manager shall attempt to negotiate a Contract Change Order with the Contractor to perform the Extra Work if the unable to successfully negotiate a Change Order, the Extra Work will be completed on a Force Account Basis.
3. Extra Work shall not proceed on a Force Account Basis without a written and approved Extra Work Order prepared by the Project Manager, which shall be signed by the Contractor and the Project Manager. The Extra Work order will determine when, how, and with what Equipment and labor the Extra Work will be completed.

For each day Extra Work is performed, the City's Project Inspector shall complete a Daily Force Account Record which shall be signed by both the Inspector and the Contractor's authorized representative at the end of the day. These signatures indicate agreement on the accuracy and completeness of the information recorded on the Daily Force Account Record.

The Daily Force Account Record will be the basis for payment. Contractor shall not proceed with Extra Work without daily agreement on the Daily Force Account Record.

SECTION 01500

SUBMITTALS

1.1 GENERAL REQUIREMENTS

The Contractor shall provide the following submittals found listed in this section. There may be other submittals required elsewhere in these Specifications that are not included or mentioned in this section. Direct submittals from suppliers will not be allowed. Digital submittals are preferred to paper copies.

Technical submittals covered by these specifications include manufacturer's information, shop drawings, test procedures, test results, samples, request for substitutions and miscellaneous work-related submittals. The Contractor shall furnish all drawings, specifications, descriptive data, certifications, samples, tests, methods, schedules and manufacturers installation and other instructions as required by the Contract Documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the contract documents.

The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment, or method of work shall be as described in the submittal. The Contractor shall verify that all features of all products conform to the specified requirements.

Submittals shall coordinate with the work so that work will not be delayed. Coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals.

The Contractor shall not proceed with work related to a submittal until the submittal process is complete.

1.2 REQUIRED SUBMITTALS

The following listing shall be considered minimum and may be expanded during the course of the work at the direction of the Engineer,

- A. Project Schedule. Refer to Section 01310 PROJECT SCHEDULE & TIMELINE for details.
- B. Shop Drawings, Schedules and Drawings: The Contractor shall provide shop drawings, schedules and such other drawings and information as may be necessary for the prosecution of the work in the shop and in the field as required by the Contract Documents and/or Engineer's instruction. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:
 - Dimensions
 - Identification of products and materials included
 - Compliance with specified standards
 - Notation of coordination requirements
 - Notation of dimensions established by field measurement.

- C. Product Data: Submit manufacturer's product literature and application, installation requirements, recommended repair requirements, technical data sheet on each product to be used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
- D. Material Safety Data Sheets
- E. Erosion and Sedimentation Control Plan, as required
- F. Materials and equipment list
- G. Contractor and Subcontractor 24 Hour – 7-day Emergency Contact List
- H. Traffic Control and Protection Plan, as required
- I. Pre-construction documentation of sites, submit 14 days after NTP issued
- J. Post-construction documentation of site(s), submit with Exhibit F, Certificate of Compliance, and Exhibit G, Contractor's Release of Liens and Claims
- K. Documentation to be sent to property owners regarding the project
- L. Site Specific Health and Safety Plan, as required
- M. Utility Rupture Response Plan, As required
- N. Location of dump site for excavated and removed material
- O. Copies of all licenses and permits
- P. Certified Payroll
- Q. Miscellaneous materials and other submittals required elsewhere in the Contract Documents

1.3 REQUEST FOR SUBSTITUTION

Requests for substitution for product specified by manufacturer or manufacturer's model number as specified throughout the Contract Documents shall be in writing and be accompanied with sufficient information to allow the Engineer to identify the nature and scope of the request. Please refer to Section 01320.1.4 "OR EQUAL" CLAUSE.

Information to be provided shall include,

- A. All submittal information required for the specified product, including all deviations from the specified requirements necessitated by the proposed substitution.
- B. Materials of construction, including material specifications and references.
- C. Performance data.

- D. Dimensional drawings, showing required access and clearances, including any changes to the work required to accommodate the proposed substitution.
- E. Information and performance characteristics for all system components and ancillary devices to be furnished as a part of the proposed substitution.
- F. Reproducible drawings, marked up to illustrate the alterations to all systems required to accommodate the proposed substitutions

If the substitution requires any mechanical, electrical, or structural changes, the Contractor will be responsible for costs for evaluating a requested substitution. The cost for such an evaluation will be determined on a case-by-case basis, after receipt of written request. The Engineer will notify the Contractor in writing of said cost. If the Contractor wishes to proceed, he shall advise the Engineer in writing and submit additional information as may be requested. The City shall final approval of a substitution.

1.4 SUBMITTAL APPROVAL PROCESS

The Engineer will review the submitted data and will issue a Submittal Response to the Contractor. The Engineer will review each submittal, mark to indicate action taken, and return promptly.

Submittal response notations are as follows,

- “Approved For Construction, No Exceptions Taken”
The part of the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
- “Approved For Construction, As Noted”
The part of the Work covered by the submittal may proceed, provided it complies with the requirements of the Contract Documents and it complies with the notations or corrections of the submittal response.
- “For Record Only”
The information contained in the submittal has been accepted into the project records.
- “Revise and Resubmit”
Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Contractor shall revise the submittal in compliance with the Contract Documents and the corrections noted in the submittal response.
- “Submit Specified Item”
Contractor shall the submit the additional information requested in the submittal response. Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity until specified item has been approved by the Engineer.
- “Rejected”
Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. The Contractor shall revise or prepare a new submittal in accordance with the corrections noted in the submittal response.

The Engineer's review of submittals shall not extend to means, methods techniques, sequences or procedures of construction, or to verify quantities, dimensions, weights or gages, or to fabrication processes, except when specifically indicated or required by the contract documents, and will not relieve the Contractor from responsibility for errors of any sort in the submittals.

When submittals are required to be revised or corrected and resubmitted, the Contractor shall make such revisions and/or corrections and resubmit those items or other materials in the same manner as specified above. Submitted data shall be sufficient in detail for determination of compliance with the Contract Documents. No equipment or material for which listings, drawings, or descriptive material is required shall be installed until the Contractor has received approval from the Engineer. Regardless of corrections made in or review given to the drawings by the Engineer, the Contractor shall be responsible for the accuracy of such drawings and for their conformity to the drawings and specifications.

SECTION 01600

PROGRESS PAYMENTS

1.1 PROGRESS PAYMENT AND RETAINED AMOUNTS

The City shall pay Contractor for all work completed in accordance with terms and conditions of the Contract Documents in accordance with the procedures described below and elsewhere in the Contract Documents.

A. Progress Payments

- On a monthly basis, during performance of the work, the Contractor shall prepare an estimate of the value of Contract work completed on a form approved by the City and submit to the Project Manager. Applications for payment will be reviewed and processed by the City in accordance with the applicable provisions of the Contract Documents. The pay application shall also provide such supporting documentation as the City or the other applicable provisions of the Contract Documents may require. Certified payroll must be submitted for review with or prior to pay application submittal. The St. Helens City Council generally meets the first and third Wednesdays of each month and must approve all pay applications.
- It is understood that the monthly estimates shall be approximate only, and all monthly estimates and partial payments shall be subject to correction in the estimate rendered following the discovery of an error in any previous estimate, and such estimate shall not in any respect be taken as an admission of the City of the amount of work done or of its quality or sufficiency nor as an acceptance of the work or the release of the Contractor of any of its responsibility under the Contract.
- Payment shall be made by the City about seven (7) days after approval of the pay request. The City shall not be liable for interest on any late or delayed payment caused by any claim or dispute, any discrepancy in quantities, any failure to provide supporting documentation or other information required with the estimate or as a precondition to payment under the Contract, or due to any payment the City has a right to withhold under the Contract.

B. Retained Amounts

The City shall retain five percent (5%) of the amount earned on all progress payments. Monies retained will be released to Contractor following final acceptance of the project by the City.

Contractor's monthly payment applications and invoices shall include retainage as a line item.

1.2 FIELD DOCUMENTATION OF BID ITEM QUANTITIES

Daily Bid Item Logs shall be the basis of recording and documenting all pay quantities. The City's Construction Inspector is responsible for ensuring that all quantity measurements are made and documented in accordance with the Contract Documents. Bid quantity entries, including supporting

documentation, serve as both partial and final verification that correct payments are made on all pay applications and invoices.

The Contractor's foreman or superintendent shall sign the daily bid item log receipts in the possession of the City Construction Inspector for Contract Bid Items completed as specified. The bid item log shall be signed by both the City Construction Inspector and the Contractor's authorized representative within 24 hours of completion of bid items that meet specifications. It is the responsibility of the Contractor to ensure the log is signed daily for the work completed. At a minimum, the bid item log shall contain the following: Bid item reference number, location of work, stationing of construction, description of work, quantity of work completed, and plan sheet reference number.

The Contractor will be provided a copy of all bid item logs. The Contractor's pay applications and invoices shall be equal to the bid items signed for and no more and shall reference bid item log receipt number on the appropriate pay request. Final quantities to be adjusted per project as-builts.

1.3 PAYMENT FOR EXTRA WORK

Extra Work done by the Contractor, as authorized and approved by the City, shall be compensated for in the manner described in Section 01400 – CLARIFICATION AND MODIFICATION OF WORK, and by Section 00196 of the OSSC, the more restrictive will apply. The compensation provided for Extra Work done by the Contractor constitutes full and final payment for the cost of the Extra Work, which cost is limited to:

- All reasonable costs of labor, materials, supplies, tools, equipment or machinery rental, power, fuel, lubricants, water and other similar operation expenses for the time that such of the above things are employed or used on such Extra Work and approved in writing by the Project Manager; and
- A markup amount not-to-exceed percentage allowances listed under Section 00196 of the OSSC. Costs shall be considered to cover and compensate the Contractor for profit, overhead, profit-and-overhead markups charged to Contractor by subcontractors and suppliers, general supervision, field office expense and all other elements of cost and expense not embraced within the cost of the Extra Work as described in this Section. No cost of off-site storage shall be included in the above description of cost unless off-site storage has been approved and directed by the City in writing. No other claims or reservations of right as to additional costs, prices, markups, costs not permitted by the OSSC included under this paragraph, disallowed costs or other future additional money or time shall be accepted; each change order shall be specific and final.

The method of determination and payment of cost, or credit to the City for any Extra Work shall be one of the following:

- A. Unit prices agreed on in writing and executed by the City before the Extra Work is commenced or unit prices already included in the Contract Documents, subject to all other conditions of the Contract. Mutual acceptance of a not-to-exceed lump sum properly itemized and supported by sufficient substantiating data to permit evaluation before the Extra Work is commenced, subject to all other conditions of the Contract.

- B. A not-to-exceed cost to be determined in a manner agreed upon by the parties plus a mutually acceptable fixed or percentage fee, agreed upon before the Extra Work is commenced and subject to all other conditions of the Contract.
- C. The force account method provided in these Contract Documents and governed by Section 00197 of the OSSC.
- D. Signed, daily reports in duplicate of the extra work to be paid for on a force account basis, shall be furnished to the Engineer by the Contractor. Materials used will be itemized and direct cost of labor and charges for equipment rental will be furnished by the Contractor or Subcontractor. The Contractor will provide names, identifications, and classifications of workmen, the hourly rate of pay and hours of work, and the size, type, and identification number of equipment and hours of equipment operation.
- E. Material charges shall be substantiated by vendors' invoices with copies of such invoices submitted with the reports, or, if not available, submitted with subsequent reports. In the event said vendors' invoices are not submitted within 15 days after completion of the work, the City reserves right to establish the cost of such materials at the lowest current price at which said materials are available in the quantities concerned, delivered to the location of the work. The Engineer will compare his records with the reports furnished by the Contractor, make any necessary adjustments, and compile the cost of extra work paid for on a force account basis on forms furnished by the Owner. When these extra work reports are agreed upon and signed by both parties, they shall become the basis of payment for the work performed.

1.4 PAYMENT WITHHELD

In addition to express provisions elsewhere contained in the Contract, the City may withhold from any payment otherwise due the Contractor such amount as determined necessary to protect the City's interest, or, if it so elects, may withhold or retain all or a portion of any payment or refund payment on account of:

- Unsatisfactory progress of the work not caused by conditions beyond the Contractor's control
- Defective work not corrected
- Contractor's failure to carry out instructions or orders of the Owner or its representative,
- Work or execution thereof is not in accordance with the Contract documents
- Claim filed by or against the Contractor or reasonable evidence indicating probable filing of claims
- Failure of the Contractor to make payments to any subcontractor or suppliers for material or labor used in the performance of the Work
- Unsafe working conditions allowed to persist by the Contractor

When the grounds for withholding payment are removed, payment shall be made for amounts withheld because of them, and City shall not be liable for interest on any delayed or late payment.

1.5 FINAL PAYMENT

The amount of final payment will be the difference between the total amount due to the Contractor and the sum of all payments previously made. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. After computation of the final amount due, and after Final Acceptance of the Project, final payment will be mailed to the Contractor's last known address as shown in the records of the City.

SECTION 01620

MEASUREMENT & PAYMENT

1.0 MEASUREMENT AND PAYMENT OF CONTRACT BID ITEMS

Measurement and Payment of Contract Bid Items shall be on a unit price basis in accordance with the prices set forth in the Contract for individual work items. Where work is required but does not appear as a separate item in the Contract, the cost for that work shall be included and absorbed in the unit prices named in the Contract. No payment or compensation shall be made for bid items that are not completed. Only payment for actual work completed will be made regardless of how the Contractor balances bid. Contractor shall make a careful assessment when preparing bid.

The City may add and/or delete bid item quantities during construction. The term “Lump Sum” when used as an item of payment will mean full compensation for the Work described in the Contract Documents. The unit will be construed to include all necessary fittings and accessories. Payments for Lump Sum items will be made in proportion to the amount of Work accomplished as determined by the Engineer as of the “period ending date” of each Partial Payment Estimate. Contractor shall provide a schedule of values for each lump sum item. The Unit Price and Lump Sum price for furnishing each item of Work listed in the Contract Price shall include all labor, materials, tools, equipment, superintendence, and incidentals necessary to perform and complete the Work, including profit, overhead costs, permit and license fees, royalties, and applicable taxes and fees.

1.1 Mobilization, Bonds, Insurance, and Demobilization

Payment for Mobilization, Bonds, Insurance and Demobilization shall be paid for at the Contract lump sum price as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Mobilization, Bonds, Insurance and Demobilization” and shall include full compensation for the work involved as described herein and no additional allowance will be made.

Mobilization, Bonds, Insurance, and Demobilization typically includes, but is not limited to, the preparation of contract; completion of all tasks and submittal of all documents (bonds, insurance, schedule, etc.) required as a condition of issuing the Notice to Proceed; moving onto the site(s) all Contractor’s equipment and materials required; installing and maintaining temporary buildings or trailers; providing power, utilities, lighting, fencing, etc. as may be required; providing all on-site communications equipment or facilities; obtaining all permits; permit fees; having all OR-OSHA required notices posted, establishment of a safety program; preparing and delivering all pre-construction notices and/or job signs; arrangement of markings and plan for verification (potholing) of existing facilities; and beginning work on the project; removing all equipment, unused materials, all temporary facilities, job trailers, final clean up, and any other items, facilities, tools or materials left behind by the Contractor at the completion of the work.

The amounts paid for Mobilization, Bonds, Insurance, and Demobilization will be based on the percent of the original Contract amount that is earned from other Contract bid items, not including advances on materials, as follows:

1. When 5% of the Contract is earned, either 50% of the amount for “Mobilization, Bonds, Insurance, and Demobilization” or 5% of the original Contract amount, whichever is least.
2. When 10% of the Contract is earned, either 100 percent of “Mobilization, Bonds, Insurance, and Demobilization” or 10% of the original Contract amount, whichever is the least.
3. When all work is completed, amount of “Mobilization, Bonds, Insurance, and Demobilization” exceeding 10% of the original Contract amount.

This schedule of “Mobilization, Bonds, Insurance, and Demobilization” progress payments will not limit or preclude progress payments otherwise provided by the Contract. Payment shall represent full compensation for all mobilization costs including, but not limited to, mobilization, bonds, insurance, and demobilization.

1.2 Temporary Work Zone Traffic Control

Measurement for Temporary Work Zone Traffic Control shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Temporary Work Zone Traffic Control, Complete”, and shall be made on a lump sum basis and include all work to meet requirements of these Contract Documents.

Payment for furnishing and installing temporary work zone traffic control will be made as percentage complete of contract per construction phase and shall include full compensation for furnishing, installing, moving, operating, maintaining, inspecting, and removing traffic control devices throughout the project area according to the standard drawings, the traffic control plan (TCP) for the Project or as directed, and includes all labor, materials, tools, equipment, incidentals, and for performing all work involved in preparing and submitting traffic control plans, providing, placing, maintaining, and removal of traffic control signs and safety equipment, providing, placing, maintaining, and removal of temporary routing of sidewalks impacted by the Work, temporary relocation of existing regulatory signs, changeable message boards, project and public notification signs, flagging, transportation of flaggers and equipment, coordination efforts, and any other items necessary for vehicle and pedestrian traffic control per the Manual on Uniform Traffic Control Devices, and as specified in these Contract Documents, and no additional allowance will be made.

1.3 Erosion and Sedimentation Control

Site erosion and sediment control shall be paid for at the Contract lump sum amount for the item “Erosion and Sediment Control, Complete”, which price shall include full compensation for all labor, equipment, materials, planning, developing, revising and documenting, monitoring activities to maintain effective functioning, furnishing, stockpiling, protecting, restocking, and removing materials, preparing site for a period of extended non-activity, inspecting, maintaining, and removing erosion control devices, restoring, mulching, tacking, and seeding all disturbed ground, work, and storage areas not otherwise covered, and all other construction site erosion and sedimentation control measures in accordance with current requirements and regulations of the City of St. Helens, Columbia County, the Department of Environmental Quality, and any other government agencies with jurisdiction over the project.

The measurement for payment for Erosion and Sediment Control will be made as a percentage complete of the Contract per construction phase, as follows:

- 25% of the amount of the erosion and sediment control when the developed ESC plan and schedule are complete and accepted, and the initial erosion control devices are installed
- 25% when 50 percent of the Contract is complete
- 25% when 75 percent of the Contract is complete
- 25% at completion of the work covered by this section

1.4 New 24-inch Diameter Manhole

Measurement for 24-inch diameter manhole shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “24-inch Diameter Manhole to Replace Existing Cleanout”, and shall be on a per each basis, complete.

Payment for furnishing and installing 24-inch diameter manhole, shall be full compensation for all permits, labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work including, but not limited to, trench excavation, sheeting, shoring and backfill, manhole cover and frame, grade rings, inside drop connections, pipe connections, bench and channel, Class B bedding and backfill, temporary asphalt paving, compaction, surface restoration, and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.5 Replace 6-inch Diameter Sewer Cleanout

Measurement for replacing existing sanitary sewer cleanout with new shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Replace 6-inch Diameter Sewer Cleanout”, and shall be on a per each basis, complete.

Payment for furnishing and installing a new sanitary sewer cleanout to replace an existing cleanout shall be full compensation for all permits, labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work including, but not limited to, trench excavation, sheeting, shoring and backfill, removal of existing cleanout, installation of new cleanout, pipe plugs, pipe connections, Class B bedding and backfill, compaction, surface restoration, and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.6 Reconnect Sanitary Sewer Laterals

Measurement for sewer lateral connections of 4-inch and 6-inch diameter to rehabilitated sewer main plus up to 5 feet of new sewer lateral pipe shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Reconnect Sanitary Sewer Laterals”, and shall be on a per each basis, complete.

Payment for furnishing and installing sewer lateral connections of 4-inch and 6-inch diameter to sewer main plus up to 5 feet of new sewer lateral pipe shall be full compensation for all permits,

labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work including, but not limited to, locating the existing lateral, excavation to the existing sanitary sewer main at the location of the existing lateral connection, temporary connection of the new lateral to the sewer main prior to replacement or rehabilitation, installation of the appropriate sized-tee to the mainline, final connection of the new lateral to the new tee, installation of new service lateral pipe from the main to a location that is a horizontal distance of 5 feet from the centerline of the main, backfill and compaction of the excavation with granular backfill, handling of sewage during construction, surface restoration, and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.7 6-inch Diameter Class 52 Ductile Iron Pipe Installed by Open-Cut Pipe Replacement Method

Measurement for 6-inch diameter class 52 ductile iron pipe installed by open-cut pipe replacement method by replacing the 6-inch sewer by open excavation method with approved Ductile Iron pipe shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “6-inch diameter class 52 ductile iron pipe installed by open-cut pipe replacement method”, and shall be on a per linear foot basis for the total length of pipe installed. Measurement shall be made along the horizontal centerline of the pipe from the center of the upstream structure to the center of the downstream structure of the sewer segment.

Payment for 6-inch diameter class 52 ductile iron pipe installed by open-cut pipe replacement method shall be full compensation for all permits, submittals, labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work, including, but not limited to, protection of existing structures and utilities, coordination with sewage collection system customers, bypass pumping, connections to manholes, pipes, or other structures, pipe and fittings, saw cutting, excavation, sheeting, shoring, bracing and dewatering, backfill, compaction, trench excavation, removal of existing pipe, potholing, supporting existing utilities, Class B bedding and backfill, disposal of materials, complete surface restoration as required, and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.8 2 1/2"-0 Stabilized Base Course (Sheet S3)

Measurement for 2 1/2"-0 Stabilized Base Course (Sheet S3) shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “2 1/2"-0 Stabilized Base Course (Sheet S3)”, and shall be on a cubic yard basis.

Payment for 2 1/2"-0 Stabilized Base Course (Sheet S3) shall be full compensation for all permits, labor, tools, machinery, materials, transportation, equipment, incidentals, compaction, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and performing all work, including but not limited to, protection of existing structures and utilities, excavation to grade specified on plans, removal of unsuitable material.

1.9 Post Construction: CCTV of New or Rehabilitated Sewer Mains and As-Built Survey

Measurement for the post-construction digital closed circuit television (CCTV) inspection of new and rehabilitated sanitary sewer mains and as-built survey shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Post-Construction CCTV of New or Rehabilitated Sewer Mains and As-Built Survey” and shall be made on a lump sum basis.

Payment for post-construction digital closed circuit television (CCTV) inspection of new and rehabilitated sanitary sewer mains and as-built survey, shall be full compensation for all permits, labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work including, but not limited to, CCTV video recording of sewer main made from center of manhole/structure to center of manhole/structure, CCTV report and video on flash drive, and incidentals for doing all work involved in recording, redline drawings showing all field-level deviations from the plans, as-built conditions throughout construction, submission of as-built survey data and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.10 Remove and Replace Existing Wooden Deck

Measurement for the remove and replace existing wooden deck shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Remove and Replace Existing Wooden Deck”, and shall be on a on a lump sum basis.

Payment for the remove and replace existing wooden deck shall be full compensation for all permits, labor, tools, machinery, materials, transportation, equipment, incidentals, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section and for performing all work including, but not limited to, deck removal and reinstallation, and any required hardware, protection of the existing deck, repair of any damaged, corroded, or rotten portions of the deck, and all other incidental work, materials, and services of all kinds necessary to establish and meet the requirements of this section.

1.11 Geotextile Fabric

Measurement for installing temporary Geotextile Fabric shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Geotextile Fabric”, and shall be on a square yard basis. The area shall be the trench width specified in the plans.

Payment for Geotextile Fabric shall be full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals for performing all work necessary to place the Geotextile Fabric as defined in the Contract Documents. No separate payment or additional payment will be made for constructing laps, seams, joints or patches unless the Engineer orders additional amounts over the minimum. For laps wider than the minimum or specified width, payment will be made for the added lap width at the Contract unit price.

1.12 Rock Excavation

Measurement for payment for rock excavation shall be as stated in the Schedule of Bid Prices of the Contract Documents for this project under “Rock Excavation” and shall be made on a per cubic

yard basis complete at the unit price per cubic yard of rock excavated above and beyond the common excavation, as defined in these Contract Documents. The measurement limits for trench excavations shall be 6 inches below the pipe invert and the width shall be the nominal pipe diameter plus 6 inches on each side of the pipe not less than 2 feet total width. For structures, the measurements limits shall be the structure diameter. No payment will be made for rock excavation beyond these limits. No payment will be made for select backfill beyond these limits placed to fill voids left by removing rock.

Payment for rock excavation shall be full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals for performing all work necessary to perform rock excavation as defined in these Contract Documents including, but not limited to chipping, hammering, ripping, rock wheel and chain trenching, relief drilling, saw cutting, rock disposal, trucking and transporting rock, compaction, removal of isolated boulders and rock fragments.

SECTION 01700

PROJECT RECORD DRAWINGS

1.1 GENERAL REQUIREMENTS

Contractor shall maintain and keep up to date all times on site one set of drawings, specifications, shop drawings, equipment drawings and supplemental drawings which shall be corrected as the work progresses to show all changes made or different site conditions, including all addendum, Change Orders, job decisions, etc. Contractor shall make provisions to allow the Engineer to copy redline drawings during construction, as requested. Redline drawings shall be kept current with the work as it progresses and shall be subject to inspection by the Engineer at any time. Upon completion of the Contract and prior to final payment, redline drawings shall be submitted to the City's Project Manager. All changes shall be neatly and legibly drawn to scale on one set of current conformed plan drawings using standard engineering drafting practices. In general,

- Contractor shall not use Record Drawings for construction purposes.
- Contractor shall protect Record Drawings from deterioration and loss in a secure location and shall provide access to documents for the Engineer's reference during normal working hours.
- Contractor shall keep Record Drawings current, as they will be reviewed for completeness by the Engineer as condition for Final Acceptance.
- Contractor shall,
 - (1) Maintain a clean, undamaged set of Contract Drawings and Shop Drawings and mark the set to show the actual installation and where the installation varies substantially from the Work as originally shown.
 - (2) Legibly and to scale, mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the work.
 - (3) Mark new information that is important to the City but was not shown on Contract Drawings.

1.2 QUALIFIED REGISTERED SURVEYOR

All surveying required during the project will performed by a qualified surveyor registered in the State of Oregon employed by the Contractor. The name of the person or agency so employed shall be submitted to the Engineer with proof of registration for approval not later than 10 (ten) days after the Notice to Proceed.

1.3 REDLINE DRAWINGS AND PROJECT AS-BUILTS

Redline drawings and the as-built survey shall include, but not be limited to:

- any differences in alignment, structures, pipe sizes, and other pipes or structures discovered during the progress of the work
- Pipe sizes, lengths and materials
- Horizontal and vertical separation from existing and new utilities and drainage culverts/storm drain
- All changes in alignment
- All horizontal control points (e.g. centerline intersects, PC, PT)
- Recalculated Pipe slopes
- A complete list of all materials installed and abandoned must be shown. The specific size and material type of each pipeline installed must be shown at every construction reference to that pipe. Any changes to the record drawing must be reflected on the materials list.

Contractor shall submit as-built deliverables prior to final acceptance of the project. The as-built survey shall contain all horizontal and vertical as-built data in ASCII format, including a northing, easting, elevation and description of all work completed under this contract. The Contractor shall provide all labor and materials necessary for submission of the Record As-built survey and shall submit As-Built CAD files on a flash drive at the end of the project.

- Neatly redlined plan mark-ups from beginning to end of construction
- As-Built Survey CAD file in latest version of AutoCAD, .dwg file format
- As-Built Survey CAD file in PDF format
- Text file of as-built survey points in the point file format (P,N,E,Z,D). As-built survey points in the text file clearly shall designate each corresponding structure, plan sheet, stationing, and rim and invert elevations of all pipes entering or exiting the structure.

SECTION 01710

CONTRACT CLOSEOUT PROCEDURES

1.1 GENERAL REQUIREMENTS

This Section specifies administrative and procedural requirements for project closeout and final acceptance, including but not limited to final inspection procedures, submittal of warranties, redline drawings, as-built drawings, other regulatory inspections, removal of temporary facilities, final cleaning and demobilization.

1.2 FINAL CLEANUP

Contractor shall cleanup the project site(s), including landscaped areas, of rubbish, litter, and foreign substances. Temporary protection and facilities installed for protection of the work during construction shall be removed and the site repaired to equal or better condition. Waste materials shall be removed from the site and disposed of in a lawful manner.

1.3 PUNCH LIST INSPECTION

When the work is, in the opinion of the Engineer, complete in all respects, the Contractor shall call for a punch-list inspection. The Project Manager will schedule a walk-through inspection with the Contractor and other City representatives. The results of the inspection will form the basis of the final project punch list and shall be issued with Exhibit E, Certificate of Substantial Completion.

1.4 SUBSTANTIAL COMPLETION

Upon completion of the project walk-through inspection with the Contractor, the Project Manager shall issue Exhibit E, Certificate of Substantial Completion, with a copy of the punch list of items to be completed or corrected to the Contractor. Unless stated otherwise, all punch list corrections shall be completed by Contractor within 30 days of issuance of Substantial Completion. The City reserves the right to complete any outstanding punch list work remaining after the thirty-day period at Contractor's expense.

1.5 RESPONSIBILITY FOR DEFECTIVE WORK

A. Correction or Removal of Defective, Unacceptable or Unauthorized Work

- 1) When work fails to meet Contract requirements and is inadequate to serve the design purpose it will be considered defective. The Contractor shall correct or remove and replace the work at the Contractor's expense, as directed. All work which has been rejected or condemned shall be repaired, or if it cannot be repaired satisfactorily, it shall be removed and replaced at the Contractor's expense.
- 2) Defective materials shall be immediately removed from the site of the work. Work done without line and grade having been given, work done beyond the lines or not in conformity with the grades shown on the plans or as given, save as herein provided, work done without written authority and prior agreement in writing as to process, shall be done at the Contractor's risk and shall be considered unauthorized and at the option of the Engineer may not be measured and paid for and may be ordered removed at the Contractor's expense.

- 3) Upon failure of the Contractor to repair satisfactorily or to remove and replace, if so directed, rejected, unauthorized or condemned work or materials immediately after receiving notice from the City, the Engineer shall, after giving written notice to the Contractor, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and to deduct the cost thereof from any monies due or to become due the Contractor. Alternatively, the City may, at its option, declare the Contractor in default, in which event the performance bond surety shall complete the Contract.

B. Acceptance of Defective or Unauthorized Work.

When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance by a letter and may adjust the Contract Price.

1.6 FINAL INSPECTION

A final inspection of the project will be scheduled with the Contractor to verify all outstanding deficiencies have been corrected and all punch list items have been corrected prior to Final Acceptance.

1.7 CERTIFICATE OF COMPLIANCE

Once all corrective items have been addressed; the Contractor shall submit Exhibit F, Certificate of Completion of the Contract Documents.

1.8 RELEASE OF LIENS AND CLAIMS

Following the submission of the Certificate of Completion, the Contractor shall submit a signed, notarized copy of Exhibit G, Contractor's Release of Liens and Claims of the Contract Documents.

1.9 FINAL ACCEPTANCE

When the Work is complete, the Engineer will conduct a final review of the project for final acceptance and will verify that,

- the Work has been inspected for compliance with the Contract Documents.
- the Work has been completed in accordance with the Contract Documents and all known deficiencies have been addressed.
- all required shop drawings, catalog cuts, maintenance manuals, instruction manuals, test reports, samples, operational manuals, and all other submittals have been submitted and reviewed.
- all deliverables have been submitted and have been as accepted, including but not limited to redline construction drawings, as-built survey, inspection videos (if applicable), pre-construction and post-construction site documentation, etc.
- all tools, surplus materials, construction equipment, storage sheds, debris, waste, and temporary services have been removed from the job site.
- Job site has been cleaned of rubbish, litter, and other foreign substances, and all surface restoration has been completed.

If the Engineer's review reveals that the Work is complete and is in 100% compliance with all Contract Documents, the Contractor will be issued Exhibit H, Certificate of Final Completion.

1.10 FINAL PAYMENT AND RELEASE OF RETAINAGE

After receiving the Certificate of Final Completion, the Contractor shall submit a final application for payment in accordance with the provisions of the Contract. Final pay application shall identify total adjusted Contract Sum, previous payments and sum remaining due.

1.11 WARRANTY

The Work is guaranteed by the Contractor from the date of Final Acceptance by the City. The Contractor shall warranty all materials and equipment that it furnishes for a period of two (2) years from date of final acceptance (Exhibit H) of the work by the City. This warranty shall mean prompt attention to the correction and/or complete replacement of the faulty material or equipment. Per OSCC Section 00170.85, within ten calendar days of written notification of defect(s), the Contractor or the Contractor's surety shall vigorously and continuously correct and repair the defects and all related damage. If the Contractor fails within ten days to proceed to comply with the terms of this warranty, the owner may have the defects corrected. The Contractor and Contractor's surety shall be liable for all expense incurred. In case of an emergency where delay would cause serious loss or damage, repairs may be made without notice to the Contractor and the Contractor or Contractor's surety shall pay the cost.

The Contractor's performance bond shall remain in effect during the warranty period. If, within the warranty period, repairs or changes are required in connection with the work, the Contractor shall promptly, without expense to the City:

- Place in satisfactory condition all guaranteed work,
- Correct all damage to the site, equipment or contents which is the result of the use of materials, equipment or workmanship that are inferior, defective, or not in accordance with the terms of the contract; and,
- Correct any work, material, equipment, or contents of building, structure or site disturbed in fulfilling the guarantee.

Repairs, replacements, or changes made under the warranty requirements shall be warranted for the specified warranty period beginning on the date of the acceptance of the repairs, replacements, or changes. The expiration of the two-year warranty period shall not affect any other claims or remedy available to the City.

SECTION 2100

SITE SAFETY

1.1 SITE SAFETY AND ACCIDENT PREVENTION

The Contractor shall be solely and completely responsible for conditions of the job site, including the safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor's performance does not and is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the job site.

The Contractor shall comply with the safety standards provisions of applicable laws and building and construction codes. The Contractor shall always exercise every precaution for the prevention of accidents and protection of persons, including employees, and property. During the execution of the work the Contractor shall provide and maintain all guards, railing, lights, warnings, and other protective devices which are required by law or which are reasonably necessary for the protection of persons and property from injury or damage. In the event an unsafe act is observed the Contractor will be asked by the Project Manager to cease all work.

It is the Contractor's responsibility to follow and observe OR-OSHA guidelines and take all precautions necessary to complete the work. The Contractor shall always maintain on site a competent field supervisor in charge of the work. The field supervisor shall be approved in writing by the Engineer prior to commencement of work. Any change of supervision must also be approved in writing by the Engineer prior to the change. The field supervisor shall be responsible for the safety of all site workers and site conditions as well as ensuring that all work is conducted in conformance with these specifications and to the level of quality specified.

1.2 ACCESS

The Contractor shall not unreasonably restrict access to public facilities, commercial property, fire hydrants, residential property, and other areas where the public can be expected to be present, such as sidewalks and streets, without first obtaining approval of the Engineer. Driveways shall be closed only after obtaining specific permission from the property owner. The Contractor shall not obstruct or interfere with travel over any public street or sidewalk without approval of the Engineer.

1.3 PUBLIC TRANSIT

The Contractor shall not interfere with the normal operation of any public transit vehicles unless otherwise authorized.

1.4 WORK SITE

When working in public rights-of-way the Contractor shall adequately cover and barricade any open manholes, excavations, etc. to eliminate potential hazards to the public during construction. Employee vehicles of the Contractor and Subcontractor(s) shall be parked in accordance with local parking ordinances. The Contractor shall keep the project site safe in compliance with applicable law. Safety includes, but is not limited to:

- A. Providing an approved type of secured and adequate barricades or fences that are easily visible from a reasonable distance around open excavations

- B. Closing up or covering with steel plates all open excavations at the end of each Working Day in all street areas and other areas when it is reasonably required for public safety
- C. Marking all open work and obstructions by lights at night
- D. Installing and maintaining all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges, and facilities.
- E. Observing all safety instructions received from the Engineer, and following all laws and regulations concerning worker and public safety. In the event that the law requires greater safety obligations than that imposed by the Owner, the Contractor shall comply with the law.

1.5 NOISE CONTROL

Contractor shall employ noise-reducing construction practices to comply with local noise ordinances and shall identify feasible measures to that can be employed to reduce construction noise.

1.6 EMERGENCY

Emergency vehicles, including but not limited to police, fire, and ambulance units shall be provided access to the work site at all times.

1.7 CLEANLINESS

The Contractor shall, on a continuing basis, keep the surfaces of all public and private roadways, sidewalks, and other pathways free of dirt, mud, cold plane grindings, and other materials that the Contractor may place upon the road. The cost of performing such work shall be included in the Contractor's Bid and no additional payment will be made for performing this task.

1.8 PARKED VEHICLES

The Contractor shall make any necessary contacts to arrange for the removal of parked automobiles, vehicles, and other obstructions if they would interfere with the performance of the Contractor's work.

1.9 ACCIDENTS

The Contractor's designated competent field supervisor shall oversee accident prevention. Contractor shall take all actions necessary to prevent damage, injury and loss to persons and property as a result of accidents.

2.0 HEALTH AND SAFETY PLAN

Contractor shall develop, publish, and implement an overall Health and Safety Plan for the Project. This Plan shall conform to all applicable codes. The Plan shall be assembled to address project specific health and safety issues to both the public and on-site personnel. The plan shall include the following items when they apply:

- Employee orientation
- Safety inspections
- Instruction and training
- Accident reporting
- Signs and barricades
- Fire prevention and protection
- Welding, cutting and burning
- Painting and surface treatment
- Electricity
- Machinery and mechanized equipment
- Excavations
- Sanitation
- Hazardous communications program
- Chlorine Safety
- Hazardous Materials
- Job hazard analysis
- First aid/medical facilities
- Personal protective equipment
- Confined space entry plan
- Shoring plan
- Fall protection plan
- Emergency Action Plan
- Installing and maintaining all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges, and facilities
- Pedestrian safety.

If the project requires other health and safety issues to be addressed, they too shall be included in the Project Health and Safety Plan. The Plan shall subsequently be distributed to and implemented by the Contractor's personnel as well as its Subcontractors and Suppliers. Contractor shall fully implement and comply with the Safety Program.

Contractor shall notify the Engineer when safety meetings will be held so that City's personnel may attend. A copy of the approved Health and Safety Plan must be maintained on-site at all times during the life of the Project. The Contractor shall provide signs on work zone fencing that provide information regarding access to businesses whose access is compromised by the project and stating that such businesses are open and in operation, as applicable. The Contractor shall furnish and install the signs and provide sign attachments for the affected business names. Contractor's construction vehicles shall not exceed twenty (20) mph on City streets and will have flashers on at all times. If construction vehicles are used to transport equipment and/or material all equipment and material must be properly secured.

There will be no separate payment made for safety related expenses, and the costs thereof shall be considered incidental to construction.

SECTION 2200

TRAFFIC CONTROL AND PROTECTION

1.1 GENERAL REQUIREMENTS

This section specifies requirements for traffic control and protection for construction activities impacting designated construction sites. The section includes, but is not limited to contract ingress and egress at work site, construction activities within or adjacent to roadways or pedestrian walkways, temporary traffic control, and contractor parking.

Where required, the Contractor will prepare plans and implement traffic control system which provides:

- A. Safe pedestrian and vehicle travel through the site,
- B. ADA accessibility around site.
- C. Safety for workers,
- D. 10' wide minimum width for passenger vehicles,
- E. Adequate signage to protect pedestrians and vehicles from confusion

1.2 NOTIFICATION OF LANE OR ROAD CLOSURE

- A. The Contractor shall publish notification of lane or road closures in the Chronicle newspaper. The Chronicle newspaper is only published on Wednesdays.
- B. Notification must be submitted to The Chronicle via fax, 503-397-4093, or email, classified@thechronicleonline.com, by 5 pm the Friday prior to publication. Contractor must supply The Chronicle with contact name and number, billing address, and duration of notification publication.
- C. The Contractor shall notify residents and businesses within an affected section of road by door hanger of road closures stating the date(s) of closure, limits of street closure, hours of construction, and detours. The door hangers shall be delivered no later than 24 hours prior to a lane closure. Prior to dissemination the Engineer shall approve the door hanger and present a copy to the City Engineer. For planning, a road is considered closed if nonemergency vehicles are delayed or delays are expected to be more than 5 minutes.
- D. Contractor shall be responsible for informing the appropriate agencies operating within the area of the work of obstructions to either public or private roads caused by reason of Contractor's operations.
- E. The Contractor shall notify the following agencies of lane or street closures:

Agency	Address	Phone Number
Emergency Services (911)	McNulty Way	503.397.7255
Durham School Services	540 Milton Way	503.397.9072
Fire Department	270 Columbia Blvd.	503.397.2990

Police Department	150 S. 13th St	503.397.3333
Columbia County Sheriff	901 Port Avenue	503.366.4611
Oregon State Police	35851 Industrial Way, Suite A	503.397.0325
St. Helens School District	474 N. 16th St	503.397.3085
Columbia County Education Service District	800 Port Avenue	503.397-0028 / 503.366.4100
St. Helens Post Office	1571 Columbia Boulevard	503.397.2613
Hudson Garbage Service	2115 Gable Rd	503.397.1534 / 800.422.9998
Columbia County Rider	1155 Deer Island Rd	503.366.8503 / 503.366.0159

All agencies listed, and any other potentially affected businesses or agencies, must be contacted at least one full week before construction is to begin. Calling the agency or business is recommended but does not substitute for personal notification. Door hangers for residences in the vicinity are also required. Minimum elements to be included in the notification include, but are not limited to:

- * Map of construction area
- * Approximate start and completion dates
- * Hours of construction activities (8:00 am to 5:00 pm Mon-Fri if working in City limits)
- * Alternate traffic route, if applicable
- * Contractor's contact person's name and number

1.3 TRAFFIC CONTROL SUBMITTAL

- A. Contractor shall submit a traffic control plan (TCP) for approval by the Engineer prior to construction. The TCP shall be maintained in accordance with section 220 and 225 of the Oregon Standard Specifications for Construction and the latest version of MUTCD.
- B. The TCP shall be submitted to the Project Manager for approval not later than ten (10) days after the issuance of the Notice to Proceed and prior to the start of any construction. Upon request, the Contractor will be provided with base maps of the project area for the traffic control plan.

1.4 TRAFFIC CONTROL

- A. The Contractor shall maintain traffic control and protection in the work areas twenty-four (24) hours per day. The Contractor shall conduct its operations to keep one lane of traffic open for public and private access at all times on City, County, State, and Federal streets, roads and highways. Permits obtained for the project may have more stringent requirements than noted in this section. The Contractor is to notify all emergency services of any lane closures or temporary traffic control measures. No road shall be closed without prior approval by the City Engineer.
- B. Emergency vehicle, pedestrian and vehicle access shall be available to all homes in the project area. All streets shall be restored to allow normal traffic during non-working hours
- C. No traffic lanes may be closed before 8:00 a.m. or after 4:00 p.m. without written City permission from the City Engineer, except as shown on the plans.
- D. Detours as required by the Engineer shall be surfaced with gravel or crushed rock and maintained in good condition. Detours for pedestrians shall not exceed one block in length, and foot bridges over the trenches shall be provided with adequate handrails. Work shall be carried on with due regard for safety to the public.

- E. Open trenches shall be provided with barricades of a type that can be seen at a reasonable distance, and at night they shall be distinctly indicated by adequately placed lights. Open trenches shall be backfilled or plated when the Contractor is not actively working.
- F. The full width of the traveled way shall be open for use by public traffic on Saturday, Sundays and designated legal holiday(s), after 4:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress, unless work has specifically been authorized by the Engineer.
- G. The location of traffic control devices shall be checked by the Contractor especially at the beginning of the work period and periodically throughout the workday, to ensure that the devices are properly placed and maintained
- H. At a minimum, Traffic Control Plan shall:
 - Show location and limits of the work zone
 - Give dimensions of lanes affected by traffic control that will be open to traffic
 - Indicate signing, cone placement, barricades, and other methods of delineation
 - Dimension location of signs and cone tapers
 - Identify side streets and driveways affected by construction and show how they will be handled
 - Show how pedestrian and bicycle traffic will be accommodated through the construction site
 - Demonstrate how two-way traffic will be maintained

1.5 CONTRACTOR PARKING

Personal vehicles of the Contractor's employees shall not be parked on the paved shoulders or the traveled way, including any section closed to public traffic. Contractor will secure private parking at his own expense, and will not park on the public streets

1.6 MINIMIZE TRAFFIC DISRUPTION

The Contractor shall conduct his operations to cause the minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units, and residences adjacent to the work. The Contractor shall not park construction vehicles contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and the Contractor shall maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

- A. To minimize disruption to public traffic, the Contractor shall:
 - Permit local traffic to pass through the work with the least possible inconvenience or delay.
 - Maintain existing driveways, commercial and residential, within the vicinity of the work area, keeping them open and in good, safe condition at all times.

- Remove or repair any condition resulting from the work that might impede traffic or create a hazard.
 - Keep existing traffic signs, signals, and roadway lighting systems in operation throughout the construction work.
- B. The Contractor shall conduct all operations with the least possible obstruction and inconvenience to the public. The Contractor shall have under construction no greater length or amount of work than can be completed within a workday with due regards to the rights of the public
- C. Work shall be accomplished in such a manner as to provide access to all intersecting streets and adjacent properties whenever possible. If access to any property cannot be provided, then adequate nearby parking shall be provided and maintained until direct access can again be restored. If during the course of the work, it is necessary to restrict access to certain driveways for an extended period of time, the Contractor shall notify the affected residents, in writing, at least forty-eight (48) hours in advance
- D. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect life, health, and safety of the public, and to protect property in connection with the performance of the work covered by the contract. The Contractor shall perform any measures or actions the City or the Engineer may deem necessary to protect the public and property

SECTION 02210

EROSION AND SEDIMENTATION CONTROL

1.1 GENERAL REQUIREMENTS

The Contractor shall prepare and implement an erosion control plan, as required, to mitigate surface disturbance caused by construction activities for the work in accordance with Washington County Clean Water Services "Erosion Prevention and Sediment Control Planning and Design Manual", which is hereby made part of these specifications for Erosion Control.

The Erosion and Sediment Control Plan shall be submitted to the Engineer for approval prior to implementation. Erosion control measures shall be maintained throughout the project site until approved permanent cover such as a healthy stand of grass, other permanent vegetation, or other ground covering is established. When approved permanent ground cover is established, all temporary erosion control measures shall be removed from the construction site. Erosion control measures shall be installed as approved, per the above referenced document. It is the Contractor's responsibility to maintain a clean work zone to limit erosion and the release of sediments into stormwater collection systems and the tracking of materials beyond the active work limits. The Contractor shall be liable for any and all penalties, fines, damages, and restitution payments against the project by City, State, local environmental agencies, and the courts which result from failure to control erosion, water pollution, and stormwater runoff across or from the project site and shall indemnify and defend the City from and against all such claims. The Contractor shall be liable for citizen's claims of environmental damage and the City shall be held harmless from such claims.

The Contractor shall implement and maintain best management practices (BMPs) to avoid adverse effects on receiving water quality as a result of construction activities. Construction sites will be inspected by the City's Project Inspector before and after storm events and every 24 hours during extended storm events to identify maintenance requirements for the BMPs and to determine the effectiveness of BMPs that are being implemented. The Contractor shall modify BMPs as directed by the Engineer as necessary to avoid adverse effects on receiving water quality as a result of construction activities. The cost of preparing and maintain erosion and sedimentation control shall be incidental to the Contract unit bid prices. Erosion control.

1.2 EROSION AND SEDIMENTATION CONTROL MEASURES

The Contractor shall, at a minimum, implement the following Erosion and Sediment Control measures as required,

- A. Protect from erosion caused by concentrated runoff, falling rain, wind, and/or vehicular tracking, all earth and soft or broken rock areas that have been disturbed by construction operations such as during stripping or excavation
- B. Silt sacks in all catch basins in the work zone
- C. Sediment fence, as required, where sections of bare earth are exposed
- D. Gravel construction entrance according to Contract Documents
- E. Bio-filter bags at open culverts in the work zone

SECTION 02300

CONSTRUCTION SURVEY WORK

1.1 DESCRIPTION

This work consists of all surveying activities necessary to control the many phases of work required to construct the Project to the lines and grades as shown, specified, or established.

Contractor shall make all supporting computations and field notes required for control of the work and as necessary to establish the exact position, orientation, and elevation of the work from control stations, including furnishing and setting construction stakes and marks, reference marks, and additional control stations. Plans, specifications, and other data necessary to lay out the work will be available for inspection at the Project Manager's office.

1.2 CONSTRUCTION SURVEY, STAKES, LINES, AND GRADES

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. This work shall include locating or reestablishing project survey control, construction staking, including benchmarks, centerlines, and other measurements necessary for the proper execution of the project, and all surveying activities necessary to control the phases of work required to construct the project to the lines and grades as shown, specified, established, or required. The location or monumentation of any real property boundaries or easements required for construction shall be performed by or under the direct supervision of a Professional Land Surveyor registered in the State of Oregon. Prior to construction, Contractor shall check with Columbia County for private property corners and stakes, as necessary. Prior to construction, the field layout shall be approved by the Engineer.
- B. The City shall provide available engineering surveys as necessary to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.
- C. Existing control points in the area of the project are listed as follows:
 - Horizontal control: Alignment shall be as shown on the Contract Drawings using existing features for offsets and bends for control.
 - Vertical Control: Monument documentation is available from the City Engineering Department.
- D. The Contractor shall not disturb permanent survey monuments, stakes, lot stakes, bench marks, or other permanent survey monumentation. The Contractor shall restore all such disturbed monumentation and bear the expense of replacing any that are disturbed. In the case of destruction thereof by the Contractor or resulting from its negligence, the Contractor shall be charged with the expense and damage resulting therefore and shall be responsible for any mistakes

that may be caused by the unnecessary loss or disturbance of such benchmarks, reference points, private property corners, and stakes.

- E. Survey work layout shall be from reference points, right of way lines, easement lines or other reference points shown on the drawings.
- F. Staking of Right-of-Way: Where improvements appear to be within ten feet of a right of way line, the surveyor shall locate and stake such lines. The surveyor will locate sufficient representative survey monuments along the line to be staked so as to provide for reasonable accuracy for staking of the line. Stakes marking the right of way lines shall be so marked and set at the beginning and end of the construction corridor and at 100-foot stations in between. If sufficient monumentation is not found to allow for staking of the right of way lines to this level of accuracy, the Engineer shall be consulted for resolution. The Engineer may direct that property surveys be conducted in order to establish additional monumentation. Property surveys will be considered as extra work.
- G. Staking of Easements: The surveyor shall locate and stake both lines of the permanent easements within which any construction is being conducted. The surveyor will initially establish and stake an easement centerline within the easement. This centerline shall be established between existing manholes. The center of manholes will be established at the flow line in the pipe (not the manhole lid) and the centerline will then be established and staked to a reasonable level of accuracy. Stakes marking the easement centerline shall be so marked and set at each manhole at the beginning and end of the construction corridor and at 50-foot stations in between. From the established centerline of the easement, the permanent easement lines shall be staked. The stakes shall be set on each side lot line of each parcel and at 50-foot stations in between on each parcel.
- H. Staking of New Utilities: The surveyor shall stake all new utilities constructed by the open cut method. The surveyor shall set line and grade and transfer to offset stakes at a maximum of 25-foot stations. The Contractor shall establish line and grade for the pipe construction using a laser or by transferring the line and grade from the offset stakes to the trench at the intervals necessary to maintain line and grade. During construction, the Contractor shall check line and grade at 25-foot intervals or less if necessary. Variance from the established line and grade shall not be greater than 1/32-inch per inch of pipe diameter and shall not exceed 1/2-inch from line and 1/4-inch for grade, providing that such variation does not result in a level or reverse-sloping invert. Variation in the invert elevation between adjoining ends of pipe, including fittings, shall not exceed 1/64-inch per inch of pipe diameter, or 1/2-inch maximum
- I. Staking of Fences: The surveyor shall survey and record the location of all existing fences with respect to existing rights of way or easement lines or property corners or property lines. The surveyor will set offset stakes for all existing fences that will be partially or totally removed and replaced so that the fences can be reconstructed in the same location with reasonable accuracy.
- J. Staking of ADA Curb Ramps: Not used

1.3 FIELD CHANGES TO ALIGNMENT

Changes of alignment may be made during the course of work in order to avoid interference with unforeseen obstructions under the direction of the Engineer. The Contractor shall locate existing utilities to be crossed by potholing ahead of the pipe installation of sufficient distance to avoid conflicts through pipe joint deflection. All costs for minor field changes of alignment and grade shall be borne by the Contractor.

Minor changes are as defined in Section 01400.1.2 INTERPRETATION AND MINOR CHANGES of these Technical Specifications, and in the OSSC Section 140.30. The Engineer will endeavor to make prompt decisions on such matters. Contractor shall anticipate a minimum of 72 hours for any decision requiring significant piping change.

Construction staking work will consist of all surveying activities necessary to control the phases of work required to construct the project to the lines and grades as shown, specified, established, or required. The construction surveyor shall make all supporting computations and field notes required for control of the work and as necessary to establish the exact position, orientation, and elevation of the work from control stations, including furnishing and setting construction stakes and marks, reference marks, and additional control stations.

Based upon the information provided in the Contract Documents, the Contractor shall develop and make all detail surveys necessary for layout and construction, including exact component location, working points, lines and elevations. Prior to construction, the field layout shall be approved by the Engineer. Prior to construction, Contractor shall check with Columbia County for private property corners and stakes, as necessary.

1.4 PROTECTION OF SURVEY MONUMENTS

The Contractor shall not disturb permanent survey monuments, stakes, lot stakes, benchmarks, or other permanent survey monumentation. The Contractor shall check with Columbia County Surveyors Office for recorded property corners. The Contractor shall restore all such disturbed monumentation and the bear the expense of replacing any that are disturbed. In the case of destruction thereof by the Contractor or resulting from its negligence, the Contractor shall be charged with the expense and damage resulting therefore and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such benchmarks, reference points, private property corners, and stakes

The Contractor shall preserve construction survey stakes and markers for the duration of their usefulness during construction. If survey stakes are lost or disturbed by the Contractor's and need to be replaced, the Contractor shall restore the stakes or markers and shall bear the expense of performing that work.

At the completion of construction and upon approval of the Engineer, the Contractor shall remove from the construction site all construction and temporary stakes and markers.

1.5 POST CONSTRUCTION SURVEY

The Contractor shall provide the Engineer with post construction survey of all structures within the project, including structure locations, rim elevations and all invert elevations and directions of pipes in the structures, regardless of construction method. Post-construction survey shall be performed by an approved licensed surveyor.

Data Formats Provided by the Contractor shall be,

- AutoCAD Civil3D (.DWG) format
- Coordinate Data Points - ASCII Coordinate File format
- ASCII Coordinate File Format: Point ID Northing Easting Elevation Feature Description

Contractor shall remove and dispose of all flagging, lath, stakes, and other temporary staking material after the Project is completed.

SECTION 02310

SITE CLEARING

1.1 GENERAL REQUIREMENTS

Contractor shall determine extent of work requirements and limitations before proceeding with work. Site clearing includes all demolition, clearing and grubbing specified on plans or required for completion of the work. The Contractor shall perform work in accordance with recognized standard and efficient methods. Operators of equipment shall be conscientious and skilled. The Contractor shall avoid unnecessary injury to trees, shrubs, vines, plants, grasses, and other vegetation growing outside of the areas to be cleared and grubbed and those trees and shrubs designated to be preserved. Contractor shall protect existing site improvements, trees, and shrubs against cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of roots by stockpiling construction materials, excavated materials, excess foot or vehicular traffic and parking of vehicles within tree drip line. Provide temporary guards, as necessary, to protect trees and vegetation to be left standing. Repairable damage to trees designated to remain shall be made by a professional tree surgeon under the supervision of an arborist approved by the Engineer. Cost shall be borne by the Contractor.

1.2 DEFINITIONS

- A. **Clearing** consists of preserving trees and other vegetation designated to remain in place, salvaging marketable timber, when required by the Special Provisions, cutting and removing vegetation, such as weeds, grasses, crops, brush, and trees, and removing downed timber and other vegetative debris.
- B. **Grubbing** consists of removing brush stems remaining above the ground surface after the clearing work, removing tree stumps, roots and other vegetation found below ground surface, and removing partially buried natural objects.

1.3 OWNERSHIP OF EXISTING MATERIALS

All materials, equipment, items, and debris involved, occurring, or resulting from demolition, clearing, and grubbing work shall become the property of the Contractor at the place of origin except as otherwise indicated.

1.4 CLEARING AND GRUBBING

Contractor shall remove trees, saplings, snags, stumps, shrubs, brush, vines, grasses, weeds and other vegetative growth as needed within the work area zone except those trees and shrubs noted to remain or as directed by the Engineer for manhole access. Clearing shall be performed in such a manner as to remove all evidence of the presence of vegetative growth from the surface of the project site as required for construction and shall be inclusive of sticks, branches, grasses and weeds in accordance with Section 00320 of the OSSC, except as otherwise indicated.

- A. Limits of grubbing shall coincide with the limits of clearing,
 - 1) Remove all stumps, roots over one inch in diameter and matted roots within the limits of grubbing work to a depth of at least 6 inches below excavation subgrade or sloped surfaces.

- 2) The Contractor shall remain within the easement lines at all times. Except in areas to be excavated, all holes resulting from the clearing and grubbing operations shall be backfilled and compacted in accordance with the applicable sections of these Specifications.
- 3) Trim trees according to good tree surgery practices, as directed, and according to the following: do not leave unsound branches of trees in place, trim branches over roadways to provide at least 20 feet of clearance above the roadway, trim branches over sidewalks to provide at least 8 feet of clearance above the sidewalk, and trim branches obstructing sight distance at intersections or impairing visibility of signs.

1.5 PROTECTION OF TREES AND OTHER VEGETATION

Contractor shall provide protection for roots and limbs over 1-1/2-inch diameter cut during construction operations. Coat the cut faces with emulsified asphalt. Temporarily cover exposed roots with wet burlap to prevent roots from drying out, cover with earth as soon as possible. When it is necessary for the completion of the proposed work to cross private property or landscaped areas, the Contractor shall excavate the topsoil separately and pile it on the opposite side of the trench from the subsoil and shall conduct his work in manner that will restore original conditions as nearly as practicable. Emulsified asphalt formulated wound paint for use on damaged plant tissues, shall be approved by the Engineer prior to use.

- A. Do not place excavated material in a manner that would injure trees or shrubs
- B. All shrubs or plants shall be balled by experienced workers, carefully handled and watered, and replaced in their original positions without damage. Sod shall be handled in a similar manner. Wherever sod cannot be saved and restored, the ground must be reseeded and cared for until a stand of grass is reestablished. Plants or shrubs killed or destroyed must be paid for by the Contractor.
- C. Unless otherwise specified, any resulting voids shall be thoroughly checked for drainage and backfilled imported material compacted to the density of the adjacent soil.
- D. All costs incurred by the Contractor for site preparation shall be incidental to the unit prices of bid unless otherwise specified.

1.6 PROTECTION OF UTILITIES AND EXISTING IMPROVEMENTS

The Contractor must take all precautions and measures necessary to protect all existing structures, utilities, and work. Any damage to existing structures, utilities, and work shall be repaired by removing the damaged structure, utility, or work, replacing the work, and restoring to original condition satisfactory to the Engineer and at the Contractor's expense. Any work to repair damaged facilities must be coordinated with the Owner of said facility.

The Contractor shall have the responsibility to carefully preserve bench marks, reference points, private property corners, and stakes, and in the case of destruction thereof by the Contractor or resulting from its negligence, the Contractor shall be charged with the expense and damage resulting therefore and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points, private property corners, and stakes. Contractor shall maintain and preserve all City monuments, private property corners and stakes unless authorized to remove them. If such

monuments are removed by the Contractor, it shall be the Contractor's responsibility to have them replaced with the cost being solely the Contractor's responsibility.

1.7 INTERFERENCES, OBSTRUCTIONS, AND UTILITY CROSSINGS

At certain places, overhead and underground power, light, water, gas, storm drain, sanitary sewer, and communication facilities may interfere with excavation and the operation of the Contractor's equipment. Necessary arrangements shall be made with utility companies for moving or maintaining such poles and appurtenances. The utility company affected by any such interference shall be notified thereof so that the necessary moving or proper care of poles and appurtenances may have appropriate attention. All costs resulting from any other interference and obstructions, or the replacement of such, whether or not herein specifically mentioned, shall be included and absorbed in the unit prices of the Contractor's bid.

SECTION 02320

SITE SECURITY

1.1 GENERAL REQUIREMENTS

Contractor shall determine extent of work requirements and limitations before proceeding with work. Site security includes all fencing and protection of work, materials, and equipment.

1.2 PROTECTION AND MAINTENANCE OF WORK DURING CONSTRUCTION

The Contractor shall protect and maintain the Work during construction, and shall employ measures to prevent deterioration of roadways, structures, and utilities at Project Sites to keep them in good condition at all times during the prosecution of the Work. The Contractor shall continuously allocate sufficient equipment and workers to achieve such maintenance.

1.3 STORAGE AND PROTECTION OF MATERIALS AND EQUIPMENT

Materials and equipment stored overnight shall be placed neatly on the job site. Unusable materials (i.e. rejected or damaged pipe, pavement chunks, metal scraps, etc.) shall be expeditiously removed from the job site. In the event the Contractor uses a storage yard it is the responsibility of the Contractor to secure and maintain the storage yard.

Contractor shall provide appropriate barricades, signs, and traffic control devices where necessary to protect the public from any hazards associated with the storage of materials and equipment used for this project. No equipment or materials shall be stored outside the immediate work area on public rights-of-way such as in maintained landscaped or lawns area, in front of any business, and in any manner which would totally eliminate an individual residents' street parking. The "immediate work area" is defined as the area where work is taking place or will be taking place within one calendar day. The Contractor shall immediately move stored material or equipment which causes a nuisance or creates complaints. Job site security will be the responsibility of the Contractor. All materials and equipment must be secured to ensure that they will not be moved, tampered with, or taken during non-working hours. Contractor shall have visual barrier/screen around a storage yard and must be maintained throughout the project duration at no additional cost to the City.

1.4 EQUIPMENT AND MATERIAL STORAGE

Equipment and materials storage shall not be left on the street at night, weekends, or during non-working periods unless otherwise approved by the Project Manager. The Contractor is responsible for securing appropriate material and equipment storage rights or for removing equipment and materials on a daily basis. Materials and equipment stored overnight shall be placed neatly on the job site. Unusable materials (i.e. rejected or damaged materials, old concrete chunks, metal scraps, etc.) shall be expeditiously removed from the job site.

Provide appropriate barricades, signs, and traffic control devices in like-new condition where necessary to protect the public from any hazards associated with the storage of materials and equipment used for this project.

No equipment or materials shall be stored outside the immediate work area on public rights-of-way, in the following locations, or in the following manner:

- In any maintained landscaped or lawn area.
- In a manner that would totally eliminate an individual residents' street parking.
- In front of any business.

The “immediate work area” is the area where work is taking place or will be taking place within one calendar day. The Contractor shall immediately move stored material or equipment which causes a nuisance or creates complaints. Job site security will be the responsibility of the Contractor. All materials and equipment must be secured to ensure that they will not be moved, tampered with, or taken during non-working hours.

Equipment and material storage shall be incidental to the project and shall be included in the unit bid prices shown in the bid schedule for “Mobilization, Bonds, Insurance, and Demobilization”.

1.5 TEMPORARY UTILITIES FOR CONSTRUCTION PURPOSES

The Contractor shall make all arrangements necessary to provide all temporary utilities for construction purposes and shall pay all costs associated with those temporary utilities. Water for construction purposes will be furnished by the City at no cost. The Contractor shall furnish all valves, hoses, connections, and other devices as necessary to obtain sufficient water for construction and for filling and testing of utility lines as required. Fire hydrant use is allowed only by permission. Contractor will be required to obtain a hydrant meter from City, which requires a \$200 refundable deposit. Hydrant meters shall be used for all water draws. Backflow or air gap protection is required on all connections to potable water systems.

1.6 LIMITS OF WORK AND STORAGE OF SPOILS

The limits of the site which may be used for construction, storage, materials handling, parking of vehicles and other operations related to the project include the public rights-of-way subject to permission of the public owner of that right-of-way. The limits of work may also include the permanent easements on private property. Permanent easements are typically 15 feet wide, centered on the pipeline. Such easements may exist also when the pipeline lies less than 7 ½ feet from private property. The Contractor is to work within the limits of the permanent easements and public rights-of-way. Easement areas may generally be accessed from public rights-of-way; however, if the Contractor desires to access easements through private property it is the Contractor’s responsibility to coordinate such access with the affected property owner and to complete associated surface and landscape restoration to the satisfaction of the property owner. Prior to final payment, the Contractor shall obtain a signed release from the property owner confirming that the installation and site restoration work is satisfactory to the property owner. The Contractor shall ascertain to what extent the width, status and special conditions attached to easements may have on its operations, and all costs resulting there from shall be included and absorbed in the unit prices of the Contractor’s bid.

1.7 FENCES

The Contractor shall remove, protect, and reinstall existing fencing and gates only as necessary to complete the work. Any fence damaged or removed during construction shall be restored to original or better condition. Fence replacement shall be in kind and constructed to equal or better condition of that removed. Contractor shall adhere to fence removal limits as shown on plans. Replacement of damaged or defective hardware shall be incidental to the bid item.

Fencing in such poor condition that it cannot be taken down and rebuilt with the same material, in the opinion of the Engineer, shall be replaced with new fence. Contractor shall adhere to fence removal limits as shown on plans. Replacement of damaged or defective hardware shall be incidental to the bid item.

Refer to OSSC Section 01050 on Fences. For the installation of new fence in kind, the Contractor shall remove existing fence and install new fence and gates in kind. Contractor shall match physical characteristics of existing fence as directed by the City's Construction Inspector. Physical characteristics include but are not limited to material, height, color etc. of existing fence.

SECTION 02410

DEMOLITION AND DISPOSAL

1.1 GENERAL REQUIREMENTS

This specification section is for the demolition and proper disposal of project site debris, materials, equipment, and items found resulting from the work of demolition except as otherwise indicated. All existing improvements designated on the Plans or specified to be removed including but not limited to structures, pipelines, trees and other vegetation, walls, footings, foundations, slabs, pavements, curbs, ramps, sidewalks, fencing and similar structures occurring above, at, or below existing ground surface shall be included in the demolition work.

- A. All material resulting from demolition, clearing, and trimming operations shall be removed from the project site and disposed of in a lawful manner.
- B. No burning of debris or any other discarded material will be permitted.
- C. Materials placed on private property shall be by written permission only.
- D. Manhole frames and covers, and undamaged manhole cones shall be the property of the City.

1.2 CLEANUP

- A. During the time that the work is in progress, the Contractor shall maintain the site in a neat and orderly condition.
- B. All refuse, broken pipe, broken asphalt and concrete, excess material, cribbing and debris shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition, the City may cause the work to stop until the clean-up of the work has been done to the satisfaction of the City.
- C. The work will not be considered complete or the final completion certificate issued until all rubbish, unused material, or equipment has been removed and the premises left in a condition satisfactory to the City.

1.3 ASPHALT AND CONCRETE SURFACES REMOVAL

- A. Asphalt pavement and surfaces shall be removed within the limits of all construction as shown on Plans or directed by the Engineer prior to proceeding with Work. Pavement cuts shall be neat and straight to provide an un-fractured and level pavement joint for bonding existing surfacing with pavement replacement. Where large irregular surfaces are removed, such trimming or cutting as hereinafter provided shall be parallel with roadway centerline or at right angles to the same. All cut edges shall provide clean, solid vertical faces free from all loose material.
- B. Portland Cement Concrete Surfaces, including gutters, curbs, sidewalks, driveways, and ramps shall be saw cut to full depth prior to removal. Pavement that is to be removed shall be cut vertically with a power-driven friction saw prior to removal. The surface shall be scored to sufficient depth to provide uniform, straight break lines. All removal of pavement shall conform to local, County, State

or Federal requirements where applicable. Under no condition shall pavement be cut with a trenching machine, power shovel or backhoe.

- C. Pavement, driveway, or sidewalk material shall be separated from other excavated materials and shall not be placed in backfill but shall be satisfactorily disposed of by the Contractor. Base materials shall be subject to the review of the Engineer.
- D. Where work occurs in paved streets, temporary patching of asphalt will be required for the entire time between pavement removal and final repaving. Temporary asphalt patches shall be installed within 36-hours of pavement removal, unless otherwise indicated by the City or roadway jurisdictional agency.
- E. There shall be no separate payment for the removal of surfaces associated with trench excavation.

1.4 TREE AND STUMP REMOVAL

NOT USED.

1.5 DECHLORINATION AND DISPOSAL OF CHLORINATED WATER

Any discharge of chlorinated water shall either be through an approved connection to a public sanitary sewer system or shall include dechlorination to limits acceptable by the Oregon State Department of Environmental Quality (DEQ) for discharge into the existing storm drainage system. No chlorinated water shall be discharged into the storm drainage system prior to approved dechlorination treatment.

1.6 SALVAGE AND DEBRIS

Unless otherwise indicated on the drawings or in the specifications, all castings, pipe, equipment, demolition debris, spoils or any other discarded material or equipment shall become the property of the Contractor and shall be disposed of in a manner compliant with applicable Federal State and local laws and regulations governing disposal of such waste products. No burning of debris or any other discarded material will be permitted. All cast iron manhole and catch basin frames and covers, and undamaged manhole cones will be turned over to the City of St. Helens.

1.7 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

- A. Obstructions to construction such as pipes, tree roots, stumps, abandoned structures, concrete structures, logs, rubbish, and debris of all types shall be removed without additional compensation from the City. The Engineer may, if requested, make changes in location of proposed ramps to avoid major obstructions, if such changes can be made without adversely affecting the intended function of the facility or increased costs to the City.
- B. Where an abutting structure or a part of a structure is to be left in place, make cuts that protect remaining structures and allow for specified connections. When removing pavements, curbs, sidewalks and other similar structures, all cuts where an abutting structure is to be left in place shall be clean, smooth, vertical cuts made with a concrete saw or other approved cutting device to the lines as established. Vacuum the slurry from the saw cutting.

1.8 DISPOSAL OF MATERIALS

- A. Excavation required to perform removal of structures and obstructions will be considered Incidental to the removal work, unless it is within the measurement limits for an excavation Contract pay item.

SECTION 02700

SITE RESTORATION

1.1 GENERAL REQUIREMENTS

This section covers the work necessary to replace all pavements, pavement base, curbs, sidewalks, lawns, landscaping and other surface features damaged directly or indirectly during construction. All areas disturbed as a result of construction shall be restored to their original condition as nearly as possible or surfaced as shown on Plans. Replace all pavement in accordance with the minimum standards established by the City of St. Helens. Replace all sidewalk with base and surface materials conforming as closely as possible in thickness and quality to materials removed. All excess material shall be removed from the site. Any damaged concrete walks or driveways shall be restored. All dirt and debris that accumulates from the Contractor's operations shall be removed from manholes, pipelines, inlets, catch basins, and similar structures. Any material entering manholes or ditch culverts from work shall be removed. Daily cleanup of all visible mud and debris is required.

1.2 SITE RESTORATION AND CLEANUP

- A. The contractor shall keep the premises clean and orderly at all times during the work and leave the project free of rubbish or excess materials of any kind upon completion of the work. During construction, the contractor shall stockpile excavated materials to do the least damage to adjacent lawns, grassed areas, gardens, shrubbery, trees, or fences, regardless of the ownership of these areas. All excavated materials shall be removed from these areas, and these surfaces shall be left in a condition equivalent to their original condition and free from all rocks, gravel, boulders, or other foreign material. Stockpiling of construction materials shall not be allowed on existing sidewalks or the driving surface of existing streets.
- B. All existing storm systems shall be cleaned and flushed, and original drainage restored. Sediment, rock, and other debris shall be collected and disposed of in a proper manner. In no case shall debris be flushed down a storm or sanitary sewer for disposal. All damaged irrigation and house drainage pipe, drain tiles, sewer lateral, and culverts shall be repaired expeditiously.
- C. All areas disturbed by the contractor's operations inside dedicated rights-of-way or easements shall be restored to original condition. Areas outside of the easements or rights-of-way which are disturbed by the contractor's operations shall be graded and reseeded in a method acceptable to the property owner. The contractor shall obtain a written release from such property owners for any claims of injury or property damage prior to final acceptance of the work by the city.

1.3 STREET CLEANUP

- A. The contractor shall clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation. Cleaning shall be by grader and front-end loader, supplemented by power brushing, and hand labor, unless otherwise approved by the city. The contractor shall follow the city's control procedures.
- B. As soon as practical after completion of all paving and gravel shoulder resurfacing, the contractor shall remove all dirt, mud, rock, gravel, and other foreign material from the paved surface and storm drainage system.

1.3 DUST PREVENTION

During all phases of the work, the contractor shall take precautions to abate any dust nuisance by cleaning up, sweeping, sprinkling with water, or other means as necessary to accomplish results satisfactory to the city. Dust prevention measures shall be continuous until final acceptance by the city. Obtaining water from a hydrant will require specific authorization from the public works department.

1.4 PAVEMENT

The surface smoothness of the replaced pavement shall be such that when a 10- foot straightedge is laid longitudinally across the patched area between the edges of the old surfacing and surface of the new pavement, the new pavement shall not deviate from the straightedge more than 1/8 inch and surface drainage shall be maintained. Additionally, paving must conform to the grade and crown of the adjacent pavement and contain no abrupt edges, low or high areas or any other imperfections as determined by the Engineer. See also SECTION 07100 for Asphalt Paving.

Pavement trench construction not meeting these requirements will be repaired by grinding the existing pavement to a 1-1/2 inch depth and replacing with 1/2-inch dense graded, PG 64-22 Hot Mix Asphaltic Concrete (HMAC) the full width of the previous trench patch plus 4 inches on each side at no cost to the City. Level 2 ACP shall be used on residential and collector streets. Level 3 ACP shall be used on Arterial streets.

A. Aggregate Pavement Base

- 1) Base Course and Leveling Course: The aggregate material shall be a clean, well- graded crushed base aggregate conforming to the Standard Specifications. Base course shall be 1-1/2 inches minus aggregate and leveling course shall be 3/4-inch minus aggregate.
- 2) Place pavement base to the depth shown on the plans or as directed by the Engineer. In all cases, pavement base shall be compacted to a minimum depth of 6 inches. Bring the top of the pavement base to a smooth, even grade at a distance below finished grade equivalent to the required pavement depth.
- 3) Compact the pavement base with mechanical vibratory or impact tampers to a density of not less than 95 percent of the maximum density, as determined by AASHTO T-99

B. Aggregate Concrete Pavement

- 1) Hot Mix Asphalt Concrete
 - a. Contractor shall conform to the requirements for prime coat and tack coat in Standard Specifications. Tack coat all edges of existing pavement, manhole and clean out frames, inlet boxes and like items. When rate is not specified, asphalt will be applied at the rate of 0.1 gallon per square yard
 - b. Except as specifically modified herein, conform to the requirements for construction in Oregon Standard Construction Specifications. All trench cuts shall be kept in a smooth condition throughout the duration of the project
 - c. The limits of the restoration shall include all damaged or undermined surfacing. Provide a smooth tee cut by saw cutting the existing pavement parallel to the trench and beyond the sides of the trench excavation as shown on the plans. Remove any pavement which has

been damaged or which is broken and unsound outside this area by making alternating traverse and parallel saw cuts. Parallel cuts must be a minimum of 25 feet long, unless otherwise directed by Engineer. Provide a smooth, sound edge for joining the new pavement

- d. Place the asphalt concrete to the specified depth on the prepared subgrade over the trench. When depth is not specified, place asphalt concrete to the depth of the adjacent pavement, up to a maximum of 6 inches, at the direction of the Engineer. Minimum depth of pavement shall be 3 inches. When a prime coat is specified, place asphalt concrete after the prime coat has set. Maximum thickness for any one lift of pavement shall not exceed 3 inches. Spread and level the asphalt concrete with hand tools or by use of a mechanical spreader
- e. When the utility trench is placed closer than 3 feet inside the edge of existing pavement, the remaining pavement must be removed and replaced with the trench repair. When the trench is under the existing edge of pavement, additional pavement shall be removed to allow a three-foot minimum width of repair and to maintain the original street width
- f. Settlement of 1/4-inch or greater for asphalt concrete patches, occurring within one year of substantial completion, shall require repair or replacement as directed by the Engineer at the Contractor's expense

2) Cold Mix Asphalt Concrete

- a. Where pavement is to be replaced, a temporary cold asphalt patch shall be applied within 24 hours of trench backfill. Before replacement of the permanent pavement, the Contractor shall continuously maintain the trenches in a condition acceptable to the City and/or responsible roadway agency at no additional cost to the City.
- b. Use cold mix asphalt concrete and 1/2-inch-0-inch gradation with either MC 250 liquid asphalt, CMS-2, CMS-2S or CSS-1. C.

3) Asphalt Prime Coat Liquid asphalt for use as a prime coat under asphalt concrete shall be MC 250 liquid asphalt, CMS-2S or CSS-1

4) Seal and Cover Coat

- a. All joints and seams between new and existing asphalt shall be sanded and sealed at the time of paving. Application of sand and seal joints shall be uniform in width and no less than 3 inches in width
- b. Asphalt material shall be CRS-2 cationic emulsified asphalt. Cover stone shall conform to size 1/4-inch - #10 aggregate per Standard Specifications. Limits for seal and cover shall be no less than 3 inches total width and no less than 1.5 inches on either side of new and existing asphalt

C. Concrete Pavement

- 1) Replace concrete driveways, sidewalks and curbs to the same section, width, depth, line, and grade as that removed or damaged. Saw broken or jagged ends of existing concrete on a straight line and to a vertical plane. Place new concrete only on approved compacted trench.

- 2) Replace concrete driveways and sidewalks between scored joints and make replacement to prevent a patched appearance. Unless otherwise shown, provide a minimum 2-inch thick compacted leveling course of clean 3/4-inch minus crushed aggregate.
- 3) All replaced concrete driveways, sidewalks and curbs shall be constructed in accordance with the City of St. Helens Design Standards and Section 00440 Commercial Grade Concrete of the Oregon Standard Specifications for Construction.

1.5 RESTORING MOBILIZATION, BORROW, DISPOSAL, AND PLANTED AREAS

Clean all properties which were disturbed during construction of the project. Dispose of all uprooted stumps, felled trees, brush, excess excavation, rock, discarded materials, rubbish, and debris. Remove all plant, equipment, tools, and supplies and put the property occupied in a neat, clean, and orderly condition, in equal or better condition to that existing before move in. Hand rake and drag all former grassed and/or planted areas leaving disturbed areas free from rocks, gravel, clay, or any other foreign material and ready, in all respect, for seeding. The finished surface shall conform to the original surface, be free-draining and free from holes, rough spots, or other surface features detrimental to a seeded area

1.6 LAWNS AND LANDSCAPING

- A. Lawn and landscaping restoration shall include all work and materials required to restore fences, irrigation systems, lawns, shrubs, bushes, trees, gardens, hedges, bark dust, ornamental vegetation, flower beds, and landscaping structures such as raised beds, within the authorized work areas to original condition or better.
- B. Level subsoil. Place 12 inches of topsoil
- C. Removed landscaped material shall be replaced in-kind
- D. Yard areas shall be restored and replanted immediately upon completion of backfilling

1.7 ROCK SURFACING

Place rock surfacing only where shown on plans or directed on streets, driveways, parking areas, street shoulders, and other areas disturbed by the construction. Rock surfacing shall be 1 ½ inches – 0 inches, or ¾ inch – 0 inches crushed aggregate, as directed. Spread the rock surfacing to conform to adjacent existing grades and surfaces as directed. Compact as directed with mechanical vibratory or impact tamper.

1.8 UNPAVED SURFACES

All open fields, unpaved public rights-of-way or easements, and other areas not used as driveways, as shown on the Plans or as directed by the Engineer, shall be restored by placement of 12 inches of topsoil, fine grading and hydroseeding. Settlement of 2 inches or more within 1 year of substantial completion shall require repairs and re-seeding as directed by the Engineer and at the Contractor's expense. Restorations occurring on private property shall be seeded to match existing conditions as close as possible. Topsoil shall be imported from approved sources and shall be approved by the Engineer. The topsoil shall be a sandy loam free of subsoil, grass, noxious weeds, and any material deleterious to plant health.

1.9 SEEDING

Seed shall be certified, blue tag, clean, delivered in original, unopened packages bearing an analysis of the contents, guaranteed 95% pure and to have a minimum germination rate of 95% in one year. Conduct seeding operations under favorable weather conditions during seasons which are normal for such work generally from April 1 to June 1, and September 1 to November 1. Guarantee germination of erosion control seeding by November 1 at the latest. Seed all native plant species in fall only

Seeding operations shall occur in two applications. The first application shall include seed, fertilizer, and mulch. The second application shall consist of tackifier and mulch only and be applied immediately after the first seeding. A second application of fertilizer shall be made two months after initial seeding at the rate indicated below. Contractor is responsible for weed removal and re-seeding when the occurrence of weeds is deemed to be excessive by the City.

2.0 PAVEMENT STRIPING AND MARKING

The Contractor shall restore all permanent pavement striping and marking that is removed or damaged during the project construction.

The work shall include the removal of existing damaged markings where required, furnishing and installing thermoplastic and/or painted markings in accordance with the City's requirements and other incidental work as required to completely restore existing pavement striping and marking to the satisfaction of the City.

2.1 ROAD SHOULDER DRESSING

NOT USED.

2.2 FENCES

The Contractor shall remove, protect, and reinstall existing fencing and gates as necessary to complete the work. Any fence damaged or removed during construction shall be restored to original or better condition. Fence replacement shall be in kind and constructed to equal or better condition of that removed.

Replacement of damaged or defective hardware shall be incidental to the bid item. Fences in such poor condition that they cannot be taken down and rebuilt with the same material in the opinion of the Engineer shall be replaced with new fence. Refer to Oregon Standard Specifications for Construction Section 01050. A. Temporary Removal of Existing Fence.

For the installation of new fence in kind, the Contractor shall and match physical characteristics of existing fence as directed by the Project Inspector. Physical characteristics include but are not limited to material, height, color etc. of existing fence.

SECTION 03200

TRENCH EXCAVATION, BEDDING, & BACKFILL

1.1 GENERAL REQUIREMENTS

This section includes work for all necessary excavations in the performance of the Contract and shall conform to the City of St. Helens Standards and the most current version of the Oregon Standard Specifications for Construction except as modified herein. In the case of discrepancy, the more stringent provision shall apply. Work shall include, but is not limited to, excavation of ditches, trenches, embankments, and other earth-moving work, the use of sheeting, shoring, and sheet piling; all pumping and work necessary to keep trenches free from water; supporting and protecting structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings, public and private property adjacent to the work; removing of all sheeting and shoring not necessary to support the sides of excavations after completion of work; removing all surplus excavated material, and backfilling and grading of compacted backfill.

1.2 POTHOLING

Pothole Excavation - Pothole excavation is the removal and replacement of all materials via coring, vacuum extraction, or similar method. Prior to excavating, effort shall be made to determine whether underground installations; i.e., sewer, water, gas, electric lines, storm drain, cable TV, telephone, and fiber optics, will be encountered and, if so, where such underground installations are located. All known owners of underground facilities in the area concerned shall be advised of proposed work at least 48 hours prior to the start of actual excavation. Potholing for existing utilities shall be used to locate all potential subsurface conflicts in work area.

1.3 EXCAVATION CLASSIFICATIONS

Excavation shall be classified as Common Excavation, Rock Excavation, or Unsuitable Excavation.

- A. **Common or General Excavation** is defined as all excavation, regardless of the type, character, composition, or condition of the material encountered and shall further include all debris, junk, broken concrete, boulders which do not require drilling and blasting or other approved splitting and breaking methods, and all other material. All excavation shall be considered common excavation unless provided for otherwise elsewhere in these specifications.
- B. **Rock Excavation** is defined as the removal of solid rock in ledges, bedded deposits, or unstratified masses that by actual demonstration cannot, in the opinion of the Engineer, be reasonably loosened or ripped mechanically and requires removal by wedging, sledging, barring, breaking up with power operated tools, drilling or blasting.
- C. **Unsuitable Materials** are soils exposed at the bottom an excavation or obtained from the Contractor's excavations that are compressible, expansive, contain extraneous rubble, offer uneven foundation support, or have natural moisture content three percent (or greater) in excess of its optimum moisture content. Unsuitable materials include, but is not limited to mulch, peat, expansive clays, soils in a quick condition, rubble, portions of trees or similar vegetation, or wood.
 - 1) The Contractor shall notify the Engineer immediately when unsuitable material is encountered. The Engineer will investigate questionable material to determine its suitability. Should the Engineer require soils testing be performed to aid in his determination. Tests revealing suitable materials shall be paid for by the Contractor.

- 2) Where the Engineer determines that unsuitable material is present which will not provide adequate support of the work, the Contractor shall remove the unsuitable material as directed by the Engineer and replace the unsuitable material with select backfill up to the bottom of the specified grade.

1.4 LIMITS OF EXCAVATION

- A. All excavations shall conform to the lines, grades, and cross sections established by the Contract Documents.
- B. Excavation shall allow for forms, shoring, working space, gravel base, and finish topsoil where required. Do not excavate deeper than elevation shown without approval from the Engineer. Keep the excavation width to the minimum necessary to install the Work in a safe manner.
 - 1) Trench limits shall be,
 - Depth: From six inches below the bottom of the pipe to top of ground surface
 - Width: Outside diameter of the pipe plus twelve inches, not less than two feet total width
 - Length: Per linear foot of pipe installed. Length will be the horizontal distance measured along the centerline of the pipe
 - Excavation for manholes and other structures shall be wide enough to provide a minimum of 12 inches between the structure surface and the sides of the excavation and a depth 6 inches of below the bottom of the structure.
 - 2) Excavation for roadways, ramps, sidewalks, channels, ditches, etc. shall be to the cross sections, grades, and elevations shown on the Contract Drawings.

1.5 EXCAVATION

- A. The Contractor shall exercise sound construction practices in excavating, backfilling, and compacting so no damage will occur to any foundation structure, pole line, pipe, or other facility. If, as a result of excavation, there is a disturbance of ground that endangers other property, the Contractor shall immediately take remedial action at the Contractor's own expense. No act of the City or his representatives shall in any way affect liability of the Contractor for damages, expenses or costs that may result from trench excavation.
- B. The site of an open cut excavation shall be first cleared of all obstructions preparatory to excavation. Wherever paved or surfaced streets are cut for installing utilities, the Contractor shall use a standard T-Cut where pavement cut shall be full depth longitudinally and transversely, under the direction of the Project Construction Inspector. Pavement cuts shall be straight and clean and shall be either parallel or perpendicular with respect to the travel lane. No jagged, broken, or undermined edges will be allowed. Any cut or broken pavement shall be removed from site during excavation. Full depth cut is defined as the thickness of asphalt from top of asphalt to top of base aggregate.
- C. Excavated material shall be placed at locations and in such a manner that it does not create a hazard to pedestrian or vehicular traffic, nor interfere with the function of existing drainage facilities.

During wet weather conditions, stockpiles shall be removed or tarped throughout the construction process.

- D. Excavation for trenches in which pipelines are to be installed shall provide adequate space for workers to place and joint the pipe properly and safely, but in every case the trench shall be kept to a minimum width. The width of trench at the top of the pipe shall not exceed the limits specified in the Contract Drawings. Unless otherwise permitted by the Engineer, trenching operations shall not be performed beyond the distance which will be backfilled and compacted the same day
- E. Cut areas as shown on the Plans, including ditches within the cut sections, and excavations for entrances, approach roads, streets, intersections, sidewalks, ramps, gutters, ditches, berm ditches, and flumes.
- F. Topsoil to be salvaged within the limits of the work in accordance the Contract Documents.
- G. Where the Plans indicate the placement of a selected material below subgrade in excavation areas, excavate to the depth necessary to place the material to its specified compacted thickness.
- H. Where unstable material is encountered below subgrade in excavations, excavate such material below subgrade as directed. Dispose of unstable materials according to Section 00330.41(a)(5) of the OSSC.
- I. The removal and disposal of existing surfacing, sidewalks, curb, or curb and gutter, structures, etc., shall be in accordance with the Contract Documents and Section 02410 – DEMOLITION & DISPOSAL

1.6 ROCK EXCAVATION

Excavations greater than 3 feet in depth within the City limits may consist of mainly unweathered, solid basalt rock with greater than 40,000 psi compressive strength. The City has not performed any specific geotechnical survey of the project area and any geotechnical or preparatory work needed to submit a bid and/or complete the construction shall be considered incidental to construction and no additional payment shall be made. The Contractor is fully responsible for performing geotechnical investigations and the City shall incur no costs resulting from damaged equipment, construction delays, or additional work due to unknown underground conditions.

A. Rock Removal

If rock is encountered, payment shall be on a per Cubic Yard basis and shall be full compensation for all permits, labor, tools, materials, machinery, transportation, equipment, testing as required, and services of all kinds required and necessary to establish and meet the requirements of this section. For additional details, refer to specification section 01620 Measurement & Payment.

B. Measurement for determining rock quantities shall be based on the following dimensions:

- Depth: From six inches below the bottom of the pipe to top of rock surface, or from the bottom of the specified grade to the top of rock surface
- Width: The outside diameter of the pipe plus twelve inches, not less than two feet total width, or from the limits of the work

- Length: Per linear foot of pipe installed. Length will be the horizontal distance measured along the centerline of the pipe, or from the limits of the work
- Structures: Rock excavation for manholes, inlets, and other structures will be computed from the rock excavated to a depth 6 inches below the bottom of the structure and an area within a line parallel with, and 12 inches outside of, the actual dimensions of the manhole, inlet, or structure.

1.7 OVER-EXCAVATION AND SELECT BACKFILL

When there is excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials, the Contractor shall notify the Engineer for approval to remove the unsuitable material and exercise care to avoid excavations below established grade where firm earth conditions exist. Select aggregate fill shall be as designated in Section 2.0 BACKFILL in these specifications. Contractor shall bear costs where unauthorized excavations have been carried beyond points required for the work.

1.8 EXCAVATION PROTECTION

- A. The Contractor shall provide all materials, labor, and equipment necessary to adequately protect the work, existing property, utilities, pavement, etc., and to provide safe working conditions, in compliance with all OSHA requirements, including furnishing and installing adequate sheeting, shoring, and bracing to maintain safe working conditions, and to protect newly built work and all adjacent and neighboring structures from damage by settlement or other ground movement.
- B. The method of protection shall be according to the Contractor's design. The Contractor may elect to use a combination of shoring, over break, sliding trench shields, or other methods of accomplishing the work provided the method meets the approval of all applicable local, state, and federal safety codes. Damages resulting from improper shoring, improper removal of shoring, or from failure to shore shall be the sole responsibility of the Contractor.
- C. Trench Protection shall be installed and maintained, as required, for shielding, shoring, sheeting, bracing, and trench support systems, hereinafter called "shoring", to prevent caving and to protect adjacent structures, property, utilities, workers, and the public. Contractor shall remove shoring during backfilling in a manner that will not damage adjacent structures, property, utilities, or the pipe, permit voids in the backfill, or disturb the compacted pipe bedding material between the pipe and the undisturbed trench wall. Maintain design information for shoring onsite at all times. Make this information available for the Engineer's review upon request.
- D. Bracing shall be arranged so as not to place a strain on portions of completed work until the construction has proceeded far enough to provide ample strength. Sheeting and bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent and neighboring structures.
- E. The Contractor shall furnish, install, and leave in place, construction sheeting and bracing when specified or where indicated or shown on the Drawings. Any construction sheeting and bracing which the Contractor has placed to facilitate its work may be ordered in writing by the Engineer to be left in place. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating an obligation on its part to issue such orders.
- F. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue orders, and his failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon

the work occasioned by negligence or otherwise growing out of a failure on the part of the Contractor to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.

- G. Engineered Systems - Engineered Shoring is required for temporary earth support systems for excavations greater than 20 feet deep including bore pits, jacking pits, receiving pits, and shafts. Engineered Shoring is also required for areas subject to vibration, groundwater, utility crossings, or where required on the Drawings. Submit the following for each area where Engineered Shoring is required:

- 1) Detailed construction sequence descriptions. The sequence shall detail installation, excavation, maintenance, backfill, and removal requirements.
- 2) Design Calculations shall be prepared and sealed by a State of Oregon licensed Professional Engineer and include design criteria, analysis assumptions, construction sequence requirements, and detailed design for each system and structural element of the proposed shoring system.
- 3) Drawings shall be prepared and sealed by a State of Oregon licensed Professional Engineer. Drawings shall present an explicit representation of the character, extent, and details of the proposed shoring in relation to the project site. Working Drawings shall show the following:
 - a. Details, arrangement and method of assembly, method of disassembly of the proposed system and sequence of construction, and equipment used for installation
 - b. Method of pre-loading the bracing and pre-load values.
 - c. Full excavation depth.
 - d. Loads on the support system for various stages of excavation, bracing, and / or tieback installation and removal and concrete placement.
 - e. Expected equipment loads.
 - f. Maximum design load to be carried by the various members of the support system.
 - g. The depth below the main excavation to which the support system is to be installed.
 - h. Existing utilities and facilities: After checking locations by field investigation, revise drawings to show actual locations of facilities and excavation supports, interference with proposed work, and measures proposed to overcome such interference.
 - i. Allowable shoring deflections and proposed method of monitoring shoring movements.

1.9 DEWATERING

Furnish, install, and operate all necessary machinery, appliances, and equipment to keep excavations free from water during construction. Dewater and dispose of water so as not to cause injury to public or private property or to cause a nuisance or a menace to the public. The Contractor shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies and

shall have available at all times competent workmen for operation of pumping equipment. Control of ground water shall be such that softening of the bottom of excavations or visible water shall be prevented. Dewatering systems shall be designed and operated to prevent removal of natural soils. Static water level shall be drawn below bottom of excavation to maintain undisturbed state of natural soils and allow placement of backfill to required density. Dewatering system shall be installed and operated so that ground water level outside excavation is not reduced to extent that would damage or endanger adjacent structures or property. Unless otherwise shown, dewatering shall be considered incidental to construction.

2.0 BACKFILL

Backfill is defined as the furnishing, placing, and compacting of material for foundations, sidewalks, ramps, curbs, pavement, miscellaneous structures, or flatwork, and in the trenches above pipe zone up to bottom of the specified elevation, pavement base rock, ground surface, or surface material. No additional payment will be made for backfill material, unless specified otherwise, and it shall be considered incidental to construction.

- A. **Class A Material** shall be suitable native or common excavated material that, in the opinion of the Engineer, meets the characteristics required for the specific surface loading or other criteria of the backfill zone. Use approved native material excavated from within limits of the project, free from vegetation and other deleterious material, and containing no frozen ground. Maximum particle size shall be 3 inches. If the Engineer determines native material is not suitable, the Contractor shall use another class of backfill as directed.
- B. **Class B Material** shall be granular material consisting of gravel or crushed rock meeting the requirements of Section 00641 of the Oregon Standard Specifications for Construction. Designated size shall be 1"-0 or 3/4"-0. All gradations of crushed rock shall comply with Standard Specifications for Construction for Base Aggregates.
- C. **Class C Material**: NOT USED
- D. **Class D Material** shall be pit run or bar run material, well graded from coarse to fine. The maximum dimension shall be 3 inches. Material shall be free from organic material. Classification will be determined according to requirements of ASTM D 2487.
- E. **Class E Material** shall be Controlled Low Strength Material (CLSM). CLSM shall be composed of cement, pozzolans, fine aggregate, water, and admixtures. CLSM shall have a low cement content, be non-segregating, self-consolidating, free-flowing and excavatable material which will result in a hardened, dense, non-settling fill and a compressive strength of 100 psi to 200 psi at 28 days if not otherwise shown or specified.

Backfill located in the public right-of-way shall always be Class B. For pipe, structures located outside the public right-of-way, backfill shall be approved Class A (native) Backfill. All excavations under pavement or sidewalk must be backfilled with 3/4"-0 crushed rock. Native backfill material shall be selected from excavated native material free from roots or other organic material, trash, mud, muck, frozen material and large stones. When native excavated material is used for backfill around pipe, it shall be free of rocks, cobbles, stones or other debris having a dimension greater than 1-1/2 inches.

The Engineer may sample excavated material to determine the suitability of the Class A material for use as backfill. Contractor shall prevent excavated material from becoming saturated beyond the critical moisture limits and replace any saturated Class A material with Class B at no additional cost to the City. In general, backfilling shall begin as soon as the work is in approved condition to receive it and shall be carried to

completion as rapidly as possible. New trenching shall not be started when earlier trenches need backfilling, or the surfaces of streets or other areas need to be restored to a safe and proper condition.

2.1 PIPE BEDDING

- A. Pipe Bedding material shall consist of Class B material. The minimum depth of bedding placed before installing pipe shall be 6" or as directed by the Engineer. Bedding shall be Class B material both within the public right-of-way and outside the public right-of-way.
- B. Contractor shall spread the bedding smoothly to the proper grade so that the pipe is uniformly supported along the barrel. Excavate bell holes at each joint to permit proper assembly and inspection of the joint. Bedding under the pipe shall provide a firm, unyielding support along the entire pipe length.
- C. For all pipes located in the public right-of-way, bedding and pipe zone material shall be Class B, and backfill shall be Class B. For pipes located outside the public-right-of-way, bedding and pipe zone material shall be Class B, and backfill shall be Class A.
- D. Bedding of pipes, trench excavation and backfill shall conform to applicable portions of Section 405 Trench Excavation, Bedding and Backfill of the OSSC and in accordance with the Contract Drawings with the following additions and modifications.
- E. No additional payment will be made for bedding or backfill material and it shall be considered incidental to construction.

2.2 PIPE ZONE

- A. Pipe Zone material shall consist of Class B material. Pipe zone material shall be placed to a minimum depth of 12" above the outside diameter of the pipe barrel for the full width of the trench. Pipe zone backfill shall be Class B material both within the public right-of-way and outside the public right-of-way.
- B. Pipe zone material shall be placed in a manner that equalizes pressure on the structure and minimizes stress. Contractor shall not allow sharp, heavy pieces of material to drop directly onto or contact the pipe and shall prevent pipe from movement both horizontally and vertically.
- C. As required under the haunches of pipe and in areas not accessible to mechanical tampers or to testing, compact with hand methods to ensure intimate contact between the backfill material and the pipe or structure.

2.3 COMPACTION

- A. Backfill trench above the pipe zone to the specified grade. Backfill shall be placed and compacted in lifts per the OSSC.
- B. In-place dry density of compacted material shall be at the percent of maximum dry density specified or shown at optimum moisture content determined on the basis of the latest addition of AASHTO T-99.

- C. In general, compact all trench backfill to a minimum of 95% of Standard Proctor maximum density in paved areas and in street rights-of-ways or 90% of Standard Proctor maximum density in other areas, or as specified, with mechanical vibrating or impact tampers.
- D. Condition backfill material to within 2% of optimum moisture content required for compaction, as determined by ASTM D 698 throughout each lift of the fill. Material which does not contain sufficient moisture to obtain proper compaction shall be wetted and thoroughly mixed as directed. Material containing an excess of moisture shall be dried by manipulation, aeration, drainage or other means before being compacted.
- E. When the backfilling is complete, finish the surface area, with aggregate base material or topsoil, as specified. In paved or graveled areas, maintain the surface of the trench backfill level with the existing grade with 3/4" - 0 or 1" - 0 aggregate material, or asphalt concrete if directed, until final pavement replacement is complete and accepted.

2.4 ROCK STABILIZATION

- A. Rock stabilization material shall consist of 2 1/2"-0 Stabilization Aggregate conforming to ODOT standard specification section 02630.
- B. Geotextile Fabric shall be in accordance with ODOT Standard Specifications Section 00350.

Section 02630 - Base Aggregate

Description

02630.00 Scope - This Section includes the requirements for Aggregates in Base.

Materials

02630.10 Dense-Graded Aggregate:

(a) Grading - Dense-graded base Aggregate shall be crushed Rock, including sand. Uniformly grade the Aggregates from coarse to fine. Sieve analysis shall be determined according to AASHTO T 27. The Aggregates shall conform to one of the grading requirements of Table 02630-1 as identified in the Special Provisions or indicated by the Pay Items in the Contract Schedule of Items.

Table 02630-1
Grading Requirements for Dense-Graded Aggregate
Separated Sizes

Sieve Size	2 1/2" - 0	2" - 0	1 1/2" - 0	1" - 0	3/4" - 0
Percent Passing (by Weight)					
3"	100				
2 1/2"	95 - 100	100			
2"	—	95 - 100	100		
1 1/2"	—	—	95 - 100	100	
1 1/4"	55 - 75	—	—	—	
1"	—	55 - 75	—	90 - 100	100
3/4"	—	—	55 - 75	—	90 - 100
1/2"	—	—	—	55 - 75	—
3/8"	—	—	—	—	55 - 75
1/4"	30 - 45	30 - 45	35 - 50	40 - 55	40 - 60
No. 4 ¹	—	—	—	—	—
No. 10	2	2	2	2	2

¹ Report percent passing sieve when no grading requirements are listed

² Of the fraction passing the 1/4 inch sieve, 40 percent to 60 percent shall pass the No. 10 sieve

(b) Fracture Of Rounded Rock - Fracture of rounded Rock shall be determined according to AASHTO T 335. Provide at least one fractured face based on the following percentage of particles retained on the 1/4 inch sieve for the designated size:

Minimum Percent of Fractured Particles (by Weight of Material)

Designated Size	Retained on 1/4 inch Sieve
1 1/2" - 0 and larger	50
Smaller than 1 1/2" - 0	70

(c) **Durability** - Dense-graded Aggregate shall meet the following durability requirements:

Test	Test Method	Requirements
Abrasion	AASHTO T 96	35.0% maximum
Degradation (coarse Aggregate)		
Passing No. 20 sieve	ODOT TM 208	30.0% maximum
Sediment Height	ODOT TM 208	3.0" maximum

(d) **Sand Equivalent** - Dense-graded Aggregate shall be tested according to AASHTO T 176, and shall have a sand equivalent of not less than 30.

02630.11 Open-Graded Aggregate:

(a) **Grading** - Open-graded Aggregate shall conform to the following grading requirements:

Table 02630-2
Aggregate Gradation for Open-Graded Aggregate

Sieve Size	Percent Passing (by Weight)
1"	100
3/4"	80 - 98
1/2"	60 - 85
3/8"	30 - 65
No. 10	5 - 20
No. 40	0 - 6
No. 100	0 - 3 (Dry Sieve)

(b) **Fracture of Rounded Rock** - Fracture of rounded Rock shall be determined according to AASHTO T 335. Open-graded Aggregate fracture requirements shall conform to the following:

Percentage of Fracture (by Weight)	
Material Retained on 3/4", 1/2", and 1/4" Sieves (two fractured faces)	90
Material Retained on No. 10 Sieve (one fractured face)	75

(c) **Durability** - Open-graded Aggregate shall meet the durability requirements of 02630.10(c).

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

Section 00350 - Geosynthetic Installation

Description

00350.00 Scope - This Work consists of furnishing and placing geosynthetics in drains, under embankments, for embankment reinforcement, under riprap, Buttresses, inlays, shear keys, over Roadbed Subgrades, and beneath Pavement overlays as shown or directed.

00350.01 Definitions - Terms not defined in this Subsection may be found in ASTM D123 and ASTM D4439. If there is a conflict, definitions in this Subsection take precedence.

Cross-Machine Direction - The direction in the plane of the fabric perpendicular to the direction of manufacture.

Drainage Geotextile - For installation as a filter in subsurface drains or other drainage locations.

Embankment Geotextile - For installation as a reinforcement within embankments and/or as a separator under embankments.

Geosynthetics - A planar product manufactured from polymeric material used with Soil, Rock, earth or other geotechnical, engineering related material as an integral part of a man-made product, Structure or system.

Geogrid - A geosynthetic used for reinforcement which is formed by a regular network of tensile elements with apertures of sufficient size to allow strike-through of surrounding Soil, Rock or other geotechnical material.

Geotextile - A permeable geosynthetic comprised solely of textiles.

- **Nonwoven Geotextile** - A textile produced by bonding and/or interlocking of fibers by mechanical, heat or chemical means.
- **Woven Geotextile** - A textile comprising of two or more sets of filaments or yarns interlaced in such a way that they result in a uniform pattern.

Machine Direction - The direction in the plane of the fabric parallel to the direction of manufacture.

Pavement Overlay Geotextile - For installation as a reinforcement beneath an asphalt concrete overlay.

Riprap Geotextile - For installation as a filter and/or separator behind or beneath riprap, Buttresses, inlays, shear keys and/or erosion control applications.

Roll - Unit of continuous geosynthetic without transverse seams as furnished by the manufacturer. Roll sizes may vary between manufacturers and types of geosynthetics.

Roll Values:

- **Average Roll Value** - The average roll value for each property is determined by testing a representative number of samples in a roll according to the test methods specified in Section 02320. An average of these tests becomes the average roll value for each roll tested.
- **Minimum Average Roll Value** - The minimum average roll value for each property is the mean of the average roll values for all rolls tested minus two standard deviations, all as determined by the manufacturer. The minimum average roll value for each property is determined by testing a

representative number of rolls in a production run according to ASTM D4354 sampling procedures and the test methods specified in Section 02320.

- **Minimum Value** - The minimum value is the specified value for each geosynthetic property that shall be met or exceeded by the manufacturer's minimum average roll value for the production run and, if sampled and tested by the Agency, by the average roll value for any roll.

Seam Allowance - The minimum distance from the edge of a geotextile to the stitch line nearest to that edge.

Seam Type - A designation relating to the essential characteristics of geotextile positioning and rows of stitching in a specified sewn seam as shown on the Plans.

Selvage - The finished edge of a geotextile parallel to the machine direction.

Stitch Type - A designation relating to the essential characteristics of the interlacing of sewn threads in a specified seam as shown on the Plans.

Subgrade Geotextile - For installation as a separator and/or reinforcement on Subgrades and in other material separation applications.

Ultraviolet Rays - Direct radiation from the sun during daylight hours, even on cloudy days.

Ultraviolet Stability - The ability of a geosynthetic to resist deterioration when exposed to UV radiation.

Materials

00350.10 Materials - Furnish Materials meeting the requirements of Section 02320.

Equipment

00350.20 Field Seam Stitching Equipment - Use field seam stitching Equipment that provides an acceptable lock-type stitch as recommended by the geotextile manufacturer and approved by the Engineer.

00350.21 Asphalt Distributor - Design, equip, maintain, and operate the asphalt distributor according to 00730.22.

Construction

00350.40 General - Provide geosynthetic as furnished by the manufacturer and protect against damage and deterioration. Prevent excessive mud, wet concrete, epoxy and like materials from coming in contact with the geosynthetic. Store all geosynthetics in a dry place and off the ground at all times according to ASTM D4873. Cover all geosynthetics with a dark protective covering when received. The geosynthetic will be rejected for use if the Engineer determines it has defects or deterioration, or has been damaged.

00350.41 Geotextile Installation Requirements:**(a) General:****(1) Placement:**

a. Surface Preparation - Prepare the surface receiving the geotextile to a smooth condition free of obstructions, depressions and debris unless otherwise directed. Do not drag the geotextile on the ground or mishandle in any way.

Loosely place the geotextile without wrinkles so placement of the overlying material will not tear the geotextile. Lap or sew the geotextile at the ends and sides of adjoining sheets as specified.

b. On Slopes - Place the geotextile with the machine direction oriented up-down the slope. Lap the upper sheets over the lower sheets. When the geotextile is placed on a Slope steeper than 6V:1H, securely anchor the laps to the ground surface with pins or stakes as necessary to prevent the slippage and tearing of the geotextile. Start placement of fill material on the geotextile at the toe of the slope and proceed upwards.

c. Where Exposed to Water - If geotextiles are placed under water or in areas where water will flow, the geotextile may be placed with the machine direction parallel to the direction of water flow instead of the placement direction specified in 00350.41(a)(1)(b). Overlap sheets so the upstream sheet is placed over the top of the downstream sheet. Adequately secure the geotextile to prevent slippage. As the geotextile is placed under water, place the backfill material on it to the required thickness. Do not place geotextile more than 50 feet ahead of the specified cover material.

(2) Overlaps - Minimum overlap requirements for geotextiles are:

Application	Minimum Overlap Requirements (Inch)
Drains	12
Embankment Stabilization	24
Pavement Overlays	*
Riprap and Rock Buttresses	24
Roadbed Subgrade Stabilization	24

* Use sufficient overlap to ensure closure, but not more than 6 inches.

If the Engineer determines the specified overlap is not sufficient, increase the overlap to provide adequate coverage or, if approved by the Engineer, sew the geotextile together in the field. If field-sewn, the provisions of 00350.20 and 00350.41(a)(3) apply.

(3) Field Seams:

a. General - When field-sewn seams are required, make them as follows:

Sew field seams with polymeric thread consisting of polypropylene, polyester or kevlar, and as resistant to deterioration as the geotextile being sewn. Use a color of thread that contrasts with the geotextile being sewn so the stitches are exposed for inspection when the geotextile is placed. Seams shall meet the testing requirements of 02320.11(b).

b. Stitch Requirements - Use two rows of lock-type stitching, Type 401, to make the seams, as shown. The two rows of stitching shall be 1/2 inch apart with a tolerance of plus or minus 1/4 inch and not cross except for restitching.

c. Minimum Seam Allowance - The minimum seam allowance (the minimum distance from the edge of geotextile to the nearest stitching) is:

Seam Type (See Plans)	Minimum Seam Allowance (Inch)
Flat or Prayer Seam, Type SSa-1	1 1/2
"J" Seam, Type SSn-1	1
Butterfly-folded Seam, Type SSd-1	1

d. Seam Type - Obtain the geotextile manufacturer's recommendation for the type of seam and stitch to be used. If the Contractor does not obtain and provide the foregoing technical information use a "J" seam with at least three stitches per 1 inch. The flat, or prayer, seam may be used for repair of damaged in-place geotextile.

(4) Protection of Geotextile - Protect the geotextile at all times from ultraviolet (UV) rays, contamination by surface runoff and construction activities.

Traffic or construction Equipment will not be allowed directly on the geotextile except as authorized in 00350.41(f)(5) or as directed.

During installation, cover the geotextile with specified cover material as soon as possible. Do not leave in uncovered condition for more than 5 days.

Place cover material on the geotextile in such a manner that the geotextile is not torn, punctured or shifted. Use a minimum 6-inch thick cover layer or twice the maximum Aggregate size, whichever is thicker. Do not end-dump cover material directly on geotextiles other than riprap geotextile.

Limit construction vehicles in size and weight so rutting in the initial layer above the geotextile is not more than 3 inches deep or half the layer thickness, whichever is lesser. Do not turn vehicles on the first layer.

(5) Repair of Geotextile - Repair or replace all torn, punctured or contaminated geotextiles during construction at no cost to the Agency. Repair by placing a patch of the specified geotextile over the affected area. Overlap the existing geotextile with the patch according to 00350.41(a)(1). Where geotextile seams are required to be sewn, repair any damaged sheet by sewing unless otherwise indicated on the Plans or Special Provisions, or as directed.

(b) Drainage Geotextile - When used in trenches for drains, place the geotextile in the trench as shown on the Plans to loosely conform to the shape of the trench with no wrinkles or folds.

(c) Embankment Geotextile - Construct embankment stabilization according to details shown on the Plans. Place the geotextile layers so the geotextile machine direction is transverse to the embankment centerline. Spread the geotextile so all slack and wrinkles are eliminated. Construct embankment in uniform layers according to Section 00330.

(d) Riprap Geotextile - Place geotextile behind and beneath riprap, Buttresses, inlays, shear keys and erosion control applications according to the details shown. Demonstrate to the satisfaction of the Engineer that the combination of the Rock-fill drop height and the thickness of any Aggregate cushion, when specified or required, is adequate to prevent puncturing or damaging the geotextile when placing the riprap or stone embankment material. If an Aggregate cushion is used, place according to 00350.41(a)(4). In addition, the following limits apply:

Size of Rock	Maximum Drop Height (Feet)	
	Onto Geotextile Material	Onto an Aggregate Cushion Blanket
Greater than 200 pounds	0	3
200 pounds or less	3	3

After placing the riprap, backfill all voids in the riprap face so the geotextile is completely covered and not visible.

(e) Subgrade Geotextile - For Roadbed Subgrade separation, prepare the Subgrade according to Section 00330.

Correct geotextile failures, as evidenced by Soil pumping or Roadbed distortion, by removing any covering material in the affected area and placing a geotextile patch on the exposed geotextile according to 00350.41(a)(5). Cover the patch with the specified cover material and compact before proceeding.

(f) Pavement Overlay Geotextile:

(1) General - Place geotextile and Pavement overlay in four basic steps:

- Surface preparation
- Sealant application
- Geotextile placement
- Overlay placement

(2) Weather Limitations - Do not place sealant and geotextile unless the weather limitations of 00745.40 are met, as appropriate, except the minimum air temperature shall be 50 °F for paving grade asphalt sealant placement and 60 °F for asphalt emulsion sealant placement.

(3) Surface Preparation - Prepare the Pavement surface on which the sealant is to be placed according to 00730.42 and the following:

- Clean and fill cracks exceeding 1/8 inch width with a bituminous crack filler from the QPL.
- Repair minor irregularities or depressions as directed.
- Allow crack filling material to cure before placing geotextile.
- Where the Pavement is severely cracked, rutted, deformed or otherwise distressed, place a Leveling Course as directed instead of extensive surface preparation.

(4) Sealant Application - Use a normal paving grade asphalt. A cationic or anionic emulsion may be used as approved. Do not use cutbacks or emulsions that contain solvents.

Uniformly spray the asphalt sealant at normal application temperature by means of a pressure distributor conforming to 00350.21 on the prepared dry Pavement surface. Apply at the rate of 0.20 - 0.30 gallon per square yard, or as recommended by the geotextile manufacturer or as directed.

If using emulsions, increase the application rate 50 percent or as directed. Some underlying surfaces may require a higher application rate. Within street intersections, on steep grades or in other zones where vehicle speed changes are commonplace, reduce the normal application rate by 20 percent or as directed.

The target width of the sealant application shall be the geotextile width plus 6 inches. Apply the sealant only as far in advance of the geotextile installation as appropriate to ensure a tacky surface at the time of geotextile placement. Place the geotextile the same Day as the sealant. Do not allow traffic on the sealant. Clean excess asphalt from the road surface.

(5) Geotextile Placement - Place the geotextile into the sealant using mechanical or manual laydown Equipment capable of providing a smooth installation with a minimum amount of wrinkling or folding from the water (break) before placing the geotextile.

Slit wrinkles or folds exceeding 1 inch and lay flat. Shingle-lap not more than 6 inches in the direction of the paving. Broom and/or pneumatic roll to maximize geotextile contact with the Pavement surface. Additional hand-placed sealant material may be required at laps as determined.

Limit traffic to necessary construction Equipment and emergency vehicles on the geotextile before and during paving unless otherwise directed. Turn the paver and other vehicles gradually. Keep turning to a minimum to avoid geotextile movement and damage. Avoid abrupt starts and stops.

(6) Overlay Placement - Place the overlay the same Day the geotextile is placed. Remove sealant that bleeds through the geotextile. Do not windrow asphalt concrete material on the geotextile ahead of the paving machine. Do not use an asphalt concrete material pickup machine.

00350.42 Subgrade Reinforcement Geogrid Installation Requirements:

(a) Placement - Prepare the surface receiving geogrid to a smooth condition to the depth shown and as follows:

- Orient the geogrid rolls parallel to the roadway centerline.
- Unroll the geogrid in the same direction the cover material will be placed. If the geogrid shifts or becomes misaligned, realign it and anchor it according to the manufacturer's recommendations.

(b) Overlaps - Overlap the geogrid a minimum of 2 feet. Overlap the geogrid in the same direction the cover material is placed with the preceding layer lapped on top of the following layer.

(c) Protection of Geogrid - Drive rubber tired equipment on the geogrid at no more than 5 mph. Drive tracked equipment on the geogrid only after placing a minimum of 6 inches of cover material on top of the geogrid. Do not turn or make sudden stops or starts on the geogrid or cover material.

During installation cover the geogrid with cover material as soon as possible. Do not leave uncovered for more than 5 Calendar Days.

(d) Repair - Repair or replace damaged or torn geogrid according to manufacturer's recommendations at no cost to the Agency.

Measurement

00350.80 Measurement - The quantities of each geosynthetic installation will be measured on the area basis along the lines and grades of the surface area actually covered as shown or as required, except for drainage applications.

The quantities of drainage geotextile will be measured on the area basis, computed by multiplying the length of the trench where geotextile is used by the perimeter of the trench as determined from the Neat Lines shown, or as directed.

Payment

00350.90 Payment - The accepted quantities of geosynthetics will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Drainage Geotextile, Type ____	Square Yard
(b) Embankment Geotextile	Square Yard
(c) Riprap Geotextile, Type ____	Square Yard
(d) Subgrade Geotextile	Square Yard
(e) Pavement Overlay Geotextile	Square Yard
(f) Subgrade Reinforcement Geogrid	Square Yard

In items (a) and (c), the type of geotextile will be inserted in the blank.

Item (e) includes preparation Work, sealant, and geotextile.

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for constructing laps, seams, joints, or patches unless the Engineer orders additional amounts over the minimum. For laps wider than the minimum or specified width, payment will be made for the added lap width at the Contract unit price.

Section 05100

GRAVITY SEWER PIPE & APPURTENANCES

1.1 GENERAL REQUIREMENTS

This section specifies the work necessary for the construction, installation, and testing of gravity sanitary sewer pipe systems, including but not limited to sewer pipe, laying and jointing the pipe; installing tees, wyes, making service laterals connections and existing pipe connections, and other appurtenances; quality assurance and control; and acceptance testing. Sewer pipelines shall be constructed in conformance to the Contract Drawings and Detail Drawings. All sewer pipe system components shall be the product of one manufacturer and shall conform to the latest edition of applicable ASTM.

1.2 PRODUCTS

Materials and strength classifications shall be as specified for the particular kind of pipe and couplings required. Each section of pipe shall be clearly identified with the pipe strength, class, and date of manufacture. All material of a like kind shall be provided from a single manufacturer unless otherwise approved by the Engineer. Pipes shall be joined per manufacturer's recommendations. All fittings and couplings shall be of sufficient strength to withstand all handling and load stresses encountered. Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

A. Pipe

Contractor shall refer to Contract Drawings to determine specified pipe.

1) Polyvinyl Chloride (PVC) Non-pressure Gravity Sewer Pipe

- a) PVC pipe shall be ASTM D3034 SDR35 or SDR26, as specified. Pipe shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a cell class of 12364 or 12364 as identified in ASTM D1784.
- b) Gaskets shall conform to the requirements of ASTM F477
- c) Fitting joints shall be the same as the pipe joints and shall conform to the applicable portions of ASTM D 3034
- d) Pipe shall be homogeneous throughout and free from voids, cracks, inclusions and other defects.
- e) Pipe color shall be green.

2) Polyvinyl Chloride (PVC) Non-pressure Service Lateral Sewer Pipe

- a) Sanitary sewer service lateral pipe shall be ASTM D3034 SDR 35 PVC.

3) Ductile Iron Gravity Sewer Pipe

- a) Ductile iron pipe shall be "TYTON" type push-on joint, with ductile iron tees at lateral connections. The minimum thickness class shall be Class 52 (0.31 inches for 6-inch diameter pipe).

- b) Ductile Iron Pipe shall conform to ANSI A21.51.
- c) Pipe and fittings shall have interior cement mortar lined in conformance with ANSI A21.4 or polyethylene-lined and shall have an exterior bituminous coating conforming to the requirements of ANSI A21.10.
- d) Lining material for pipe and fitting shall be virgin polyethylene complying with ANSI/ASTM D1248-12, compounded with inert filler and with sufficient carbon black to resist ultraviolet rays during storage of the pipe and fittings. The polyethylene shall be bonded to the interior of the pipe or fitting by heat and shall be 40 mils nominal thickness. Minimum lining thickness shall be 30 mils.
- e) Pipe joints shall conform to ANSI A2.11 and shall be push-on type as manufactured by United States Pipe and Foundry Company for Tyton pipe or Approved Equal.

4) High Density Polyethylene (HDPE) Gravity Sewer Pipe

- a) For open-cut applications, pipe shall be a minimum DR26 or as specified on the plans, and shall have a smooth interior, smooth exterior.
- b) For trenchless applications, pipe shall have a minimum wall thickness of DR17 or as specified on the plans, and shall have a smooth interior, smooth exterior.
- c) Pipe shall be PE4710 pipe meeting the applicable requirements of ASTM D-3350 or Approved Equal.
- d) Pipe color shall be black.
- e) Pipe shall be joined per the pipe manufacturer's recommendations and shall be watertight according to the requirements of ASTM D3212
- f) Gaskets and Fittings shall be installed per pipe manufacturer's recommendations.

DR-11 and ASTM-F714, or Approved Equal

- 5) Pipes shall be furnished with an outside diameter conforming to ductile iron pipe sizes (DIPS) unless noted otherwise on plans.

B. Couplings

- 1) Flexible mechanical compression joint couplings shall be the Strong Back RC Series Repair Couplings with No. 305 stainless steel bands manufactured by Fernco Joint Sealer or Approved Equal. The diameter of the coupling shall be manufacturer-approved for use with the outside diameter of the pipe on which the coupling is installed.
- 2) Couplings for HDPE Pipe connections shall be by gasketed PVC coupling by Specified Fittings, Inc. or Approved Equal.

C. Saddle Tee (HDPE pipe)

- 1) Electrofusion Saddle or Approved Equal. Electrofusion saddles of the branch saddle type shall be manufactured of polyethylene pipe compound following ASTM D3350 and meeting the requirements of ASTM D1248, Class C. The saddles shall be suitable for fusion welding to HDPE pipe. The branch saddle outlet shall be a Schedule 40 bell end with a gasket and shall be suitable for connection directly to PVC DR 35 sewer pipe for the laterals. Saddles and saddle outlets shall be 6-inch diameter unless shown or specified otherwise.
- 2) Electrofusion saddles shall be as manufactured by ISCO Industries (Central Fusion Products) or Approved Equal.

D. Fittings

- 1) Fittings shall conform shall to the manufacturer's recommendations.
- 2) All fittings shall be of sufficient strength to withstand all handling and load stresses encountered. All fittings shall be of the same materials as the pipe. Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface.
- 3) Joints on all fittings shall be the same as the joints used on the pipe. Caps or plugs shall be furnished as required by the drawings or as otherwise specified.

1.3 DELIVERY, STORAGE, AND HANDLING OF MATERIALS

- A. Contractor shall unload, handle, and store materials in accordance with the manufacturer's recommendations. Pipe shall not be unloaded or stored in the public right-of-way or in easements unless it has been approved by the Engineer.
- B. It shall be Contractor's responsibility to inspect materials prior to lowering into the trench to ensure no cracked, broken, or otherwise defective materials are used. All material shall be carefully handled and installed in good working order free from defect in manufacture, storage, and handling. Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking of the pipe shall be limited to a height that will not cause cracking or deformation of the pipes under anticipated temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such widths as not to allow deformation of the pipe at the point of contact with the sleeper or between supports. The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects.
- C. Distribute material on the job from the cars, trucks, or storage yard no faster than can be used to good advantage. In general, distribute no more than one week's supply of material in advance of the laying.
- D. Provide and use proper implements, tools, and facilities for the safe and proper prosecution of the work. Lower all pipe, fittings, and appurtenances into the trench, piece by piece, by means of a crane, slings, or other suitable tools or equipment, in such a manner as to prevent damage or contamination to the pipeline materials and protective coatings and linings. Do not drop or dump pipeline materials into the trench.
- E. Fittings shall be of sufficient strength to withstand all handling and load stresses encountered. Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

1.4 GRAVITY SEWER PIPE INSTALLATION (OPEN-CUT)

- A. Contractor shall follow manufacturer's recommendations for minimum cover requirements for pipe. In general, when there is less than 36" of cover as measured from the top of pipe to finished grade elevation, ductile iron pipe shall be used. When there is greater than 36" of cover, flexible pipe (PVC or HDPE), as specified shall be used.
- B. Pipe laying shall proceed upgrade with spigot ends in the direction of flow. Joints will be assembled in accordance with the recommendations of the manufacturer of the type of joint used. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints.
- C. Contractor shall prevent excavated or other foreign material from getting into the pipe. Contractor shall plug or close off pipes which are stubbed off for future connection. When cutting and/or machining of the pipe is necessary, Contractor shall use only the tools and methods recommended by the pipe manufacturer.
- D. Provide uniform backfill material and uniformly compacted density throughout the length of the culvert so that equal pressure is provided. Before adding each new layer of loose backfill material, inspect the inside periphery of the structure for local or unequal deformation caused by improper construction methods. Evidence of such deformation will be reason for corrective measures as directed. Remove and replace pipe damaged by the Contractor at no additional cost to the Department.
- E. Unless otherwise authorized, lay pipes on the bedding from the outlet end and join the separate sections firmly together with outside laps of annular joints pointing upstream and longitudinal laps on the sides. If any metal in joints is not protected by galvanizing, coat it with a suitable asphalt paint. Lower sections of pipe into the trench without damaging the pipe or disturbing the bedding and the sides of the trench. Remove and re-lay, without extra compensation, pipe that is not in alignment or that shows excessive settlement after laying.
- F. Pipe shall be joined in conformance with the manufacturer's recommendations. The Contractor shall cut the pipe in a neat manner, at right angles to the axis of the pipe, and shall dress the cut end in conformance with the pipe manufacturer's recommendations.
- G. Joints shall be installed such that the connection of pipe sections will form a continuous line free from irregularities in the flow line. All joints shall produce a watertight seal as defined in AASHTO M294.
- H. Line and Grade: Variance from established line and grade shall not be greater than 1/32-inch per inch of pipe diameter and not to exceed 1/2-inch, provided that such variation does not result in a level or reverse sloping invert.
- I. Deflection at Joints: When deflecting the pipe from a straight line, either in the vertical or horizontal plane, or when long radius curves are shown, the amount of deflection allowed shall not exceed that recommended by the pipe manufacturer.
- J. Pipelines intended to be straight shall not deviate from the straight line at any joint in excess of the manufacturer's recommendations either horizontally or vertically.

- K. Maintain a minimum of 18 inches of vertical separation between sewer lines and watermains and storm drains. Where the 18-inch minimum vertical separation cannot be achieved, Contractor shall center the sewer pipe at the crossing, under the direction of the Engineer, and shall construct the crossing with ductile iron pipe, HDPE, or C-900 pipe with watertight joints. A 10-foot minimum horizontal separation shall be maintained between the sewer and the waterline.

1.5 CONNECTIONS AND TAPS

- A. Pipeline taps shall be core drilled unless approved otherwise by the City. Core-drilled holes shall be done using a cylinder-style hole saw for plastic pipe material or a diamond core bit for concrete and ductile iron pipes.
- B. Prior to installation of the saddle, the area around the saddle installation shall be clean and free of all rough edges. No rock, dirt, or debris shall be allowed to enter the main sewer line while installing saddle.

1.6 SERVICE LATERAL SEWERS

- A. Unless otherwise specified, service laterals shall be laid at a minimum slope of 1/4-inch per foot. In order to control alignment and grade, an approved laser device shall be required to be used by Contractor.
- B. Service laterals may not be connected to manholes unless approved by Engineer. When permitted, this type of connection shall be made so that the pipe joint is located not more than 1 foot from the manhole.
- C. Contractor shall disconnect existing service lines from sanitary sewer lines to be replaced or abandoned and reconnect them to the new sanitary sewer lines.
- D. Contractor shall install the service lateral on a uniform grade. The maximum deflection permissible with a fitting shall not exceed 22.5 degrees.
- E. The pipe shall be laid on a pipe base of four inches of $\frac{3}{4}$ "- 0 crushed rock. All plastic pipes shall have $\frac{3}{4}$ "- 0 rock placed six inches over the top of the pipe.

Section 05300
SEWER MANHOLES

1.1 GENERAL REQUIREMENTS

Work under this section applies to the work necessary for the construction of sanitary sewer pipe, fittings, and structures of the sizes and classes indicated, including but not limited to furnishing materials; laying and jointing the pipe; installing sewer tees, wyes and laterals; placing manholes, cleanouts and other appurtenances; quality assurance and control; and acceptance testing.

1.2 DELIVERY, STORAGE & HANDLING OF MATERIALS

Contractor shall unload, handle, and store materials in accordance with manufacturer's published recommendations. It shall be Contractor's responsibility to inspect materials prior to lowering into the trench to insure no cracked, broken, or otherwise defective materials are used. Unless otherwise noted, all pipe materials provided for the project shall be new, of first class quality and shall be made by reputable manufacturers. All material of a like kind shall be provided from a single manufacturer unless otherwise approved by the Engineer. All material shall be carefully handled and installed in good working order free from defect in manufacture, storage and handling.

1.3 MATERIALS

- A. Aggregate and Portland Cement: Aggregate and Portland cement shall meet the standards set forth in Section 756 of the Oregon Standard Specifications for Construction.
- B. Concrete: Concrete shall conform to the requirement of ASTM C94, Alternate 2. Compressive field strength for manhole bases and miscellaneous concrete structures shall be not less than 3,000 psi at 28 days. Maximum size of aggregate shall be one and one-half inches. Slump shall be between two and four inches.
- C. Pipe Stub Outs for Future Connections: Pipe stub outs for future connections shall be of the same type as approved for use in the lateral, main, or trunk lines. Rubber-gasketed watertight plugs shall be furnished with each stub out and shall be adequately braced against air test pressures.
- D. Manhole Steps: Manhole step material shall be plastic with reinforcing bar, a minimum one-half-inch Grade 60, meeting requirements of ASTM A615 encapsulated with injection-molded copolymer polypropylene with serrated surfaces.
- E. Manhole Pipe Connector: Rigid pipe entering or leaving a manhole shall use a flexible connector that is designed to produce a positive watertight connection.
- F. Precast Manholes
 - 1. Sanitary manholes shall be constructed in conformance to the Contract Drawings and Detail Drawings as well as conforming to applicable sections of the OSSC. All

manholes and components shall be the product of one manufacturer and shall conform to the latest edition of applicable ASTM

2. Materials shall conform to the requirements of ASTM C 478. Minimum wall thickness shall be five (5) inches. Cones shall have the same wall thickness and reinforcement as riser sections. Cones shall be eccentric in relation to the center of the manhole.
 3. Prior to delivery of precast manhole sections to the job site, yard permeability tests may be required at the point of manufacture. The precast sections to be tested will be selected at random from the stockpiled material which is to be supplied to the project. All test specimens will be mat tested, and shall meet the permeability test requirements of ASTM C 14.
 4. Precast manhole sections shall consist of circular sections in standard nominal inside diameters. Heights of sections shall be multiples of 12 inches. Heights of manhole sections 72 inches through 96 inches in diameter shall be as required to fit site conditions. Other sections shall be 24-inch riser and flattop sections.
 5. Flat tops with precast grooves reinforced to withstand AASHTO H20 loadings shall be provided for manholes four feet deep from the crown of the pipe and less. Top and bottom of all sections shall be parallel.
- G. Precast Manhole Bases shall comply with City of St Helens Standard Drawing 350
- H. Manhole Grade Rings: Concrete grade rings for extensions shall be a maximum of 6-in high and shall be Keylock joint.
- I. Manhole Extensions: The concrete rings used in extensions shall be three (3) inches in thickness and of standard construction. The rings shall be approved by Engineer before being installed. In general, manhole extensions will be used on all manholes in roads or streets or other locations where a subsequent change in existing grade is likely. At least one shall be used, but not more than three
- J. Manhole Frame and Covers
1. Shall be as specified in City Standard Detail No. 346, Manhole Cover & Frame Details.
 2. Manhole covers shall be designed so they may be secured to the frames. Matching surfaces of covers and frames shall be flat to prevent any movement of covers within the frames. Covers and frames shall be interchangeable.

3. All manhole frames and covers located on private property and outside of the right-of-way or easements, shall be tamper-proof, bolt-down type frame and cover.
 4. Manhole benches, channels, and beaver slides shall be constructed such that there is smooth flow through the manhole in accordance with applicable sections of OSSC.
 5. Frames and covers shall be stamped with manufacturer's initials, heat number, and point of origin.
- K. Metal Castings: Cast iron materials shall conform to the requirements of ASTM A48, Class 30B. The Contractor shall provide the manufacturer's certification warranting compliance with the referenced standard.
- L. Cap screws and washers for watertight manhole covers shall be stainless steel with 60,000 psi minimum tensile strength conforming to the requirements of ASTM A 453
- M. Fabricated Steel Frames and Grates: Welded frames and grates shall be fabricated of steel conforming to ASTM A7, A36 or A373 in accordance with the appropriate Standard Details.
- N. Mortar
1. Mortar when specified shall conform to the requirements of ASTM C 387, or be proportioned one part Portland cement to two parts clean, well-graded sand which will pass a 1/8-inch screen.
 2. Admixtures may be used not exceeding the following percentages by weight of cement: hydrated lime, 10 percent; diatomaceous earth or other inert materials, five (5) percent. The consistency of the mortar shall be such that it will readily adhere to the precast concrete if using the standard tongue-and-groove type joint. Mortar mixed for longer than 30 minutes shall not be used
- O. Non-Shrink Grout
1. Non-shrink shall be Avanti AV-100, or approved equal non-metallic cementitious commercial grout. All grout shall contain ConmicShield antimicrobial concrete additive, manufactured by ConShield Technologies, Inc. Grout shall not be amended with cement or sand and shall not be reconditioned with water after initial mixing. Unused grout shall be discarded after 20 minutes and shall not be used.
 2. Non-shrink grouts shall be placed or packed only with the use of an approved commercial concrete bonding agent applied to all cured concrete surfaces being grouted. The bonding agent shall be compatible with the brand of grout used. Water shall not be used as a substitute for the commercial bonding agent
- P. Rubber Manhole Gaskets materials shall conform to ASTM C 443

Q. Manhole Adapters for PVC Pipe:

1. PVC pipe shall be connected to manholes using an approved adapter specifically manufactured for the intended service. PVC pipe adapters shall be Fernco CMA, Kor-N-Seal, or approved equal commercial products. Field-fabricated waterstops or improvised adapters shall not be used.
2. Adapters requiring the use of grout for installation shall be anchored and finished using non-shrink grout.

1.4 INSTALLATION

A. Manhole Connections

1. Contractor shall construct openings in the existing manhole base or barrel as required and construct connections that are watertight and that will provide a smooth flow into and through the manhole.
2. All sewer pipe connections, including those at invert level as well as penetrations for drop connectors, conduits, and carry-throughs, shall conform to the requirements herein
3. Taps into existing manholes shall be core drilled unless approved otherwise by the city. All nonconcrete pipe material used on a manhole tap shall be adapted with a watertight coupling compatible with concrete or approved equal (e.g. inserted manhole boot). The bonding material used to connect the pipe and/or coupling to the manhole must be nonshrink material to ensure no ground water infiltration occurs.
4. Contractor shall provide all diversion facilities and perform all work necessary to maintain flow in existing lines during the connection to the manhole. The contractor shall allow no debris to enter the existing system while making the connection.
5. All rigid non-reinforced pipe entering or leaving manholes shall be provided with a flexible joint within 1-foot of the outside wall of the manhole structure and shall be placed on firmly compacted bedding.
6. Pipe connections to manholes, including laterals, are considered incidental to the cost of the manhole.

- B. Precast manhole components may be used to construct standard, drop, and carry-through manholes. Manholes less than 6 feet in depth measured from the invert of the outlet pipe to the bottom of the lower riser ring shall be flat-top manholes

C. Manhole Bases

1. If bases are cast in place, the concrete shall be consolidated by mechanical vibration. The concrete shall be screeded off in such a manner such that the first manhole section to be placed has a level uniform bearing for the full circumference. The contractor shall remove water from the excavated area, provide 12 inches minimum layer of compacted three-fourths minus crushed rock for a base, and construct the concrete base so that the first precast manhole section has a uniform bearing throughout the full circumference. There shall be a minimum of eight inches of concrete between the compacted gravel and the lowest invert of the manhole. The contractor shall deposit sufficient concrete on the base to assure a watertight seal between base and manhole wall. Twenty-four hours shall be allowed to elapse before placing the remaining sections on the base.
2. Precast bases shall be constructed in accordance with City of St Helens Standard Drawing 360. If bases are precast, the base section shall be carefully placed on the prepared bedding so as to be fully and uniformly supported at true grade and alignment
3. The contractor shall clean the end of sections of foreign materials and install the preformed plastic gasket in conformance with the manufacturer's recommendations.

D. Foundation Stabilization.

1. If unstable material exists that will not support the manhole or other structure, the contractor shall install geotextile fabric or excavate below grade and backfill with foundation stabilization material.

E. Manhole Invert

1. Manhole inverts shall be constructed in conformance with the drawings and in accordance with City of St Helens Standard Drawings 360 and to a section identical with that of the sewer pipe. Where the size of sewer pipe is changed at the manhole, the invert shall be constructed to form a smooth transition without abrupt breaks or unevenness of the invert surfaces.
2. During construction, Contractor shall divert existing flows of water or sewage from new concrete or mortar surfaces to prevent damage to the fresh concrete or mortar until the initial set has been achieved

F. Precast Manhole Sections

1. All lift/pick holes in sanitary sewer manholes shall be thoroughly wetted, then completely filled with mortar, and smoothed and pointed both inside and out to ensure water tightness.

2. Preformed plastic or rubber gaskets shall be used on all sanitary manholes. Mortar will be allowed on storm manholes, as a finish on the inside of each manhole joint, and on 24-inch extension rings above the cone. All mortar joints between precast elements shall be thoroughly wetted then completely filled with mortar.
3. On proposed street grades, a minimum of one 24-inch precast riser will be required between the cone and manhole cover frame

G. Manhole Frames and Covers

1. Manhole frames and covers shall be installed flush with the adjoining pavement or ground surface in such a manner as to prevent infiltration of surface or ground water between the frame and the concrete of the manhole section.
2. All mortared manhole necks and all riser ring joints made with mortar shall be constructed using an approved commercial concrete bonding agent applied to all cured concrete surfaces being mortared. No joints, necks or frames on manholes shall be mortared without an approved bonding agent

H. Manhole Risers

1. The risers shall be built as shown on the special details for manholes on the Plans to the height directed by Engineer.
2. Risers shall be added on manholes in existing streets and driveways or where otherwise directed by Engineer.
3. The actual height of risers shall be as determined by Engineer. The rings shall be laid straight and true; the mortar shall be of the same material as that used in the manhole construction. Material used shall be of the highest quality and equal to similar materials specified in other sections

Section 05330

SEWER CLEANOUTS, TEES AND WYES

1.1 GENERAL REQUIREMENTS

Work under this section applies to the work necessary for the construction of sanitary sewer pipe, fittings, and structures of the sizes and classes indicated, including but not limited to furnishing materials; laying and jointing the pipe; installing sewer tees, wyes and laterals; placing manholes, cleanouts and other appurtenances; quality assurance and control; and acceptance testing.

1.2 DELIVERY, STORAGE & HANDLING OF MATERIALS

Contractor shall unload, handle, and store materials in accordance with manufacturer's published recommendations. It shall be Contractor's responsibility to inspect materials prior to lowering into the trench to insure no cracked, broken, or otherwise defective materials are used. Unless otherwise noted, all pipe materials provided for the project shall be new, of first class quality and shall be made by reputable manufacturers. All material of a like kind shall be provided from a single manufacturer unless otherwise approved by the Engineer. All material shall be carefully handled and installed in good working order free from defect in manufacture, storage and handling.

1.3 MATERIALS

Materials and strength classifications shall be as specified for the particular kind of pipe and fittings required. Each piece of pipe shall be clearly identified with the pipe strength, class and date of manufacture. Joints on all fittings shall be the same as the joints used on the pipe. Caps or plugs shall be furnished as required by the drawings or as otherwise specified.

All fittings shall be of sufficient strength to withstand all handling and load stresses encountered. All fittings shall be of the same materials as the pipe. Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

All fittings shall be capped or plugged and gasketed with the same gasket material as used in the pipe joint, fitted with an approved mechanical stopper, or have an integrally cast knockout plug. The cap or plug shall be capable of withstanding test pressures without leaking and, when later removed, shall permit continuation of piping with jointing similar to joints in the installed line.

A. Polyvinyl Chloride (PVC) Non-pressure Pipe

1. PVC pipe shall conform to ASTM D3034, SDR 35
2. Rubber gaskets shall conform to the requirements of ASTM F477
3. Fittings shall conform to the applicable portions of ASTM D 3034. Fitting joints shall be the same as the pipe joints.

B. Cleanouts shall be constructed of the same size as the line connected to.

C. Cleanouts shall be installed as shown in the City of St Helens Standard Detail 340

1.4 INSTALLATION

Service tees and wyes shall be installed in accordance with the recommendations of the manufacturer and as shown on the Standard Details bound herewith. The maximum line or grade change accomplished with any one fitting shall not exceed 45 degrees and shall be accomplished with long radius curves or bends.

Contractor shall provide a compacted base of pipe bedding material under all tees, wyes and branch fittings, extending to the springline of the fittings.

All service tees and wyes shall be capped with watertight plugs or caps suitable for resisting the pressures of hydrostatic or air testing

The ends of all service lines and fittings shall be capped with approved watertight plugs or caps which are capable of withstanding testing pressures.

Clean outs shall be allowed only on pipelines where the sewer line has no possibility for future extension. The maximum distance between the clean out and a manhole is 150 feet, unless otherwise approved by the city. The standpipe shall be the same size as the pipeline up to a maximum of eight inches.

Temporary clean outs may be installed within the right-of-way at the end of a stub street where the street is expected to be extended in the future and the design of the sewer system does not warrant that a manhole be constructed at this location. When the sewer is extended, the temporary clean out shall be removed

Section 05600

SEWER PIPE CLEANING & CCTV INSPECTION

Sewer inspection includes all labor, materials, equipment, and incidentals necessary for cleaning and internal TV inspection of sanitary sewer lines. Work shall include, but not be limited to: light cleaning and TV inspection of designated sanitary sewer lines, and all other incidental work specified or shown in the Contract Documents. Contractor shall perform all work in accordance with Federal OSHA and State safety requirements.

1.1 SUBMITTALS

Submittals shall be in accordance with the requirements of Contract Documents, and shall include the following:

- A. Information on all TV inspection equipment proposed for use by the Contractor, including a listing of size, type, and capabilities of each piece of equipment
- B. Preliminary review copies of CCTV inspection videos and reports
- C. CCTV inspection reports, CCTV inspection database, and Digital CCTV inspection recordings

1.2 SEWER CLEANING

- A. Contractor shall thoroughly clean (hydroflush) sewer pipe prior to performing a closed-circuit television inspection (CCTV).
- B. Contractor will be required to obtain a hydrant meter from the City, which requires a \$200 refundable deposit. Hydrant meters shall be used for all water draws. Backflow or air gap protection is required on all connections to potable water systems. Fire hydrant use is allowed only by permission. The Contractor shall provide all hoses, adapters, and appurtenances required for obtaining water from the designated hydrants. Access to the hydrants shall not be obstructed in case of fire in the area served by the hydrant.
- C. Contractor shall furnish and utilize a combination of high velocity hydraulic cleaning equipment and a vacuum unit as specified or required. High velocity cleaning equipment shall be used to clean all sewer mainlines unless otherwise specified or approved by the Engineer. Low velocity or mechanical cleaning equipment shall not be used in lieu of high velocity equipment.

1.2.1 EXECUTION

- A. Clean all sewer lines and manholes designated on the drawings or directed by the Engineer prior to CCTV inspection including the manholes at both ends of the section to be inspected. Equipment as specified shall be used for cleaning.
- B. All dirt, sand, grease, rocks, roots, or other accumulations shall be removed from pipe walls and manholes. Existing lines shall be protected from damage caused by cleaning operations. Hydraulic cleaning operations shall be conducted with care to avoid damage to pipes and manholes, or flooding of adjacent property.

- C. The Contractor shall be responsible for the proper and legal disposal of all materials removed from the sewers and in a manner acceptable to the Engineer. The City does have a local disposal point.
- D. All sewers shall be cleaned with high velocity equipment unless the Engineer allows otherwise. The Engineer may order the use of other methods or equipment when it appears necessary. High Velocity Cleaning Equipment with Vacuum Pickup of Materials shall include,
 - E. High velocity cleaning equipment shall be capable of providing up to 200 gallons per minute at 2,000 pounds per square inch (psi) of working pressure. Contractor shall provide a minimum of 500 feet of 1-inch ID high-pressure hose with at least two cleaning nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. The equipment shall also include a high velocity "gun" for cleaning manhole walls and bottoms. The equipment shall be complete including 1,200 gallon water tanks suitable for holding corrosive or caustic chemicals, pumps, hose, hydraulically driven hose reel, auxiliary engines, controls, and all safety features required by law.
 - F. The cleaning equipment shall have an integral vacuum unit to allow the material cleaned from the pipes to be vacuumed directly from the manhole.
- G. Contractor shall provide additional cleaning equipment, including root cutters, as required to satisfactorily clean the pipe

1.2.2 MAINTAINING SEWER FLOWS AND CLEANING PRECAUTIONS

- A. During cleaning operations, precautions shall be taken by the Contractor in the use of cleaning equipment. Precautions shall be taken to insure that the water pressure created does not damage or cause flooding of public or private property being served by the sewer.
- B. Precautions shall be taken to protect the sewer lines and manholes from damage that may result from the improper use of cleaning equipment. The Contractor shall be solely responsible for the repair of any damage to structurally sound lines and damage to properties connected to the sewer which results from the cleaning operations.
- C. It is the Contractor's responsibility to remove any equipment that may become lodged in the sewer and to repair any damaged section(s) of the sewer resulting from equipment retrieval at no additional cost to the City.
- D. All sanitary sewer system components shall remain in service through the cleaning and TV inspection operations unless specific exceptions are approved in writing by the Engineer.
- E. Contractor shall immediately notify the Project Manager of any defect posing imminent danger to the public (missing or broken manhole covers, sinkholes, etc.) and any observed pipe collapses, blockages or overflow conditions observed during inspection.
- F. The methods used to maintain flows shall be at the Contractor's option and may include use of flow-through plugs with periodic release of sewage flow or bypass pumping. The bypass system, if used, shall be capable of conveying flows when the sewers are flowing full.
- G. During periods of very high flows, when lines flow greater than half full, the Contractor, with the Engineer's approval, shall suspend sewer cleaning operations until flows are again less than half full.

- H. When the sewage depth of flow at the downstream manhole of the mainline section being inspected is above the maximum allowable for television inspection, the Contractor shall provide flow-through plugs or other means where necessary to ensure that the flows are reduced to the levels specified above.

1.3 CCTV Inspection

A. TV Inspection Equipment

- 1) A closed-circuit color television (CCTV) camera capable of providing still pictures and videos shall be used on all lines. The CCTV equipment shall be specifically designed for sewer inspection operations and shall be operative in 100 percent humidity conditions. Lighting and camera quality shall be suitable to allow a clear focused picture a minimum of six linear feet in front of the camera of the entire inside periphery of the pipe.
- 2) The camera shall have an adjustable focus distance from six inches to infinity, and the camera lights shall be variable intensity, with light, focus, and aperture remotely controlled by the operating technician at the monitoring station.
- 3) Contractor shall provide a CCTV camera capable of navigating Vitrified Clay Pipe (VCP) 6- inches in diameter with offset joints potentially greater than 1/4-inch.
- 4) Camera travel speed shall be from 1.8 to 30 feet per minute (fpm) with smooth, uniform motion. Sudden stops and starts will not be acceptable. Camera shall be capable of stopping and reversing direction as necessary to document sewer conditions. Video pictures shall be clear, sharp, and free from vibratory or electrical interference when the camera is in operation and recorded in MPEG format.
- 5) A CCTV camera with pan-tilt capabilities shall be used on all lines six-inches and larger in diameter. The CCTV camera shall be a tractor-powered camera being able to inspect dead end lines, and shall be remotely controlled by an operating technician.
- 6) The monitoring station shall be truck-mounted, capable of seating two viewing personnel and one operating technician. Monitoring station shall be fully enclosed within a rigid weatherproof enclosure on the TV truck.
- 7) A minimum of two color display monitors (minimum 650 lines horizontal resolution) operating simultaneously shall be used in the monitoring station. The monitors shall be of a proper size to allow all viewing personnel in the monitoring station a satisfactory view, and shall continuously display the current date, manhole designation of the mainline being inspected, and a continuous forward and reverse read-out of the camera distance from the manhole of reference.
- 8) All CCTV video recordings shall be of high resolution that it can be viewed full screen without significant loss of image quality and clarity. Video quality must be such that pipe defects are easily detected and pipe material and condition can be determined.
- 9) The lighting intensity shall be adjusted to minimize glare. The CCTV recording shall have lighting and camera quality sufficient to provide a clear, in-focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the inspection. The lighting shall be suitable to allow a clear picture of the entire inner pipe wall extending at least 4 feet in front.

- 10) Camera lens must be kept clean and clear. Fogging due to oil, grease, other fluid, or debris that obscures the lens shall be cleaned off before proceeding with recording operation.
- 11) The node name/identifier, pipe size, pipe material, date, time, and footage shall be shown continuously.
- 12) Digital text information shall be displayed at the start of each CCTV video recording:
- Date
 - Time
 - Weather
 - City
 - Location (Street, Intersection, or Nearest Address)
 - Contractor
 - TV Inspector
 - Project Number
 - Pipe Material
 - Pipe Size
 - Upstream Manhole
 - Downstream Manhole
 - TV Inspection Begins at Manhole

B. CCTV Inspection

- 1) Internal CCTV inspection of sanitary sewer mainlines as shown on the drawings shall be performed only after the sewers have been thoroughly cleaned so that service connections, cracks, leaks and structural failures may be located.
- 2) Distance Measurement. The “zero” point of the inspection shall be the centerline of the manhole where the camera is inserted. The footage counter shall be set accordingly by adding the footage from the centerline of the manhole to the edge of the manhole plus the camera length.
- 3) The CCTV inspection shall be performed on one mainline section at a time and between two manholes. Each mainline section being inspected shall be isolated from the remainder of the line as necessary by the use of line plugs or bypass pumping to insure viewing of the inside periphery of the pipe. The TV inspection shall be performed by moving the television camera through the line along the axis of the pipe. The inspection shall be performed in a forward and/or backward direction, according to line conditions at the time the inspection is made.
- 4) The pan-tilt camera shall be turned to view directly up the axis of each service lateral
- 5) If CCTV camera gets stuck in line during the CCTV inspection it is the responsibility of the Contractor to recover camera equipment. Contractor shall be responsible for repairing all damages associated with the recovery of camera equipment at no cost to the Owner.
- 6) Contractor shall notify the City immediately of any major problems or emergency situations in the field such as collapsed or severely broken pipe, sewer overflows or significant surcharge, sewer blockages, or injury to Contractor personnel or the public during Contractor operations. Contractor will be held responsible for any damage that occurs as a result of the Contractor’s work, and not deemed a pre-existing condition by the City. Repairs of such damage shall be approved by the City prior to its execution. All costs associated with such repairs are solely the responsibility of the Contractor.
- 7) Depths of flow at the downstream manhole during television inspection shall not exceed those shown below when performing television inspection of the lines.

Pipe Diameter (inches)	Maximum Flow Depth % of Pipe Diameter
6 - 10	10
12 - 24	15
30 - 42	20
48 - 72	25

C. CCTV Inspection Deliverables

- 1) Contractor shall provide CCTV of each section of sanitary sewer line from and to node in its entirety. The deliverables shall be submitted in a timely manner and in groups of no less than ten at a time.

- 2) Contractor shall provide video in MPEG (or approved equal) format. If any video is deemed unusable due to poor video quality, lighting, poor visibility, etc. in the opinion of the Engineer, the Contractor shall re-CCTV said mainlines at no extra cost to the Owner.
- 3) The Contractor shall submit in digital format the read only version of the database with reports using City callouts, videos and pictures. The Contractor shall submit paper versions in book format with table of contents. The reports shall not have the pictures of major defect on the report itself. Pictures shall be on a separate page and large enough to view the defect itself and referenced to report. The Contractor shall also submit each individual inspection reports without pictures in separate PDF file format labeled with the, from and to, node number of the report.
- 4) The inspection reports are to note the node identification number, direction of flow, physical location of nearest address (beginning and end), footage, position, and type of defects, branches into the mainline, diameter of pipe, pipe type, time/date, and weather condition.
- 5) The CCTV shall be from node to node with uninterrupted video or as authorized by the Engineer. If an inspection is abandoned for any reason and a reversal is not possible, this information shall be clearly stated in the report. The CCTV velocity shall be slow enough to inspect defects in the line and to log all major defects.
- 6) The inability or failure to CCTV video record the entire length of the sewer from node to node resulting from but not limited to blurry or foggy video, joint offsets, collapsed pipe, or debris will result in the rejection of the CCTV inspection.

D. CCTV Defect Identifiers

The Contractor shall use the defect identifiers provided below. The defect identifiers are classified into twelve different categories, each having a ranking of one to four, with 1 being the lowest (least critical) and 4 being the highest (most critical). The Contractor shall use the identifier with a corresponding rank of 1 through 4.

Callouts/Identifiers Table			
<u>Crack</u> (1) Minor, no structural impairment (2) Crack > ¼", structural impairment not imminent (3) Crack > ½", structural failure imminent (4) Severe, requires immediate attention	<u>Fracture</u> (1) Minor, no structural impairment (2) Fracture > ¼", structural impairment not imminent (3) Fracture > ½", structural failure imminent (4) Severe, requires immediate attention	<u>Joint</u> (1) Small offset separation (2) Moderate offset separation (3) Major offset separation (4) Severe offset, requires immediate attention	<u>Deformation and Sags</u> (1) Minor, < 10% of pipe diameter (2) Moderate, 10% to 25% of pipe diameter (3) Major, 50% of pipe diameter (4) Severe, 100% of pipe diameter
<u>Inflow and Infiltration</u> (1) Minor – Stain	<u>Interior Surface</u> (1) Minor, rough surface	<u>Broken</u> (1) Void visible	<u>Lateral</u> (1) No apparent defects

(2) Moderate – Weeping (3) Major –Dripping (4) Severe – Gushing	(2) Moderate, aggregate visible (3) Major, aggregate protruding, heavy spalling (4) Severe, holes visible aggregate missing	(2) Soil visible (3) Collapse, partial (4) Collapse, total	(2) Protruding or hammer tap (3) Misaligned, cracked or fractured (4) Collapsed, severe flow restriction
<u>Inactive Lateral</u> (1) No apparent defects (2) Protruding or hammer tap (3) Misaligned, cracked or fractured (4) Collapsed	<u>Obstruction</u> (1) Minor, minimal flow restriction (2) Moderate, 25% reduction pipe diameter (3) Major, 25% to 50% reduction in pipe diameter (4) Severe, > 50% reduction in pipe diameter, camera cannot pass	<u>Root Intrusion</u> (1) Minor, some root penetration –no blockage (2) Moderate, established root presence – less than 25% pipe diameter blocked (3) Major, established root presence – 50% pipe diameter blocked (4) Severe, established root presence, Pipe diameter almost completely blocked	<u>Liner</u> (1) Blistered or wrinkled (2) Discoloration (3) Delamination (4) Detached

(Note: Some defects will have multiple defect identifiers and corresponding ranking.)

E. CCTV Inspection Submittal Format and File Naming Convention

The Contractor shall submit all CCTV video recordings on a portable hard drive or on flash drives in MP4 or approved equal file format. Each CCTV video recording submitted shall be submitted with the corresponding Pipe Inspection Report concurrently. Digital files shall be labeled as shown below,

Section 05620

SEWER PIPE AND MANHOLE TESTING

1.1 GENERAL REQUIREMENTS

Contractor shall furnish all necessary testing equipment and perform the tests in a manner satisfactory to Engineer. Any arrangement of testing equipment which will provide observable and accurate measurements of either air or water leakage under the specified conditions will be permitted. Gauges shall be calibrated and certified at the direction of Engineer. The certification shall be available with the gauge.

Cleaning - Prior to the testing and inspection of the system Contractor shall high pressure clean all parts of the system and remove all debris. Downstream manholes shall be screened in order to catch all debris being flushed down the line. Any materials which cannot be removed using high pressure cleaning equipment shall be removed using a mechanical cleaner such as a sewer pipe balling device. Cost for sewer pipe cleaning shall be included in the cost for other work.

Special care shall be taken to see that the openings through which pipes enter the sanitary sewer structures are completely watertight. All pipe shall be connected to manholes, catch basins and ditch inlets according to the manufacturer's recommendations

All gravity sanitary pipeline shall pass the required air tests, be video-inspected, and be free of visible leaks. For non-rigid pipes, a passing deflection test is required. All projects shall pass the required manhole tests. The contractor shall furnish all necessary testing equipment and perform the tests in a manner satisfactory to the city and Oregon DEQ.

Sanitary sewer manholes shall be tested for acceptance after the trench has been backfilled, compaction requirements have been met, road base rock has been installed and the street paved, and concrete manhole closure collars have been installed. If the manholes have passed the tests and the castings have been disturbed by construction activities and need to be reinstalled, the manholes shall be retested.

1.2 TESTING

A. Manhole Vacuum Testing

1. All manholes shall be vacuum tested for acceptance after the trench has been backfilled and compaction requirements have been met.
2. Vacuum test will consist of plugging all inlets and outlets. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine inches. Minimum time of test shall be 30 seconds. The manhole shall pass if the time for the vacuum reading to drop to nine inches meets or exceeds the values indicated in the table below,

Manhole Depth, ft	Allowable Time (Seconds)	
	48-inch	60-inch
8	20	26
10	25	33
12	30	39

B. Manhole Hydrostatic Testing

1. The test will consist of plugging all inlets and outlets and filling the manhole with water to the rim. Leakage in each manhole shall not exceed 0.2 gallons per hour per foot of head above the invert. Leakage will be determined by refilling to the rim using a calibrated or known volume container.

C. Deflection testing

1. Deflection testing shall be performed on all PVC and HDPE sewer pipe no sooner than thirty (30) days after final backfill installation of a line segment but prior to final acceptance using a standard mandrel to verify installed pipe is within specified deflection tolerances.
2. The test shall be conducted by pulling an approved mandrel through the completed pipeline. The diameter of the mandrel shall be 95 percent of the nominal pipe diameter. The mandrel shall be a rigid, nonadjustable, odd-numbering leg (nine legs minimum) mandrel having an effective length of not less than its nominal diameter.
3. Testing shall be conducted after the line has been completely balled and flushed out with water. The contractor will be required to locate and repair any section failing to pass the deflection test and to retest the section.

D. Air Testing Pipeline

1. After construction of the system, including service connections, required compaction testing, and backfilling, the contractor shall conduct a low-pressure air test. The contractor shall provide all equipment and personnel for the test. Tests shall be conducted during normal working hours. Air tests for storm lines will not be required.
2. Only qualified personnel shall be permitted to conduct the test. All plugs used to close the sewer for the air test must be capable of resisting the internal pressures and must be securely braced, if necessary. All air testing equipment must be placed above ground and no one shall be permitted to enter a manhole or trench where a plugged line is under pressure. All pressure must be released before the plugs are removed.
3. All air testing shall be by the time pressure drop method. The test procedures are described as follows:
 - i. Clean the lines to be tested and remove all debris.
 - ii. The contractor has the option of wetting the lines prior to testing.
 - iii. Plug all open ends with suitable test plugs; brace each plug securely.
 - iv. Check the average height of ground water over the line. The test pressures required below shall be increased 0.433 psi for each foot of average water depth over the line.
 - v. Add air slowly to the section of system being tested until the internal air pressure is raised to the test pressure specified below.
 - vi. After the internal test pressure is reached, at least two minutes shall be allowed for the air temperature to stabilize, adding only the amount of air required to maintain pressure.

- vii. After the temperature stabilization period, disconnect the air supply.
- viii. Acceptance shall be based upon meeting or exceeding the requirements specified by Section 1140 of the Oregon Standard Specifications for Construction.
- ix. Record the diameter (inches), length (feet), end manhole number, time, pressure drop, and ground water level of the test on an inspection form. The recording form shall become a permanent record of the project.

4. Video Inspection of Gravity Systems – See Specification 05600

There will be no separate payment for testing and costs shall be absorbed into the unit bid prices.

SECTION 07100

ASPHALT CONCRETE PAVING

1.1 GENERAL REQUIREMENTS

The Work covered by the section consists of preparation for pavement and construction of crushed rock base course and asphalt concrete pavement surfacing.

1.2 SUBMITTALS

- A. Submit crushed aggregate gradation from supplier prior to the start of Work.
- B. Submit mix design from asphalt concrete supplier prior to the start of Work

1.3 PRODUCTS

A. Base Course and Leveling Course

- 1) The aggregate material shall be a clean, well- graded crushed base aggregate conforming to Oregon Standard Specification Section 02630.10. Base course shall be 1-1/2 inches minus aggregate and leveling course shall be 3/4-inch minus aggregate.

B. Asphalt Concrete

1) Hot Mix Asphalt

- a) Asphalt concrete pavement surface course shall be Level 2 ACP for residential and collector streets and Level 3 ACP for arterial streets.
- b) Asphalt concrete pavement surface course shall comply with mixing and proportion of materials as designated in the Standard Specification Section 00745. The grade of paving asphalt shall be 1/2-inch dense graded PG 64-22 Hot Mix Asphaltic Concrete (HMAC) in conformance to the requirements Oregon Standard Specification Section 745.12.

2) Tack Coat and Sand Seal

- a) Tack Coat shall be CRS-2 cationic emulsified asphalt.
- b) Sand seal shall be a fine cover conforming to size 1/4-inch - #10 aggregate per Oregon Standard Specification Section 00705.10.

C. Nonwoven Geotextile Paving Fabric

- 1) Geotextile paving fabric shall be Petromat or Approved Equal. "Petromat" nonwoven polypropylene fabric in conjunction with asphalt concrete overlays.

1.4 EXECUTION

A. Site Preparation

- 1) Site preparation shall be performed in such a manner as to remove all evidence of the presence of vegetative growth from the surface of the project site as required for construction and shall be inclusive of sticks, branches, grasses, rock and weeds, except as otherwise indicated. The existing base material shall be removed where it has been contaminated by silt, water or other materials that has made it lose its compressive strength. Work shall include grading and removal of the existing roadway, sidewalk, and curb material and placement, grading and compaction of the new base rock at each site. The removed material shall be disposed of at no additional cost to the City beyond payment for this bid item. Disposal by the Contractor shall be in a legal manner, in full compliance with applicable codes and ordinances.
- 2) The Contractor shall adjust the rims of manholes, catch basins and valves with cast iron risers to be flush with final grades.

B. Saw Cutting

- 1) Where pavement is to be removed, saw cut pavement to full depth prior to removal. If the pavement is found to have not been saw cut full depth, the Contractor shall be required to saw cut to full depth a new joint beyond the limits of the previous saw cut joint and remove and replace the additional pavement at the Contractor's expense.

C. Removal

- 1) Pavement to be removed may vary in thickness and may include underlying concrete pavement of various thicknesses and adjacent curbs. Pavement removal shall include all labor and equipment required for saw cutting, breaking, removing, and disposing the existing pavement. The Contractor shall be responsible for protecting the pavement abutting the repair area.

D. Preparation of Subgrade

- 1) Add approved crushed rock to existing roadway surface as shown on the plans or as directed by City's representative. Grade, level, and compact surface per Contract Drawings.
- 2) Base/leveling course variance - no greater than 3/8-inch when measured with a 10- foot straightedge.

E. Pavement Grinding

- 1) Asphalt pavement grinding shall be per Section 00622 of the Standard Specifications
- 2) Perform grinding within the limits as shown in the bid documents.
- 3) Taper grind the edges to match the elevations of intersections, driveways, face of curb and new and existing pavement.

F. Aggregate Pavement Base

- 1) Place pavement base to the depth shown on the plans or as directed by the Engineer. In all cases, pavement base shall be compacted to a minimum depth of 6 inches. Bring the top of

- the pavement base to a smooth, even grade at a distance below finished grade equivalent to the required pavement depth. Grading shall follow as closely as possible the existing alignment and grade of each site modifying them slightly to minimize nuisance drainage and enhancement of future drainage as directed by the Engineer or their representative
- 2) Compact the pavement base with mechanical vibratory or impact tampers to a density of not less than 95 percent of the maximum density, as determined by AASHTO T-99.
 - 3) During compaction, materials shall be maintained within two percent of the optimum moisture content. The contractor shall begin compaction of each layer immediately after the material is spread and continue until a density of not less than 95 percent of the maximum density has been achieved.

G. Asphalt Pavement

- 1) Asphalt concrete paving shall be per the Standard Specifications. Pavement placement shall not proceed until the subgrade and surface preparation has been approved by the City's Project Inspector.
- 2) The limits of restoration shall include all damaged or undermined surfacing. Provide a smooth tee cut by saw cutting the existing pavement parallel to the trench and beyond the sides of the trench excavation as shown on the plans. Remove any pavement which has been damaged or which is broken and unsound outside this area by making alternating traverse and parallel saw cuts. Parallel cuts must be a minimum of 25 feet long, unless otherwise directed by Engineer. Provide a smooth, sound edge for joining the new pavement.
- 3) Nonwoven geotextile fabric shall be installed in the locations and areas designated by the Engineer. Rolls shall overlap by a minimum of one (1) foot. Contractor shall place geotextile paving fabric, prior to placing 2-inches.
- 4) Contractor shall conform to the requirements for prime coat and tack coat in Standard Specifications. Tack coat all edges of existing pavement, manhole and clean out frames, inlet boxes and like items. When rate is not specified, asphalt will be applied at the rate of 0.1 gallon per square yard.
- 5) In advance of spreading bituminous material upon an existing bituminous or Portland cement concrete surface, a tack coat shall be applied to all areas to be surfaced and to all vertical surfaces against which additional material is to be placed. When two or more lifts of asphaltic concrete are required, a tack coat shall be applied between each lift. The area to be surfaced shall be cleaned of all loose material immediately before applying the task coat. The tack coat shall be applied in accordance with Section 00730 of the Standard Specifications.
- 6) Place the asphalt concrete to the specified depth on the prepared subgrade over the trench. When depth is not specified, place asphalt concrete to the depth of the adjacent pavement, up to a maximum of 6 inches, at the direction of the Engineer. Minimum depth of pavement shall be 3 inches. When a prime coat is specified, place asphalt concrete after the prime coat has set. Maximum thickness for any one lift of pavement shall not exceed 3

inches. Spread and level the asphalt concrete with hand tools or by use of a mechanical spreader.

- 7) Settlement of 1/4-inch or greater for asphalt concrete patches, occurring within one year of substantial completion, shall require repair or replacement as directed by the Engineer at the Contractor's expense.
- 8) Asphalt shall not be placed during rainfall or in any adverse weather conditions that might damage construction. Asphalt concrete mixtures shall not be placed when the underlying layer is frozen, or when, in the opinion of the Engineer, weather conditions, either existing or expected, will prevent the proper handling, finishing, or compaction of the mixtures

H. Tack Coat

- 1) Contractor shall apply a tack coat of emulsified asphalt to all prepared bituminous surfaces to be overlaid and along pavement edges to be widened prior to placing asphalt concrete.
- 2) The application rate shall be 0.06-0.10 gallons per square yard of surface and shall be directly measured and documented.
- 3) Surfaces shall be free of dirt and grit prior to tack coat to guarantee a proper bond. Contractor shall clean surface as necessary prior to tack coat especially when grind area has been exposed to traffic prior to tack coat application

I. Sand Seal

- 1) Sand seal all joints between the existing and new asphalt concrete pavement following paving to ensure a smooth surface. The City Construction Inspector shall inspect the first sand seal joint and make changes to the viscosity or amount of sand seal applied until the Inspector is satisfied with the result. Once approval is given, Contractor shall sand seal the remaining joints in the same fashion.

1.5 ADJUSTMENT OF UTILITY COVERS TO FINISHED GRADE

This work shall consist of raising to required grade all tops of manholes, valve boxes, monument boxes and other utility boxes. The City of St. Helens will provide all necessary risers for manholes, water valve boxes, monument boxes, and the contractor shall coordinate with Northwest Natural to provide necessary gas valve box risers.

1.6 STRIPING AND PAVEMENT LEGENDS

Contractor shall replace all pavement markings and striping within the project area. Striping and thermoplastic pavement markings shall be completed and paid for in accordance with applicable sections of the Standard Specifications. Contractor shall make photographic documentation of the location of all street markings prior to their removal. Removal and application of thermoplastic and paint street markings shall be completed only under the supervision and direction of the City's Construction Inspector. Contractor shall coordinate all thermoplastic pavement marking work with City Utility Craftsman prior to starting work

A. Removal of Existing Thermoplastic Pavement Markings Within Grind Area

- 1) Contractor shall fully remove and dispose of all thermoplastic pavement markings within the grind area. Removal of pavement markings shall be completed no more than two (2) days prior to cold plane asphalt removal. There will be no separate measurement and payment for thermoplastic legend and bar removal and the costs thereof are understood to be incidental and included in the unit prices listed on the Bid Schedule

B. Longitudinal Pavement Paint Striping

- 1) Contractor shall apply white or yellow 4-inch and 8-inch wide longitudinal pavement paint striping within two (2) weeks of completing HMA paving, weather permitting.
- 2) Apply striping in the same location and type as existing unless otherwise directed by City Construction Inspector. The striping shall be applied with truck mounted painting equipment as approved by the City Engineer or his representative. Pull behind or walk behind equipment will not be approved. The materials and application shall conform to the current version of the Manual on Uniform Traffic Control Devices, and Section 860 of the Standard Specifications manual

C. Thermoplastic Pavement Legend, Type B

- 1) All pavement legends and markings shall be Type B thermoplastic pavement legends except as shown on plans or directed by the Engineer. Thermoplastic pavement legends shall be of the following types: arrows, bike symbol and arrow, piano key style crosswalks, stop bars and railroad crossing.
- 2) All pavement legend styles shall be submitted and approved prior to installation. Before applying thermoplastic pavement markings over existing thermoplastic, clean existing markings thoroughly to remove all dirt and emulsified asphalt fog coat which may hinder adherence.
- 3) Any legends that do not fully adhere to the pavement or existing legends shall be removed and re-applied at no cost to the City. Any thermoplastic legend that is applied on top of an existing legend must be the same style and size. If new legends differ from existing legends, Contractor shall remove the existing legends at Contractor's own expense. All legend design, placement, and size are subject to approval by the City prior to installation.
- 4) Contractor shall install temporary traffic delineation Standard Specification Section 225.13. Contractor shall provide temporary traffic delineation for all lane delineations within the project area while installing traffic legends prior to allowing traffic into the project area.

D. Painted Crosswalks

- 1) Crosswalk legends shall painted as shown on Plans or as directed by the Project Inspector shall comply with the Standard Specifications. Legends shall be of the following type: piano key style crosswalks and stop bars. Pavement legend styles shall be submitted and approved prior to installation. All legend design, placement, and size is subject to approval by the City prior to installation.

1.7 SAMPLING AND TESTING

Sampling and testing shall conform these Contract Documents and to the applicable portions of Section 00700 of the Oregon Standard Specifications. The Contractor is responsible for process control and shall conduct sampling, testing, measurement, and inspection, as necessary, to ensure the finished pavement meets specifications.

SECTION 07120

CONCRETE MISCELLANEOUS FLATWORK

1.1 GENERAL REQUIREMENTS

This section includes all work for the construction of Commercial Grade Concrete sidewalks, curb ramps, curbs, and other miscellaneous concrete work as specified herein. Work shall conform to City of St. Helens design standards and the most current version of the Oregon Standard Specifications for Construction except as modified herein.

1.2 SUBMITTALS

- A. Concrete Mix Design.
- B. Concrete compressive strength test results.

1.3 PRODUCTS

- A. Concrete shall meet the requirements of the OSSC Section 00440 for Commercial Grade Concrete
- B. Steel Reinforcement shall meet the requirements of the OSSC Section 00530 for Steel Reinforcement for Concrete and Section 02510.10 for Deformed Bar Reinforcement.
- C. Dowels shall meet the requirements of OSSC Section 02510.50.
- D. Epoxy Bonding Agent shall meet the requirements of OSSC Section 0270.10.
- E. Preformed Expansion Joint Filler shall meet the requirements of OSSC Section 02440.10.
- F. Welded Wire Fabric shall meet the requirements of OSSC Section 02510.40

1.4 EXECUTION

Curb ramps, curbs, sidewalks, and other miscellaneous concrete flatwork shall be constructed in accordance with Sections 00440 and 00756 of the Oregon Standard Specifications for Construction except as modified herein,

- A. Concrete shall be placed only during periods when it will not be damaged by rain. Protect uncured concrete from all forms of precipitation and inclement weather. Concrete shall not be placed on frozen base rock.
- B. It is the responsibility of the Contractor to protect the placed concrete from vandalism, traffic, rain, cold weather, markings, or other such damage. Contractor shall take such precautions as are necessary to protect the concrete from damage caused by rain. If concrete is being poured when rain commences, the Contractor shall stop pouring immediately and cover all concrete that may be subject to damage. Damaged concrete will be removed and replaced at no cost to the City.
- C. Sidewalk forms shall provide for a transverse slope of no more than 2% slope towards the roadway unless otherwise specified. Standard concrete walks shall be 4" thick and concrete walk/drive approaches shall be 6" thick. Curb shall be formed to match the existing curb shape.

- D. **Foundation Preparation**: Bring areas on which structures are to be constructed to established line, and make firm, dry and free of all unsuitable material before placing concrete. Existing concrete surfaces shall be clean and moist at the time of placing new concrete.
- E. **Forms**: shall be of wood or metal, straight and free from warp, and of sufficient strength to resist springing during the process of depositing concrete against them. The forms shall be the full depth of the concrete. Gaps between forms, overlapping forms, or forms not providing a straight edge will not be accepted. Forms shall be firmly staked to the required line and grade.
- A. **Epoxy Bonding**: When placing concrete by the extrusion method, vertical dowel fastening to underlying concrete may be eliminated if the bond between surfaces is developed by applying epoxy bonding agent. Apply approved epoxy bonding agent according to the manufacturer's recommendations.
- B. **Joining New to Existing Concrete**: Construct suitable connections between new and existing concrete where existing driveways, walks, and other structures are cut back to permit the new construction or where the new construction abuts the existing concrete. Unless shown or directed otherwise, furnish and place minimum 3/4-inch-thick preformed expansion joint filler between new and existing concrete.
- C. **Reinforcement, Dowels, and Tie Bars**: Furnish and place reinforcement, dowels, and tie bars as shown or directed. Provide dowels with "slip sleeves" and place as load transfer devices where shown. Place dowels without "slip sleeves" as fastenings or ties between new and existing underlying concrete when shown.
- D. **ODOT approved smart level devices** shall be used for measurement of cross slopes and curb ramp slopes. Smart levels shall be calibrated at the time of inspection. All slope measurements shall be in the percentage mode recorded to the nearest 10th of a percent relative to a true horizontal plane (zero).
- 1) Slopes shall be measured with the use of a 24 inch SmartTool level model 92379 or model 92500 and a 6 inch SmartTool level model 92346, or Approved Equal
 - 2) For ADA curb ramps, a 6-inch level shall be used to measure curb running slope. The 6-inch level shall be used to measure slopes on portions of the curb ramp, gutter pan, or adjacent surfaces that cannot accommodate a 24-inch level. All other curb ramp locations will use a 24-inch level to measure slopes.
- E. **Expansion Joints**: Construct expansion joints of the preformed filler type in concrete structures as shown and the following:
- 1) Not less than 1/2 inch wide, except where abutting or underlying concrete joints are larger, then the width shall match those joints.
 - 2) At right angles to the Structure alignment and normal to the Structure surface.
 - 3) Which completely separate the concrete segments.
 - 4) Placed flush or no more than 1/8 inch below the concrete surface

- F. For curbs, provide expansion joints apposite abutting expansion joints in abutting concrete; over existing expansion joints in concrete underlying the new concrete structure, at each point of tangency in the structure alignment; and not over 200 foot spacing
- G. **Driveways, sidewalks, monolithic curbs and sidewalks, and surfacings:** Provide expansion joints between driveways and concrete pavement; transversely in walks opposite expansion joints in adjoining curbs and elsewhere so the distance between joints does not exceed 45 feet; transversely in walks at a distance of 16 feet to 8 feet from ends of walks which abut curbs; and around poles, posts, boxes, and other fixtures which protrude through or against the structures.
- H. **Curb and Gutter:** After placing concrete in the curb or gutter, provide grade confirmation to ensure continuous flow is achieved along the gutter to prevent ponding of water at the bottom of the ramp as follows:
- 1) Notify the Engineer of any deficiencies or non-compliance with the Standard Drawings or Plans. The Engineer will provide additional or modified Plans as needed
 - 2) Contractor is responsible for compliance only on that portion of the curb ramp in which Work is performed
- I. **Contraction joints:** Construct transverse contraction joints of the weakened plane or dummy type in the exposed surfaces of the concrete Structures as shown and the following:
- 1) Locate contraction joints:
 - a) Over contraction joints in concrete underlying the new concrete structure.
 - b) Opposite contraction joints in abutting concrete.
 - c) At locations to confine joint spacing to a maximum of 15 feet.
 - 2) Construct contraction joints by:
 - a) Inserting and removing plates, or other devices.
 - b) Inserting and leaving in place preformed expansion joint filler even and flush with the concrete surface.
 - c) Sawing as soon as practicable after concrete placement but before any uncontrolled cracking occurs.
 - d) Tooling
 - e) Other approved methods
 - 3) Contraction joints shall:
 - a) Be not less than 1/8 inch or more than 1/4 inch wide.
 - b) Be a depth of one-third the thickness of the concrete.
 - c) Have clean, unfilled grooves (if preformed expansion joint filler is not used)
- J. **Surface Finishing:**
- 1) Remove forms, if any, from structures after the concrete has taken its initial set and while the concrete is still green. Repair minor defects with mortar containing one part portland cement and two parts sand. Do not plaster exposed surfaces
 - 2) The top and face of structures shall be true and straight, free from humps, sags, or other irregularities. The surface shall not vary more than 1/4 inch from the edge of 12 foot long

straightedge laid on the top or face of the structure, except in curves. Unless otherwise shown or directed, tool edges to 1/4-inch radius.

- 3) Curbs: While the concrete is still green, finish the exposed surfaces as required to produce a smooth surface and uniform texture
 - 4) Driveways, sidewalks, and surfacings: Finish concrete surfaces to smooth and uniform texture by troweling, floating and cross brooming. Lightly groove or mark surfaces into squares or other shapes to match markings on similar existing surfaces in the vicinity, as directed.
 - 5) Finished concrete surfaces of sidewalk ramps shall be within the established slopes and dimensions in accordance with Contract Documents. Repair or remove and replace sidewalk or ramps which do not meet requirements at no additional cost to the City.
- K. **Concrete Curing**: Cure and protect concrete after placing and finishing according to Standard Specification Section 00440. Contractor shall keep concrete structures safe from pedestrian and vehicular traffic for a minimum of seven (7) days. Do not apply curing compound to the designated truncated dome area of sidewalk ramps.
- L. Concrete Compressive Strength shall have a minimum Actual Strength Test Value (ASTV) of 3,000 psi at 28 days. ASTV at 28 Days is the average compressive strength of the three cylinders tested. Discard all specimens that show definite evidence, other than low strength, of improper sampling, molding, handling, curing, or testing. The average strength of the remaining cylinders shall then be considered the test result.
- M. Corrective Action Plan - Submit proposed corrective action plan within 10 Calendar Days after being notified by the Engineer of non-compliant ramps, for minor corrective action as follows:
- 1) Concrete Grinding - Submit grinding Equipment and method of restoring broom finish or equivalent to the Engineer for approval. Grinding concrete at grade breaks is not allowed. Limit irregular surfaces grinding to a maximum depth of 3/16 inch
 - 2) ACP Grinding - Submit ACP grinding equipment to the Engineer for approval. Blend adjacent ACP surfaces at a slope of 1V:50H to ensure grade does not exceed the pre-existing road slope condition or 5%, whichever is greater. Limit ACP grinding to a maximum depth of 1/2 inch
 - 3) Non-compliant running slopes, cross slopes or turn space slopes which require grinding beyond the maximum limits, will be considered a major corrective action. The Engineer, may require replacement of portions of the ramp, or the entire ramp, if major corrective action is needed

ATTACHMENT B
Payment Schedule

BID SCHEDULE
SANITARY SEWER MAIN IMPROVEMENTS ON S 3RD ST AND LEE ST, PROJECT NO. S-676

Item No	Description	Unit	Estimated Quantity	Unit Price	Estimated Total Price
1	Mobilization, Bonds, Insurance, and Demobilization	LS	1	6000.00	6000.00
2	Temporary Work Zone Traffic Control	LS	1	2150.00	2150.00
3	Erosion and Sediment Control	LS	1	1100.00	1100.00
4	New 24-inch Diameter Manhole	EA	1	3100.00	3100.00
5	Replace 6-inch Diameter Sewer Cleanout	EA	1	1500.00	1500.00
6	Reconnect Sanitary Sewer Laterals	EA	4	3050.00	12200.00
7	6-inch Diameter Class 52 Ductile Iron Pipe Installed by Open-Cut Pipe Replacement Method	LF	138	140.00	19320.00
8	2 1/2"-0 Stabilized Base Course (Sheet S3)	CY	31	100.00	3100.00
9	Post Construction: CCTV of Replaced or Rehabilitated Sewer Mains and As-Built Survey	LS	1	1650.00	1650.00
10	Remove and Replace Existing Wooden Deck	LS	1	15000.00	15000.00
11	Geotextile Fabric	SY	31	20.00	620.00
12	Rock Excavation	CY	10	250.00	2500.00
TOTAL PRICE			\$	68,240.00	

ATTACHMENT C
BONDS



**CITY OF ST. HELENS
STANDARD PUBLIC IMPROVEMENT
CONTRACT PAYMENT BOND**

Bond No.: 7743719
Project Name REPLACEMENT OF THE IA15-IA15A SANITARY SEWER MAIN
and No.: Project No. S-676

Old Republic Surety Company	(Surety)	Bond Amount	\$ 75,064.00
	(Surety)	Bond Amount	\$

Total Penal Sum of Bond \$ 75,064.00

We, Turney Excavating, Inc., a corporation or partnership duly organized under the laws of the State of Oregon, and authorized to transact business in the State of Oregon, as **"PRINCIPAL,"** and,

We, Old Republic Surety Company, a corporation or partnership duly organized under the laws of the State of Wisconsin, and authorized to transact surety business in the State of Oregon, as **"SURETY,"** and,

We, the above named Principal and Surety(ies), hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the City of St. Helens, Oregon, (**OBLIGEE**) the sum of (\$ 75,064.00) (Seventy Five Thousand Sixty Four Dollars & 00/00) dollars, lawful money of the United States. [Provided, we the Sureties bind ourselves in such sum "Jointly and Severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety above), and

WHEREAS, the Principal has entered into a Contract with the City of St. Helens, the specifications, terms and conditions of which are contained in the Contract Documents for the above identified Project; and

WHEREAS, the terms and conditions of the Contract Documents, as defined in the Contract, are made a part of this performance bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans, specifications, and schedule of contract prices which are set forth in the contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the sureties, including the requirements of ORS Chapter 279A-C, including specifically the conditions in ORS

279C.500 to 279C.530, and shall indemnify and save harmless the City of St. Helens, Oregon, its officers, employees, agents and assigns, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the Work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractor in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and shall permit no lien nor claim to be filed or prosecuted against the City on account of any labor or materials furnished; and shall do all things required of the Contractor by the laws of this State, and the laws of the City of St. Helens, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall the City of St. Helens be obligated for the payment of any premiums.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dates this 4th day of April, 2023.

Old Republic Surety Company

Surety

By: **Tracy Stewart**
(Attorney-in-Fact) (Address) (Telephone)

Digitally signed by Tracy Stewart
DN: cn=Tracy Stewart, o, ou,
email=tracy@agsadowski.com, c=US
Date: 2023.04.06 09:31:46 -07'00'

Tracy Stewart, Attorney-in-Fact
1605 Liberty Street SE, Salem, OR 97302
(503) 362-2711



Turney Excavating, Inc.

Principal

By: 
(Address) (Telephone)

PO Box 21597, Keizer, OR 97307
(503) 307-7522



**CITY OF ST. HELENS
STANDARD PUBLIC IMPROVEMENT
CONTRACT PERFORMANCE BOND**

Bond No.: 7443719

Project Name REPLACEMENT OF THE IA15-IA15A SANITARY SEWER MAIN
and No.: Project No. S-676

Old Republic Surety Company	(Surety)	Bond Amount	\$ 75,064.00
	(Surety)	Bond Amount	\$

Total Bond Amount \$ 75,064.00

We, Turney Excavating, Inc., a corporation or partnership duly organized under the laws of the State of Oregon, and authorized to transact business in the State of Oregon, as **"PRINCIPAL,"** and,

We, Old Republic Surety Company, a corporation or partnership duly organized under the laws of the State of Wisconsin, and authorized to transact surety business in the State of Oregon, as **"SURETY,"** and,

We, the above named Principal and Surety(ies), hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the City of St. Helens, Oregon, (**OBLIGEE**) the sum of (\$ 75,064.00) (Seventy Five Thousand Sixty Four Dollars & 00/00) dollars, lawful money of the United States. [Provided, we the Sureties bind ourselves in such sum "Jointly and Severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety above), and

WHEREAS, the Principal has entered into a Contract with the City of St. Helens, the specifications, terms and conditions of which are contained in the Contract Documents for the above identified Project; and

WHEREAS, the terms and conditions of the Contract Documents, as defined in the Contract, are made a part of this performance bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans, specifications, and schedule of contract prices which are set forth in the contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the sureties, including the requirements of ORS Chapter 279A-C, including specifically the conditions in ORS

279C.500 to 279C.530, and shall indemnify and save harmless the City of St. Helens, Oregon, its officers, employees, agents and assigns, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall in all respects perform said Contract, and shall permit no lien nor claim to be filed or prosecuted against the City on account of any labor or materials furnished; and shall do all things required of the Contractor by the laws of this State, and the laws of the City of St. Helens, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall the City of St. Helens be obligated for the payment of any premiums.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dates this 4th day of April, 2023.

Old Republic Surety Company
Surety

By: Tracy Stewart Digitally signed by Tracy Stewart
DN: cn=Tracy Stewart, o, ou,
email=tracy@agsadowski.com, c=US
Date: 2023.04.06 09:32:21 -07'00' Tracy Stewart, Attorney-in-Fact
1605 Liberty Street SE, Salem, OR 97302
(503) 362-2711
(Attorney-in-Fact) (Address) (Telephone)



Turney Excavating, Inc. Mitchell Turney President
Principal

By: [Signature] PO Box 21597, Keizer, OR 97307
(503) 307-7522
(Address) (Telephone)



OLD REPUBLIC SURETY COMPANY

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That OLD REPUBLIC SURETY COMPANY, a Wisconsin stock insurance corporation, does make, constitute and appoint:

Andrew G. Sadowski, Derek Sadowski, Ty Moffett, Tracy Stewart of Salem, OR

its true and lawful Attorney(s)-in-Fact, with full power and authority for and on behalf of the company as surety, to execute and deliver and affix the seal of the company thereto (if a seal is required), bonds, undertakings, recognizances or other written obligations in the nature thereof, **(other than bail bonds, bank depository bonds, mortgage deficiency bonds, mortgage guaranty bonds, guarantees of installment paper and note guaranty bonds, self-insurance workers compensation bonds guaranteeing payment of benefits, or black lung bonds)**, as follows:

ALL WRITTEN INSTRUMENTS

and to bind OLD REPUBLIC SURETY COMPANY thereby, and all of the acts of said Attorneys-in-Fact, pursuant to these presents, are ratified and confirmed. This appointment is made under and by authority of the board of directors at a special meeting held on February 18, 1982.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolutions adopted by the board of directors of the OLD REPUBLIC SURETY COMPANY on February 18, 1982.

RESOLVED that, the president, any vice-president or assistant vice president, in conjunction with the secretary or any assistant secretary, may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the company to execute and deliver and affix the seal of the company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorney-in-fact or agent and revoke any Power of Attorney previously granted to such person.

RESOLVED FURTHER, that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the Company

- (i) when signed by the president, any vice president or assistant vice president, and attested and sealed (if a seal be required) by any secretary or assistant secretary; or
- (ii) when signed by the president, any vice president or assistant vice president, secretary or assistant secretary, and countersigned and sealed (if a seal be required) by a duly authorized attorney-in-fact or agent; or
- (iii) when duly executed and sealed (if a seal be required) by one or more attorneys-in-fact or agents pursuant to and within the limits of the authority evidenced by the Power of Attorney issued by the company to such person or persons.

RESOLVED FURTHER that the signature of any authorized officer and the seal of the company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the company; and such signature and seal when so used shall have the same force and effect as though manually affixed.

IN WITNESS WHEREOF, OLD REPUBLIC SURETY COMPANY has caused these presents to be signed by its proper officer, and its corporate seal to be affixed this 6th day of October, 2021.


Assistant Secretary



OLD REPUBLIC SURETY COMPANY


President

STATE OF WISCONSIN, COUNTY OF WAUKESHA - SS

On this 6th day of October, 2021, personally came before me, Alan Pavlic and Karen J Haffner, to me known to be the individuals and officers of the OLD REPUBLIC SURETY COMPANY who executed the above instrument, and they each acknowledged the execution of the same, and being by me duly sworn, did severally depose and say: that they are the said officers of the corporation aforesaid, and that the seal affixed to the above instrument is the seal of the corporation, and that said corporate seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority of the board of directors of said corporation.




Notary Public

My Commission Expires: September 28, 2022

(Expiration of notary's commission does not invalidate this instrument)

CERTIFICATE

I, the undersigned, assistant secretary of the OLD REPUBLIC SURETY COMPANY, a Wisconsin corporation, CERTIFY that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolutions of the board of directors set forth in the Power of Attorney, are now in force.



77 0009

Signed and sealed at the City of Brookfield, WI this 4th day of April, 2023.


Assistant Secretary

ATTACHMENT D
INSURANCE INFORMATION



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

4/5/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER AG Sadowski Company 1605 Liberty Street S.E. Salem OR 97302	CONTACT NAME: Nick Rusow PHONE (A/C, No, Ext): (503) 362-2711 E-MAIL ADDRESS: nick@agsadowski.com FAX (A/C, No): INSURER(S) AFFORDING COVERAGE INSURER A: Continental Western Ins Co INSURER B: SAIF Corporation INSURER C: INSURER D: INSURER E: INSURER F:	NAIC # 10804 36196
INSURED Turney Excavating, Inc. 612 N 1st Street Silverton OR 97381		

COVERAGES**CERTIFICATE NUMBER:**2023-24 **PROJECTS****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			6043779-22	3/1/2023	3/1/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 WA STOP GAP \$ 1,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			6043779-22	3/1/2023	3/1/2024	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			6043779-22	3/1/2023	3/1/2024	EACH OCCURRENCE \$ 3,000,000 AGGREGATE \$ 3,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N <input type="checkbox"/> N/A			100037120	8/1/2022	8/1/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Replacement of IA15-IA15A Sanitary Sewer Main

Certificate Holder and all required entities are Additional Insured when required by written contract and per the terms/conditions of the above policies. Endorsements attached: CL CG 04 92 10 18, CL CG 05 29 10 18, CL CG 01 14 09 16, CL CG 20 71 09 16, and CL CA 01 49 06 17.

Waivers of subrogation are applicable when required by written contract and allowable by law.

CERTIFICATE HOLDER**CANCELLATION**

City of St. Helens, Oregon PO Box 278 St. Helens, OR 97051	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Nicholas Rusow/NICK
--	--

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ACORD 25 (2014/01)

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INS025 (201401)

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

GENERAL LIABILITY ULTRA PLUS ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SUMMARY OF COVERAGE EXTENSIONS

Provision	Name Of Coverage Extension	Included or Limit of Insurance
A.	Miscellaneous Additional Insureds	Included
B.	Expected Or Intended Injury Or Damage	Included
C.	Knowledge Of Occurrence	Included
D.	Legal Liability – Damage To Premises Rented To You (Fire, Lightning, Explosion, Smoke, Or Leakage From Automatic Fire Protective Systems)	\$300,000
E.	Medical Payments	See Declarations
F.	Mobile Equipment Redefined	Included
G.	Newly Formed Or Acquired Organization, Partnership Or Limited Liability Company And Extended Period Of Coverage	Included
H.	Who Is An Insured – Amendment	Included
I.	Non-Owned Watercraft (Increased to maximum length of less than 51 feet)	Included
J.	Supplementary Payments – Increased Limits	
	1. Bail Bonds	\$ 3,000
	2. Loss Of Earnings	\$ 1,000
K.	Unintentional Omission Or Unintentional Error In Disclosure	Included
L.	Waiver Of Transfer Of Rights Of Recovery Against Others	Included
M.	Liberalization Clause	Included
N.	Incidental Medical Malpractice	Included

The above is a summary only. Please consult the specific provisions that follow for complete information on the extensions provided.

The provisions of the Commercial General Liability Coverage Part apply except as otherwise provided in this endorsement. This endorsement applies only if such Coverage Part is included in this policy.

A. MISCELLANEOUS ADDITIONAL INSURED

1. **Section II – Who Is An Insured** is amended to include as an insured any person or organization (referred to as an additional insured below) described in Paragraphs **A.1.c.(1)** through **A.1.c.(9)** below when you and such person or organization have agreed

in writing in a contract or agreement that such person or organization be added as an additional insured on your policy, provided that:

- a. The written contract or written agreement is:
 - (1) Currently in effect or becoming effective during the term of this policy; and
 - (2) Fully executed by you and the additional insured prior to the "bodily

injury", "property damage" or "personal and advertising injury".

- b. The insurance afforded by this provision does not apply to any person or organization included as an additional insured by a separate endorsement issued by us and made a part of this policy or coverage part.
- c. Only the following persons or organizations are additional insureds under this provision, with coverage for such additional insureds limited as provided herein:

(1) Persons or Organizations For Whom Operations Are Performed

- (a) Any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured to your policy; and
- (b) Any other person or organization you are required to add as an additional insured under the contract or agreement described in paragraph (a) above.
- (c) Such person(s) or organization(s) is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:
 - (i) Your acts or omissions; or
 - (ii) The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured.

- (d) With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to:

- (i) "Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

(1.1) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

(1.2) Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of, or the failure to render, any professional architectural, engineering or surveying services.

(ii) "Bodily injury" or "property damage" occurring after:

(1.1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

(1.2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

(2) Managers Or Lessors Of Premises

A manager or lessor of premises but only with respect to liability arising out of the ownership, maintenance or use of that part of the premises leased to

you and subject to the following additional exclusions:

This insurance does not apply to:

- (a) Any "occurrence" which takes place after you cease to be a tenant in that premises.
- (b) Structural alterations, new construction or demolition operations performed by or on behalf of such additional insured.

(3) Mortgagee, Assignee Or Receiver

A mortgagee, assignee, or receiver but only with respect to their liability as mortgagee, assignee, or receiver and arising out of the ownership, maintenance, or use of a covered premises by you.

This insurance does not apply to structural alterations, new construction or demolition operations performed by or on behalf of such additional insured.

(4) Owners Or Other Interests From Whom Land Has Been Leased

An owner or other interest from whom land has been leased to you but only with respect to liability arising out of the ownership, maintenance or use of that part of the land leased to you and subject to the following additional exclusions:

This insurance does not apply to:

- (a) Any "occurrence" which takes place after you cease to lease that land.
- (b) Structural alterations, new construction or demolition operations performed by or on behalf of such additional insured.

(5) Lessor Of Leased Equipment

Any person(s) or organization(s) from whom you lease equipment but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your maintenance, operation or use of equipment leased to you by such person(s) or organization(s).

A person's or organization's status as an additional insured under this endorsement ends when their written

contract or written agreement with you for such leased equipment ends.

This insurance does not apply to any "occurrence" which takes place after the equipment lease expires.

(6) State, Municipality, Governmental Agency Or Subdivision Or Other Political Subdivision – Permits Or Authorizations Relating To Premises

Any state, municipality, governmental agency or subdivision or other political subdivision subject to the following additional provisions:

- (a) This insurance applies only with respect to:

- (i) The following hazards for which the state, municipality, governmental agency or subdivision or other political subdivision has issued a permit or authorization in connection with premises you own, rent or control and to which this insurance applies:

(1.1) The existence, maintenance, repair, construction, erection or removal of advertising signs, awnings, canopies, cellar entrances, coal holes, driveways, manholes, marquees, hoist away openings, sidewalk vaults, street banners or decorations and similar exposures; or

(1.2) The construction, erection or removal of elevators; or

(1.3) The ownership, maintenance or use of any elevators covered by this insurance.

- (ii) Operations performed by you or on your behalf for which the state, municipality, governmental agency or subdivision or other political subdivision has issued a permit or authorization.

- (b) This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the state, municipality, governmental agency or subdivision or other political subdivision.

(7) Controlling Interest

Any person(s) or organization(s) with a controlling interest in the Named Insured but only with respect to their liability arising out of:

- (a) Their financial control of you; or
- (b) Premises they own, maintain or control while you lease or occupy these premises.

This insurance does not apply to structural alterations, new construction or demolition operations performed by or for such person(s) or organization(s).

(8) Co-Owner Of Insured Premises

A co-owner of a premises co-owned by you and covered under this insurance but only with respect to the co-owner's liability as co-owner of such premises.

(9) Vendors

- (a) Any person(s) or organization(s) (referred to as vendor), but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business.

The insurance afforded the vendor does not apply to:

- (i) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a written contract or written agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the written contract or written agreement;
- (ii) Any express warranty unauthorized by you;

- (iii) Any physical or chemical change in the product made intentionally by the vendor;

- (iv) Repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

- (v) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

- (vi) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

- (vii) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

- (viii) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

- (1.1) The exceptions contained in Sub-paragraphs (iv) or (vi); or

- (1.2) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make

in the usual course of business, in connection with the distribution or sale of the products.

- (b) This insurance does not apply to any insured person or organization, from whom you have acquired products, or any ingredient, part or container, entering into, accompanying or containing such products.

2. With respect to coverage provided by this Provision **A. Miscellaneous Additional Insureds**, the following additional provisions apply:

- a. Any insurance provided to an additional insured designated under Paragraphs **A.1.c.(1)** through **A.1.c.(8)** above does not apply:

- (1) To "bodily injury" or "property damage" included within the "products-completed operations hazard"; or

- (2) To "bodily injury", "property damage" or "personal and advertising injury" arising out of the sole negligence of such additional insured.

- b. The insurance afforded to such additional insured only applies to the extent permitted by law.

- c. The insurance afforded to such additional insured will not be broader than that which you are required to provide by the written contract or written agreement.

3. With respect to the insurance afforded to the additional insureds within this Provision **A. Miscellaneous Additional Insureds**, the following is added to **Section III – Limits Of Insurance**:

The most we will pay on behalf of the additional insured is the amount of insurance:

- a. Required by the written contract or written agreement; or
- b. Available under the applicable Limits Of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits Of Insurance shown in the Declarations.

B. EXPECTED OR INTENDED INJURY OR DAMAGE

Exclusion **2.a. Expected Or Intended Injury of Section I – Coverage A – Bodily Injury And Property Damage Liability** is deleted and replaced by the following:

a. Expected Or Intended Injury Or Damage

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" or "property damage" resulting from the use of reasonable force to protect persons or property.

C. KNOWLEDGE OF OCCURRENCE

Paragraph **2.a. Duties In The Event Of Occurrence, Offense, Claim Or Suit of Section IV – Commercial General Liability Conditions** is deleted and replaced by the following:

- a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim only when the "occurrence" or offense is known to:

- (1) You, if you are an individual;

- (2) A partner, if you are a partnership;

- (3) A manager, if you are a limited liability company; or

- (4) An "executive officer" or the "employee" designated by you to give such notice, if you are an organization other than a partnership or a limited liability company.

To the extent possible, notice should include:

- (i) How, when and where the "occurrence" or offense took place;

- (ii) The names and addresses of any injured persons and witnesses; and

- (iii) The nature and location of any injury or damage arising out of the "occurrence" or offense.

D. LEGAL LIABILITY – DAMAGE TO PREMISES RENTED TO YOU (Fire, Lightning, Explosion, Smoke, Or Leakage From Automatic Fire Protective Systems)

If damage to premises rented to you is not otherwise excluded from this policy or coverage part, then the following provisions apply:

- 1. Under **Section I – Coverage A – Bodily Injury And Property Damage Liability**, the last paragraph (after the exclusions) is deleted and replaced by the following:

Exclusions **c.** through **n.** do not apply to damage by fire, lightning, explosion, "smoke", or leakage from automatic fire protective systems to premises while rented to you or temporarily occupied by you with the permission of the owner. A separate limit of insurance applies to this coverage as described in **Section III – Limits Of Insurance.**

2. The paragraph immediately after Subparagraph **j.(6)** of Paragraph **2. Exclusions of Section I – Coverage A – Bodily Injury And Property Damage Liability** is deleted and replaced by the following:

Paragraphs **(1), (3)** and **(4)** of this exclusion do not apply to "property damage" (other than damage by fire, lightning, explosion, "smoke", or leakage from automatic fire protective systems) to premises, including the contents of such premises, rented to you for a period of seven or fewer consecutive days. A separate limit of insurance applies to Damage To Premises Rented To You as described in **Section III – Limits Of Insurance.**

3. Paragraph **6.** of **Section III – Limits Of Insurance** is deleted and replaced by the following:

6. Subject to Paragraph **5.** above, the greater of:

- a. \$300,000; or

- b. The Damage To Premises Rented To You Limit shown in the Declarations,

is the most we will pay under **Coverage A** for damages because of "property damage" to premises while rented to you, or in the case of damage by fire, lightning, explosion, "smoke", or leakage from automatic fire protective systems, while rented to you or temporarily occupied by you with permission of the owner.

This limit will apply to all damage proximately caused by the same event, whether such damage results from fire, lightning, explosion, "smoke", leakage from automatic fire protective systems, or other covered causes of loss or any combination thereof.

4. Subparagraph **b.(1)(a)(ii)** of Paragraph **4. Other Insurance of Section IV – Commercial General Liability Conditions** is deleted and replaced by the following:

- (ii) That is fire, lightning, explosion, "smoke" or leakage from automatic fire protective systems insurance for premises rented to

you or temporarily occupied by you with permission of the owner;

5. Subparagraph **a.** of Definition **9.** "Insured contract" of **Section V – Definitions** is deleted and replaced by the following:

- a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire, lightning, explosion, "smoke" or leakage from automatic fire protective systems to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract".

6. As used in this Provision **D. Legal Liability – Damage To Premises Rented To You:**

"Smoke" does not include smoke from agricultural smudging, industrial operations or "hostile fire".

E. MEDICAL PAYMENTS

The Medical Expense Limit is changed, subject to the terms of **Section III – Limits Of Insurance**, to the Medical Expense Limit shown in the Declarations.

F. MOBILE EQUIPMENT REDEFINED

Subparagraph **f.(1)** of Definition **12.** "Mobile equipment" of **Section V – Definitions** is deleted and replaced by the following:

- (1) Equipment with a gross vehicle weight of 1,000 pounds or more and designed primarily for:

- (a) Snow removal;

- (b) Road maintenance, but not construction or resurfacing; or

- (c) Street cleaning;

G. NEWLY FORMED OR ACQUIRED ORGANIZATION, PARTNERSHIP OR LIMITED LIABILITY COMPANY AND EXTENDED PERIOD OF COVERAGE

Paragraph **3.** of **Section II – Who Is An Insured** is deleted and replaced by the following:

3. Any organization you newly acquire or form, other than a joint venture, and over which you maintain ownership or:

- a. Majority interest of more than 50% if you are a corporation;

- b. Majority interest of more than 50% as a general partner of a newly acquired or formed partnership; and/or

- c. Majority interest of more than 50% as an owner of a newly acquired or formed limited liability company;

will qualify as a Named Insured if there is no other similar insurance available to that organization. However, for these organizations:

- (i) Coverage under this provision is afforded only until the next anniversary date of this policy's effective date after you acquire or form the organization, partnership or limited liability company, or the end of the policy period, whichever is earlier;
- (ii) **Section I – Coverage A – Bodily Injury And Property Damage Liability** does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization, partnership or limited liability company;
- (iii) **Section I – Coverage B – Personal And Advertising Injury Liability** does not apply to "personal and advertising injury" arising out of an offense committed before you acquired or formed the organization, partnership or limited liability company;
- (iv) Coverage applies only when operations of the newly acquired organization, partnership or limited liability company are the same or similar to the operations of insureds already covered under this insurance;
- (v) Coverage only applies for those limited liability companies who have established a date of formation as recorded within the filed state articles of organization, certificates of formation or certificates of organization; and
- (vi) Coverage only applies for those partnerships who have established a date of formation as recorded within a written partnership agreement or partnership certificate.

H. WHO IS AN INSURED – AMENDMENT

The last paragraph of **Section II – Who Is An Insured** is deleted and replaced by the following:

No person or organization is an insured with respect to the conduct of any:

- a. Current partnership or limited liability company, unless otherwise provided for under Paragraph 3. of **Section II – Who Is An Insured**;
- b. Current joint venture; or

- c. Past partnership, joint venture or limited liability company;

that is not shown as a Named Insured in the Declarations.

I. NON-OWNED WATERCRAFT

Subparagraph (2) of **Exclusion 2.g. Aircraft, Auto Or Watercraft of Section I – Coverage A – Bodily Injury And Property Damage Liability** is deleted and replaced by the following:

- (2) A watercraft you do not own that is:

- (a) Less than 51 feet long; and
- (b) Not being used to carry persons or property for a charge.

J. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

Section I – Supplementary Payments – Coverages A And B is changed as follows:

- 1. The limit shown in Paragraph 1.b. for the cost of bail bonds is changed from \$250 to \$3,000; and
- 2. The limit shown in Paragraph 1.d. for loss of earnings because of time off from work is changed from \$250 a day to \$1,000 a day.

K. UNINTENTIONAL OMISSION OR UNINTENTIONAL ERROR IN DISCLOSURE

The following provision is added to Paragraph 6. **Representations of Section IV – Commercial General Liability Conditions**:

However, the unintentional omission of, or unintentional error in, any information given or provided by you shall not prejudice your rights under this insurance.

This provision does not affect our right to collect additional premium or to exercise our right of cancellation or non-renewal.

L. WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS

The following is added to Paragraph 8. **Transfer Of Rights Of Recovery Against Others To Us of Section IV – Commercial General Liability Conditions**:

We waive any right of recovery we may have against any person or organization because of payments we make for injury or damage arising out of your ongoing operations or "your work" and included in the "products-completed operations hazard" when you have agreed in a written contract or written agreement that any right of recovery is waived for such person or organization. This waiver applies only to the

person(s) or organization(s) agreed to in the written contract or written agreement and is subject to those provisions.

This waiver does not apply unless the written contract or written agreement has been executed prior to the "bodily injury" or "property damage".

However, if any person or organization is separately scheduled on a separate waiver of transfer of rights of recovery which is attached to this policy, then this waiver does not apply.

M. LIBERALIZATION CLAUSE

The following is added to **Section IV – Commercial General Liability Conditions**:

If we adopt a mandatory attachment form change which broadens coverage under this edition of the Commercial General Liability CG0001 for no additional charge, and those changes are intended to apply to all insureds under this edition of CG0001, that change will automatically apply to your insurance as of the date we implement the change in your state. This liberalization clause does not apply to changes implemented through introduction of a subsequent edition of the Commercial General Liability form CG0001.

N. INCIDENTAL MEDICAL MALPRACTICE

1. Paragraph **2.a.(1)(d)** of **Section II – Who Is An Insured** does not apply to a physician, nurse practitioner, physician assistant, nurse, emergency medical technician or paramedic employed by you if you are not in the business or occupation of providing medical, paramedical, surgical, dental, x-ray or nursing services.
2. This provision is excess over any other valid and collectible insurance whether such insurance is primary, excess, contingent or on any other basis. Any payments by us will follow Paragraph **4.b.** of **Section IV – Commercial General Liability Conditions**.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

GENERAL LIABILITY ULTRA PLATINUM ENHANCEMENT COVERAGES

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM
CONTRACTORS' COMMERCIAL GENERAL LIABILITY ENHANCEMENT ENDORSEMENT
GENERAL LIABILITY ULTRA PLUS ENDORSEMENT

A. General Liability Ultra Plus Endorsement CL CG 04 92, Provision A. Miscellaneous Additional Insureds,
is revised as follows:

1. The following is added to **(1) Persons or Organizations For Whom Operations Are Performed, c.(1)**:
 - a. If the written contract specifically requires you to provide additional insured coverage via the 10/01 edition of **CG 20 10** (aka **CG 20 10 10 01**) or via the 11/85 edition of **CG 20 10** (aka **CG 20 10 11 85**), then in paragraph **1.c.(1)(c)**., the words *caused in whole or in part by*, are replaced by the words *arising out of*.
 - b. For purposes of this additional insured coverage, the terms "you" and "your" refer to the Named Insured shown in the Declarations.

B. CONTRACTUAL LIABILITY - RAILROADS

The following coverage is added:

1. With respect to operations performed for a Railroad within 50 feet of railroad property, the definition of "insured contract" in **Section V - Definitions** is replaced by the following:

9. "Insured Contract" means:

- a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract";
- b. A sidetrack agreement;
- c. Any easement or license agreement;
- d. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
- e. An elevator maintenance agreement;
- f. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under

which you assume the tort liability of another party to pay for "bodily injury" or property damage" to a third person or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement.

Paragraph f. does not include that part of any contract or agreement:

(1) That indemnifies an architect, engineer or surveyor for injury or damage arising out of:

- (a)** Preparing, approving or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
- (b)** Giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage;

(2) Under which the insured, if an architect, engineer or surveyor, assumes liability for an injury or damage arising out of the insured's rendering or failure to render professional services, including

those listed in Paragraph **(1)** above and supervisory, inspection, architectural or engineering activities.

2. Other Insurance

For purposes of this endorsement, the following is added to the **Section IV - Commercial General Liability Conditions, 4 Other Insurance** condition and supersedes any provision to the contrary.

This insurance is excess of all other insurance that is Railroad Protective Liability or similar coverage for "your work" performed for a Railroad. But, if required by a written contract or written agreement to be primary and noncontributory, this insurance will be primary to and will not seek contribution from any insurance on which the Railroad is a Named Insured.

No other coverage or limit in the policy applies to loss or damage insured by this coverage.

C. AGGREGATE LIMITS OF INSURANCE

The following is added to **COMMERCIAL GENERAL LIABILITY COVERAGE FORM CG 00 01**, General Aggregate Limit under **SECTION III – LIMITS OF INSURANCE**:

The General Aggregate Limit under **SECTION III - LIMITS OF INSURANCE** applies separately to each of your

1. Projects away from premises owned by or rented to you.
2. "Locations" owned by or rented to you.

"Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.

When paragraph **B. Construction Project General Aggregate Limit** on form **CL CG 00 20** is a part of this policy, then this endorsement **CL CG 05 29** paragraph **C. Aggregate Limits Of Insurance** does not apply.

D. BODILY INJURY REDEFINED

The definition of "Bodily injury" in the **Definitions** section of the **COMMERCIAL GENERAL LIABILITY COVERAGE FORM CG 00 01** is replaced by the following:

"Bodily injury" means bodily injury, disability, sickness or disease sustained by a person, including death resulting from any of these at any time. "Bodily injury" includes mental anguish or other mental injury resulting from "bodily injury".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**PRIMARY AND NONCONTRIBUTORY –
OTHER INSURANCE CONDITION
(ADDITIONAL INSURED)**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

Paragraph **(v)** is added to Paragraph **(1)(a)** of Paragraph **b. Excess Insurance** under Paragraph **4. Other Insurance** of **Section IV – Commercial General Liability Conditions**, as follows:

(1) This insurance is excess over:

(a) Any of the other insurance, whether primary, excess, contingent or on any other basis:

(v) That is available to any person or organization who has been added as an additional insured to this policy by endorsement.

However, with respect to an additional insured added by endorsement for liability caused, in whole or in part:

1. By your acts or omissions, or the acts or omissions of those acting on your behalf:
 - (a)** In the performance of your ongoing operations; or
 - (b)** In connection with your premises;
2. By your maintenance, operation or use of equipment leased to you by such person or organization; or
3. By “your work” performed for that additional insured and included in the “products-completed operations hazard”;

this insurance shall be primary to and will not seek contribution from the additional insured’s own insurance if you and such additional insured have agreed prior to loss in a written contract or written agreement, in effect during this policy period, that this insurance be primary and noncontributory as respects liability described in Subparagraph **(1)(a)(v)1.**, **(1)(a)(v)2.** or **(1)(a)(v)3.** above. However, this insurance, in all cases, is excess over any other liability insurance available to the additional insured to which such person or organization has been added as an additional insured.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES, CONTRACTORS OR OTHERS - COMPLETED OPERATIONS - AUTOMATIC STATUS, INCLUDING PRIMARY NONCONTRIBUTORY

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

- A. SECTION II - WHO IS AN INSURED** is amended to include as an additional insured any person(s) or organization(s) when you are obligated by virtue of a written contract or agreement that such person or organization(s) be added as an additional insured to your policy.

Such person(s) or organization(s) is an additional insured only with respect to liability for "bodily injury" or "property damage" or "personal and advertising injury" caused, in whole or in part by:

- (1) Acts or omissions of the Named Insured; or
- (2) The acts or omissions of those acting on behalf of the Named Insured;

and included in the "products-completed operations hazard"

This insurance applies only when you are required to add the additional insured by virtue of a written contract or agreement, provided the contract or agreement is:

1. Currently in effect or becomes effective during the term of this policy; and
2. Was executed prior to the "bodily injury" or "property damage" or "personal and advertising injury".

However:

- a. The insurance afforded to such additional insured only applies to the extent permitted by law; and
- b. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

For purposes of this endorsement, throughout the policy, the terms "you" and "your" refer to the Named Insured shown in the Declarations.

B. Exclusions

With respect to the insurance afforded to these additional insureds, the following additional exclusions apply to "bodily injury" and "property damage" arising out of:

1. The rendering of or failure to render any professional services by you or on your behalf, but only with respect to either or both of the following operations:
 - a. Providing engineering, architectural or surveying services to others in your capacity as an engineer, architect or surveyor; and
 - b. Providing, or hiring independent professionals to provide, engineering, architectural or surveying services in connection with construction work you perform.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of, or the failure to render, any professional architectural, engineering or surveying services.

2. Subject to Paragraph 3. below, professional services include:
 - a. Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, or drawings and specifications; and

- b. Supervisory or inspection activities performed as part of any related architectural or engineering activities.
3. Professional services do not include services within construction means, methods, techniques, sequences and procedures employed by you or performed by or for the construction manager, its employees or its subcontractors in connection with your ongoing operations.

C. Limits of Insurance

With respect to the insurance afforded to these additional insureds, the following is added to **Section III - Limits Of Insurance**:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

D. Other Insurance

For purposes of this endorsement, the following is added to the **Section IV - Commercial General Liability Conditions, 4. Other Insurance** condition and supersedes any provision to the contrary:

This insurance is excess of all other insurance available to an additional insured whether on a primary, excess, contingent or any other basis. But, if required by a written contract or written agreement to be primary and noncontributory, this insurance will be primary to and will not seek contribution from any insurance on which the additional insured is a Named Insured.

No other coverage or limit in the policy applies to loss or damage insured by this coverage.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

COMMERCIAL AUTOMOBILE EXPANSION ENDORSEMENT - PLATINUM

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to the coverages provided by this endorsement, the provisions of the Business Auto Coverage Form apply unless modified by this endorsement.

A. NEWLY ACQUIRED OR FORMED ORGANIZATIONS

The following is added to Paragraph **A.1. Who Is An Insured** of Section **II - Covered Autos Liability Coverage**:

Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company or any organization excluded either by this Coverage Part or by endorsement, and over which you maintain ownership or majority interest of more than 50 percent will qualify as a Named Insured. However:

1. This insurance does not apply to any newly acquired or formed organization that is an "insured" under any other automobile policy or would be an "insured" under such policy but for its termination or the exhaustion of its Limit of Insurance.
2. Coverage does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization.
3. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. ADDITIONAL INSURED BY CONTRACT OR AGREEMENT

The following is added to Paragraph **A.1., Who Is An Insured** of Section **II - Covered Autos Liability Coverage**:

When you have agreed in a written contract or agreement to include a person or organization as an additional "insured", such person or organization is included as an "insured" subject to the following:

1. Such person or organization is an additional "insured" only to the extent such person or organization is liable for "bodily injury" or

"property damage": because of the conduct of an "insured" under Paragraphs **a.** or **b.** under Paragraph **A.1. Who Is An Insured** of Section **II - Covered Autos Liability Coverage**, caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto";

2. The written contract or agreement described above must have been executed prior to the "accident" that caused the "bodily injury" or "property damage" and be in effect at the time of such "accident";
3. The insurance afforded to any such additional "insured" does not apply to any "accident" beyond the period of time required by the written contract or agreement described above;
4. The most we will pay on behalf of such additional "insured(s)" is the lesser of:
 - a. The Limits of Insurance specified in the written contract or agreement described above; or
 - b. The Limits of Insurance shown in the Declarations.

This provision shall not increase the Limit of Insurance shown in the Declarations in this policy or coverage part; and

5. The following changes are made to Paragraph **5. Other Insurance** of **B. General Conditions** under Section **IV - Business Auto Conditions**:
 - a. The following is added to Paragraph **5.a.**:
If required by the written contract or agreement described above, the insurance afforded to the additional insured under this provision will be primary to, and will not seek contribution from, the additional insured's own insurance.

b. Paragraph **5.c.** is deleted in its entirety.

6. Paragraph **A.1.c.** under Section **II** - Covered Autos Liability Coverage is deleted in its entirety.

7. The definition of "insured contract" under Section **V** - Definitions is amended to add the following:

An "insured contract" does not include that part of any contract or agreement:

That pertains to the ownership, maintenance or use of an "auto" and which indemnifies a person or organization for other than the vicarious liability of such person or organization for "bodily injury" or "property damage" caused by your operation or use of a covered "auto".

However, a person or organization is an additional "insured" under this provision only to the extent such person or organization is not named as an "insured" by separate endorsement to this policy.

C. EMPLOYEES AS INSUREDS

The following is added to Paragraph **A.1. Who Is An Insured** Section **II** - Covered Autos Liability Coverage:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

D. INCREASED COVERAGE - BAIL BONDS

The Supplementary Payments Coverage Extension of Section **II** - Covered Autos Liability Coverage is amended as follows:

The Limit of Insurance in paragraph **A.2.a.(2)** is increased to \$5,000.

E. INCREASED COVERAGE - LOSS OF EARNINGS

The Supplementary Payments Coverage Extension of Section **II** - Covered Autos Liability Coverage is amended as follows:

The Limit of Insurance in paragraph **A.2.a.(4)** is increased to \$1,000.

F. FELLOW EMPLOYEE COVERAGE

The Fellow Employee Exclusion contained in Section **II** - Covered Autos Liability Coverage does not apply. This coverage is excess over any other collectible insurance.

G. COVERAGE EXTENSION - TRANSPORTATION EXPENSES

Paragraph **A.4.a.** Transportation Expenses of Section **III** - Physical Damage Coverage is amended as follows:

1. The Limits of Insurance are increased to \$75 per day to a maximum of \$2,500.

2. We will also pay reasonable and necessary expenses to facilitate the return of the stolen "auto" to you.

3. It is agreed and understood and it is our stated intent that expenses incurred by you under the Transportation Expenses Coverage Extension will not also be covered or paid under the Rental Reimbursement Coverage provided by this endorsement or any rental reimbursement coverage added by separate endorsement to this policy.

H. EXTENDED COVERAGE - AIRBAGS

The following is added to Exclusion **B.3.a.** of Section **III** - Physical Damage Coverage:

However, this exclusion does not apply to the unintended discharge of an airbag.

This coverage is excess over any other collectible insurance or warranty providing such airbag coverage.

I. AUTO LOAN/LEASE GAP COVERAGE

The following is added to Section **III** - Physical Damage Coverage, Paragraph **C. Limits of Insurance**.

4. In the event of a total "loss" to a covered "auto", we will pay the lesser of:

a. Any unpaid amount due on the lease or loan for a covered "auto", less:

(1) The amount under the Physical Damage Coverage section of the policy; and

(2) Any:

(a) Overdue lease/loan payments at the time of the "loss";

(b) Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;

(c) Security deposits not returned by the lessor;

(d) Costs for extended warranties, Credit Life Insurance, Health, Accident or Disability Insurance purchased with the loan or lease; and

(e) Carry-over balances from previous loans or leases; or

b. \$5,000.

However, this provision does not apply to the extent loan/lease gap coverage has been provided by separate endorsement to this policy.

J. GLASS REPAIR - NO DEDUCTIBLE

The following is added to Paragraph **D.** Deductible of Section **III** - Physical Damage Coverage:

Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" to glass when you elect to patch or repair rather than replace the glass.

K. INCREASED COVERAGE - ELECTRONIC EQUIPMENT

The \$1,000 limit indicated in Paragraph **C.1.b.** under Section **III** - Physical Damage Coverage is increased to \$2,500.

L. EXTENDED COVERAGE - PERSONAL PROPERTY

The following is added to Paragraph **A.4.** Coverage Extensions of Section **III** - Physical Damage Coverage:

Physical Damage Coverage on a covered "auto" may be extended to "loss" to your personal property or, if you are an individual, the personal property of a family member, that is in the covered "auto" at the time of "loss" and caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto".

The insurance provided by this coverage extension is excess over any other collectible insurance. The most we will pay for any one "loss" under this coverage extension is \$500. However, our payment for "loss" to personal property will only be for the account of the owner of the property.

Under this provision, personal property does not include and we will not pay for "loss" of currency, coins, securities or contraband.

No deductible applies to this coverage extension.

M. TOWING

Paragraph **A.2.** Towing of Section **III** - Physical Damage Coverage, is replaced by the following:

If a private passenger type "auto" or light truck "auto" (0-10,000 Lbs. GVW) is provided both Comprehensive and Collision Coverage, we will pay up to \$150 for towing and labor costs incurred each time such "auto" is disabled. If a medium, heavy or extra-heavy truck or extra-heavy Truck-tractor "auto" (greater than 10,000 Lbs. GVW) is provided both Comprehensive and Collision Coverage, we will pay up to \$250 for towing and labor costs incurred each time such "auto" is disabled. However, the labor must be performed at the place of disablement.

N. FIRE EXTINGUISHER RECHARGE

The following is added to Paragraph **A.4.** Coverage Extensions of Section **IV** - Physical Damage Coverage:

When fire extinguishers are kept in your covered "auto" and any are discharged in an attempt to extinguish a fire, we will pay the lesser of the actual cost of recharging or replacing such fire extinguisher(s).

No deductible applies to this coverage.

O. HIRED AUTO PHYSICAL DAMAGE COVERAGE

The following is added to Paragraph **A.4.** Coverage Extensions of Section **III** - Physical Damage Coverage:

If hired "autos" are covered "autos" for Covered Autos Liability Coverage and if Physical Damage Coverage is provided for any "auto" you own, then the Physical Damage coverages provided are extended to "autos" you lease, rent, hire or borrow from someone other than your "employees", partners or members of their households subject to the following:

1. The most we will pay in any one "loss" is the lesser of:
 - a. The actual cash value of the "auto";
 - b. The cost to repair or replace the "auto"; or
 - c. \$100,000.
2. Paragraph 1. above is subject to a deductible. The deductible shall be equal to the amount of the highest deductible shown for any owned "auto" of the same classification for that coverage. In the event there is no owned "auto" of the same classification, the highest deductible for any owned "auto" will apply for that coverage.

No deductible will apply to "loss" caused by fire or lightning.
3. Hired Auto Physical Damage Coverage is subject to the following:
 - a. If symbol 8 is shown in the Covered Auto section of the Declarations page for any of the Physical Damage coverages, then the Hired Auto Physical Damage coverage described in this endorsement does not apply.
 - b. Other than indicated in Paragraphs a. directly above, coverage provided under this provision will be excess over any other collectible insurance or coverage.
4. In addition to the limit set forth in Paragraph 1. above we will pay up to \$500 per day, to a maximum of \$3,500 per "loss" for:
 - a. Any costs or fees associated with the "loss" to a hired "auto"; and
 - b. Loss of use of the hired "auto", provided it is the consequence of an "accident" for which you are legally liable, and as a

result of which a monetary loss is sustained by the leasing or rental concern.

However, Paragraph **A.4.b.** Loss of Use Expenses under Section **III** - Physical Damage Coverage of the Business Auto Coverage Form does not apply.

P. RENTAL REIMBURSEMENT COVERAGE

We will pay for rental reimbursement expenses incurred by you for the rental of an "auto" because of "loss" to a covered "auto".

1. Payment applies in addition to the otherwise applicable amount of each coverage you have on the covered "auto".
2. No deductible applies to this coverage.
3. We will pay only for those expenses incurred during the policy period beginning 24 hours after the "loss" and ending, regardless of the expiration date of the policy, with the lesser of the following number of days:
 - a. The number of days when the covered "auto" has been repaired or replaced, or
 - b. 45 days.
4. Our payment is limited to the lesser of the following amounts:
 - a. Necessary and actual expenses incurred; or
 - b. Not more than \$75 for any one day;
5. We will pay up to an additional \$300 for the reasonable and necessary expenses you incur to remove your materials and equipment from the covered "auto" and replace such materials and equipment on the rental "auto".
6. This coverage does not apply while there are spare or reserve "autos" available to you for your operations.
7. If "loss" results from the total theft of a covered "auto" of the "private passenger type", we will pay under this coverage only that amount of your rental reimbursement expenses which is not already provided for under the Physical Damage Coverage Extension of the Business Auto Coverage Form or any endorsements thereto.

However, this provision does not apply to the extent that rental reimbursement is provided by separate endorsement to this policy.

Q. DRIVE OTHER CAR COVERAGE

1. The following is added to Section **II** - Covered Autos Liability Coverage:
 - a. Any "auto" you don't own, hire or borrow is a covered "auto" for Liability Coverage while being used by:

- (1) You, if you are designated in the Declarations as an individual;
- (2) Your partners or members, if you are designated in the Declarations as a partnership or joint venture;
- (3) Your members or managers, if you are designated in the Declarations as a limited liability company;
- (4) Your executive officers if you are designated in the Declarations as an organization other than an individual, partnership, joint venture or limited liability company; and
- (5) The spouse of any person named in Paragraphs **1.a.(1).** through **1.a.(4)** while a resident of the same household;

Except:

- (a) Any "auto" owned by that individual or by any member of his or her household.
- (b) Any "auto" used by that individual or his or her spouse while working in a business of selling, servicing, repairing or parking "autos".

2. Changes In Auto Medical Payments And Uninsured And Underinsured Motorists Coverages

The following is added to **Who Is An Insured**:

Any individual named in **1.a** above and his or her "family members" are "insured" while "occupying" or while a pedestrian when being struck by any "auto" you don't own except:

Any "auto" owned by that individual or by any "family member".

3. Changes In Physical Damage Coverage

Any private passenger type "auto" you don't own, hire or borrow is a covered "auto" while in the care, custody or control of any individual named in **Q.1.a.** above or his or her spouse while a resident of the same house-hold except:

- a. Any "auto" owned by that individual or by any member of his or her household; or
- b. Any "auto" used by that individual or his or her spouse while working in a business of selling, servicing, repairing or parking "autos".

4. The most we will pay for the total of all damages under Covered Autos Liability Uninsured Motorists Coverage and Underinsured Motorists Coverage is the Limit Of Insurance shown in the Declarations as applicable to owned "autos".

5. Our obligation to pay for, repair, return or replace damaged or stolen property under Physical Damage Coverage, will be reduced by a deductible equal to the amount of the highest deductible shown for any owned private passenger type "auto" applicable to that coverage. If there are no owned private passenger type "autos", the deductible shall be \$250 for Comprehensive Coverage and \$500 for Collision Coverage. No deductible will apply to "loss" caused by fire or lightning.

6. Additional Definition

As used in this **DRIVE OTHER CAR** Provision:

"Family member" means a person related to the individual named in 1.a. by blood, marriage or adoption who is a resident of the individual's household, including a ward or foster child.

R. KNOWLEDGE OF AN ACCIDENT, CLAIM, SUIT OR LOSS

The following is added to Paragraph **A.2.** of Section **IV** - Business Auto Conditions:

Your obligation to provide prompt notice of an "accident", claim, "suit" or "loss" is satisfied if you or a person designated by you to be responsible for insurance matters is notified of, or in any manner made aware of an "accident", claim, "suit" or "loss" and provides us such notice as soon as practicable

S. WAIVER OF SUBROGATION BY CONTRACT OR AGREEMENT

The following is added to Paragraph **A.5** of Section **IV** - Business Auto Conditions:

We waive any right of recovery we may have against a person or organization because of payments we make for "bodily injury" or "property damage" when you and such person or organization have agreed in writing in a contract or agreement to waive such right of recovery, provided:

1. Such written contract or agreement was:
 - a. Made prior to the "accident" or "loss" resulting in the covered "bodily injury" or "property damage"; and
 - b. Was in effect at the time of the covered "bodily injury" or "property damage".
2. The covered "bodily injury" or "property damage" must arise out of the operations specified in such written contract or agreement.
3. At our request you must provide us with a copy of the aforementioned written contract or agreement.

T. UNINTENTIONAL OMISSIONS

The following is added Paragraph **B.2.** of Section **IV** - Business Auto Conditions:

If you fail to disclose any hazards existing at the inception date of this policy, such failure will not prejudice the coverage provided to you. However, this provision does not affect our right to collect additional premium or exercise our right of cancellation or nonrenewal.

U. LIBERALIZATION

If we revise this endorsement to provide greater coverage without additional premium charge, we will automatically provide the additional coverage to all endorsement holders as of the day the revision is effective in your state.