



Request For Bid

S 1st and St. Helens Intersection Joint Utility Trenching & Electrical Services Undergrounding Project No. R-685A

Issue Date:	Monday, January 29, 2024
Project Description:	Construction of underground conduits for franchise utilities including vaults, handholes, sweeps, service conduits and other materials required. Provide all trenching, backfill and cover, conduit and fittings, conductors and all other labor and materials not furnished by the franchise utility companies. Work also includes the installation, maintenance and removal of temporary traffic control and erosion control measures, and the removal and replacement of existing sidewalks and pavement.
Site Location:	The intersection of S 1st Street and St. Helens Street in St. Helens, Oregon.
Bid Due Date:	February 15, 2024, 2:00 PM. Bids received after this date and time will not be considered.
Bid Opening:	A public bid opening will not be held. This project is being procured through direct solicitation in accordance with Resolution No 1995 Emergency Procurement .
Submittal Criteria:	Submit pages 7 through 14 of the bid documents, including first-tier subcontracting disclosure forms.
Bid Submission:	<ul style="list-style-type: none">• Bids can be mailed or delivered to: City of St. Helens – Engineering Division 265 Strand Street, St. Helens, OR 97051• Bids can be emailed to: Engineering@sthelensoregon.gov• Faxed bids will NOT be accepted.
Inquires:	Alexander Bird, PE, Engineer II at (503) 366-8223 or abird@sthelensoregon.gov

1. Bids that are not complete or are unsigned will not be considered.

2. Prevailing wages apply to this project.
3. Anticipated project schedule:
 - Project Award, February 21, 2024
 - Notice to Proceed, March 11, 2024
 - Substantial completion, **June 30, 2024**
 - Final completion, **July 29, 2024**
4. Successful bidder is required to obtain a City business license.
5. Bidder must be licensed by the Oregon Construction Contractor's Board.
6. Successful bidder will be required to furnish a faithful performance bond and a labor and material payment bond each in the amount of one hundred percent (100%) of the amount of the Contract and show proof that the Contractor has filed a public works bond in the amount of \$30,000 with Bureau of Labor and Industries (BOLI). Contractor will also be required to furnish evidence of insurance, including workers' compensation insurance before the Work shall commence.
7. The City shall investigate and determine the qualifications of the apparent low responsive bidder prior to awarding the Contract. The City shall reject any bid by a nonqualified or disqualified bidder. The City reserves the right to reject any bid not in compliance with all prescribed public bidding procedures and requirements and may reject all bids for good cause upon a finding that it is in the public interest to do so. Evaluation of bids will be based on minimum requirements established by the specifications and compliance with conditions of the Request for Bid and City's public contracting rules.
8. The City of St. Helens requires all contractors to comply with the City's adopted Nondiscrimination and Equal Opportunity Policies, a copy of which can be obtained from the City Project Manager, supra. The City's programs, services, employment opportunities, volunteer positions and contracts are open to all persons without regard to race, color, religion, sex, sexual orientation, national origin, marital status or age if the individual is 18 years of age or older. Contractor shall comply with all federal, state, and local laws and ordinances applicable to the Work under this Contract, including, without limitation, ORS chapter 279A-C, and Title VI of the Civil Rights Act of 1964, Section V of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, ORS 659A.142, and all regulations and administrative rules established pursuant to those laws, and all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Contractor shall certify that the Contractor has not discriminated against minorities, women, or emerging small businesses in obtaining any required subcontracts.

INTRODUCTION AND TABLE OF CONTENTS

Contract Documents are listed below. Documents are either attached or bound separately and available from the Project Manager. All documents bound separately are incorporated into the Contract Documents and have the same force and effect as though set forth in full herein.

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PART 3: 2021 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION

..... Separately Bound

PART 4: CITY OF ST. HELENS ENGINEERING STANDARDS MANUAL

..... Separately Bound

In the event of a conflict, Supplementary Conditions control over all Standard Specifications and other Contract Documents. To the extent Standard Specifications and other Contract Documents conflict, the more restrictive requirement or provision shall control, except where otherwise noted in the Contract Documents, addenda, or amendment.

PART 5: SPECIAL PROVISIONS & TECHNICAL SPECIFICATIONS

.....See Technical Specifications Table of Contents

PART 6: SUPPLEMENTARY INFORMATION

Project Documentation Checklist
Construction Notice Door Hanger

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Part 1

Bid Documents

**S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
UNDERGROUNDING,
PROJECT NO. R-685A
FIRM OFFER (BID) AND SCHEDULE OF PRICES**

TO FURNISH ALL PERMITS, LABOR, TOOLS, MACHINERY, MATERIALS, TRANSPORTATION, EQUIPMENT AND SERVICES OF ALL KINDS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT FOR THE CITY OF ST. HELENS, COLUMBIA COUNTY, OREGON, AS STATED IN THE COMPLETED SCHEDULE OF PRICES, ALL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PLANS, SPECIFICATIONS, AND DRAWINGS WHICH ARE ON FILE AT THE CITY OF ST. HELENS, CITY HALL, 265 STRAND STREET, ST. HELENS, OREGON 97051.

NAME OF BIDDER: _____

CONTACT: _____

ADDRESS: _____

CITY _____ **STATE** _____ **ZIP** _____

TELEPHONE NO.: _____

FAX NO.: _____

EMAIL ADDRESS: _____

To the Honorable Mayor and City Council
City Hall
City of St. Helens
265 Strand Street
St. Helens, Oregon 97051

In response to competitive bidding, this FIRM OFFER is submitted as an offer by the undersigned to enter into a contract with the City of St. Helens for furnishing all permits, labor, tools, machinery, materials, transportation, equipment and services of all kinds required for, necessary for, or reasonable incidental to, the construction of this Project for the City of St. Helens, Oregon, as shown in the Contract Documents on file at City Hall, 265 Strand Street, St. Helens, Oregon, and which are a condition of this Offer as though they were attached. This offer is subject to the following declarations as to the acts, intentions and understandings of the undersigned and the agreement of the City of St. Helens to the terms and prices herein submitted.

1. The undersigned has familiarized themselves with the nature and extent of the Contract Documents, project Work, site, locality, general nature of Work to be performed by City or others at the site that relates to the project Work required by the Contract Documents, local conditions, and federal state, and local Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the project Work.
2. The undersigned has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) examinations, investigation, exploration, tests, and studies which pertain to the conditions (subsurface or physical) at or contiguous to the site or otherwise and which may affect the cost, progress, performance, or furnishing of the project Work as Contractor deems necessary for the performance and furnishing of the project Work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents; and no additional or supplementary examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by Contractor for such purposes.
3. All of the Contract Documents, including all plans, specifications, and drawings have been examined and an examination of the site of the proposed Work, together with such investigations as are necessary to determine the conditions to be encountered have been made by the undersigned and the terms and conditions of the Contract and solicitation documents are hereby accepted, and that if this Offer is accepted, the undersigned will contract with the City of St. Helens, Oregon, using the form attached and agrees to be bound to the terms and conditions of said Contract and solicitation documents.
4. It is understood that the contract drawings may be supplemented by additional drawings and specifications in explanation and elaboration thereof and, if they are not in conflict with those referred to in paragraph 1 above, they

shall have the same force and effect as though they were attached and they shall be accepted as part of the Contract when issued.

5. The undersigned agrees that upon written acceptance of this bid s/he/it will, within ten working days, of receipt of such notice, execute a formal contract agreement with the City. The undersigned further agrees that s/he/it will provide the following in order to execute the Contract:
 - Performance Bond and Payment Bond, both in the amount equal to 100% of the awarded Contract;
 - Proof of filing of a Public Works Bond in the required statutory amount with BOLI
 - Certificates of Insurance for all required insurance coverages;
 - Certificates of Coverage for Workman Compensation and unemployment insurance; and
 - All other bonds, permits, licenses, etc. as required in the Contract Documents.
6. The quantities stated in the Schedule of Prices are approximate only and payment will be made at the unit prices stated for the actual quantities incorporated in the completed Work. If there is an increase in the total payment for an item covered by a lump sum price, it shall be computed on the basis of extra work for which an increase in payment will have been earned; and if there is a decrease in a lump sum payment for any such items, it shall be made only as the result of negotiation between the undersigned and the City.

R-685A BID SCHEDULES A AND B CAN BE FOUND ON THE NEXT TWO PAGES

The following base bid of _____ Dollars
(\$ _____) is proposed for the project as described in the Contract Documents.

7. All items in the Schedule of Prices have been completed in full by showing a unit or lump sum price or prices for each and every item thereof. The price per item shall be clearly shown in the space provided. The pricing shall be extended to show the total when required.
8. The undersigned submits the unit prices as those at which he will perform the Work involved. The extensions of the column headed "ITEM TOTAL" are made for the sole purpose of facilitating bid comparisons and if there are any discrepancies between the unit prices and the total amount shown, the unit prices shall govern.
9. The undersigned agrees to furnish labor, tools, machinery, materials, transportations, equipment and services of all kinds required for, necessary for, or reasonably incidental to, construction of this Project with all appurtenant Work as required by the plans and specifications of this Offer for the unit or lump sum prices in the "SCHEDULE OF PRICES".
10. In stating prices, it is understood that the prices include all materials and Work required to complete the Contract in accordance with the plans and specifications. If any material, item or service required by the plans and specifications has not been mentioned specifically in the "SCHEDULE OF PRICES", the same shall be furnished and placed with the understanding that the full cost to the City has been merged with the several prices stated in the "SCHEDULE OF PRICES".
11. The undersigned shall furnish bonds required by the specifications and comply with the laws of the State of Oregon which are pertinent to construction contracts of this nature even though such laws may not have been quoted or referred to in the specifications.
12. Accompanying this Offer is a certified check, cashier's check or a bid bond, in the sum of \$ _____, payable to the City of St. Helens, Oregon, this being an amount for ten percent (10%) of the total bid based upon the estimate of quantities at the above price according to the conditions of the advertisement. If this Offer is accepted by the City and the undersigned fails to execute a satisfactory contract and bonds as stated in the Advertisement within ten (10) working days from the date of notification, then the City may, at its option, determine that the undersigned has abandoned the contract and there upon this Offer shall be considered null and void, and the bid security accompanying this Offer shall be forfeited to and become the property of the City of St. Helens. If bid is not accepted, bid security accompanying this Offer shall be returned to the undersigned.
13. The undersigned agrees to be bound by and will comply with the provisions of ORS 279C.838 or 279C.840 or 40 U.S.C. 3141 to 3148, the Oregon Prevailing Wage law or the Federal Davis Bacon Act, as applicable.

BID SCHEDULE A

Schedule of Prices

ITEM	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
MOBILIZATION AND TRAFFIC CONTROL (00200)				
1 Mobilization (00210)	LS	ALL		
2 Temporary Work Zone Traffic Control, Complete (00225)	LS	ALL		
3 Flaggers (00223)	HR	160		
4 Erosion Control (00280)	LS	ALL		
5 Inlet Protection Type 3 (00280)	EA	4		
MOBILIZATION AND TRAFFIC CONTROL SUBTOTAL				
ROADWORK (00300)				
6 Construction Survey Work (00305)	LS	ALL		
7 Removal of Structures and Obstructions (00310)	LS	ALL		
8 General Excavation (00330)	CY	80		
ROADWORK SUBTOTAL				
DRAINAGE & SEWERS (00400)				
9 Rock Excavation (00405)	CY	470		
10 Vibration Monitoring (00405)	LS	ALL		
11 Trench Resurfacing (00495)	SY	240		
12 Trench Resurfacing, Temporary (00495)	SY	67		
DRAINAGE & SEWERS SUBTOTAL				
BASES (00600)				
13 Aggregate Base (00640)	TON	27		
BASES SUBTOTAL				
WEARING SURFACES (00700)				
14 Level 3, 1/2 inch ACP Mixture (00744)	TON	10		
15 Concrete Curbs, Standard 6" Curb (00759)	LF	87		
16 Concrete Curbs, Standard Curb and Gutter (00759)	LF	20		
17 Concrete Walks (00759)	SF	402		
WEARING SURFACES SUBTOTAL				
PERMANENT TRAFFIC CONTROL & ILLUMINATION SYSTEMS (00900)				
18 Installing Conduit Furnished By Comcast, 2" (00966)	LF	946		
19 Installing Conduit Furnished By Lumen, 4" (00966)	LF	911		
20 Installing Conduit Furnished By Fatbeam, 2" (00966)	LF	721		
21 Installing Conduit Furnished By CRPUD, 2" (00966)	LF	2,733		
22 Joint Utility Trench (00966)	SF	1,680		
23 Installing Utility Vaults Furnished By Utility (28" x 41" x 36") (00966)	EA	4		
24 Installing Utility Vaults Furnished By Utility (78" x 36" x 48") (00966)	EA	2		
25 Installing Utility Vaults Furnished By Utility (17" x 30" x 24") (00966)	EA	1		
26 Installing Utility Vaults Furnished By Utility (60" x 84") (00966)	EA	2		
PERMANENT TRAFFIC CONTROL & ILLUMINATION SYSTEMS SUBTOTAL				
RIGHT-OF-WAY DEVELOPMENT (01000)				
27 Bark Mulch (01040)	CY	4		
RIGHT-OF-WAY DEVELOPMENT SUBTOTAL				
TOTAL CONSTRUCTION COST				



SCHEDULE OF PRICES

BID SCHEDULE B

**UNDERGROUNDING ELECTRICAL SERVICES AT THE 1ST/ST HELENS INTERSECTION
PROJECT NO. R-685A**

	KIND OF WORK		DATE		
	Electrical		1/22/24		
ITEM #	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
1.	3" PVC	LF	415		
2.	3" RGS	LF	30		
3.	3" PVC FACTORY ELBOW	EA	6		
4.	3" RGS FACTORY ELBOW	EA	3		
5.	3/0 AWG CU XHHW	CLF	0.3		
6.	METERBASE 200A	EA	1		
7.	TRENCHING & BACKFILL	LF	298		
8.	TRENCH RESURFACING	SY	33.1		
9.	Mobilization	LS	1		
10.	Erosion Control	LS	1		
11.	Traffic Control	LS	1		
12.	Permitting 200A Services	EA	3		
13.	Pull Box, 233-LA	EA	1		
TOTAL BID					

14. The undersigned certifies that the undersigned Contractor is not ineligible to receive a contract for a public work pursuant to ORS 279C.860. Bidder further agrees, if awarded a contract, that every subcontractor will be eligible to receive a contract for a public work pursuant to ORS 279C.860.
15. The undersigned certifies that he undersigned Contractor has not discriminated against minority, women or emerging small businesses enterprises in obtaining any required subcontracts. The bidder understands and acknowledges that it may be disqualified from bidding on this public improvement project as set forth in OAR 137-049-0370, including but not limited to City discovery a misrepresentation or sham regarding a subcontract or that the Bidder has violated any requirement of ORS 279A.110 or the administrative rules implementing the Statute.
16. The undersigned agrees that the time of completion shall be defined in the specifications, and further, the undersigned agrees to initiate and complete this Project by the date stated below.

The Work shall be commenced within five working days after receipt of the written Notice to Proceed.

The Work shall be completed in all respects within 140 calendar days following issuance of the Notice to Proceed and shall be completed no later than July 29, 2024.
17. The undersigned bidder is licensed by the Oregon Construction Contractors Board, the registration is current and valid, and the bidder's registration number is stated below.
18. If applicable, the undersigned bidder is licensed by the State Landscape Contractors Board, the license is current and valid, and the bidder's registration number is stated below.
19. The undersigned acknowledges that, in determining the lowest responsible bidder, City shall, for the purpose of awarding the Contract, add a percent increase to each out-of-state bidder's bid price which is equal to the percent of preference given to local bidders in the bidder's home state, as set forth in the chart located at www.oregon.gov/DAS/EGS/ps/Pages/RecipPref/detail_a_main_page.aspx. "Resident bidder" of Oregon means a bidder that has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid, has a business address in this state and has stated in the bid that the bidder is a "resident bidder" of the State of Oregon. The undersigned represents him/her/it in this bid to be either a Resident or a Nonresident bidder by completing the appropriate blank below.
20. The undersigned hereby represents that no Commissioner, officer, agency or employee of the City of St. Helens is personally interested directly or indirectly in this Contract or the compensation to be paid hereunder and that no representation, statement or statements, oral or in writing, of the City, its Councilors, officers, agents or employees had induced him/her to enter into this Contract, and the documents made a part of its terms.
21. The undersigned has not directly or indirectly induced or solicited any person to submit a false or sham bid or refrain from bidding. The undersigned certifies that this bid has been arrived at independently and submitted without connection with any person, firm or corporation making a bid for the same project and is, in all respects, fair and without collusion or fraud.
22. The undersigned confirms that this firm has a Qualified Drug Testing Program for employees in place and will demonstrate this prior to award of Contract.
23. The undersigned confirms that if this Contract involves asbestos abatement or removal, the bidder is licensed under ORS 468A.710 for asbestos removal. Asbestos abatement is not implicated in this Contract.
24. The City of St. Helens may waive minor informalities, reject any bid not in compliance with all prescribed public bidding procedures and requirements, and may reject for good cause any or all bids upon a finding that it is in the public interest to do so.
25. The undersigned confirms that this offer is not contingent upon City's acceptance of any terms and conditions other than those contained in the Solicitation and Contract Documents.
26. The bidder acknowledges that the Addendum(s) listed below have been reviewed online or a copy obtained and considered as part of the submittal of this Offer and Schedule of Prices. **ADDENDA NUMBERED [REDACTED] THROUGH [REDACTED] HAVE BEEN REVIEWED.**

27. Bidder information and signature.

NAME OF BIDDER _____

BIDDER IS A RESIDENT OF THE STATE OF _____
(See ORS 279A.120)

CONSTRUCTION CONTRACTORS BOARD LICENSE NO _____

SIGNATURE OF BIDDER'S AUTHORIZED REPRESENTATIVE _____

OFFICIAL TITLE OF BIDDER'S AUTHORIZED REPRESENTATIVE _____

DATE BID IS SIGNED _____

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING

Project No. R-685A

City of St. Helens, Oregon

Person designated to receive form: John Walsh, City Administrator Phone #: 503-397-6272

BID SUBMISSION DEADLINE Date: February 15, 2024 Time: 2:00pm ☐AM ☒PM

If the bid is more than \$100,000 this form must be submitted at the location specified in the Invitation to Bid on the advertised bid submission deadline and within two (2) working hours after the advertised bid submission deadline.

List below the Name, Dollar Value and Category of Work of each subcontractor that will be furnishing labor or labor and materials and that is required to be disclosed, the dollar value of the subcontract and the category of work that the subcontractor will be performing. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED).

SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK

The above listed first-tier subcontractor(s) are providing labor or labor and materials with a Dollar Value equal to or greater than:

a) 5% of the total Contract Price, or \$15,000 whichever is greater (including all alternates). If the Dollar Value is less than \$15,000 do not list the subcontractor above; or

b) \$350,000 regardless of the percentage of the total Contract Price.

Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award. THIS DOCUMENT SHALL NOT BE FAXED. IT IS THE RESPONSIBILITY OF BIDDERS TO SUBMIT THIS DISCLOSURE FORM AND ANY ADDITIONAL SHEETS BY THE DEADLINE. SEE INSTRUCTIONS TO BIDDERS.

Deliver form to: City Administrator
City Hall, City of St. Helens
265 Strand Street
St. Helens, OR 97051

Form Submitted by (Bidder Name): _____

Contact Name: _____ Phone Number: _____

FIRST TIER SUBCONTRACTORS

Each first-tier subcontractor must disclose the following information before the Notice To Proceed shall be issued:

(Make additional copies as needed for each subcontractor)

Subcontractor/Address: _____

For: _____

\$ _____

Builders Board No. _____ Expires _____

Worker's Comp. Verified: ☐ Yes ☐ No

Insurance Company _____ Policy No. _____ Expires _____

City of St Helens Business License _____

Part 2

Contract Documents



**CITY OF ST. HELENS, OREGON
STANDARD PUBLIC IMPROVEMENT
CONTRACT**

**S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
UNDERGROUNDING**

Project No. R-685A

This Contract is between the CITY OF ST. HELENS, a municipal corporation of the State of Oregon (City) and [REDACTED] (Contractor). The City's Project Manager for this Contract is Alexander Bird.

1. Effective Date and Duration

This Contract is effective on [REDACTED], 20[REDACTED], or on the date at which every party has signed this Contract, whichever is later. The Work under this Contract shall, unless otherwise terminated or extended, be completed on or before July 29, 2024.

2. Statement of Work

General description of the Work and quantities:

The General Character of the Work under this Contract includes the construction of underground conduits for franchise utilities including vaults, handholes, sweeps, service conduits and other materials required. Provide all trenching, backfill and cover, conduit and fittings, conductors and all other labor and materials not furnished by the franchise utility companies. Work also includes the installation, maintenance and removal of temporary traffic control and erosion control measures, and the removal and replacement of existing sidewalks and pavement.

The Work is fully described in the Contract Documents, which are hereby incorporated herein and made a part hereof by this reference. The statement of work, including the delivery schedule for the Work, is contained in **Exhibit A**. Contractor shall, at its own risk and expense, perform the Work described in the Contract Documents and furnish all permits, labor, tools, machinery, materials, transportation, equipment and services of all kinds required for, necessary for, or reasonable incidental to, performance of the Work, that is, the construction of this Project for the City of St. Helens, Oregon, as shown in the Contract Documents. Contractor shall secure all Municipal, County, State, or Federal Permits or licenses including but not limited to payment of permit fees, license fees and royalties necessary or incident to performance of the Work on this Contract. The risk of loss for such Work shall not shift to the City until written acceptance of the Work by the City.

3. Consideration

- a. City agrees to pay Contractor, at the times and in the manner provided in the Contract Documents, the sum of _____ (\$ _____) for accomplishing all the Work required by this Contract and the Contract Documents.
- b. Any progress payments to Contractor shall be made only in accordance with the schedule and requirements in **Exhibit A**, if applicable, and Section 21 of the Standard Terms and Conditions for Public Improvement Contracts.
- c. City certifies that sufficient funds have been appropriated to make payments required by this Contract during the current fiscal year. Payment for Work performed after June 30 of any given year is subject to funds being appropriated by the St. Helens City Council. If funds are not appropriated, the City may terminate this Contract for convenience by notice to the Contractor.

CONTRACTOR DATA, CERTIFICATION, AND SIGNATURE

Business Name (Please Print): _____

Contact Name: _____ Phone: _____ Fax: _____

Address: _____

Social Security #: _____ St. Helens Business License #: _____

Federal Tax ID#: _____ State Tax ID #: _____

Construction Contractors Board #: _____

Citizenship: Nonresident Alien ☒ Yes ☐ No

Business Designation (check one): ☐ Individual ☐ Sole Proprietorship ☐ Partnership
 ☐ Corporation ☐ Government/Nonprofit

The above information must be provided prior to contract approval. Payment information will be reported to the Internal Revenue Service (IRS) under the name and taxpayer I.D. number provided above. (See IRS 1099 for additional instructions regarding taxpayer ID numbers.) Information not matching IRS records could subject you to withholding.

I, the undersigned, understand that the Standard Terms and Conditions For Public Improvement Contracts and Exhibits A through J together with all other Contract Documents as described in Section 5 of the Standard Terms and Conditions For Public Improvement Contracts, and the separately bound 2021 Oregon Standard Specifications for Construction, and the City Public Facilities Construction Standards Manual, are an integral part of this Contract and agree to perform the Work described in the Contract Documents, including but not limited to Exhibit A, in accordance with the terms and conditions of this Contract. I further understand the City is prohibited from entering into a contract when the contractor has neglected or refused to file any return, pay any tax, or properly contest a tax, pursuant to ORS305.385; I hereby certify, under penalty of perjury and false swearing, that I/my business am/is not in violation of any Oregon Tax Laws; I further certify that I am an independent contractor as defined in ORS 670.600.

Signed by Contractor:

Signature/Title	Date
-----------------	------

NOTICE TO CONTRACTOR: This Contract does not bind the City of St. Helens unless and until it has been executed by the Mayor after authorization by the City Council at a public meeting.

CITY OF ST. HELENS SIGNATURE

Approved: _____

Mayor Rick Scholl _____ Date _____

Authorized by the full Council on _____

Attest: _____

City Recorder	Date

Reviewed: _____

City Attorney	Date
---------------	------

CITY OF ST. HELENS

STANDARD TERMS AND CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS

1. Contractor is Independent Contractor

- a. Contractor shall perform the Work required by this Contract as an independent contractor. Although the City 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, the City 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.
- b. 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, as certified on the Independent Contractor Certification Statement attached as Exhibit C.
- c. Contractor will be responsible for any federal, state or local taxes applicable to any compensation or payment paid to Contractor under this Contract.
- d. 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.

2. Subcontracts and Assignment

Contractor shall not subcontract any of the Work required by this contract, or assign, sell, dispose of, or transfer any of its interest in this contract, nor delegate duties under the contract, either in whole or in part, without the prior written consent of the City. Such consent, if provided, shall not relieve the Contractor of any of the obligations under the contract. Any assignee or transferee shall be considered the agent of the Contractor and be bound to abide by all provisions of the Contract. Contractor agrees that if subcontractors are employed in the performance of this contract, the Contractor and its subcontractors are subject to the requirements and sanction of ORS Chapter 656, Workers' Compensation.

Use of Subcontractors, material suppliers or equipment suppliers shall in no way release Contractor from any obligations of the Contract with City. Contractor will provide in all subcontract agreements that the Subcontractor, material supplier and equipment supplier will be bound by the terms and conditions of this Contract to the extent that they relate to the Subcontractor's work, material or equipment. All subcontracts are assignable to the City at City's option, in the event this agreement is terminated for default of Contractor.

3. No Third Party Beneficiaries

City and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this contract gives or provides any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

4. Successors in Interest

The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and approved assigns, if any.

5. Contract Documents

The Contract Documents, which comprise the entire Contract between the City and Contractor, include all sections or parts of the bid package however denominated, including all documents and plans attached or referenced therein, the Notice to Contractors - Invitation to Bid, Offer, First-Tier Subcontractors Disclosure Form, Surety Bid Bond, Public Improvement Contract, Contract Standard Terms and Conditions and Exhibits thereto, Performance Bond, Payment Bond, Special Provisions, Plans entitled **S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING, PROJECT R-685A**, Construction Drawings, Standard Drawings, and Contract Addendums, all attached hereto, and incorporated herein by this reference, together with the Prevailing Wage (BOLI) if applicable AND any other separately bound reference, 2021 Oregon Standard Specifications for Construction, the City of

St. Helens Engineering Department Public Facilities Construction Standards Manual Appendix to St. Helens Community Development Code, incorporated herein by this reference. All exhibits, schedules and lists attached to the Contract Documents, or delivered pursuant to the Contract Documents, shall be deemed a part of the Contract Documents and incorporated herein, where applicable, as if fully set forth herein.

6. Contractor's Representations

By executing this Contract, the Contractor hereby certifies that the representations made by the Contractor in the Contract Documents, including specifically the Offer, are true and correct and are incorporated herein by this reference. Contractor further certifies that Contractor has given the City written notice of conflicts, errors, ambiguities, or discrepancies that it has discovered in the Contract Documents, and the written resolution thereof by the City is acceptable to the Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the Project Work.

7. Drug Testing

Contractor shall demonstrate to the City that it has a drug-testing program in place.

8. Notice to Proceed

Written Notice to Proceed will be given by the City after the Contract has been executed and the performance bond, payment bond, public works bond and all required insurance documents approved, and a pre-construction meeting has been held with the Contractor's and City's key personnel. Notice to proceed shall not be unreasonably delayed and shall generally occur within thirty (30) days of the Contract Date. Reasonable delay may be occasioned by the need to obtain necessary permits or easements or utility relocation. The Contractor shall commence the project Work within five (5) days of the date of the written Notice to Proceed. Contractor is not to commence Work under the Contract prior to such written notice.

9. Suspension of the Work

The City, and its authorized representatives, may suspend portions or all of the project Work due to causes including, but not limited to:

- a. Failure of the Contractor to correct unsafe conditions;
- b. Failure of the Contractor to carry out any provision of the Contract;
- c. Failure of the Contractor to carry out orders;
- d. Conditions, in the opinion of the City, which are unsuitable for performing the project Work;
- e. Allowance of time required to investigate differing site conditions;
- f. Any reason considered to be in the public interest.

The Contract Time will not be extended, nor will the Contractor be entitled to any additional compensation, if the Work is suspended pursuant to subsections (a), (b) or (c). If the Project Work is suspended pursuant to subsection (f), the Contractor is entitled to a reasonable extension of the contract time and reasonable compensation for all verified costs resulting from the suspension plus a reasonable allowance for overhead with respect to such costs. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such suspension. The foregoing provision concerning compensation in the event of a suspension of Work of this Contract shall not apply if such suspension occurs as a result of the Contractor's violation of any Federal, State, or Local statutes, ordinances, rules or regulations, or as a result of any violation by the Contractor of the terms of this Contract, including a determination by the City that the Contractor has not progressed satisfactorily with the Work in accordance with specifications.

10. Early Termination

The City and the Contractor, by mutual written agreement, may terminate this Contract at any time.

The City may terminate this Contract, in whole or in part, at any time for any reason considered by the City, in the exercise of its sole discretion, to be in the public interest. The City will provide the Contractor, and the Contractor's surety, seven (7) days prior written notice of a termination for convenience.

The City may terminate this Contract in the event of a material breach of the Contract by the Contractor. Prior to such default termination, however, the City shall give to the Contractor written notice of the breach and the intent to terminate for default. If the Party has not cured the breach within 15 days of the date of the notice (or if the breach cannot be cured in 15 days, Contractor has provided a cure plan that has been accepted by City and is making substantial progress in curing), then the City may terminate the Contract for default by giving a written notice of termination for default.

Any termination for default that is found to be improper for any reason shall be converted to a termination for convenience and Contractor's remedies shall be limited as if the termination had been one for convenience at inception.

11. Payment on Early Termination

- a. If this Contract is terminated by mutual agreement, the City shall pay the Contractor for Work performed in accordance with the Contract prior to the termination date in an amount agreed to by the parties as part of the termination agreement. Contractor shall not be entitled to any amount for overhead or profit on uncompleted Work.
- b. If this Contract is terminated by the City for convenience, City shall pay the Contractor for Work properly completed before the termination for convenience, along with costs incurred by Contractor due to the termination. Contractor shall not be entitled to any amount for overhead or profit on uncompleted Work. Contractor shall remain liable for Work performed prior to the termination for convenience.
- c. If this Contract is terminated by the City for default due to a material, uncured breach by the Contractor, then the City shall pay the Contractor, if applicable, as provided Section 12, Remedies for Default. Contractor shall remain liable for Work performed prior to the termination for default.

12. Remedies for Default

In the event of a termination for default by City due to a material, uncured breach by the Contractor, payment to Contractor will be immediately suspended. The City may proceed to complete the Work either itself, by agreement with another contractor, or by a combination thereof. In the event the cost of completing the Work exceeds the remaining unpaid balance of the total compensation provided under this Contract, then the Contractor shall pay to the City the amount of the excess reprourement costs within 14 days of written demand. To the extent that the reprourement costs are lower than the remaining unpaid balance under this Contract, the City shall pay such difference to Contractor. After notice of termination for default, the Contractor and the Contractor's surety shall provide the City with immediate and peaceful possession of the Project site and premises, and materials located on and off the Project site and premises for which the Contractor received progress payment.

The remedies provided to the City under this Contract for a material, uncured breach by the Contractor shall not be exclusive. The City also shall be entitled to any other contractual, equitable or legal remedies that are available.

13. Access to Records

Contractor shall maintain and the City and its authorized representatives shall have access to all books, documents, papers and records of Contractor which relate to this Contract for the purpose of making audit, examination, excerpts, and transcripts for a period of ten years after final payment. Contractor shall follow generally accepted accounting principles. Copies of applicable records shall be made available upon request at no charge to City. Failure to keep records for the required period shall be deemed a spoliation of evidence.

14. Ownership of Work Product

All work products of the Contractor that result from this Contract, including but not limited to background data, documentation and staff work that is preliminary to final reports, are the property of City. Draft documents and preliminary work submitted to the City for review and comment shall not be considered as owned, used or retained by the City until the final document is submitted.

The City shall own all proprietary rights, including but not limited to copyrights, trade secrets, patents and all other intellectual or other property rights in and to such work products. Preexisting trade secrets of the Contractor shall be noted as such and shall not be considered as a work product of this Contract. All such work products shall be considered "works made for hire" under the provisions of the United States Copyright Act and all other equivalent laws.

Use of any work product of the Contractor by the City for any purpose other than the use intended by this contract is at the risk of the City. Use of any work product by Contractor for other than this Project is prohibited without the written consent of the City.

15. Compliance with Applicable Law

Contractor shall comply and require all Subcontractors to comply with all federal, state, and local laws and ordinances, and City contracting rules applicable to the work under this contract, including without limitation ORS Chapter 279A-C and specifically ORS 279A.110, 279A.120, 279A.125, 279C.365, 279C.370, 279C.375, 279C.380, 279C.505, 279C.510, 279C.515, 279C.520, 279C.525, 279C.527, 279C.528, 279C.530, 279C.540, 279C.545, 279C.555, 279C.560, 279C.565, 279C.570, 279C.580, 279C.585, 279C.600 to 279C.625, 279C.650 to 279C.670, and ORS 279C.800 to 279C.870, if applicable.

- a. Contractor shall:
 - 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;
 - 2) Pay all contributions or amounts due the Industrial Accident Fund from the Contractor or subcontractor incurred in the performance of the Contract;
 - 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;
 - 4) Pay to the Department of Revenue all sums withheld from employees under ORS 316.167;
 - 5) Demonstrate that an employee drug testing program is in place;
 - 6) To the extent the Work includes demolition, salvage or recycle construction and demolition debris, if feasible and cost-effective;
 - 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.
- b. If the Contractor fails, neglects or refuses to pay promptly a person's claim for labor or services that the person provides to the contractor or a subcontractor in connection with the Contract as the claim becomes due, City may pay the amount of the claim to the person that provides 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.
- c. 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 City, 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.
- d. If Contractor or its subcontractor fails, neglects or refuses to pay a person that provides 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.
- e. Paying a claim in the manner authorized (b) through (d) above does not relieve the Contractor or the Contractor's surety from obligation with respect to an unpaid claim.
- f. 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:
 - 1)
 - i. 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

- ii. 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
- 2) For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.
- g. Contractor shall give notice in writing to employees who work on Work covered by the Contract, either at the time of hire or before commencement of work on the Contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.
- h. Contractor shall promptly, as due, make payment to any person, copartnership, 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.
- i. Contractor shall comply with ORS 656.017 unless exempt under ORS 656.126.
- j. The withholding of retainage by Contractor and its subcontractors shall be in accordance with ORS 701.420.
- k. In accordance with ORS 279C.560, unless City finds in writing that accepting a bond, security or other instrument poses an extraordinary risk that is not typically associated with the bond, security or other instrument, City will approve the Contractor's written request to deposit bonds, securities or other instruments with the City or in a custodial account or other account satisfactory to City with an approved bank or trust company, to be held instead of cash retainage for the benefit of City. In such event, City will reduce the cash retainage by an amount equal to the value of the bonds, securities and other instruments. Interest or earnings on the bonds, securities and other instruments shall accrue to the Contractor. Bonds, securities and other instruments deposited instead of cash retainage shall be assigned to or made payable to City and shall be of a kind approved by the Director of the Oregon Department of Administrative Services, including but not limited to: Bills, certificates, notes or bonds of the United States; Other obligations of the United States or agencies of the United States; Obligations of a corporation wholly owned by the federal government; Indebtedness of the Federal National Mortgage Association; General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon; or Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008. The Contractor shall execute and provide such documentation and instructions respecting the bonds, securities and other instruments as City may require to protect its interests. When City determines that all requirements for the protection of City's interest have been fulfilled, the bonds and securities deposited instead of cash retainage will be released to the Contractor. If City accepts a surety bond from Contractor in lieu of retainage, Contractor shall accept like bonds from its subcontractors or suppliers from which Contractor has retainage. Contractor shall then reduce the moneys Contractor holds as retainage in an amount equal to the value of the bond and pay the amount of the reduction to the subcontractor or supplier.
- l. City shall make progress payments on the Contract monthly as work progresses. Payments shall be based upon estimates of work completed that are approved by City. A progress payment is not considered acceptance or approval of any work or waiver of any defects therein. City shall pay to 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 City, whichever is the earlier date. The rate of interest charged to City on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after receipt of the invoice from Contractor or 15 days after the payment is approved by City, whichever is the earlier date, but the rate of interest may not exceed 30 percent. Interest shall be paid automatically when payments become overdue. City shall document, calculate and pay any interest due when payment is made on the principal. Interest payments shall accompany payment of net due on the Contract. City will not require Contractor to petition, invoice, bill or wait additional days to receive interest due. When 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, City shall so notify Contractor within 15 days stating the reason or reasons the invoice is defective or improper or the

reasons for the dispute. A defective or improper invoice, if corrected by Contractor within seven days of being notified by City, may not cause a payment to be made later than specified in this section unless interest is also paid. If requested in writing by a subcontractor, Contractor, within 10 days after receiving the request, shall send to the subcontractor a copy of that portion of any invoice, request for payment submitted to City or pay document provided by City to Contractor specifically related to any labor or materials supplied by the subcontractor. Payment of interest may be postponed when payment on the principal is delayed because of disagreement between City and Contractor.

- m. City will reserve as retainage from all progress payment five percent (5%) of the payment. As work progresses, City may (but is not required) reduce the amount of the retainage and City may (but is not required) eliminate retainage on any remaining monthly contract payments after 50 percent of the Work under the Contract is completed if, in City's opinion, such work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by Contractor, and the application shall include written approval of Contractor's surety. However, when the contract work is 97.5 percent completed, City may, at the City's sole discretion and without application by Contractor, reduce the retained amount to 100 percent of the value of the Work remaining to be done. Upon receipt of a written application by Contractor, the City shall respond in writing within a reasonable time. The retainage held by City shall be included in and paid to Contractor as part of the final payment of the Contract Price. City shall pay to Contractor interest at the rate of 1.5 percent per month on the final payment due Contractor, interest to commence 30 days after the work under the Agreement has been completed and accepted and to run until the date when the final payment is tendered to Contractor. Contractor shall notify City in writing when the contractor considers the work complete and Owner shall, within 15 days after receiving the written notice, either accept the work or notify Contractor of work yet to be performed on the Contract. If City does not, within the time allowed, notify Contractor of work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run 30 days after the end of the 15-day period.
- n. Contractor shall include in each subcontract for property or services the Contractor enters into with a subcontractor, including a material supplier, for the purpose of performing this Contract:
 - 1) A payment clause that obligates Contractor to pay subcontractor for satisfactory performance under the subcontract within 10 days out of amounts the City pays to Contractor under the Contract.
 - 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.
 - 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.
 - 4) An interest penalty clause that obligates Contractor, if the Contractor does not pay the subcontractor within 30 days after receiving payment from City, 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 paragraph 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 City 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).
- o. 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.

The requirements applicable to contractors set forth in these sections are all incorporated into this contract by this reference as though set forth herein in their entirety. Contractor also expressly agrees to comply with: (i) Title VI of the Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1990, as amended (iv) ORS 659A.142, (v) all regulations and administrative rules established pursuant to those laws; and (vi) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. In addition, Contractor expressly agrees to comply with all federal and state tax laws. A condition or clause required by law to be in this contract shall be considered included and incorporated into the Contract and made a part as if set forth herein in its entirety.

16. Licensing with Construction Contractor's Board

The Contractor hereby certifies that the Contractor is licensed with the Construction Contractors Board in accordance with ORS 701.021 to 701.042 and, further, that all subcontractors performing work under this contract, unless exempt, shall also be licensed with the Construction Contractors Board before the subcontractors commence work under the contract.

17. Prevailing Wages

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 Agreement 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.

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.

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.

Contractor shall furnish to City 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, City, 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.

18. Change Orders/Extra Work

The Contractor agrees to complete this Contract in accordance with the attached specifications and requirements, including any change orders. A change order submitted by the City must be agreed upon by the Contractor and the City, and in the event of failure to so agree, the City may then proceed with any additional work in any manner the City may choose. A decision by the City to proceed to have work done by another party shall in no way relieve either the Contractor or City of this Contract and neither will such action be cause for collection of damages by either party to the contract, one from the other. Only the City Council or designated Contracting Officer with delegated contracting authority can authorize extra (and/or changed) work and compensation. Such authorization must be in writing. The parties expressly recognize that City personnel are not authorized to order extra (and/or) changed work or to waive contract requirements or authorize additional compensation. Failure of the Contractor to secure City authorization for extra work shall constitute a waiver of any and all claims or rights to adjustment in the Contract Price or Contract Time due to such unauthorized extra work and thereafter Contractor shall be entitled to no compensation whatsoever for the performance of such work. Contractor further expressly waives any and all right or remedy by way of restitution and quantum meruit for any and all extra work performed by Contractor without express and prior authorization of the City.

If Contractor proposes an alternative material, process or system to City, or supplies City with specifications or plans for use in the Project, Contractor warrants to City that such alternative material, process or system is adequate, accurate, complete, fit for its intended purpose, and, if accepted by City, that an acceptable result will be achieved. Contractor, at its own cost, will remedy, any Work that violates this warranty until an acceptable result is achieved.

19. Inspection and Acceptance

Inspection and acceptance of all work required under this contract shall be performed by the City. The Contractor shall be advised of the acceptance or of any deficiencies in the deliverable items.

20. Liquidated Damages

City and Contractor recognize that time is of the essence of this Contract and that City will suffer substantial financial loss if the project work is not completed within the timeframe specified in Section (1) of the Public Improvement Contract. City and Contractor also recognize the difficulties involved in proving in a legal or other dispute resolution preceding the actual loss suffered by City if the project work is not completed on time. Accordingly, instead of requiring any such proof, City and Contractor agree that as liquidated damages for delay (but not as a penalty) the Contractor shall pay the City one hundred fifty dollars per day (\$150/day) for each and every day that elapses in excess of the Contract Time. This amount is a genuine pre-estimation of the damages expected because of a delay in the completion of this project.

Any sums due as liquidated damages shall be deducted from any money due or which may become due to the Contractor under this Contract. Payment of liquidated damages shall not release the Contractor from obligations in respect to the fulfillment of the entire contract, nor shall the payment of such liquidated damages constitute a waiver of the City's right to collect any additional damages which may be sustained by failure of the Contractor to complete the work on time. Permitting the Contractor to continue and finish the project work or any part thereof after the Contract Time has expired shall in no way operate as a waiver on the part of the City or any of its rights under this Contract. The City may in its discretion grant the Contractor an extension of time upon a showing made by the Contractor that the work has been unavoidably delayed by conditions beyond the control of Contractor.

21. Liability, Indemnity and Hold Harmless

Contractor warrants that all its work will be performed in accordance with the Contract Documents, in accordance with generally accepted practices and standards, as well as in accordance with the requirements of applicable federal, state, and local laws. Acceptance of Contractor's work by City shall not operate as a waiver or release.

The Contractor shall hold harmless, indemnify, and defend City, its officers, agents, and employees from any and all liability, actions, claims, losses, damages or other costs of whatsoever nature, including attorney's fees and witness costs (at both trial and appeal level, whether or not a trial or appeal ever takes place) that may be asserted by any person or entity arising from, during or in connection with the performance of the Work, actions or failure to perform actions, and other activities of Contractor or its officers, employees, subcontractors or agents, under this Contract, including the negligent professional acts, errors, or omissions of Contractor or its officers, employees, subcontractors, or agents. Such indemnification shall also cover claims brought against City under state or federal workers compensation laws. This indemnity provision excludes liability arising out of the sole negligence of the City and its employees.

The Contractor shall assume all responsibility for the work and shall bear all losses and damages directly or indirectly resulting to the Contractor, to the City, to the Engineer, and to their officers, agents, and employees on account of (a) the character or performance of the work, (b) unforeseen difficulties, (c) accidents, or (d) any other cause whatsoever. The Contractor shall assume this responsibility even if (a) fault is the basis of the claim, and (b) any act, omission or conduct of the City connected with the Contract is a condition or contributory cause of the claim, loss, damage or injury.

Contractor waives any and all statutory or common law rights of defense and indemnification by the City.

Contractor shall also defend and indemnify City from all loss or damage that may result from Contractor's wrongful or unauthorized use of any patented article or process.

If any aspect of the above indemnities shall be found to be illegal or invalid for any reason whatsoever, such illegality or invalidity shall be stricken to the extent illegal or invalid, with the remaining terms continuing to be valid, and such shall not affect the validity of the remainder of this indemnification.

Any specific duty or liability imposed or assumed by the Contractor as may be otherwise set forth in the Contract documents shall not be construed as a limitation or restriction of the general liability or duty imposed upon the Contractor by this section.

In the event any such action or claim is brought against the City, the Contractor shall, if the City so elects and upon tender by the City, defend the same at the Contractor's sole cost and expense, promptly satisfy any judgment adverse to the City or to the City and the Contractor jointly, and reimburse the City for any loss, cost, damage, or expense, including attorney fees, suffered or incurred by the City.

22. Insurance

The Contractor shall provide and maintain during the life of this Contract the insurance coverage as described in Exhibit B. All costs for such insurance shall be borne by the Contractor and shall be included in the Contract Price. In case of the breach of any provision of this section, the City may elect to take out and maintain at the expense of the Contractor such insurance as the City may deem proper. The City may deduct the cost of such insurance from any monies that may be due or become due the Contractor under this Contract. Failure to maintain insurance as provided is a material breach and cause for default termination of the Contract. Contractor shall furnish City certificates of insurance acceptable to City prior to execution by the City and before Contractor or any subcontractor commences work under this Contract. The certificate shall show the name of the insurance carrier, coverage, type, amount (or limits), policy numbers, effective and expiration dates and a description of operations covered. The certificate will include the deductible or retention level and required endorsements. Insuring companies or entities are subject to City's acceptance. If requested, copies of insurance policies shall be provided to the City. Contractor shall be responsible for all deductibles, self-insured retention's, and/or self-insurance. Approval of the insurance shall not relieve or decrease the liability of the Contractor hereunder.

23. Bonds / Notice of Bond Claims

At the time of execution of the Contract, the Contractor shall furnish Performance and Payment Bonds written by a corporate surety or other financial assurance in an amount equal to the amount of the Contract Price based upon the estimate of quantities or lump sum as set forth in the Contract. The bonds shall be continuous in effect and shall remain in full force and effect until compliance with and fulfillment of all terms and provisions of the Contract, including the warranty obligation of Section 24, all applicable laws and the prompt payment of all persons supplying labor and/or material for prosecution of the work. The bonds or other financial assurance is subject to approval by the City.

24. Two-Year Warranty

- a. In addition to and not in lieu of any other warranties required under the Contract, Contractor shall make all necessary repairs and replacements to remedy, in a manner satisfactory to the City and at no cost to the City, any and all defects, breaks or failures of the Work occurring within two years following the date of final completion due to faulty or inadequate materials or workmanship. Contractor shall also repair any damage or disturbances to other improvements under, within, or adjacent to the Work, whether or not caused by settling, washing, or slipping, when such damage or disturbance is caused, in whole or in part, from activities of the Contractor in performing its duties and obligations under this Contract when such defects or damage occur within the warranty period. The two-year warranty period shall, with relation to such required repair, be extended two years from the date of completion of such repair.
- b. If Contractor, after written notice, fails within ten days to proceed to comply with the terms of this section, City may have the defects corrected, and the Contractor and Contractor's surety shall be liable for all expense incurred. If Contractor, after two attempts, fails to make all necessary repairs and replacements to remedy, in a manner satisfactory to the City, any identified defect, break or failure of the Work, Contractor will be deemed to be in breach of warranty and City may have the defects corrected, and the Contractor and Contractor's surety shall be liable for all expense incurred. In case of an emergency where, in the opinion of the City, delay would cause serious loss or damage, repairs may be made without notice being given to Contractor and Contractor or Surety shall pay the cost of repairs. Failure of the City to act in case of an emergency shall not relieve Contractor or Surety from liability and payment of all such costs.

25. Nondiscrimination in Labor

Contractor shall comply with provisions of City's Equal Opportunity Policy and comply with ORS Chapter 659 and ORS Chapter 659A relating to unlawful employment practices and discrimination by employers against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, national origin, marital status or age if the individual is 18 years of age or older, or because of the race, color, religion, sex, sexual orientation, national origin, marital status or age of any other person with whom the individual associates, or because of an individual's juvenile record that has been expunged pursuant to ORS 419A.260 and 419A.262 or to refuse to hire or employ or to bar or discharge from employment such individual or to discriminate against such individual in compensation or in terms, conditions or privileges of employment.

26. Environmental Regulations

- a. Pursuant to ORS 279C.525(1), the following is a list of federal, state and local agencies which have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of the Contract.

Federal Agencies:

- Agriculture, Department of Forest Service, Soil Conservation Service
- Defense, Department of Army Corps of Engineers Energy, Department of
- Federal Energy Regulatory Commission Environmental Protection Agency
- Health and Human Services, Department of
- Housing and Urban Development, Department of
- Solar Energy and Energy Conservation Bank
- Interior, Department of
- Bureau of Land Management, Bureau of Indian Affairs , Bureau of Mines , Bureau of Reclamation
- Geological Survey, Minerals Management Service
- U.S. Fish and Wildlife Service
- Labor, Department of Mine Safety and Health Administration Occupational Safety and Health Administration
- Transportation, Department of Coast Guard
- Federal Highway Administration
- Water Resources Council

State Agencies:

- Administrative Services, Department of
- Agriculture, Department of Columbia River Gorge
- Commission Consumer & Business Services, Department of
- Oregon Occupational Safety & Health Division
- Energy, Department of Environmental Quality, Department of Fish and Wildlife, Department of
- Forestry, Department of
- Geology and Mineral Industries, Department of
- Human Resources, Department of
- Land Conservation and Development Commission
- Parks and Recreation, Department of
- Soil and Water Conservation Commission
- State Engineer
- State Land Board (Lands, Division of State)
- Water Resources Department

Local Agencies:

- City of St. Helens City Council
- City Councils
 - County Courts
 - County Commissioners of Columbia County
 - Port Districts
 - County Service Districts
 - Sanitary Districts
 - Water Districts
 - Fire Protection Districts
 - Historical Preservation Commissions
 - Planning Commissions

If the Contractor awarded the project is delayed or must undertake additional Work by reason of the enactment of new statutes, ordinances, rules or regulations relating to the prevention of environmental pollution and the preservation of natural resources or the amendment of existing statutes, ordinances, rules or regulations relating to the prevention of environmental pollution and the preservation of natural resources occurring after the submission of the successful bid, the City may:

- i. Terminate the contract;
 - ii. Complete the work itself;
 - iii. Use non-city forces already under contract with the City;
 - iv. Require that the underlying property owner be responsible for cleanup;
 - v. Solicit bids for a new contractor to provide the necessary services; or
 - vi. Issue the Contractor a change order setting forth the additional work that must be undertaken.
- b. The solicitation documents make specific reference to known conditions at the construction site that may require the Contractor to comply with the ordinances, rules or regulations identified above. If Contractor encounters a condition not referred to in the solicitation documents, not caused by the Contractor and not discoverable by a reasonable pre-bid visual site inspection, and the condition requires compliance with the ordinances, rules or regulations enacted by the governmental entities identified above, Contractor shall immediately give written notice of the condition to the City. Except in the case of an emergency and except as may otherwise be required by any environmental or natural resource ordinance, rule or regulation, the Contractor shall not commence work nor incur any additional job site costs in regard to the condition encountered and described in this section without written direction from City. Upon request by the City, the Contractor shall estimate the emergency or regulatory compliance costs as well as the anticipated delay and costs resulting from the encountered condition. This cost estimate shall be promptly delivered to the City for resolution. Within a reasonable period of time following delivery of an estimate of this section, the City may:
- i. Terminate the contract;
 - ii. Complete the work itself;
 - iii. Use non-city forces already under contract with the City;
 - iv. Require that the underlying property owner be responsible for cleanup;
 - v. Solicit bids for a new contractor to provide the necessary services; or
 - vi. Issue the Contractor a change order setting forth the additional work that must be undertaken.
- c. If the City chooses to terminate the contract under this section, the termination shall be treated as a termination for convenience with Contractor's remedies so limited. If the contracting agency causes work to be done by another contractor, Contractor may not be held liable for actions or omissions of the other contractor. If a change order is issued, the change order shall include an appropriate extension of Contract Time and compensate the Contractor for additional costs reasonably incurred as a result of complying with the applicable statutes, ordinances, rules or regulations. The City shall have access to the Contractor's bid documents when making the contracting agency's determination of any additional compensation due to the Contractor.

Notwithstanding the above, the City has allocated all or a portion of the known environmental and natural resource risks to a Contractor by listing such environmental and natural resource risks with specificity in the solicitation documents.

27. Waiver

The failure of the City to enforce any provision of this contract shall not constitute a waiver by the City of that or any other provision. City shall not be precluded or estopped by any measurement, estimate or certificate made either before or after completion and acceptance of work or payment therefore, from showing the true amount and character of work performed and materials furnished by the Contractor, or from showing that any such measurement, estimate or certificate is untrue or incorrectly made, or that Work or materials do not conform in fact to the Contract Documents. City shall not be precluded or estopped, notwithstanding any such measurement, estimate or certificate, or payment in accordance therewith, from recovering from the Contractor and their Sureties such damages as it may sustain by reason of their failure to comply with terms of the Contract, or from enforcing compliance with the Contract. Neither acceptance by City, or by any representative or agent of the City, of the whole or any part of the work, nor any extension of time, nor any possession taken by City, nor any payment for all or any part of the project, shall operate as a

waiver of any portion of the Contract or of any power herein reserved, or any right to damages herein provided. A waiver of any breach of the Contract shall not be held to be a waiver of any other breach. All waivers by City must be in writing and signed by City.

28. Errors

The Contractor shall perform such additional work as may be necessary to correct its errors in the Work without undue delays and without additional cost.

29. Governing Law

The provisions of this Contract shall be construed in accordance with the laws of the State of Oregon and ordinances of the City of St. Helens, Oregon. Any action or suits involving any question arising under this Contract must be brought in the appropriate court in Columbia County, Oregon. If the claim must be brought in a federal forum, then it shall be brought and conducted in the United States District Court for the District of Oregon (Portland).

30. Severability

If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held invalid.

31. Attorney’s Fees

If a suit or action is filed to enforce any of the terms of this Contract, the prevailing party shall be entitled to recover from the other party, in addition to costs and disbursements provided by statute, its reasonable attorney’s fees and expert expenses.

32. Business License

The Contractor shall obtain a City of St. Helens business license as required by City Ordinance prior to beginning work under this Contract. The Contractor shall provide a business license number in the space provided on page one herein.

33. Notices/Bills/Payments

All notices, bills, and payments shall be made in writing and may be given by personal delivery or by mail. Notices, bills, and payments sent by mail should be addressed as follows:

City:	City Administrator City of St. Helens 265 Strand Street St. Helens, OR 97051 (503) 397-6272
Contractor:	<div></div> <div></div> <div></div> <div></div> <div></div>

And when so addressed, shall be deemed received three (3) days after deposit in the United States Mail, postage prepaid. In all other instances, notices, bills, and payments shall be deemed given at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills, and payments are to be given by giving notice pursuant to this paragraph.

34. Conflict of Interest

Contractor covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

35. Merger Clause

THIS CONTRACT AND ATTACHED EXHIBITS CONSTITUTE THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION OR CHANGE OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION OR CHANGE, IF MADE, SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. BY ITS SIGNATURE, CONTRACTOR ACKNOWLEDGES IT HAS READ AND UNDERSTANDS THIS CONTRACT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.



**S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
UNDERGROUNDING
PROJECT NO. R-685A**

LIST OF EXHIBITS

EXHIBIT A	STATEMENT OF WORK, COMPENSATION, AND PAYMENT SCHEDULE
EXHIBIT B	PUBLIC IMPROVEMENT CONTRACT INSURANCE REQUIREMENTS
EXHIBIT C	CERTIFICATION STATEMENT FOR CORPORATION OR INDEPENDENT CONTRACTOR
EXHIBIT D	BONDS (PAYMENT AND PERFORMANCE)
EXHIBIT E	CERTIFICATE OF SUBSTANTIAL COMPLETION
EXHIBIT F	CERTIFICATE OF COMPLIANCE
EXHIBIT G	CONTRACTOR'S RELEASE OF LIENS AND CLAIMS
EXHIBIT H	CERTIFICATE OF FINAL COMPLETION
EXHIBIT I	INSTRUCTIONS TO BIDDERS
EXHIBIT J	OREGON PREVAILING WAGE RATES

EXHIBIT A

STATEMENT OF WORK, COMPENSATION and PAYMENT SCHEDULE



See Plans and Specifications titled

**S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
UNDERGROUNDING
PROJECT NO. R-685A**

EXHIBIT B

PUBLIC IMPROVEMENT CONTRACT INSURANCE REQUIREMENTS

To: Insurance Agent. Please provide Certificates of Insurance to the Project Manager. During the term of the Contract, please provide Certificates of Insurance prior to each renewal. Insurance shall be without prejudice to coverage otherwise existing. During the term of this Contract, Contractor shall maintain in force at its own expense all insurance noted below:

Workers Compensation insurance in compliance with ORS 656.017. All employers, including Contractor and any subcontractors, that employ subject workers who work under this Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its subcontractors complies with these requirements.

The Contractor shall defend, indemnify and hold harmless, the City and the City's officers, agents, and employees against any liability that may be imposed upon them by reason of the Contractor's or subcontractor's failure to provide workers' compensation and employers liability coverage.

Commercial General Liability insurance on an occurrence basis, with a combined single limit of not less than ☒ \$1,000,000 or ☐ \$3,000,000 for each occurrence of bodily injury, personal injury and property damage. It shall include coverage for broad form contractual liability; broad form property damage; personal and advertising injury; owners and contractor protective; premises/operations; and products/completed operations. Coverage shall not exclude excavation, collapse, underground, or explosion hazards. Aggregate limits shall apply on a per-project basis.

☒ Required by City ☐ Not required by City
(Mayor signature required)

By: P.M. _____

Mayor _____

Commercial Automobile Liability insurance with a combined single limit, or the equivalent of not less than ☒ \$1,000,000 or ☐ \$3,000,000 for each accident for Bodily Injury and Property Damage, including coverage for owned, hired and non-owned vehicles. "Symbol One" coverage shall be designated.

☒ Required by City ☐ Not required by City
(Mayor signature required)

By: P.M. _____

Mayor _____

☐ Builders Risk (*Check here if required*) insurance during construction to the extent of 100 percent of the value of the Work for the benefit of the parties to the Contract as their interest may appear. Coverage shall also include: (1) formwork in place; (2) form lumber on site; (3) temporary structures; (4) equipment; and (5) supplies related to the work while at the site.

Notice of Cancellation or Change. There shall be no cancellation, material change, reduction of limits or intent not to renew the insurance coverage(s) without 30 days written notice from the Contractor or its insurer(s) to the City. This notice provision shall be by endorsement physically attached to the certificate of insurance.

Additional Insured. For general liability insurance and automobile liability insurance the City, and its agents, officers, and employees will be Additional Insureds, but only with respect to Contractor's services to be provided under this Contract. This coverage shall be by endorsement physically attached to the certificate of insurance.

Certificates of Insurance. Contractor shall furnish insurance certificates acceptable to City prior to commencing Work. The certificate will include the deductible or retention level and required endorsements. Insuring companies or entities are subject to City approval. If requested, copies of insurance policies shall be provided to the City. Contractor shall be responsible for all deductibles, self-insured retention's, and/or self-insurance.

EXHIBIT C

CERTIFICATION STATEMENT FOR CORPORATION OR INDEPENDENT CONTRACTOR

A. CONTRACTOR IS A CORPORATION

CORPORATION CERTIFICATION: I am authorized to act on behalf of the entity named below, and certify under penalty of perjury that it is a corporation.

Entity

Signature

Date

B. CONTRACTOR IS INDEPENDENT

Independent Contractor Standards. As used in various provisions of ORS Chapters including but not limited to 316, 656, 657, and 701, an individual or business entity that performs labor or services for remuneration shall be considered to perform the labor or services as an “independent contractor” if the standards of ORS 670.600 are met.

Contractor and Project Manager certify that the Contractor meets the following standards:

1. Contractor is free from direction and control over the means and manner of providing the labor or services, subject only to the specifications of the desired results.
2. Contractor is responsible for obtaining all assumed business registrations or professional occupation licenses required by state law or local ordinances.
3. Contractor furnishes the tools or equipment necessary for the contracted labor or services.
4. Contractor has the authority to hire and fire employees to perform the labor or services.
5. Payment to the Contractor is made upon completion of the performance or is made on the basis of a periodic retainer.
6. Contractor is licensed under ORS chapter 701, if the Contractor provides labor or services for which such license is required.
7. Contractor has filed federal and state income tax returns in the name of the business or a business Schedule C as part of the personal income tax return, for the previous year, for labor or services performed as an independent contractor in the previous year.
8. Contractor represents to the public that the labor or services are to be provided by an independently established business as four or more of the following circumstances exist.

(Check all of the following that apply (must be a minimum of four):)

- ☐ The labor or services are primarily carried out at a location that is separate from Contractors residence or is primarily carried out in a specific portion of Contractors residence, which is set aside as the location of the business.
- ☐ Commercial advertising or business cards are purchased for the business, or Contractor has a trade association membership.
- ☐ Telephone listing is used for the business that is separate from the personal residence listing.
- ☐ Labor or services are performed only pursuant to written contracts.
- ☐ Labor or services are performed for two or more different persons within a period of one year.

☐ Contractor assumes financial responsibility for defective workmanship or for service not provided as evidenced by the ownership of performance bonds, warranties, errors and omissions insurance or liability insurance relating to the labor or services to be provided.

If any action is taken by a person or enforcement agency relating to Contractor’s independent contractor status in connection with this contract, Contractor shall defend, hold harmless and indemnify the City of St. Helens, its elected and appointed officials, employees, volunteers and agents from any such action, claim, judgment, fine, penalty, or order to pay. Contractor shall pay any additional costs incurred by the City in defending such action or incurred as a result of such action. This indemnification is in addition to any indemnification otherwise in this agreement.

Contractor Signature	Date

Project Manager Signature	Date

EXHIBIT D

BONDS





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

Bond No.:

Project Name S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
and No.: UNDERGROUNDING
Project No. R-685A

_____ (Surety)	Bond Amount	\$ _____
_____ (Surety)	Bond Amount	\$ _____

Total Penal Sum of Bond \$ _____

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

We, _____, a corporation or partnership duly organized under the laws of the State of _____, 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 (\$ _____) (_____) 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 _____ day of _____, 20_____.

Surety

By: _____
(Attorney-in-Fact) (Address) (Telephone)

Principal

By: _____
(Address) (Telephone)



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

Bond No.:

Project Name and No.: S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING
Project No. R-685A

_____ (Surety)	Bond Amount	\$ _____
_____ (Surety)	Bond Amount	\$ _____

Total Bond Amount \$ _____

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

We, _____, a corporation or partnership duly organized under the laws of the State of _____, 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 (\$ _____) (_____) 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 _____ day of _____, 20_____.

Surety

By: _____
(Attorney-in-Fact) (Address) (Telephone)

Principal

By: _____
(Address) (Telephone)



EXHIBIT E

CERTIFICATE OF SUBSTANTIAL COMPLETION

CITY'S Project No. R-685A ENGINEER'S Project No. N/A

S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING

CONTRACTOR: _____

Contract For: _____ Contract Date _____

This Certificate of Substantial Completion applies to:

- ☒ All Work under the Contract Documents, or
☐ To the following specified parts thereof:

The Work to which this Certificate applies has been inspected by authorized representatives of CITY, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _____ Days of the above date of Substantial Completion.

The following documents are attached to and made a part of this Certificate:

Effective as of the last date set forth below, the responsibilities between CITY and CONTRACTOR shall be as follows:

Security	<input type="checkbox"/> City	<input checked="" type="checkbox"/> Contractor
Operation	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Contractor
Safety	<input type="checkbox"/> City	<input checked="" type="checkbox"/> Contractor
Maintenance	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Contractor
Heat	<input type="checkbox"/> City	<input type="checkbox"/> Contractor
Utilities	<input type="checkbox"/> City	<input type="checkbox"/> Contractor
Insurance	<input type="checkbox"/> City	<input type="checkbox"/> Contractor
Warranties	<input type="checkbox"/> City	<input checked="" type="checkbox"/> Contractor

Other Responsibilities:

City		Contractor

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of CONTRACTOR'S obligation to complete the Work in accordance with the Contract Documents.

CONTRACTOR accepts this Certificate of Substantial Completion on _____, 20_____

By: _____

CITY accepts this Certificate of Substantial Completion on _____, 20_____

By: _____

File:



EXHIBIT F

CERTIFICATE OF COMPLIANCE

S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING

CIP Number: Project No. R-685A

Contractor: _____

I, (We) hereby certify that all Work has been performed and materials supplied in accordance with the plans, specifications and Contract Documents for the above Project, and that:

1. Not less than the prevailing rates of wages have been paid to laborers, workmen and mechanics employed on this work.
2. There have been no unauthorized substitutions of materials; substitutions or assignment of subcontractors; nor have any subcontracts been entered into without the names of the subcontractors having been submitted to the City prior to the start of such subcontracted work.
3. All claims and indebtedness for material and labor and other service performed in connection with these specifications have been paid.
4. All moneys due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund, the State Department of Revenue (ORS 316.162 to 316.212) hospital associations and/or others (ORS 279C.530) have been paid.
5. All private property and easement areas have been satisfactorily restored in accordance with the Contract.
6. If Contractor is not domiciled in or registered to business in the State of Oregon, Contractor has reported to the Oregon Department of Revenue such information and in the manner as required by ORS 279A.120(3).

Contractor: _____

By: _____ Date _____

Title: _____



EXHIBIT G

CONTRACTOR'S RELEASE OF LIENS AND CLAIMS [PREREQUISITE TO CERTIFICATE OF FINAL COMPLETION]

To: City of St. Helens
265 Strand Street
St. Helens, OR 97051

From: _____

PROJECT: **S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND
ELECTRICAL UNDERGROUNDING**

PROJECT NO: **R-685A**

In connection with our request for final payment for the above Project, I, _____, hereby state that:

- ☐ all subcontractors and suppliers on this Project have been paid in full, all obligations on the Project have been satisfied,
- ☐ all monetary claims and indebtedness on this Project have been paid, and all disputes with property owners have been resolved.
- ☐ There are no liens or claims of any kind outstanding or threatened against the Project.

Furthermore, I agree to indemnify and hold harmless City of St. Helens from any and all claims for labor or materials furnished under the Contract for the above Project.

SWORN STATEMENT

I hereby certify, under penalty of perjury and false swearing, that the foregoing statements are true and correct as I verily believe.

Dated this _____ day of _____, 20_____.

Contractor:

By: _____

Title: _____

STATE OF OREGON

)
) ss

County of _____)

On this _____ day of _____, 20_____, before me personally appeared

_____ Whom I know personally

_____ Whose identity proved on the basis of

_____ Whose identity I proved on the oath/affirmation of

_____, a credible witness to be the signer of the above document, and he/she acknowledged that he/she executed the same under oath/affirmation.

Notary Public for Oregon



EXHIBIT H

CERTIFICATE OF FINAL COMPLETION

Project Number: R-685A

Project: S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING

Contractor: _____

Contract Signed: _____ Contract Expires: _____

Contract Completed: _____ Delinquent: _____

I hereby certify that I have completed my Contract, furnished the materials, and performed the Work as shown by the final estimate, according to the Contract Documents.

Contractor *Title* *Date*

The City has determined the Project is 100% complete in compliance with all Contract Documents.

Inspector/Supervisor *Date*

Project Engineer *Date*

City of St. Helens *City Administrator* *Title* *Date*

Unless otherwise provided as a Special Provision, when City accepts the Certificate of Final Completion, the date the Contractor signs the Certificate of Final Completion shall be the date the City accepts ownership of the work and the start date of the warranty period.



EXHIBIT I

INSTRUCTION TO BIDDERS

The provisions of Oregon Administrative Rules Chapter 137, Divisions 46 and 49, apply to all bids and contracts which incorporate the Public Works Standards of the City of St. Helens into the contract documents of a project. The OAR provisions control over any conflicting language in the Public Works Standards and the OAR provisions are incorporated herein by this reference.

1. SCOPE OF WORK

The work contemplated under this contract includes all permits, labor, tools, machinery, materials, transportation, equipment and services of all kinds required for, necessary for, or reasonable incidental to, the completion of all the work in connection with the project described in the contract documents, including the general conditions, all applicable special conditions, plans, specifications, or any supplemental documents.

2. EEO AFFIRMATIVE ACTION

Bidders must comply with the City of St. Helens Equal Opportunity Policy for Contractors. The policy is included in and made a part of these Contract Documents and is attached hereto and made a part hereof as Attachment A. Contractor shall not discriminate against minorities, women or emerging small business enterprises in the awarding of subcontracts.

3. BID PROVISIONS

- a. Each bid must contain a completed Bid including the following:
 - A. A Bid and Schedule of Prices.
 - B. Acknowledgement that the bidder has received and reviewed all Addenda for the bid.
 - C. A statement that all applicable provisions of ORS Chapters 279A-C, including ORS 279C.800 to 279C.870 (Contracting and Prevailing Wages) shall be complied with.
 - D. A statement by the bidder, as part of their bid, that the bidder agrees to be bound by and will comply with the provisions of ORS 279C.838 or 279C.840 or 40 U.S.C. 3141 to 3148, as applicable.
 - E. A statement as to whether the bidder is a resident bidder as defined in ORS 279A.120.
 - F. A statement as to whether or not the bidder is licensed under ORS 468A.720 for asbestos removal if applicable.
 - G. A statement that the bidder has a current and valid license with the Construction Contractor's Board and/or the State Landscape Contractors Board as required by ORS 671.530.
 - H. A statement confirming that the bidder has a Qualified Drug-testing Program for employees in place.
 - I. First Tier Subcontractor form for the project on the City form (physically received by City within 2 working hours of the bid submission deadline).
 - J. A Surety Bond, Cashier's check or Certified check in the amount of 10 percent of the submitted bid.
 - K. Certification: Non-discrimination
 - L. Certification: No Conflict of Interest
 - M. Certification: Not ineligible for Public Works Contracts
- b. The City will not mail notice of addenda but will publish notice of any addenda on City's website and post the notice of addenda at City Hall at <https://www.sthelensoregon.gov/rfps>. The addenda may be downloaded or picked up at City Hall. Check the website and City Hall bulletin board frequently until the bid submission deadline.
- c. No bid will be received or considered by the City of St. Helens unless the bid contains a statement by the bidder as a part of its bid that the Contractor shall be bound by and will comply with the provisions of ORS 279C.838, 279C.840 or 40 U.S.C. 3141 to 3148. The statement shall be included in the Bid form. The existing prevailing rate of wage in the form of a BOLI document is included in the bid documents.

- d. Each Bidder must identify in the Bid whether the Bidder is a “resident bidder” as defined in ORS 279A.120.
- e. Unless specified in the ITB, and Contract Special Provisions, the bidder or subcontractor need not be licensed under ORS 468A.720 relating to asbestos abatement.
- f. No bid for a construction contract shall be received or considered by the City of St. Helens unless the bidder is licensed with the Construction Contractors Board or licensed by the State Landscape Contractors Board as required by ORS 671.530.
- g. Each Bidder must demonstrate that its firm has a Qualified Drug Testing Program for employees in place and demonstrate compliance prior to award.
- h. Instructions for First-Tier Subcontractors Disclosure. Bidders are required to disclose information about certain first-tier subcontractors when the contract value for a Public Improvement is greater than \$100,000.

Specifically, when the contract amount of a first-tier subcontractor furnishing labor or labor and materials would be greater than or equal to (i) 5% of the project bid, but at least \$15,000, or (ii) \$350,000 regardless of the percentage, the bidder must disclose the following information about that subcontract in its bid submission or within two (2) working hours after bid submission deadline:

- A. The subcontractor’s name,
- B. The dollar value of the subcontract, and
- C. The category of work that the subcontractor would be performing.

If the bidder will not be using any subcontractors that are subject to the above disclosure requirements, the bidder is required to indicate “NONE” on the accompanying form. Disclosure forms will be available for public inspection after the opening of the bids.

THE CITY OF ST. HELENS MUST REJECT A BID AS NON-RESPONSIVE IF THE BIDDER FAILS TO SUBMIT THE DISCLOSURE FORM WITH THE REQUIRED INFORMATION BY THE STATED DEADLINE.

- i. Bid Security. No bid will be received or considered unless the Bid is accompanied by a certified check, cashier's check, (payable to the City of St. Helens), surety bond (in approved form)(f/k/a/ bid bond), or irrevocable letter of credit issued by an insured institution (in an approved form) in an amount equal to ten percent (10%) of the total amount bid. The successful bidder will be required to furnish a faithful performance bond and a labor and material payment bond each in the amount of one hundred percent (100%) of the amount of the contract. Said security shall be irrevocable for 60 days, unless specified otherwise. The bid security shall be forfeited, at the City’s option, as fixed and liquidated damages, if the bidder fails or neglects to furnish the required performance bond, the insurance, or to execute the contract within 10 working days after receiving the contract from the City for execution. When a bond is used for bid security, the bond shall be executed by a surety company authorized to transact business in the State of Oregon. **THE BIDDER SHALL HAVE THE SURETY USE THE SURETY BOND FORM PROVIDED HEREIN. IF THIS FORM IS NOT USED, THE BID WILL BE DEEMED NON-RESPONSIVE AND SHALL BE REJECTED.**

All such certified checks or surety bonds will be returned to the respective bidders within 10 working days after the bids are opened, except those of the two low bidders. The bid security of the two low bidders will be held by the City until the selected bidder has accomplished the following:

- A. Executed a formal contract;
- B. Executed and delivered to the City a Performance Bond and Payment Bond, both in the amount equal to 100% of the Contract Price;
- C. Furnish proof of public works bond filed with BOLI; and
- D. Furnish the required Certificates of Insurance.

Upon the execution and delivery to the City of St. Helens of the Contract and Performance Bond and Payment Bond and furnishing proof of a public works bond filed with BOLI by the successful bidder, the bid security shall be returned to the bidder. The bidder who has been awarded a contract and who fails or neglects to promptly and properly execute the contract or bonds shall forfeit the bid security that accompanied the bid. It is hereby specially provided that a forfeiture of said bid security be declared by the Council if the contract and performance bond and payment bond are not executed and delivered to the City within ten (10) working days of the day of the receipt by the successful bidder of the prepared contract. The Council, at its option, may determine that the bidder has abandoned the submitted accepted bid, in which case the bid security shall become the sole property of the City and shall be considered as liquidated damages and not as a penalty for failure of the bidder to execute the contract and bond. The security of unsuccessful bidders shall be returned to them after the contract has been awarded and duly signed.

- j. A Bidder submitting a bid thereby certifies that no officer, agent, or employee of the City who has a pecuniary interest in this bid has participated in the contract negotiations on the part of the City, that the Bid is made in good faith without fraud, collusion, or connection of any kind with any other Bidder for the same call for bids, and that the Bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.
- k. The Bidder, in submitting the bid, certifies that the Bidder has not been disqualified and is eligible to receive a contract for a public work pursuant to ORS 279C.860 as well as the disqualification provisions of ORS 279C.440 and OAR 137-049-0370. Bidder agrees, if awarded a contract, that every subcontractor will not be ineligible to receive a contract for a public work pursuant to ORS 279C.860 and will otherwise not be disqualified under ORS 279C.440 and OAR 137-049-0370.

4. PREOFFER CONFERENCE AND PREQUALIFICATION OF BIDDERS

If a pre-bid conference is scheduled, notice will be provided in accordance with OAR 137-049-0200(1)(a)(B). If prequalification will be required it will be specifically stated in the Notice to Contractors and Invitation to Bid, including the date prequalification applications must be filed under ORS 279C.430 and the class or classes of work for which bidders must be pre-qualified. For example, the requirement for ODOT Prequalification reads as follows:

Bidders must be pre-qualified with the Oregon Department of Transportation or General Service per ORS 279C.435 to perform the type and size of work contemplated herein and shall submit, to the City upon request. The City will investigate and determine the qualifications for the apparent low bidder prior to awarding the contract.

Applications submitted without being designated for a project advertised for bid by the City will be considered as a general prequalification application and processed pursuant to ORS 279C.430 to 279C.450, and notice of prequalification status will be given within thirty (30) days of the receipt of the application. A notice of disqualification can be given orally. An oral disqualification notice will be followed by written notice and bear the date of the oral notice. (NOTE: No person may engage in any business within the City without first obtaining a City Business License and paying the fee prescribed pursuant to City of St. Helens Ordinance 1392 as amended.)

5. FORM OF BID

- a. Bids shall be submitted in sealed envelopes to:
City Administrator
City of St. Helens
265 Strand Street
St. Helens, Oregon 97051
Attention: John Walsh

The outside of the transmittal envelope shall bear the following information:

Name of Bidder
Address and telephone number of Bidder
Title of Project
Date of opening
The words "Sealed Bid"

If the sealed bid is forwarded by mail or messenger service, the sealed envelope containing the bid, and marked as above, must be enclosed in another envelope addressed as noted above. Facsimile and Electronic Data Interchange bids

shall not be accepted unless otherwise specified in the Special Provisions. No bid will be received or considered by the City unless the bid contains all the Required Bid Documents and Certifications.

- b. All bids must be clearly and distinctly typed or written with ink or indelible pencil and be on the Bid form furnished by Owner. The bid must be signed by the Contractor or a duly authorized agent. If erasures or other changes appear on the form, they shall be initialed in ink by the person who signs the bid. The bidder shall not alter, modify or change the Bid forms except as directed by addendum. All applicable blanks giving general information must be completed, in addition to necessary unit price items and total prices in the column of totals to make a complete bid. The Bid is the bidder's offer to enter into a contract which, if the Bid is accepted for award, binds the bidder to a contract and the terms and conditions contained in the Bid, as well as the Solicitation Documents. A bidder shall not make the Bid contingent upon the City's acceptance of specifications or contract terms which conflict with or are in addition to those advertised in the Notice to Contractors and Invitation to Bid. Any statement accompanying and tending to qualify a bid may cause rejection of such bid, unless such statement is required in a bid embracing alternative bids.
- c. Unless otherwise specified, Bidders shall bid on all bid items included in the bid and the low Bidder shall be determined. Except as provided herein, bids which are incomplete, or fail to reply to all items required in the bid may be rejected.
- d. Bidders shall state whether business is being done as an individual, a co-partnership, a corporation, or a combination thereof, and if incorporated, in what state, and if a co-partnership, state names of all partners. The person signing on behalf of a corporation, a co-partnership or combination thereof shall state their position with the firm or corporation, and state whether the corporation is licensed to do business in the State of Oregon.

6. LATE BIDS

Bids received after the scheduled bid submission deadline set forth in the invitation for bids will be rejected. Bids will be time and date stamped by City Hall personnel upon receipt. Such time and date stamps will govern the determination of on-time submission of bids. Bids received after the time so fixed are late bids. Late bids will be time and date stamped at the time of receipt by City personnel, marked as "Rejected as Late Bid" and will be returned, unopened, to the submitted.

7. INTERPRETATION OF CONTRACT AND ADDENDA

If a bidder finds error, discrepancies in, or omissions from the plans, specifications or contract documents, or has doubt as to their interpretation or meaning, the bidder shall at once notify the City Contact Person. The City will investigate and determine if an addendum will be issued.

If it should appear to a Bidder that the work to be done or matters relative thereto are not sufficiently described or explained in the Contract Documents or that Contract Documents are not definite and clear, or the Bidder needs additional information or an interpretation of the contract, the Bidder may make written inquiry regarding same to the Engineer at least ten (10) days, unless otherwise specified, before the scheduled bid submission deadline for submission of bids.

If, in the opinion of the Engineer, additional information or interpretation is required, an addendum will be issued to all known specification holders.

Any addendum or addenda issued by the City which may include changes, corrections, additions, interpretations or information, and issued seventy-two (72) hours or more before the scheduled bid submission deadline for submission of bids, Saturday, Sunday and legal holidays not included, shall be binding upon the Bidder. City shall supply copies of such Addenda will not be mailed but will be posted on the website and available at City Hall; failure of the Contractor to receive or obtain such addenda shall not excuse them from compliance therewith if they are awarded the contract.

ORAL INSTRUCTIONS OR INFORMATION CONCERNING THE CONTRACT OR THE PROJECT GIVEN OUT BY OFFICERS, EMPLOYEES OR AGENTS OF THE CITY TO PROSPECTIVE BIDDERS SHALL NOT BIND THE CITY.

8. EXAMINATION OF CONTRACT, SITE OF WORK AND SUBSURFACE DATA

- a. Prior to submitting a bid, it is the responsibility of each Bidder to:
 - A. Examine the plans, specifications and contract documents thoroughly.
 - B. Become fully informed as to the quality and quantity of materials and the character of the work required.
 - C. Visit the site to become familiar with local conditions that may affect cost, progress, or performance of the work and sources and supply of materials.
 - D. Consider all federal, state and local laws, ordinances, rules and regulations that may affect cost, progress, or performance of the work, including environmental and natural resource ordinance and regulations
 - E. Consider identified site conditions and conduct pre-bid inspection to address environmental and natural resource laws implicated by the project.
 - F. Study and correlate the Bidder's observations, especially as regards site conditions with the Contract Documents.
 - G. Notify the Contact Person of all conflicts, errors, ambiguities or discrepancies discovered in the Contract Documents.
- b. Bidders shall determine for themselves all the conditions and circumstances affecting the project or the cost of the proposed work, including without limitation utility interferences, by personal examination of the site, careful review of the Contract and by such other means as the Bidder feels may be necessary. It is understood and agreed that information regarding subsurface or other conditions, or obstructions indicated in the Contract Documents, is provided by Owner only for the convenience of Bidders and may not be complete or accurate and such information is not expressly or tacitly warranted to accurately represent actual conditions. Bidder's use of such information shall be at Bidder's sole risk, and Bidder is responsible to confirm any information provided from such independent sources as Bidder feels may be necessary.
- c. Logs of test holes, test pits, soils reports, ground-water levels and other supplementary subsurface information are offered as information of underlying materials and conditions at the locations actually tested. Owner will not be liable for any loss sustained by the Bidder as a result of any variance between conditions contained in or interpretations of test reports and the actual conditions encountered during progress of the work.
- d. The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the site subsurface conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of the Contract.
- e. The City will not pay any costs incurred by any Bidder in the submission of a Bid, or in making necessary studies or designs for the preparation thereof, or for procuring or contracting for the items to be furnished under the invitation to bid. When submitting a bid, the Bidder agrees that consideration has been given to the requirements and conditions contained throughout these bid documents.
- f. Notice: It is further understood that a bid awarded hereunder is subject to the City being able to comply with all zoning and land development ordinances or obtain rezoning of the property where necessary, and comply with local building code restrictions and conditions for structures contemplated in the project, any or all of which conditions may be contained in the contract or contract Special Provisions and if such conditions are not satisfied may result in termination of the contract.

9. FAMILIARITY WITH LAWS AND ORDINANCES

- a. The Bidder is presumed to be familiar with all Federal, State, and local laws, ordinances, and regulations which in any manner affect those engaged or employed in the work or the materials or equipment used in the proposed construction, or which in any way affect the conduct of the work. If the Bidder, or Contractor, shall discover any provision in the Contract which is contrary to or inconsistent with any law, ordinance or regulation, it shall immediately be reported to the Owner in writing.
- b. No person may engage in any business within the City without first obtaining a City business license and paying the fee prescribed pursuant to City of St. Helens Ordinance. The Contractor and their

subcontractors shall obtain a City of St. Helens business license prior to beginning any work within the City of St. Helens.

10. UNIT BIDS

- a. The estimate of quantities of work to be done under unit price bids is approximate and is given only as a basis of calculation for comparison of bids and award of the Contract. The City does not warrant that the actual amount of work will correspond to the amount as shown or estimated. Payment will be made at unit prices under a contract, only for work actually performed or materials actually furnished according to actual measurement that were necessary to complete the work.
- b. Bidders must include in their bid prices the entire cost of each item of work set forth in the bid, and when, in the opinion of the City, the prices in any bid are obviously unbalanced, such bid may be rejected.
- c. The unit contract prices for the various bid items of the contract shall be full compensation for all labor, materials, supplies, equipment, tools and all things of whatsoever nature are required for the complete incorporation of the item into the work the same as though the item were to read "In Place."

11. WITHDRAWAL, MODIFICATION OR ALTERATION OF BID

- a. Bids may be withdrawn on written request received from the bidders prior to the time fixed for opening. The request shall be executed by the bidder or a duly authorized representative. The withdrawal of a bid does not prejudice the right of the bidder to file a new bid. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened. The bid will be irrevocable until such time as the City:
 - A. Specifically rejects the bid, and
 - B. Awards the contract to another bidder and said contract is properly executed.

All bids shall remain subject to acceptance by the City for sixty (60) days after the date of the bid opening.

- b. Prior to Bid Opening, changes may be made provided the change is initialed by the Bidder or the Bidder's agent. If the intent of the Bidder is not clearly identifiable, the interpretation most advantageous to Owner will prevail.
- c. No Bidder may withdraw a bid after bid opening unless sixty (60) days have elapsed and the City has not awarded a contract.

12. MISTAKES IN BIDS

- a. To protect the integrity of the competitive solicitation process and to assure fair treatment of Bidders, City will carefully consider whether to permit waiver, correction or withdrawal for certain mistakes.
- b. Treatment of Mistakes. City shall not allow a Bidder to correct or withdraw a Bid for an error in judgment. If the City discovers certain mistakes in a Bid after Opening, but before award of the Contract, the City may take the following action:
 - A. City may waive, or permit a Bidder to correct, a minor informality. A minor informality is a matter of form rather than substance that is evident on the face of the Bid, or an insignificant mistake that can be waived or corrected without prejudice to other Bidders. Examples of minor informalities include a Bidder's failure to:
 - 1) Return the correct number of Signed Bids or the correct number of other documents required by the Solicitation Document;
 - 2) Sign the Bid in the designated block, provided a Signature appears elsewhere in the Bid, evidencing an intent to be bound; and

- 3) Acknowledge receipt of an Addendum to the Solicitation Document, provided: it is clear on the face of the Bid that the Bidder received the Addendum and intended to be bound by its terms; and the Addendum involved did not affect price, quantity or delivery.
- B. City may correct a clerical error if the error is evident on the face of the Bid, or other documents submitted with the Bid, and the Bidder confirms the City's correction in Writing. A clerical error is a Bidder's error in transcribing its Bid. Examples include typographical mistakes, errors in extending unit prices, transposition errors, arithmetical errors, instances in which the intended correct unit or amount is evident by simple arithmetic calculations (for example a missing unit price may be established by dividing the total price for the units by the quantity of units for that item or a missing, or incorrect total price for an item may be established by multiplying the unit price by the quantity when those figures are available in the Bid). In the event of a discrepancy, unit prices shall prevail over extended prices.
 - C. City may permit a Bidder to withdraw a Bid based on one or more clerical errors in the Bid only if the Bidder shows with objective proof and by clear and convincing evidence:
 - 1) The nature of the error;
 - 2) That the error is not a minor informality under this subsection or an error in judgment;
 - 3) That the error cannot be corrected or waived under subparagraph B of this subsection;
 - 4) That the Bidder acted in good faith in submitting a Bid that contained the claimed error and in claiming that the alleged error in the Bid exists;
 - 5) That the Bidder acted without gross negligence in submitting a Bid that contained a claimed error;
 - 6) That the Bidder will suffer substantial detriment if the City does not grant it permission to withdraw the Bid;
 - 7) That the City's or the public's status has not changed so significantly that relief from the forfeiture will work a substantial hardship on the City or the public it represents; and
 - 8) That the Bidder promptly gave notice of the claimed error to the City.
 - D. The criteria in subsection C above shall determine whether a City will permit a Bidder to withdraw its Bid after the bid submission deadline. These criteria also shall apply to the question whether an City will permit a Bidder to withdraw its Bid without forfeiture of its bid bond (or other bid security), or without liability to the City based on the difference between the amount of the Bidder's Bid and the amount of the contract actually awarded by the City, whether by award to the next lowest Responsive and Responsible Bidder or the best Responsive and Responsible Proposer, or by resort to a new solicitation.
 - E. The City shall reject any Bid in which a mistake is evident on the face of the Bid and the intended correct Bid is not evident or cannot be substantiated from documents accompanying the Bid, i.e., documents submitted with the Bid.

13. REJECTION OF BIDS

- a. The City may reject any bid upon a finding that the Bid meets the criteria specified in OAR 137-049-0440(1)(a) or (b) or has not provided the certification required under OAR 137-049-0440(3). The City shall reject a Bid from a Bidder who meets the criteria specified in OAR 137-049-0440(1)(c). The City may, for good cause, reject any or all bids upon a finding it is in the public interest to do so. In any case where competitive bids are required and all bids are rejected, and the proposed contract is not abandoned, new bids may be called for as in the first instance. The City may, at its own discretion, waive minor informalities.
- b. This invitation to bid does not commit the City to pay any costs incurred by any Bidder in the submission of a Bid, or in making necessary studies, subsurface investigations or designs for the preparation of a Bid, or for procuring or contracting for the items to be furnished pursuant to the Contract Documents.

- c. The City reserves the right to reject any or all bids when such rejection is in the best interest of the City of St. Helens. Bids may be rejected if they show any alteration of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.
- d. When Bids are signed by an agent, other than the officer or officers of a corporation authorized to sign contracts on its behalf, or a member of a partnership, a "Power of Attorney" must be submitted with the Bid or on file with the City Administrator prior to opening of bids; otherwise, the Bid will be rejected as irregular.
- e. More than one Bid from an individual, firm, partnership, corporation, or combination thereof with an interest in more than one bid, for the items bid, will be cause for the rejection of all Bids in which such individual, firm, partnership, corporation, or combination thereof, is interested.
- f. **If there is reason to believe that collusion exists among bidders, none of the bids of the participants in such collusion will be considered, and all involved bids shall be rejected. Bids in which prices are obviously unbalanced may be rejected.**

14. BID PROTEST.

Bidders may, in writing protest or request changes of any specifications or contract terms in accordance with adopted City contracting rules. The written protest or request for changes must be received by the City no later than ten (10) calendar days prior to the Bid Submission Deadline. The written protest or request shall include the reasons for the protest or request, and any proposed changes to the bid specifications or contract terms and a description of the prejudice to the bidder. Envelopes containing bid protests shall be marked "Contract Provision Protects or Request" with the Bid Number and Bid Submission Deadline. No protest against award, owing to the content of the bid specifications or contract terms shall be considered after the deadline established for submitting protests of bid specifications or contract terms.

15. ORS 654.150 SANITARY FACILITIES AT CONSTRUCTION PROJECTS STANDARDS, EXEMPTIONS

If the contract price is estimated (itemized bid) or bid (lump sum) by Contractor at \$1,000,000 or more, Contractor shall be responsible for all costs (which costs shall be included in the bid whether or not a specific bid item is provided therefore) that may be incurred in complying with or securing exemption or partial exemption from the requirements of ORS 654.150 (Sanitary facilities at construction projects; standards, exemptions) and the rules adopted pursuant thereto. Determination of applicability of ORS 654.150 to the project is the sole responsibility of the Contractor.



EXHIBIT J

OREGON PREVAILING WAGE RATES

S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING PROJECT NO. R-685A

- i. Workers must be paid not less than the applicable state prevailing rate of wage. ORS 279C.830(1)(c); OAR 839-025-0020(3)(a)
- ii. If the Contractor fails to pay for labor and services, the City can pay for them and withhold these amounts from payments to the contractor. ORS 279C.515; OAR 839-025-0020(2)(a)
- iii. The Contractor must pay daily, weekly, weekend and holiday overtime as required in ORS 279C.540. ORS 279C.520(1); OAR 839-025-0020(2)(b)
- iv. The employer must give written notice to the workers of the number of hours per day and days per week they may be required to work. ORS 279C.520(2); OAR 839-025-0020(2)(c)
- v. The Contractor must make prompt payment for all medical services for which the Contractor has agreed to pay, and for all amounts for which the contractor collects or deducts from the worker's wages. ORS 279C.530; OAR 839-025-0020(2)(d)
- vi. The Contractor is required to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt. ORS 279C.830(2)(a); OAR 839-025-0020(2)(e)(A)
- vii. The Contractor is required to include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt. ORS 279C.830(2)(b); OAR 839-025-0020(2)(e)(B)

Applicable Oregon prevailing wage rates are contained in the publication,
Prevailing Wage Rates for Public Works Contracts in Oregon effective as of the date the Bidding Documents
are first advertised.

See Oregon Bureau of Labor and Industries website links at:
<http://www.oregon.gov/BOLI/WHI/PWR/pages/index.aspx>

PWR REQUIRED POSTINGS ALL CONTRACTORS AND SUBCONTRACTORS

PREVAILING WAGE RATES

Each and every contractor and subcontractor engaged in work on a public works must post the applicable prevailing wage rates for that project in a conspicuous place at the work site, so workers have ready access to the information. ORS 279C.840(4); OAR 839-025-0033(1).

DETAILS OF FRINGE BENEFIT PROGRAMS

When a contractor or subcontractor provides for or contributes to a health and welfare plan or a pension plan, or both, for the contractor or subcontractor's employees who are working on a public works project, the details of all fringe benefit plans or programs must be posted on the work site. The posting must include a description of the plan or plans, information about how and where claims can be made and where to obtain more information. The notice must be posted in a conspicuous place at the work site in the same location as the prevailing wage rates (see above). ORS 279C.840(5); OAR 839-025-0033(2)

WORK SCHEDULE

Contractors and subcontractors must give workers the regular work schedule (days of the week and number of hours per day) in writing, before beginning work on the project. Contractors and subcontractors may provide the schedule at the time of hire, prior to starting work on the contract, or by posting the schedule in a location frequented by employees, along with the prevailing wage rate information and any fringe benefit information. If an employer fails to give written notice of the worker's schedule, the work schedule will be presumed to be a five-day schedule. The schedule may only be changed if the change is intended to be permanent and is not designed to evade the PWR overtime requirements. ORS 279C.540(2); OAR 839-025-0034.

PUBLIC WORKS BONDS

EVERY CONTRACTOR AND SUBCONTRACTOR who works on public works projects subject to the prevailing wage rate (PWR) law is required to file a **\$30,000 "PUBLIC WORKS BOND"** with the Construction Contractor's Board (CCB). (ORS 279C.836) This includes flagging and landscaping companies, temporary employment agencies, and sometimes sole proprietors.

- This bond is to be USED EXCLUSIVELY FOR UNPAID WAGES determined to be due by the Bureau of Labor and Industries (BOLI).
- The bond MUST be filed BEFORE STARTING WORK on a prevailing wage rate project.
- The bond is in effect CONTINUOUSLY (do not have to have one per project).
- BEFORE PERMITTING A SUBCONTRACTOR TO START WORK on a public works project, CONTRACTORS MUST VERIFY their subcontractors have either filed the bond, or have elected not to file a public works bond due to a bona fide exemption.
- A public works bond is in addition to any other required bond the contractor or subcontractor is required to obtain.

Exemptions:

- Allowed for a disadvantaged business enterprise, a minority-owned business, woman-owned business, a business that a service-disabled veteran owns or an emerging small business certified under ORS 200.055, for the first FOUR years of certification;
 - Exempt contractor must still file written verification of certification with the CCB, and give the CCB written notice that they elect not to file a bond.
 - The prime contractor must give written notice to the public agency that they elect not to file a public works bond.
 - Subcontractors must give written notice to the prime contractor that they elect not to file a public works bond.
 - For projects with a total project cost of \$100,000 or less, a public works bond is not required. (Note this is the total project cost, not an individual contract amount.)
 - Emergency projects, as defined in ORS 279A.010(f).

ORS 279C.830(2) requires:

That the specifications for every contract for public works shall contain a provision stating that the contractor and every subcontractor must have a public works bond filed with the CCB before starting work on the project, unless otherwise exempt.

Every contract awarded by a contracting agency shall contain a provision requiring the contractor:

- To have a public works bond filed with the CCB before starting work on the project, unless otherwise exempt;
- To include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the CCB before starting work on the project unless otherwise exempt.

Every subcontract that a contractor or subcontractor awards in connection with a public works contract must require any subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the public works project, unless otherwise exempt.

Part 3

2021 Oregon Standard Specifications for Construction

[https://www.oregon.gov/odot/Business/Pages/Standard Specifications.aspx](https://www.oregon.gov/odot/Business/Pages/Standard_Specifications.aspx)

Part 4

City of St. Helens Engineering Standards Manual Municipal Code Title 18

<https://www.codepublishing.com/OR/StHelens/>

Part 5

Special Provisions & Technical Specifications

Project #R-685A
S 1st AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL
UNDERGROUNDING

TECHNICAL SPECIFICATIONS
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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 | Kittelson & Associates, Inc. / R&W Engineering Inc. |
| • 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 |
| • Communications | Comcast/Lumen/Fatbeam/LS Networks |
| • 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. The effective date is the date the project was first advertised. 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-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.

1.2 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.

1.3 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.

1.4 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 E0.1 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, S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING AND ELECTRICAL UNDERGROUNDING, Project No. R-685A.

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 Century Link/Lumen
- Cable Company Comcast
- Cable Company Fatbeam
- Cable Company LSNetworks

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	Curtis Babcock 20285 SW Cipole Road Sherwood, OR 97140 Curtis.Babcock@nwnatural.com 971-352-5166 Steven Monier Steven.Monier@nwnatural.com 271-741-4403
Power	Columbia River PUD	Brooke Sisco PO Box 1193, St. Helens, OR 97051 bsisco@crpud.org 503-366-3261 Karl Webster kwebster@crpud.org 971-225-8683
Telephone	Century Link/Lumen	Martina Gettman 8021 SW Capitol Hill Rd Portland, OR 97219 Martina.gettman@lumen.com 303-382-0697

		John Malke John.Mahlke@lumen.com
Cable	LSNetworks	Scott Butler 503-758-3975 Scott.Butler@LSNetworks.net Rick Rappe RRappe@LSNetworks.net 503-414-0497
Cable	Fatbeam	Christine Ganoug 2065 W. Riverstone Dr Ste. 202 Coeur d'Alene, ID 83814 M 208-916-8054 O 509-344-1008
Cable	Comcast	Ryan Hennessey Construction Dept 445 Port Ave Suite 1 St Helens, OR 97051 Ryan_Hennessey@cable.comcast.com 360-846-8734

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.

1.5 CONSTRUCTION ON PRIVATE PROPERTY

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 July 29, 2024, 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. – 5:00 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 Public Improvement Contracts section in this 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 stated in Section 20 – Liquidated Damages of the Public Improvement Contract Standard Terms and Conditions. Liquidated damages are assessed for each calendar day of delay, including holidays and weekends, and shall run continuously until the work is substantially complete.

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.
- 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 no less than 30 days after receipt 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 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. Contractor shall not obstruct or interfere with garbage services.

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 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.

1.4 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.

1.5 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.

1.6 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

1.7 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

1.8 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 3/4 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.

1.9 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.

2.0 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.

2.1 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.

2.2 ROAD SHOULDER DRESSING

NOT USED.

2.3 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
- J. Saw cutting and surface removals associated with trench excavation is incidental to Trench Excavation, Bedding, and Backfill and no additional payment shall be made by the City.
- K. City shall not pay for additional work performed outside specified trench width limits. Contractor shall bear all expenses associated with performing work outside of trench width limits.

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.

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

NOT USED.

1.6 STRIPING AND PAVEMENT LEGENDS

NOT USED

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.
- F. **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.
- G. **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.
- H. **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.
- I. **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.
- J. **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

- K. 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
- L. **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.
- M. **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
- N. **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)
- O. **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.
- P. **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.
- Q. **Concrete Compressive Strength**: Concrete Compressive Strength shall have a minimum Actual Strength Test Value (ASTV) of 3,300 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.
- R. **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

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OREGON DEPARTMENT OF TRANSPORTATION


SPECIAL PROVISIONS

FOR

~~1st & St. Helens Utility Undergrounding Improvements~~

S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING & ELECTRICAL SERVICES

PROFESSIONAL OF RECORD CERTIFICATION:

<p>Seal w/signature</p>  <p>EXPIRES: <u>12/31/2024</u></p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for S. 1st Street at St. Helens Street Intersection Improvements. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Section(s) 00210, 00220 00221, 00222, 00228, 00280, 00290, 00305, 00310, 00320, 00330, 00405, 00440, 00495, 00640, 00744, 00759, 00960, 00966, 02001, 02030, 02050, 02690, 02910, 02926</p>
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

1st & St. Helens Utility Undergrounding Improvements

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done under this Contract consists of the following:

1. Installation of power and telecommunication vaults and conduit
2. Joint Utility Trench construction
3. Minor sidewalk and curb construction
4. Perform additional and Incidental Work as called for by the Specifications and Plans.

AUTHORITY OF CONSULTANT

The consultant will be directly in charge of the Project. However, the consultant's authority on this Project is as designated in the official "Consultant Agreement" for this Project, and as designated by the Engineer. This does not include authority to approve Contract changes or semifinal and Final Inspection of the Project.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 2021 edition of the "Oregon Standard Specifications for Construction", as modified by these Special Provisions. All Sections in Part 00100 apply, whether or not modified or referenced in the Special Provisions.

All number references in these Special Provisions shall be understood to refer to the Sections and subsections of the Standard Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

CLASS OF PROJECT

This is a City Project.

1st & St. Helens Utility Undergrounding Improvements

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

Comply with Section 00220 of the Standard Specifications modified as follows:

00220.02(a) General Requirements - Add the following bullets to the end of the bullet list:

- Before activating a modified traffic signal, revising lane usage, implementing new roadway geometry, or removing a "STOP" sign, protect traffic by installing "NEW TRAFFIC PATTERN AHEAD" (W23-2) signing according to 00222.40. Keep the signs in place for 30 Calendar Days after completing the modifications.
- When an abrupt edge is created by excavation, protect traffic according to the "Excavation Abrupt Edge" and the "Typical Abrupt Edge Delineation" configurations shown on the Standard Drawings.
- Protect pedestrians in pole base excavation areas by placing approved covers over all pole base excavations. Place a minimum of two B(II)LR barricades adjacent to and on either side of the excavated area, facing pedestrian traffic, or place covers and barricades as directed.

00220.40(e)(2)(b) Special Events - Add the following to the end of this subsection:

The following special events will occur during this Project:

- 13 Nights on the River at Columbia River Park, June – August, every Thursday evening
- 4th of July celebration, downtown area, July 1-4, 2022
- Spirit of Halloweentown, downtown area, September 12 – November 4, 2022
- Christmas Ships, downtown area, December 10, 2022

These dates are subject to change and will need to be coordinated between the City and the Contractor.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

Comply with Section 00221 of the Standard Specifications modified as follows:

00221.03 Traffic Safety and Operations - Replace the bullet that begins "When paving operations create..." with the following bullet:

- When paving operations create an abrupt or sloped edge drop off greater than 1 inch, protect traffic by installing signing according to the "2 Lane, 2 Way Roadway Overlay Area" detail shown on the Standard Drawings. Protect longitudinal and transverse Pavement joints by placing and maintaining an asphalt concrete wedge according to 00221.07(c)(1).

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Add the following subsection:

00221.06(d) Partial Intersection Closure – Contractor to provide construction staging plan detailing pedestrian and vehicle access (and all appropriate signing and temporary ramps) during construction in the 1st & St. Helens intersection. The following closures and detour route may be utilized for 111 contiguous days:

- Restrict left and right turns from St. Helens Road to 1st Street, restrict access to St. Helens Road from 1st Street.
 - Detour 1st Street southbound traffic from St. Helens to River Street and Plaza Square
 - Detour north bound 1st Street traffic to 2nd street via the alley on the south side of 212 S 1st Street.
 - Detour 1st Street northbound traffic from St. Helens to 2nd Street and Columbia Blvd.
- Provide access to all businesses and residents.

00221.90(b) Temporary Protection and Direction of Traffic - Delete the bullet that begins “Moving temporary barrier to and from Contractor’s stockpile areas”.

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications modified as follows:

00222.40(e) Temporary Sign Placement - Add the following to the end of the bullet list:

- At least ten Calendar Days before closing a pedestrian pathway or sidewalk, place a “SIDEWALK CLOSED, Full Time” (CW11-4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.
- Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the “SIDEWALK CLOSED, Full Time” (CW11-4) signs while the TPAR is open to pedestrian traffic.
- At least ten Calendar Days prior to the start of work, place a “SIDEWALK OPEN” (CW11-3) sign in advance of each end of the Work Area. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or support such that it narrows the pedestrian pathway to a width less than 4 feet.
- Before starting work, place pedestrian-specific TCM as shown in the TCP, or as directed. Maintain “SIDEWALK OPEN” (CW11-3) signs while work is affecting the pedestrian pathway.

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- Place a "PEDESTRIANS ON ROADWAY" (CW11-2) sign at the beginning of each end of the Work Area, facing incoming traffic as shown, or as directed.
- Install the following warning signs for each new "STOP" sign installed in the intersection. Install a "Stop Ahead" (W3-1) symbol sign approximately 100 feet in advance of the "STOP" sign. Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 100 feet in advance of the "Stop Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "STOP" sign.
- Install an 18 by 24-inch "NO PARKING" (R8-3a) sign in every block where on-street parking is prohibited, facing incoming traffic.
- For paving operations on non-freeways, place "ABRUPT EDGE" (CW21-9) and "ROAD WORK XX MPH" (CW20-1a) signs as shown. Use an "XX" value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.
- For all other moving operations that do not create an abrupt edge adjacent to traffic, omit the "ABRUPT EDGE" signs.
- When construction requires bicycles to use the Traffic Lanes, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign on 1/2 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

SECTION 00228 - TEMPORARY PEDESTRIAN AND BICYCLIST ROUTING

Comply with Section 00228 of the Standard Specifications modified as follows:

00228.00 Scope - Replace this subsection, except subsection number and title, with the following:

In addition to the requirements of Section 00221, this Work consists of furnishing, installing, operating, maintaining, inspecting, and removing temporary devices for accommodating pedestrians and bicyclists through a work zone.

00228.13 Temporary Curb Ramps - Add the following sentence to the end of this subsection:

Furnish truncated dome detectable warning surface for temporary curb ramps from the QPL according to 00759.12.

00228.43 Temporary Curb Ramps - Add the following paragraph to the end of this subsection:

Install a minimum 2 foot wide truncated dome detectable warning surface on temporary curb ramps at pedestrian street crossings. Omit truncated dome detectable warning surfaces on temporary curb ramps that are not at a pedestrian street crossing.

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00228.90 Payment - Add the following paragraph after the paragraph that begins "In item (c), the type...":

Item (c) includes furnishing and installing truncated dome detectable warning surfaces.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications modified as follows:

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

00280.62 Inspection and Monitoring - Replace this subsection, except for the subsection number and title, with the following:

Inspect the Project Site and all ESC devices for potential erosion or sediment movement on a weekly basis and when 1/2 inch or more of rainfall occurs within a 24-hour period, including weekends and holidays.

If a significant noncompliance or serious water quality issue occurs that could endanger health or the environment, verbally report it to the Engineer within 24 hours.

00280.90 Payment - In the paragraph that begins "Item (a) includes..." delete the bullet that specifies "providing the Erosion and Sediment Control Manager".

Replace the paragraph that begins "When only Item (a) is..." with the following paragraph:

Additional ESC devices required for permit compliance will be paid for as Extra Work according to Section 00196.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications modified as follows:

00290.20(c)(2) Clean Fill - Add the following paragraph to the end of this subsection:

Manage all excavated soil that does not meet the definition of clean fill according to Section 00294.

Add the following subsection:

00290.30(a)(7) Water Quality:

- Do not discharge contaminated or sediment-laden water, including drilling fluids and waste, or water contained within a work area isolation, directly into any storm drain or waters of the State or U.S. until it has been satisfactorily treated (using a best management practice such as a filter, settlement pond, bio-bag, dirt-bag, or pumping to a vegetated upland location).

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- If construction discharge water is released using an outfall or diffuser port, do not exceed velocities more than 4 feet per second, and do not exceed an aperture size of 1 inch.
- Implement containment measures adequate to prevent pollutants or construction and demolition materials, such as waste spoils, fuel or petroleum products, concrete cure water, silt, welding slag and grindings, concrete saw cutting by-products and sandblasting abrasives, from entering waters of the State or U.S.
- The Engineer retains the authority to temporarily halt or modify the Work in case of excessive turbidity or damage to natural resources.
- If Work activities violate permit conditions or any requirement of this subsection, stop all in-water work activities and notify the Engineer.
- Do not cause a visible sediment plume in waters of the State or U.S.

00290.32 Noise Control - Add the following paragraphs to the end of this subsection:

Review City of St. Helens Municipal Code Title 8 which describes noise control regulations. Comply with the applicable noise control requirements of the permit for Project Work.

Copies of the noise variance permit for this Project are available from the Engineer.

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications modified as follows:

Add the following:

00305.06 As-built Survey: Contractor shall provide an asbuilt topographic survey of all improvements. Survey shall include the following:

- New curb
- Utility Vaults
- Joint trench centerline

Survey shall be provided in AutoCAD with a finish grade DTM.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications modified as follows:

00310.90 Payment - Add the following to the end of this subsection:

No separate or additional payment will be made for removal or disposal Work included in Section 00330 according to 00310.02.

SECTION 00320 - CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications.

SECTION 00330 - EARTHWORK

Comply with Section 00330 of the Standard Specifications modified as follows:

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section on the excavation basis.

00330.14 Selected Granular Backfill - Delete the sentence that begins "Reclaimed glass meeting the requirements of Section 02695..."

00330.15 Selected Stone Backfill - Delete the sentence that begins "Reclaimed glass meeting the requirements of Section 02695..."

00330.41(a)(5) Waste Materials - Replace this subsection, except for the subsection number and title, with the following:

Dispose of waste materials according to Section 00236.

00330.92 Kinds of Incidental Earthwork - Add the following bullet to the end of the bullet list:

- Earthwork required for driveways and road approaches. Earthwork for driveways and road approaches will be that which is outside the Neat Line limits shown on the typical sections.

SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL

Remove and Replace with the following St. Helens special provision:

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. NO ADDITIONAL PAYMENT SHALL BE MADE FOR POTHOLING.

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

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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

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curb and gutter, structures, etc., shall be in accordance with the Contract Documents and Section 02420 – DEMOLITION & DISPOSAL

- J. Saw cutting and surface removals associated with trench excavation is incidental to Trench Excavation, Bedding, and Backfill and no additional payment shall be made by the City.

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

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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.

1.10 Vibration Monitoring

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The CONTRACTOR shall hire a geophysical service company to perform continuous vibration monitoring during all phases of the rock excavation operations, including excavation for vaults and conduit. The company must be approved by the ENGINEER. Monitoring shall occur adjacent to above ground structures with 45-feet of the conduit alignment of vault placement, there are 6 such structures on this project. The monitoring shall include the pre-construction inspection of the structures. The inspection shall include measurement and documentation of significant cracks (length and width), deformations, and settlements that are observed from the ground level of the exterior and accessible areas of the interior. Documentation will include written notes, photographs, and video. Finding of the inspection will be summarized in a written report. A post construction inspection shall be completed, if vibration threshold is exceeded, and summarized in a written report.

CONTRACTOR shall submit a Vibration Monitoring Plan from approved geophysical company that includes, location and type of seismographs, preset threshold for vibrations based on site conditions, data storage plan, and plan for informing all interested parties if the threshold is exceeded. Value of vibration threshold shall be less than the value accepted for cosmetic damage to residential structures, 0.4 inches per second.

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

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- 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

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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

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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.

Measurement and Pavement

Vibration Monitoring will be paid for as a lump sum payment for all material, labor, and incidentals necessary to conduct monitoring. Any damage to buildings caused by vibration is the responsibility of the contractor to repair to pre-construction conditions.

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications modified as follows

00440.12 Properties of Commercial Grade Concrete - Replace the bullet that begins "Slump - 5 inches..." with the following bullets:

- **Slump** - 5 inches or less
 - For concrete sidewalks, ramps, driveways, or other hand finished surface applications, and when using a high range water reducing admixture, provide a slump of 8 inches or less as approved by the Engineer.

00440.13 Field-Mixed Concrete - Replace the subsection, except for subsection number and title, with the following:

CGC Work items listed in 00440.14(a) may be field-mixed conventionally, or by volumetric/mobile mixers conforming to ASTM C685. When approved, concrete sidewalks, concrete curb ramps, concrete driveways, and other flat concrete surfaces may be field-mixed using volumetric/mobile mixers conforming to ASTM C685, request approval prior to placement. For all other CGC applications, submit written request to the Engineer for approval to use volumetric/mobile mixers conforming to ASTM C685 at least 21 Days prior to placement.

Pre-packaged dry blended concrete from the QPL may be used for Work items listed in 00440.14(a).

00440.40(b) Placing - Add the following bullet to the end of the bullet list:

- When haul time or placement conditions warrant exceeding the time of discharge, submit a detailed breakdown of the estimated time needed from batching to discharge of a load along with the measures that will be taken to ensure slump, temperature and

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uniformity will be maintained. Submit in advance to establish a new time limit at the Engineer's discretion.

SECTION 00495 - TRENCH RESURFACING

Comply with Section 00495 of the Standard Specifications modified as follows:

00495.40(b) Emulsified Asphalt Concrete Paving – Replace the first sentence of the first paragraph with the following:

When temporary Surfacing is required, place EAC paving a minimum of 3 inches thick.

00495.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:

When measurement is by area, quantities will be the theoretical Neat Line quantity constructed and accepted, plus the field measured quantity constructed and accepted.

If changes are ordered, only the quantity included in the ordered changes will be measured.

00495.90 Payment – Add the following to the end of the first paragraph:

Or "Trench Resurfacing, Temporary".

Add the following to the end of this subsection:

No separate or additional payment will be made for resurfacing shown but not included in the theoretical Neat Line quantities in the contract schedule of values.

SECTION 00640 - AGGREGATE BASE AND SHOULDERS

Comply with Section 00640 of the Standard Specifications.

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

Comply with Section 00744 of the Standard Specifications modified as follows:

00744.11(a) Asphalt Cement - Add the following to the end of this subsection:

Provide PG64-22 grade asphalt cement for this Project.

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications.

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

Comply with Section 00960 of the Standard Specifications modified as follows:

Add the following subsection:

00960.42(c) Metallic Conduit – Paint the following with rust-preventative coating:

- Threads on all metal conduit.
- Areas where the coating has been damaged so underlying metal is exposed.
- Exposed, ungalvanized threads resulting from field cuts.

If corrosive Soil conditions exist, coat metallic conduit with a nonmetallic coating or wrap with corrosion protection tape at least 10 mils thick.

Add the following subsection:

00960.45(f) Structure Mounted Poles and Cabinets – Bond all poles and cabinets mounted on Structures or walls to a common ground rod at the end of the Structure. Ground the system at the first convenient acceptable location off the Structure.

00960.46 Service Cabinet and Electrical Energy - Replace this subsection, except for the subsection number and title, with the following:

Install service cabinet and associated equipment, then arrange for the Utility providing power to have the service cabinet inspected and make the electrical hook-up prior to field testing. Field test according to 00990.70(g) for traffic signals, or according to 00970.70 for illumination.

SECTION 00966 - UTILITY CONDUITS

Section 00966, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00966.00 Scope – This work consists of installing utility conduits and vaults for future electric and telecommunication services and for connecting to existing systems.

00966.02 Equipment List and Drawings – Within 30 Calendar Days after execution of the Contract, submit two copies of the Blue Sheets (see 00160.00 and 00160.07) according to 00150.37 for all materials the Contractor proposes to install. Blue Sheets will be made available to the Contractor by the Engineer.

Fill out the Blue Sheets based on the Project requirements. Check off all pre-approved items to be used on the Project. When proposing write-in items, check off the box under "Write-in

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items" and follow the instructions. Use the current version of the Blue Sheets that is in effect on the date of Advertisement.

Within 14 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as "approved", "approved as noted", or "returned for correction". Do not proceed with the Work before receiving written approval of the submittals from the Engineer.

00966.10 Materials - Furnish Materials meeting the following requirements:

Controlled Low Strength Materials	00442
Selected General Backfill	00330.13
Selected Granular Backfill	00330.14

- Conduit to be provided by relevant utility providers.
- Use commercially available 30 pound nonperforated asphalt-saturated felt where shown.
- Use commercially available No. 10 - 0 sand when sand blanket is required.
- Use commercially available UL listed insulating vinyl plastic tape where shown.
- Use Vaults and other pre-cast structures approved or provided by the relevant utility provider.

Construction

00966.40 Excavation - Remove and replace sidewalks, curbs, paved surfaces, and other materials as needed. Replace and finish all surfaces to correspond with the existing surfaces. Restore all disturbed landscaping and underground systems to original condition.

Excavate trenches to locations, Neat Lines, grades and Cross Sections as shown or as established or approved. Furnish, place, and remove any shoring required to prevent caving of walls.

- Rock excavation to be completed according to 00405.
- Dispose of all excavated Materials according to 00290.20.

00966.42 Conduit

- (a) General** – Conduit runs shown on the Plans are for bidding purposes only. Locations may be changed to avoid obstructions. Larger size conduit than specified may be used at the option and cost of the Contractor. Use the same size conduit for the entire length, outlet to outlet.
- Use nonmetallic conduit as shown or specified.
- In areas to be paved or landscaped, place all conduit before paving or landscaping.

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(b) Cleaning New Conduit – Clean all new conduit with cylindrical mandrel of the proper size for that conduit and blow out with compressed air. Mechanical pulling methods may be used for conduit cleaning.

(c) Underground Conduit Installation – Make conduit runs continuous between any pole, junction box, or cabinet. Do not cover conduit runs until inspected. Permanently mark all underground open trench conduit runs, except when CLSM is used as backfill, by installing an underground marking tape directly over the conduit.

The underground marking shall be:

- Placed 6 inches \pm 1 inch below the surface.
- Continuous between pole bases, junction boxes and cabinet locations.

(d) Elbows – Use a standard factory fiberglass bend where a conduit bend is required that:

- Has a radius of at least six times the inside diameter of the conduit.
- Is bent without crimping or flattening.

(e) Conduit Ends and Couplings – Ream the ends of all conduits to remove burrs and rough edges. Make cuts square and true so the ends will fit together for their full circumference. Slip joints or running threads will not be allowed for coupling conduit. Plug or cap all conduit ends until wiring is installed. After wiring is installed install duct seal compound or precut closed cell polyethylene foam that will prevent debris from entering the conduit system. Connect nonmetallic conduit with solvent welds. Use a nonmetallic female threaded connector to connect nonmetallic conduit to metallic conduit.

(a) Polyethylene pull line - Insert a polyethylene pull line into all conduit. Include 3 feet of slack in the polyethylene pull line within the conduit and 3 feet outside the conduit.

(b) Installation by Horizontal Directional Drilling – If jointed conduit is used, verify the joints have not separated by pulling a mandrel through the conduit after installation.

00966.71 As-Built Plans - Upon completion of the installation, submit a red-lined copy of the original Plans noting all changes made. The information furnished shall include all modifications made and shall represent the material installed and in operation. It shall be sufficiently detailed to enable maintenance forces to replace or repair any part of the Project under routine or emergency maintenance by direct reference.

Measurement

00966.80 Measurement - No measurement of quantities will be made for Work performed under this section. The estimated quantities of materials are:

Item	Quantity
a) Joint Utility Trench.....	SF
b) ____ Inch Electrical Conduit by ____	Foot

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c) Utility Vault Furnished by Utility (____)..... Each

Item “b”, the first blank will be conduit size, the second blank will be the utility company providing the conduit.

Item “c”, the blank will be the utility company providing the vaults to be installed.

Item “a” includes excavation, bedding, backfill, and trench resurfacing limited to the neatline width and depth of the trench shown in plans. Rock excavation will be measured according to section 405.

Item “b” and “c” include the storage and installation of materials provided by the relevant utility company.

Payment

00966.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Unit price for the items above.

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.

SECTION 02001 - CONCRETE

Comply with Section 02001 of the Standard Specifications modified as follows:

02001.02 Abbreviations and Definitions:

Add the following definition:

Lightweight Concrete - Structural concrete having a specified density using lightweight Aggregates.

Replace the sentence that begins “**Pozzolans** - Fly ash, silica fume...” with the following sentence:

Pozzolans - Fly ash, natural Pozzolans, silica fume, and high-reactivity Pozzolans.

Replace the sentence that begins “**Supplementary Cementitious Materials** - Fly ash, silica fume...” with the following sentence:

Supplementary Cementitious Materials - Pozzolans and ground granulated blast furnace slag.

02001.15(a) Current Mix Designs - Replace this subsection, except for the subsection number and title, with the following:

Mix designs that meet the requirements for the specified class of concrete and are currently being used or have been used within the past 24 months on any project, public or private, may be submitted for review. Provide individual test results that comprise the average if more

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than one data point exists. For paving designs the flexural strength testing must be from within the last two years. For HPC designs the length change and permeability tests must be from within the last two years.

02001.15(b)(1) Trial Batch Plastic Properties - Replace this subsection, except for the subsection number and title, with the following:

For each trial batch, test according to the following test methods:

Test	Test Method
Sampling Fresh Concrete	WAQTC TM 2
Concrete Temperature	AASHTO T 309
Slump	AASHTO T 119 ¹
Air Content	AASHTO T 152 or T 196 ²
Density	AASHTO T 121
Yield	AASHTO T 121
Molding Concrete Specimens	AASHTO T 23 or R 39 ³
Water Cement Ratio	⁴

- ¹ For drilled shaft concrete test the slump retention by subsequent tests at half-hour intervals for the duration of the estimated drilled shaft placement, including temporary casing extraction. Report in table or graphical format.
- ² Use AASHTO T 196 for lightweight concrete.
- ³ Cast cylinders in single use plastic molds.
- ⁴ Use ODOT's Field Operating Procedure for AASHTO T 121 in the MFTP.

SECTION 02030 – SUPPLEMENTARY CEMENTITIOUS MATERIALS

Comply with Section 02030, of the Standard Specifications modified as follows:

02030.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Section includes the requirements for fly ash, natural pozzolans, silica fume, ground granulated blast furnace slag and high reactivity pozzolans used in portland cement concrete.

02030.10 Fly Ash - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class C and Class F fly ash from the QPL and conforming to AASHTO M 295 (ASTM C618).

Add the following subsection:

02030.15 Natural Pozzolans - Furnish Class N natural pozzolans from the QPL and conforming to AASHTO M 295 (ASTM C618).

02030.50 Metakaolin - Replace this subsection with the following:

02030.50 High Reactivity Pozzolans - Furnish high-reactivity pozzolans from the QPL and conforming to AASHTO M 321.

SECTION 02050 - CURING MATERIALS

Comply with Section 02050 of the Standard Specifications modified as follows:

02050.10 Liquid Compounds - Replace the paragraph that begins “Furnish liquid membrane-forming curing...” with the following paragraph:

Furnish liquid membrane-forming curing compounds from the QPL and meeting the requirements of ASTM C309. Before use, submit a one quart sample from each lot for testing. Samples will be tested according to ODOT TM 721. Samples are not required for curing compounds used on Commercial Grade Concrete.

SECTION 02690 - PCC AGGREGATES

Comply with Section 02690 of the Standard Specifications modified as follows:

02690.20(e) Grading and Separation by Sizes for Prestressed Concrete - Replace this subsection with the following subsection:

02690.20(e) Grading and Separation by Sizes - Sampling shall be according to AASHTO R 90. Sieve analysis shall be according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting the gradation requirements of Table 02690-1 for structural concrete. Provide a CAgT to perform sampling and testing when required.

Table 02690-1
Gradation of Coarse Aggregates
Percent passing (by Weight)

Size Number	Nominal Size Square Openings	Sieve Size											
		(2½ in.)	(2 in.)	(1½ in.)	(1 in.)	(¾ in.)	(½ in.)	(¾ in.)	(No. 4)	(No. 8)	(No. 16)	(No. 50)	(No. 200)
3	(2 to 1 in.)	100	90 to 100	35 to 70	0 to 15	—	0 to 5	—	—	—	—	—	**
357*	(2 in. to No. 4)	100	95 to 100	—	35 to 70	—	10 to 30	—	0 to 5	—	—	—	**
4	(1½ to ¾ in.)	—	100	90 to 100	20 to 55	0 to 15	—	0 to 5	—	—	—	—	**
467*	(1½ to No. 4)	—	100	95 to 100	—	35 to 70	—	10 to 30	0 to 5	—	—	—	**
5	(1 to ½ in.)	—	—	100	90 to 100	20 to 55	0 to 10	0 to 5	—	—	—	—	**
56	(1 to ¾ in.)	—	—	100	90 to 100	40 to 85	10 to 40	0 to 15	0 to 5	—	—	—	**
57	(1 to No. 4)	—	—	100	95 to 100	—	25 to 60	—	0 to 10	0 to 5	—	—	**
6	(¾ to ½ in.)	—	—	—	100	90 to 100	20 to 55	0 to 15	0 to 5	—	—	—	**
67	(¾ to No. 4)	—	—	—	100	90 to 100	—	20 to 55	0 to 10	0 to 5	—	—	**
68	(¾ to No. 8)	—	—	—	100	90 to 100	—	30 to 65	5 to 25	0 to 10	0 to 5	—	**
7	(½ to No. 4)	—	—	—	—	100	90 to 100	40 to 70	0 to 15	0 to 5	—	—	**
78	(½ to No. 8)	—	—	—	—	100	90 to 100	40 to 75	5 to 25	0 to 10	0 to 5	—	**
8	(¾ to No. 8)	—	—	—	—	—	100	85 to 100	10 to 30	0 to 10	0 to 5	—	**
89	(¾ to No. 16)	—	—	—	—	—	100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5	**

* Use two or more separated sizes which when combined meet these gradation limits.

** See 02690.20(a). Do Not evaluate material passing the No. 200 sieve according to 00165.40.

02690.20(f) Grading and Separation by Sizes for Other Concrete - Delete this subsection.

1st & St. Helens Utility Undergrounding Improvements

02690.30(g) Grading - In the paragraph that begins "Sampling shall be according to...", replace the words "AASHTO T 2" with the words "AASHTO R 90".

SECTION 02910 - SIGN MATERIALS

Comply with Section 02910 of the Standard Specifications modified as follows:

02910.33(a) General - Replace this subsection, except for the subsection number and title, with the following:

Permanent legends consist of white retroreflective screened, red retroreflective screened, black screened or cut-out white retroreflective sheeting. The letters and numerals of all permanent legends shall conform to the design of the FHWA Standard Rounded Capital Letter Alphabets.

Add following subsection:

02910.50 Digitally Printed Signs, Temporary - Temporary traffic control signs may use digitally printed signs from an integrated engineered match component system on the QPL and applied to furnished substrate according to 00222.10(b).

SECTION 02926 - HIGHWAY ILLUMINATION MATERIALS

Comply with Section 02926 of the Standard Specifications modified as follows:

Add following subsection:

02926.41(f) Electrical Splice Materials - Furnish electrical splice materials meeting the following requirements:

- **Split bolt** - Made of silicon bronze to securely join the wires both mechanically and electrically.
- **Heat-shrink tubing** - Split-resistant and adhesive-lined tube made of polyolefin complying with UL 224 or UL 486D, temperature range -67 °F to 230 °F, with 600 V rated inner melting wall or liner to provide void-free encapsulated insulation.
- **Insulating rubber tape** - Electrical grade, nondrying, rubber based, elastic type complying with ASTM D4388.
- **Insulating vinyl plastic tape** - Low temperature (0 °F) resistant, vinyl chloride plastic, electrical insulating tape with pressure-sensitive adhesive. Comply with ASTM D3005.

Specifications and Bid Documents
~~S. 1st and Strand Streets Road and Utility Extensions~~
S 1ST AND ST HELENS INTERSECTION JOINT UTILITY TRENCHING & ELECTRICAL SERVICES
CERTIFICATION

The following Technical Specifications for the S. 1st and Strand Streets Road and Utility Extensions have been prepared under the direction of the Registered Professional Engineer indicated below:

Division 26 – Electrical

26 00 10	Supplemental Requirements for Electrical
26 05 19	Low-Voltage Electrical Power Conductors and Cables
26 05 26	Grounding and Bonding for Electrical Systems
26 05 33	Raceway and Boxes
26 05 53	Identification for Electrical Systems
26 27 00	Service and Distribution



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SECTION 26 00 10 - SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. Furnish all labor, equipment, appliances, materials, transportation, facilities, services, tools and other equipment, and skilled supervision necessary for the construction, erection, installation, connection, testing, integration, and adjustment of all circuits and electrical equipment specified herein, shown, or noted on the drawings; specified or required in other portions of this specification; and its delivery to the Owner(s) complete in all respects and ready for use.
- C. The Contractor shall be responsible for the provision of all equipment, unless otherwise specified or shown. In addition, the Contractor shall be responsible for the following:
 - 1. Visit the site of proposed construction. Verify and inspect the existing site to determine all conditions that affect this work.
 - 2. Investigate and be apprised of the applicable codes, rules, and regulations as enforced by Authorities Having Jurisdiction (AHJs).
 - 3. Use this Specification as a guide for workmanship and materials of construction.

1.2 SCOPE OF WORK

- A. The scope of this project includes:
 - 1. Coordinate with the local power utility, Columbia River PUD (CRPUD), to convert the identified electrical services from overhead to underground. All work performed upstream of the electrical service meter(s) and/or Current transformer enclosure(s) (CT Cans) shall conform to CRPUD standards. Any work provided downstream of the electrical service meter(s) and/or CT Cans shall conform to the requirements of the latest adopted versions of the National Electrical Code (NEC), State of Oregon Electrical Specialty Code (OESC), and other local codes and ordinances.
 - 2. Provide all trenching, backfill and cover, conduit and fittings, conductors, and all other labor and materials not furnished by CRPUD to provide proper operation for each converted electrical service.
 - 3. Coordinate with CRPUD and participate, as required, with the switchover of each electrical service and the demolition of each overhead service mast and support(s), weatherhead, service entrance conductors, and other non-PUD elements of the discontinued overhead service materials. Provide weatherproof caps, covers, etc., and repair any roof penetrations/flashing, as required to ensure demolished overhead service is made weatherproof.

1.3 INTENT OF DRAWINGS AND SPECIFICATIONS

- A. Electrical drawings show only general locations of equipment, devices, and raceway, unless specifically dimensioned. The Contractor shall be responsible for the proper routing of raceway, subject to the approval of CRPUD and the Engineer.
- B. The electrical drawings do not show complete details of the site conditions. The Contractor shall verify actual conditions at the project site.

1.4 DEPARTURES FROM CONTRACT DOCUMENTS

- A. Submit to the Engineer, in writing, details of any proposed departures from these Contract Documents, and the reasons the departures are necessary. Submit such requests as soon as practicable but no later than within 30 days after award of the Contract. Make no such departures without written approval of the Engineer.

1.5 COORDINATION OF WORK

- A. The Contractor shall plan the work in coordination with Owner(s), CRPUD, and the City.
- B. The Contractor shall coordinate with the General Contractor of the General Contractor of the S 1st St & Strand St Road and Utilities Extension Project/ S 1st St & St. Helens St Intersection Improvements Project, as required to complete the work under this project.
- C. The Contractor shall field verify all dimensions of equipment to be installed or provided by others so that correct clearances and connections may be made between the work installed by the Contractor and equipment installed or provided by others.
- D. All working measurements shall be taken from the sites, checked with those shown on the drawings, and if they conflict, reported to the Engineer at once, and before proceeding with the work. Should the Contractor fail to comply with this procedure, they shall alter the work at their own expense as directed by the Engineer.
- E. No extra payments will be allowed where obstructions in the work of other trades or work under this contract requires offsets to conduit runs.
- F. The Contractor is responsible for all alterations in the work to accommodate equipment differing in dimensions or other characteristics from that shown or specified.

1.6 SUPERVISION

- A. The Contractor shall maintain adequate supervision of the work and shall have a responsible person in charge during all times that work under this contract is in progress, or when necessary for coordination with other work.

1.7 CODES AND STANDARDS

- A. The CRPUD Electrical Services Requirements (ESR) document is adopted by reference; all work and materials upstream of the electrical service meter(s) and/or CT Can(s) shall conform to the requirements of the ESR, National Electrical Safety Code (NESC), and all other CRPUD requirements.
- B. All work and materials downstream of the electrical service meter(s) and/or CT Can(s) shall conform to the applicable current standards (standard rules, regulations, and specifications) of the National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronic Engineers (IEEE), National Electrical Manufacturers' Association (NEMA), American National Standards Institute (ANSI), Insulated Cable Engineers Association (ICEA), Occupational Safety and Health Administration Standards (OSHA), State and local electrical codes, and other specifically cited standards, as applicable.
- C. All materials unless otherwise approved by local government authorities shall bear the label of, or be listed by, a Nationally Recognized Testing Laboratory (NRTL); the Underwriters' Laboratory, Inc. (UL) is one such NRTL.
- D. Where conflicts exist between any of the above standards, the standard which is most stringent shall take precedence. Where the contract documents exceed minimum requirements, the contract documents take precedence.
- E. Observe where applicable the prevailing rules and requirements of the National Fire Protection Association (NFPA), the State and local fire marshals' regulations, and standards pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous conditions.
- F. Resolve at the Contractor's expense all conflicts with applicable standards and provide a complete installation of Electrical Work, approved in all respects. Certain methods and materials for the project may require special approval and it is the Contractor's responsibility to prepare and submit to all approving authorities additional clarifying details, test data, methods and materials as needed to secure the required approval and resolve conflicts.

1.8 WORKMANSHIP

- A. All work shall be performed by personnel skilled in the particular trade. Workmanship shall conform to the standards of the NESC, NEC and the installation standards of the National Electrical Contractors' Association (NECA).
- B. The Engineer shall be the sole judge as to whether or not the finished work is satisfactory; and if in their judgment any material or equipment has not been properly installed or finished, the Contractor shall replace the material or equipment whenever required and reinstall it in a manner entirely satisfactory to the Engineer without any increase in cost to the owner(s) or the City.

1.9 PERMITS AND FEES

- A. Contractor shall obtain all permits and pay all fees.

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1.10 SUBSTITUTION OF MATERIALS AND EQUIPMENT

- A. In accordance with provisions elsewhere in these Contract Documents, manufacturers' names and catalog numbers stated herein are intended to indicate the type and quality of equipment or materials desired.
- B. Make requests for approval of alternates in writing to the Engineer. Provide sufficient material or data to allow evaluation of the proposed alternatives and determination of compliance with these Contract Documents. List any proposed deviations from these Contract Documents.
- C. Requests for equipment substitutions will be reviewed during the submittal process. Requests for equipment substitutions received prior to the bid opening date will not be reviewed.

1.11 ELECTRICAL SUBMITTALS AFTER AWARD OF CONTRACT

- A. The Contractor shall provide complete manufacturer's descriptive information and shop drawings (as may be applicable) for all equipment, material, and devices furnished under this Division, including certified outline drawings, arrangement drawings, elementary (schematic) diagrams, interconnection diagrams, and connection diagrams, in accordance with the provisions in Division 1 of these Contract Documents.
 - 1. All submittals shall be made in an electronic, PDF format. All materials provided in the PDF submittals shall use standard page sizes of 8.5" x 11" for all non-drawing pages. Drawings and/or schematics may use 8.5" x 11", 11" x 17", or 22" x 34" sized pages, as applicable. Sizes 11" x 17" and 22" x 34" are generally preferred for shop drawings, sketches, wiring diagrams, and similar, but may use 8.5" x 11" provided they are normally issued and/or are legible at that scale. Large spreadsheets may use 11" x 17" where required for legibility. All pages shall be legible, regardless of page size.
 - 2. Where manufacturer's standard literature with non-standard page sizes are used, Contractor shall re-size such material to conform with the standard sizes listed. Contractor may use any means necessary to have the information re-sized, but all re-sized materials must be legible.
 - 3. Electronic submittals with non-standard page sizes are subject to being returned, unreviewed, for non-compliance.
- B. Manufacturer's standardized elementary diagrams shall not be acceptable unless applicable portions of the diagram(s) have been clearly identified and non-applicable portions deleted or crossed out.
- C. Contractor shall check submittals for adequate identification, correctness, and compliance with Drawings and Specifications, and provide an electronic identifying mark (signature, initials, etc.) on the PDF indicating this has been done. Revise, change, and/or resubmit all submittal information until acceptable to the Engineer. Obtain Engineer's acceptance before commencing fabrication or installation of any materials or equipment.
 - 1. When a resubmittal is requested, resubmit only the indicated deficient portions of the submittal in question or where changes have been made to previously acceptable items. Resubmitting previously acceptable items slows the review process as all resubmitted material is (re)reviewed.

- D. Review of submittal information by the Engineer shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications, unless they have requested and received written approval from the Engineer for specific deviations at time of submission. Review of submittal information shall not relieve the Contractor from responsibility for errors and omissions in shop drawings or literature.
- E. Submittals shall be made in accordance with the schedule listed hereinafter. Provide certified shop drawings, literature, and requested samples showing items proposed for use, size, dimensions, capacity, special features required, schematic (elementary) control diagrams, equipment schedules, rough in, etc., as required by the Engineer for complete review and for installation. Use NEMA device designations and symbols for all electric circuit diagrams submitted. Make content of schematic (elementary) connection of interconnection diagrams in accordance with the latest edition of NEMA ICS.
- F. Submittals shall be made on, but not necessarily limited to, the following items, as applicable:
 - 1. Service equipment including, but not necessarily limited to, meter bases, combination meter base and main circuit breaker (meter/main), combination meter base and distribution panel (meter/panel), and CT Cans, as applicable.
 - 2. Overcurrent protection devices (including those to be provided with meter/mains or meter/panels), as applicable.
 - 3. All conduit types, fittings, pull or junction boxes, etc. used in project.
 - 4. All conductor, wire, cable types used in project.

1.12 OPERATION AND MAINTENANCE MANUALS

- A. No Operation and Maintenance (O & M) manuals are required for the electrical service undergrounding work.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT, COMMON REQUIREMENTS

- A. Unless otherwise indicated, provide all first quality, new materials and equipment, free from any defects, in first class condition, and suitable for the space provided. Provide materials and equipment listed by UL (or other acceptable NRTL), bearing their label wherever standards have been established by that agency.
- B. Where two or more units of the same class of material or equipment are required, provide products of a single manufacturer. Component parts of materials or equipment need not be products of the same manufacturer.
- C. Unless otherwise indicated, provide materials and equipment which are the standard products of manufacturers regularly engaged in the production of such materials and equipment. Provide the manufacturers' latest standard design that conforms to these Specifications.

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- D. Indicated brand names and catalog numbers are used to establish standards of performance and quality. The description of materials listed herein governs in the event that catalog numbers do not correspond to materials described herein.

2.2 EQUIPMENT FINISHES

- A. Provide materials and equipment with manufacturers' standard finish system. Provide manufacturers' standard finish color, except where specific color is indicated.

2.3 PORTABLE OR DETACHABLE PARTS

- A. The Contractor shall retain in their possession and shall be responsible for all portable and detachable parts or portions of installations such as fuses, key locks, adaptors, blocking chips, and inserts until completion of the work.
- B. These parts shall be delivered to the Engineer and an itemized receipt obtained. This receipt, together with 2 copies of the final inspection certificate, shall be attached to the Contractor's request for final payment.
- C. All equipment shall be demonstrated to operate in accordance with the requirements of this specification and the manufacturer's recommendation.

2.4 ACCESSORIES

- A. Include special features, finishes, accessories, and other requirements as described in the Contract Documents regardless of the item's listed catalog number.
- B. Provide incidentals not specifically mentioned herein or noted on Drawings, but needed to complete the system or systems, in a safe and satisfactory working condition.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Construction Documents:
 - 1. Drawings are diagrammatic with symbols representing electrical equipment and wiring.
 - 2. Electrical symbols indicating wiring and equipment shown in the Contract Documents are included in the Contract unless specifically noted otherwise.
 - 3. Examine the entire set of Drawings to avoid conflicts with other systems. Determine exact route and installation of electrical wiring and equipment with conditions of construction.

B. Clarification:

1. The Drawings govern in matters of quantity, the Specification in matters of quality. In event of conflict on Drawings or in the Specifications, the greater quantity and the higher quality apply.
2. Should the Electrical Documents indicate a condition conflicting with the governing codes and regulations, refrain from installing that portion of the work until clarified by the Engineer.

3.2 PREPARATION

- A. Throughout this Contract, provide protection for materials and equipment against loss or damage in accordance with provisions elsewhere in these Contract Documents. Protect everything from the effects of weather.
- B. Prior to excavation work, pothole utility conflicts shown on the plans. Potholing shall be incidental to trenching and backfill work and shall be done at no additional cost to the City.
- C. Prior to installation, store items in clean, dry, indoor locations. Store in clean, dry, indoor, heated locations items subject to corrosion under damp conditions, and items containing electrical insulation, such as transformers, and conductors. Energize all space heaters furnished with equipment.
- D. Following installation, protect materials and equipment from corrosion, physical damage, and the effects of moisture on insulation. Cap conduit runs during construction with manufactured seals. Keep openings in boxes or equipment closed during construction. Energize all space heaters furnished with equipment.
- E. Protection of In-Place Conditions:
 1. All existing electrical service(s) and/or other equipment to remain shall be protected from damage. Any wiring or equipment that is damaged shall be repaired or replaced by the Contractor at no additional cost to the owner(s) or City.
 2. All existing overhead electrical services to be demolished shall be protected from damage until such time as the services are to be removed. Any damaged caused prior to scheduled removal shall be repaired or replaced by the Contractor at no additional cost to the owner(s) or City.

3.3 INSTALLATION OF ELECTRICAL WORK

A. Common Requirements:

1. Install materials and equipment in a workmanlike manner utilizing craftsmen skilled in the particular trade. Provide work which has a neat and finished appearance.
 - a. Unless more stringent requirements are specified in the Contract Documents or manufacturers' written instructions, comply with NFPA 70 (NEC) and the installation standards of NECA NEIS 1 for Work specified herein.
 - b. Where applicable, comply with the National Electrical Safety Code (NESC).

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- c. Consult City's Representative for resolution of conflicting requirements.
 - 2. Coordinate electrical work with work of other trades to avoid conflicts, errors, delays, and unnecessary interference to owner(s) during construction.
 - 3. Install electrical equipment complete as directed by manufacturer's installation instructions. Obtain installation instructions from manufacturer prior to rough-in of the electrical equipment, examine the instructions thoroughly. When requirements of the installation instructions conflict with the Contract Documents, request clarification from the City's Representative prior to proceeding with the installation.
 - 4. Do not install electrical equipment in obvious passages, doorways, scuttles or crawl spaces which would impede or block the area passage's intended usage.
- B. Earthwork: Perform excavation and backfill for the installation of the work, as required. All excavation, trenching, and backfill shall conform to CRPUD requirements. Rock excavation shall be incidental to trenching and backfill; no additional payment shall be made by City for rock excavation. CALL BEFORE YOU DIG 811 must be called prior to performing any excavation work. Any required sidewalk removal must be done from joint to joint; use t-cuts in asphalt. All excavation/trenches must be restored to original conditions or better when finished, including pavement, sidewalks, landscaping, etc. Work with the Right-of-Way (ROW) must conform to the City of St. Helens' requirements.
- C. Support Backing: Provide any necessary backing required to properly support all equipment installed under this contract.
- D. Cutting, Patching, and Framing (Buildings):
- 1. The Contractor shall determine in advance the locations and sizes of all sleeves, chases, and openings necessary for the proper installation of the work.
 - 2. Whenever practicable, inserts or sleeves shall be installed prior to covering work. Cutting and patching shall be held to a minimum. All required holes in concrete construction shall be made with a core drill and patched with non-shrink grout.
 - 3. Cutting, fitting, repairing, and finishing of carpentry work, metal work, or concrete work, and the like, which may be required for this work shall be done by craftsmen skilled in their respective trades. When cutting is required, it shall be done in such a manner as not to weaken walls, partitions, or floors; and holes required to be cut in floors must be drilled without breaking out around holes.
- E. Cleaning and Touchup Painting: Keep the premises free from accumulation of waste material or rubbish. Upon completion of work each day, remove materials, scraps, and debris from premises and from interior and exterior of all devices and equipment. Touch up scratches, scrapes, or chips in interior and exterior surfaces of devices and equipment with finishes matching as nearly as possible the color, consistency, and type of surface of the original finish.

3.4 CONTRACTOR'S RED-LINES

- A. The Contractor shall maintain a neatly marked set of "red-lined" drawings. Contract Drawings shall be marked with red indelible pencil to show all departures from original Drawings; underground cable, conduit, or duct runs dimensioned from established building lines; and all electrical work revisions. In addition, the locations of panels, terminal boxes, junction boxes and any other materials included in this contract shall be shown. Red-lined drawings shall be

kept current with the work as it progresses and shall be subject to inspection by the Engineer at any time.

- B. See City Specifications for additional requirements.

3.5 FIELD QUALITY CONTROL

- A. Inspection: All materials, equipment, and workmanship shall be subject to inspection at any time by the Engineer, or their representatives. Correct work, materials, or equipment not in accordance with these Contract Documents or found to be deficient or defective in a manner satisfactory to the Engineer.

- 1. During site evaluations by Engineer, provide an electrician with tools to remove and replace trims, covers, devices, and the like, so that a proper evaluation of the installation can be performed.

- B. Tests:

- 1. Carry out tests specified hereinafter and as indicated under individual items of materials and equipment specified in other sections. Testing is incidental to utility installation; no additional payment shall be made by City for testing.
 - 2. The Contractor shall furnish all labor, material, instruments and tools to make all connections for testing of the electrical and instrumentation installation. All equipment shall be demonstrated as operating properly prior to the acceptance of the work. All protective devices shall be operative during testing of equipment.
 - 3. General:

- a. Perform the tests as described below. Upon completion of all tests, submit written test results in duplicate for approval by the Engineer prior to acceptance.
 - b. After visual inspection of joints and connections and the application of tape and other insulating materials, all sections of the entire wiring system shall be thoroughly tested for shorts and grounds. A log of results for each circuit shall be kept by the Contractor and presented to the Engineer.

- 4. Operations:

- a. After the electrical system installation is completed and at such time as CRPUD or the Engineer may indicate, conduct an operating test for approval. Demonstrate that the equipment operates in accordance with the requirements of these Specifications and Drawings.
 - b. Perform the test in the presence of CRPUD personnel, the Engineer or their authorized representative, as applicable. Furnish all instruments and personnel required for the tests. CRPUD will furnish the necessary electric power. System performance shall conform to the following criteria. Deviations, if any, shall be noted on the test reports with indication of corrective action taken or proposed.

- 1) Insulation resistance shall be tested under normal climatic conditions and shall conform to the following:

SECTION 26 00 10

- a) Circuits of 600 volts or less shall have conductor insulation resistance as installed of not less than 10,000,000 ohms to ground.

5. Document tests and include in Closeout Documents.

3.6 TEST REPORTS

- A. Submit dated "Electrical System Test Reports" indicating all tests performed and demonstrating conformance with the required system performance criteria. This test report shall include all voltage, current, and resistance test data of the electrical service, feeders, and ground systems, as applicable.

3.7 FINAL CORRECTION

- A. Promptly correct any failures or defects revealed by these tests as determined by CRPUD or the Engineer. Re-conduct tests on these corrected items as directed by CRPUD personnel or the Engineer, as applicable.

3.8 CLEANING

- A. Remove dirt and debris caused by the execution of the electrical work.
- B. Leave the entire electrical system installed under this Contract in clean, dust-free and proper working order.
- C. Vacuum clean interiors of electrical equipment enclosures, as applicable.

3.9 GUARANTEE

- A. Materials, equipment, and workmanship shall be guaranteed in accordance with provisions of the Technical Specifications in these Contract Documents.

END OF SECTION 26 00 10

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SCOPE

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. This section covers the work necessary to furnish and install complete conductor systems not provided or installed by Columbia River PUD (CRPUD), as specified herein.

1.2 GENERAL

- A. See Section 26 00 10, SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL, which contains information and requirements that apply to the work specified herein and are necessary for this project.

1.3 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Division 1, GENERAL REQUIREMENTS and Section 26 00 10, SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The use of a manufacturer's name and/or catalog number is for the purpose of establishing the standard of quality and general configuration desired only. Similar products of other power conductor and cable manufacturers will be considered, subject to approval by the Engineer.
- B. This specification covers conductors not specified in other sections. All non-CRPUD provided conductors and cables shall be stranded copper and shall conform to UL (or other NRTL), Federal Specification A-A-59544, or ICEA as applicable.
- C. Provide new conductors and cables manufactured within one year of installation. Deliver to jobsite in original cartons bearing UL (or other NRTL) label.
- D. Minimum conductor size: Where applicable, provide 12 AWG minimum branch circuit wire size. Where applicable, provide smaller conductor sizes for specific applications where shown on the drawings.

2.2 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- C. Conductors: Stranded copper, complying with ASTM B8.
- D. Conductor Insulation:
 - 1. Unless otherwise indicated or specifically allowed by CRPUD or the Engineer, all insulation shall be rated 90°C.
 - 2. Type THHN/THWN-2. Comply with UL 83 and/or ICEA S-73-532.
 - 3. Type XHHW-2. Comply with UL 44 and/or ICEA S-66-524.
 - 4. Type USE-2. Comply with UL 854 and/or ICE S-95-658.

2.3 ALUMINUM BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn aluminum current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- C. Conductors: Aluminum, complying with ASTM B800 and ASTM B801.
- D. Conductor Insulation:
 - 1. Type USE-2. Comply with UL 854 and/or ICEA S-105-692.

2.4 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.
 - 1. Material: Copper.
 - 2. Type: One- or Two hole with standard barrels.

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3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders and Branch Circuits:

1. All feeders and branch circuits shall be stranded copper. Solid conductors and wires are unacceptable.
2. Use type XHHW-2 for all conductors size 2 AWG and larger. For conductors smaller than 2 AWG, contractor has the option of using XHHW-2 or THHN/THWN-2.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- #### A. Service Entrance: Type XHHW-2, single conductor in raceway or Type USE-2, single conductor or multiconductor cable in raceway.

3.3 INSTALLATION, GENERAL

- A. Observe code restrictions with respect to wet and dry locations. No reduction in conductor size will be permitted from that indicated. When using small diameter wire on non-service conductors, do not reduce conduit size below that required for Type THW or RHW (without outer covering), whichever is larger, as shown in NEC.
- B. Complete raceway installation between conductor and cable termination points prior to pulling conductors and cables. Raceway shall be thoroughly cleaned of all foreign material just prior to pulling the wire or cable.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions, sidewall pressure values, and bending radii.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors. Do not make splices inside of conduit; all splices shall be accessible.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to CRPUD requirements for service conductors and Section 26 05 53 "Identification for Electrical Systems" for non-service conductors.

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.7 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 - 2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connections.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - 3) Thermographic survey.
 - c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500 V(dc) for 300 V rated cable and 1000 V(dc) for 600 V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- B. Cables will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports to record the following:
 - 1. Procedures used.
 - 2. Results that comply with requirements.
 - 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. This section covers the work necessary to furnish, install, and complete the electrical grounding system.

1.2 GENERAL

- A. See Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS, which contains information and requirements that apply to the work specified herein and are necessary for this project.

1.3 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS.

1.4 SYSTEM DESCRIPTION

- A. Where required, provide grounding and bonding of non-service electrical circuits and equipment installed as part of this project.
- B. Performance Requirements: Where required, supplement the grounded neutral of the secondary distribution system with an equipment grounding system to properly safeguard equipment and personnel. Where applicable, install equipment grounding such that all metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, portable equipment and other conductive items in close proximity with electrical circuits operate continuously at ground potential and provide a low impedance path for possible ground fault currents.

1.5 REGULATORY REQUIREMENTS

- A. Conform to requirements of the NEC, latest adopted version with amendments by local AHJs.
- B. Furnish products listed by UL or other NRTL acceptable to AHJ.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 GROUND RODS

- A. When used, ground rods shall be copper or copper-clad steel, 3/4-inch in diameter by 10-feet long with tapered point and chamfered top.

2.3 CONDUCTORS

- A. Insulated Conductors: Stranded copper or tinned-copper wire or cable, green or green with yellow stripe, insulated for 600 V unless otherwise required by applicable Code or Authorities Having Jurisdiction.
 - 1. Insulated grounding conductors shall be of the same insulation type as the circuit conductors in the same raceway, unless otherwise shown.
- B. Bare Copper Conductors:
 - 1. Stranded Conductors: ASTM B8.
 - 2. Stranded Tinned Conductors: ASTM B33.
 - 3. Bonding Conductor: 4 or 6 AWG, stranded conductor.
 - 4. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; minimum dimensions shall be 1-5/8 inch (41 mm) wide and 1/16 inch (1.6 mm) thick.
 - 5. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; minimum dimensions shall be 1-5/8 inch (41 mm) wide and 1/16 inch (1.6 mm) thick.

2.4 CONNECTORS

- A. Listed and labeled by a NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Irreversible compression-type connectors listed for the purpose. Listed by a NRTL as complying with NFPA 70 for specific types, sizes, and combinations of conductors and other items connected.
 - 1. Compression Wire Connectors: Crimp-and-compress connectors that bond to the conductor when the connector is compressed around the conductor.

- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- D. Compression-Type: Copper or copper alloy, with two wire terminals.
- E. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.
- F. Cable-to-Cable Connectors: Compression type, copper or copper alloy.
- G. Cable Tray Ground Clamp: Mechanical type, zinc-plated malleable iron.
- H. Conduit Hubs: Mechanical type, terminal with threaded hub.
- I. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.
- J. Signal Reference Grid Clamp: Mechanical type, stamped-steel terminal with hex head screw.
- K. Straps: Stranded copper, copper lugs. Rated for 600 A.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors:
 - 1. Where not otherwise indicated, grounding conductor size shall conform to the most stringent of the governing codes, except that no grounding conductor shall be smaller than 12 AWG.
 - 2. All ground conductors shall be stranded copper, unless specifically indicated otherwise.
 - 3. Covering: Bare or Green (or Green with Yellow stripe) colored insulation, matching insulation of corresponding phase conductors.
- B. Conductor Terminations and Connections:
 - 1. Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Underground Connections: Irreversible compression or exothermic welded connectors.
 - 3. Connections to Ground Rods: Irreversible compression or exothermic welded connectors.
 - 4. Connections to Structural Steel: Exothermic welded connectors.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Unless specifically directed by CRPUD, do not install grounding conductors in raceways with service or service entrance conductors.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use irreversible compression or exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- C. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.
 - 1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
 - 2. Make connections with clean, bare metal at points of contact.
 - 3. Make aluminum-to-steel connections with stainless steel separators and mechanical clamps.
 - 4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
 - 5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.4 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 - 2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
- B. Grounding system will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 26 05 26

SECTION 26 05 33

SECTION 26 05 33 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SCOPE

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. Work included: This section covers the work necessary to furnish and install complete electrical raceway systems.

1.2 GENERAL

- A. See Division 1, GENERAL REQUIREMENTS, and Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are necessary for this project.

1.3 EXCAVATION AND BACKFILL

- A. Perform all necessary excavation and backfilling for buried conduits and conductors as specified in Division 2 of the specifications, as applicable.
 - 1. Trenching, backfilling, and cover for underground electrical service conduits shall conform to the requirements of the local power utility, Columbia River PUD (CRPUD).
- B. No backfilling shall be done until all direct burial cables, conduits, and penetrations to be covered have been inspected and approved.

1.4 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Division 1, GENERAL REQUIREMENTS and Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All raceway shall be UL (or other NRTL) approved for the application.

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- B. All conduit bodies used on 1.25-inch and larger shall be mogul type, unless otherwise allowed or approved by CRPUD or the Engineer.
 - 1. Where conduit bodies are installed on service raceway upstream of utility meter base and/or Current Transformer enclosures (CT Cans), provide conduit bodies with provisions for installation of utility seal.
- C. All conduit terminating on outdoor enclosures, boxes, or cabinets shall use Myers type hubs.
- D. For all service conduits:
 - 1. Use only factory made, long sweep elbows in accordance with CRPUD's Electrical Service Requirements (ESR) document. Field bends are not permitted.
 - 2. All conduit sections shall be joined by methods required or approved by CRPUD for the conduit material used. Refer to CRPUD's ESR for specific information.

2.2 RIGID STEEL CONDUIT

- A. Use only hot dipped galvanized rigid steel conduit, including bushings, couplings, elbows, nipples, and other fittings, and meeting the requirements of ANSI C80.1, ANSI C80.4, UL (or other NRTL), the NEC, and Federal Specification WW-C-581. Use only threaded (do not use setscrew or compression type) couplings, bushings, elbows, nipples, and other fittings unless approved in writing by the Engineer. All threads shall be coated after cutting.
- B. All threads shall be coated with an electrically conductive corrosion-resistant compound after cutting. Thomas & Betts Kopr-Shield, or equivalent.

2.3 RIGID PVC CONDUIT

- A. Use rigid PVC Schedule 40 or Schedule 80 conduit, UL (or other NRTL) listed for concrete encasement, underground direct burial, concealed, direct sunlight exposed use, and marked for use with conductors having 90°C insulation. Use conduits, couplings, bushings, elbows, nipples, and other fittings meeting the requirements of NEMA TC 2 and TC 3, Federal Specification WW-C-1094, UL, NEC, and ASTM specified tests for the intended use.
- B. For underground service conduit, do not use Schedule 80 PVC unless specifically permitted by CRPUD.

2.4 REINFORCED THERMOSETTING RESIN (FIBERGLASS) CONDUIT

- A. Fiberglass conduit may be used in lieu of PVC conduit.
- B. Conduit shall be UL (or other NRTL) listed for both below ground and above ground installation. Internal conduit and elbow walls shall be smooth and all fibers embedded in the epoxy. Carbon black shall be used as an ultraviolet inhibitor to protect conduit and fittings. Conduit shall be marked in accordance with NEMA TC 14.

- C. Fiberglass conduit fittings, elbows, and accessories shall be manufactured by the same manufacturer as the conduit.

2.5 HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT – TYPE B (EPEC-B)

- A. Type B (EPEC-B) SDR 13.5 HDPE conduit may be used in lieu of PVC conduit for underground installations.
- B. Conduit shall be UL (or other NRTL) listed for underground installation. Internal conduit and elbow walls shall be smooth. Conduit color to be gray or black with three equally spaced extruded red stripes.

2.6 CONDUIT FITTINGS AND ACCESSORIES

- A. Provide conduit bodies, boxes, and fittings, as required. Use appropriate fittings for the conduit system and locations used.
- B. Conduit bodies and cast boxes shall be cast steel or “greyloy” iron; aluminum is unacceptable.

2.7 CAST STEEL (CS) BOXES

- A. For exposed box locations, provide boxes of cast ferrous metal with gasketed, cast ferrous metal covers and stainless-steel screws. Where indicated, provide covers which are weatherproof. Provide boxes with threaded conduit hubs and cast mounting lugs where lugs are required. Use Crouse Hinds or Appleton Type FS or FD boxes, or approved.
- B. Where larger cast metal boxes are required, use neoprene gasketed, watertight boxes with hinged, cast metal full-access covers, stainless steel cover hardware, and drilled and tapped conduit entrances. Use Crouse Hinds Series W, O.Z./Gedney Series Y boxes, or approved. For conduit below grade, use Crouse Hinds Type WJBF, O.Z./Gedney Series YR, or approved, minimum size 8 inches by 8 inches by 6 inches. Use special boxes where indicated on the Drawings.

2.8 JUNCTION AND PULL BOXES

- A. Dry, Interior Locations: Provide code gage galvanized sheet steel or painted mild steel pull boxes as required or shown on the drawings. Provide hinged or removable screw cover on the largest access side of the box unless otherwise detailed. Where cast boxes are indicated or specified, provide conduit entrances with threaded hubs.
- B. Outdoor or Wet Locations: Utilize stainless steel, NEMA 4X watertight enclosures for outdoor or wet locations and where subscript WP is indicated at the box location on the Drawings. For boxes larger than 12-inches on any given side, provide hinged covers.
- C. Where pull boxes are required but not shown, provide pull boxes as specified above, sized per NEC requirements.

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- D. Provide stainless steel hardware at all locations.

PART 3 - EXECUTION

3.1 GENERAL

- A. No raceway shall be installed until work which might cause damage to wires, conduit boxes, or fittings has been completed. Raceways, boxes, fittings, and wires which become damaged in any way shall be removed from the job and replaced at expense of the Contractor.
- B. Raceway buried in earth: Install raceways to provide not less than 30-inches of cover to finished grade. Pitch to drain away from buildings; avoid trapped runs. Grade trenches and place pipe bedding material to provide uniform trench bottom for raceway support. Buried raceway shall not be smaller than 1-inch and shall be PVC, fiberglass, or HDPE, unless otherwise shown. All underground elbows shall be PVC or fiberglass only, unless otherwise permitted by CRPUD. All stub-up conduit sections shall be RGS, unless otherwise indicated; make transitions from PVC/fiberglass/HDPE to RGS below grade.
- C. Exposed raceway shall be RGS and shall be run in straight lines parallel to column lines, walls, or beams. Where conduit is grouped, the bends and fittings shall be installed to present an orderly appearance. Unnecessary bends or crossings shall be avoided.
- D. Supports for exposed conduit runs shall be furnished and installed within 3 feet of each box or end. Supports shall be secured by means of expansion inserts in concrete. Zamac type anchors shall not be used.
- E. Raceways and fittings shall be properly protected during the construction period against mechanical injury from any cause. Conduit stubs which extend above grade shall be boxed or otherwise protected and ends shall be capped.

3.2 SIZE

- A. Use raceways no smaller than 3/4-inch.

3.3 RACEWAY INSTALLATION

- A. Rigid conduit joints and connections shall be made thoroughly watertight and rustproof by means of thread compound which will not insulate the joint. Each threaded joint shall be thoroughly cleaned to remove all the cutting oil before the compound is applied. Running threads will not be allowed. Erickson couplings may be used in dry and exposed locations provided that they are installed with fixed threaded connection at the top of vertical runs.
- B. Raceways Penetrating a Roof Seal: Provide suitable lead flashing with shrink tubing. Submit shop drawings of method to be used for approval.

3.4 RACEWAY FITTINGS AND CONNECTIONS

- A. Coupling and Connections: Make all connections in threaded conduit watertight.
- B. On rigid steel conduit system, use threaded connections at all locations. Conduits and threaded hubs shall have no less than five (5) threads engaged. Long threads known as "running threads" shall not be used. Erickson couplings or unions shall be used only in places where continuous conduit runs cannot be made satisfactorily.
- C. Make all box connections with two locknuts and one insulated steel, plastic, or fiber bushing. On all conduit systems, provide grounding locknuts or grounding bushings where required.
- D. On rigid non-metallic conduit systems, utilize solvent welded joints specifically recommended by the manufacturer, unless otherwise required by CRPUD. Connections to metallic conduit systems shall utilize threaded connections, unless otherwise required by CRPUD. Utilize factory made long sweep ells throughout, per CRPUD's requirements.
- E. Provide expansion joint fittings in all raceways crossing expansion joints or due to the length of the conduit run and temperature variations. Where differential settlement may occur, use deflection fitting.
- F. Cap raceways immediately upon rough in. Utilize temporary plastic caps designed for the purpose. The use of paper or rag wads will not be permitted. Duct tape may be used, subject to approval by CRPUD personnel, the AHJ, and the engineer.

3.5 JUNCTION, PULL, AND CAST STEEL BOXES

- A. Where indicated on the Drawings, and where necessary to terminate, tap off, or re-direct conduit runs, provide and install appropriately designed junction boxes. Furnish and install pull boxes where necessary in the raceway system to facilitate conductor installation. Provide pull boxes to limit conduit runs to less than 150 feet and to contain no more than the equivalent of three right angle bends (270°, in total).
- B. Make all boxes accessible. Do not install boxes in finished areas unless accepted by the Engineer. Mount all boxes plumb and level.
- C. Install boxes in a secure, substantial manner, supported independently of conduit by attachment to the structural member.

END OF SECTION 26 05 33

SECTION 26 05 53

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. Section Includes:
 - 1. Labels.
 - 2. Bands and tubes.
 - 3. Tags.
 - 4. Cable ties.
 - 5. Miscellaneous identification products.

1.2 GENERAL

- A. See Section 26 00 10, SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL, which contains information and requirements that apply to the work specified herein and are necessary for this project.

1.3 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Division 1, GENERAL REQUIREMENTS and Section 26 0010, SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1.
- B. Comply with 29 CFR 1910.144 for color identification of hazards; 29 CFR 1910.145 for danger, caution, warning, and safety instruction signs and tags.
- C. Signs, labels, and tags required for personnel safety must comply with the following standards:
 - 1. Safety Colors: NEMA Z535.1.
 - 2. Facility Safety Signs: NEMA Z535.2.
 - 3. Safety Symbols: NEMA Z535.3.
 - 4. Product Safety Signs and Labels: NEMA Z535.4.

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5. Safety Tags and Barricade Tapes for Temporary Hazards: NEMA Z535.5.
- D. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, must comply with UL 969.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Color-Coding for Phase- and Voltage-Level Identification, 1000 V or Less: Use colors listed below for conductors.
 1. Colors for 240/208/120 V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - d. Neutral: White
 2. Colors for 480Y/277 V Circuits:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.
 - d. Neutral: White or gray
 3. Color for Equipment Grounds: Bare copper, Green, or Green with yellow stripe.
- B. Warning Label Colors:
 1. Identify system voltage with black letters on orange background.
- C. Warning labels and signs must include, but are not limited to, the following legends:
 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES." or similar.
- D. Equipment Identification Labels:
 1. Black letters on white field.

2.3 LABELS

- A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.
- B. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.
- C. Self-Adhesive Wraparound Labels: Preprinted, 3 mil (0.08 mm) thick, polyester or vinyl flexible label with acrylic pressure-sensitive adhesive.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Brother International Corporation.
 - c. Ideal Industries, Inc.
 - d. Panduit Corp.
 - 2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over legend. Labels sized such that clear shield overlaps entire printed legend.
 - 3. Marker for Labels:
 - a. Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.
- D. Self-Adhesive Labels: Polyester or Vinyl, thermal, transfer-printed, 3 mil (0.08 mm) thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Brother International Corporation.

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- c. Ideal Industries, Inc.
 - d. Panduit Corp.
- 2. Minimum Nominal Size:
 - a. 1-1/2 by 6 inch (37 by 150 mm) for raceway and conductors.
 - b. 3-1/2 by 5 inch (76 by 127 mm) for equipment.
 - c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

- A. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inch (50 mm) long, with diameters sized to suit diameters and that stay in place by gripping action.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.
- B. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tubes with machine-printed identification labels, sized to suit diameter and shrunk to fit firmly. Full shrink recovery occurs at maximum of 200 deg F (93 deg C). Comply with UL 224.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.

2.5 TAGS

- A. Metal Tags: Brass, aluminum, or stainless steel, 2 by 2 by 0.05 inch (50 by 50 by 1.3 mm), with stamped legend, punched for use with self-locking cable tie fastener.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.

- B. Nonmetallic Preprinted Tags: Polyethylene tags, 0.015 inch (0.38 mm) thick, color-coded for phase and voltage level, with factory screened or printed permanent designations; punched for use with self-locking cable tie fastener.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.

2.6 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
 - 1. Minimum Width: 3/16 inch (5 mm).
 - 2. Tensile Strength at 73 deg F (23 deg C) in accordance with ASTM D638: 12,000 psi (82.7 MPa).
 - 3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
 - 4. Color: Black, except where used for color-coding.

2.7 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless steel screws or stainless steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

- B. Install identifying devices before installing acoustical ceilings and similar concealment.
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- C. Verify identity of item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- G. System Identification for Raceways and Cables under 1000 V: Identification must completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 - 1. Secure tight to surface of conductor, cable, or raceway.
- H. Vinyl Wraparound Labels:
 - 1. Secure tight to surface of raceway or cable at location with high visibility and accessibility.
 - 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to location and substrate.
- I. Snap-Around Labels: Secure tight to surface at location with high visibility and accessibility.
- J. Self-Adhesive Wraparound Labels: Secure tight to surface at location with high visibility and accessibility.
- K. Self-Adhesive Labels:
 - 1. Install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 - 2. Unless otherwise indicated, provide single line of text with 1/2 inch (13 mm) high letters on 1-1/2 inch (38 mm) high label; where two lines of text are required, use labels 2 inch (50 mm) high.
- L. Snap-Around Color-Coding Bands: Secure tight to surface at location with high visibility and accessibility.
- M. Heat-Shrink, Preprinted Tubes: Secure tight to surface at location with high visibility and accessibility.
- N. Marker Tapes: Secure tight to surface at location with high visibility and accessibility.
- O. Self-Adhesive Vinyl Tape: Secure tight to surface at location with high visibility and accessibility.
 - 1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for minimum distance of 6 inch (150 mm) where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.

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P. Metal Tags:

1. Place in location with high visibility and accessibility.
2. Secure using general-purpose cable ties.

Q. Nonmetallic Preprinted Tags:

1. Place in location with high visibility and accessibility.
2. Secure using general-purpose cable ties.

R. Write-on Tags:

1. Place in location with high visibility and accessibility.
2. Secure using general-purpose cable ties.

END OF SECTION 26 05 53

SECTION 26 27 00

SECTION 26 27 00 – SERVICE AND DISTRIBUTION

PART 1 - GENERAL

1.1 SCOPE

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. Work consists of providing the complete service and distribution system shown on the drawings and specified herein.

1.2 GENERAL

- A. See Division 1, GENERAL REQUIREMENTS, and Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are necessary for this project.

1.3 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Division 1, GENERAL REQUIREMENTS and Section 26 05 00, GENERAL ELECTRICAL REQUIREMENTS.

1.4 ELECTRICAL SERVICE

- A. The utility company rendering electrical service to this project is Columbia River PUD (CRPUD). Furnish all labor and install all material not furnished by the utility company, including meter bases, CT cans, service conduits, and service conductors (where required), or as required by utility company to render service from utility to each service point. Verify service point metering requirements, etc., and include all costs in bid proposal.
- B. Provide trenching and backfill at locations shown on the plans and as required by the utility company for service to each service point.
- C. For utility service conduit, provide sweeps per utility company standards.
- D. Provide ground services as may be required to satisfy utility company and code requirements.
- E. Verify all required installation details (pull boxes, vaults, handholes, conduit, cables, meter bases, etc.) with the utility company and observe utility company standards throughout.

PART 2 - PRODUCTS

2.1 CIRCUIT BREAKERS – GENERAL REQUIREMENTS

- A. All circuit breakers, regardless of location, with frame sizes of 250 Amps or larger shall have fully adjustable, solid-state trip units, of the Long, Short, and Instantaneous (LSI) type. Long and short (LS) adjustments shall include independently adjustable delay settings, with a minimum of (5) different delay time settings.
- B. Where required or shown, Ground Fault Interruption (GFI) adjustments shall be included.
- C. All circuit breakers, including those for Meter/Main or Meter/Panel devices shall conform to the “Circuit Breakers” specification, below.

2.2 METER BASE

- A. Where indicated, furnish and install a meter base, with safety socket (test bypass), suitable for use with the voltage and phase of the electrical service being provided, per utility requirements. Meter shall be ring type, NEMA 3R, painted steel (ANSI 61 gray) construction, unless otherwise noted or required by CRPUD. Meter shall be UL 67 listed and meet ANSI C12.7 and EUSERC 305A standards, as applicable (verify with local power utility). Meter shall have provisions for installing a utility seal. Contractor shall verify all meter base requirements with local power utility prior to ordering.
- B. Ratings:
 - 1. Where no ratings are indicated on the drawings, provide meter bases rated 200A, direct-metered bases; this shall be the minimum meter rating. Meter base shall be suitable for 240/120V, 1-phase service, unless otherwise indicated or required by CRPUD.
 - 2. Where indicated, provide 320A direct-metered base. Service voltage/phase shall be as indicated on the drawings.
 - 3. Where indicated, provide 200A direct-metered bases rated for 240/120V, 3-phase, 208/120V, 3-phase, or 480/277V, 3-phase.
 - 4. Where Current Transformers (CTs) are indicated, provide 200A class meter bases for use with CTs.

2.3 COMBINATION METER BASE AND MAIN CIRCUIT BREAKER (METER/MAIN)

- A. Where indicated, furnish and install a combination Meter/Main, with safety socket (test bypass), suitable for use with the voltage and phase of the electrical service being provided, per utility requirements.
 - 1. Meter section shall conform to the requirement of the “Meter Base” specification, above; minimum meter base rating shall be 200A.
 - 2. Main section shall be mounted to the side of the meter section; it shall be possible to open Main section without breaking utility seal on meter section. Contractor shall verify all meter/main requirements with local power utility prior to ordering. Main section shall be “service entrance” rated. Manufacturer shall be B-line or as approved by local power utility.

City of St. Helens, OR – 1st/Strand Undergrounding

- B. Main Circuit Breaker shall be sized as shown on drawings. Provide and install in an accessible location on the outside of the Main section, a metal nameplate that contains a permanent record of the catalog number and maximum ratings of the Main Circuit Breaker. Main section of Meter/Main shall have provisions for locking the Main Circuit Breaker in the open ("Off") position.
- C. Main Circuit Breaker shall be molded case and shall have the electrical characteristics, rating, and modifications as shown. Main Circuit Breaker shall have a quick-make, quick break, over-center toggle type, trip-free mechanism to prevent holding contacts closed against a position between "ON" and "OFF" when tripped automatically. Breaker shall be common trip such that an overload or short circuit on any one pole will result in all poles opening simultaneously.
- D. The interrupting capacity of the Meter/Main and Main Circuit breaker shall be at least equal to the available short circuit current at the line terminals of the breaker, but in no instance shall the rating be less than:
 - 1. 10k AIC at 240 volts.
 - 2. 14k AIC at 480 volts.

2.4 COMBINATION METER BASE AND DISTRIBUTION PANEL WITH MAIN CIRCUIT BREAKER (METER/PANEL)

- A. Where indicated, provide a Meter/Panel. Meter/Panel shall conform to the requirements of the "Meter/Main" specification above, with the addition of including multiple branch circuit breakers. Branch circuit breakers shall have the characteristics as indicated on the drawings.

2.5 CIRCUIT BREAKERS

- A. Provide circuit breakers meeting requirements of NEMA AB-1.
 - 1. Provide molded case bolt-on circuit breakers with thermal magnetic trip units, and a common trip bar for two or three-pole breakers, connected internally to each pole so that the tripping on one pole will automatically trip all poles of each breaker. Handle bales or clips will not be acceptable.
 - 2. Provide breakers of the trip-free and trip-indicating type, with quick-make, quick-break contacts. Breakers shall have terminals rated for 75 degrees C (minimum).
 - 3. Provide circuit breaker with handle padlocking provisions where indicated or required.
 - 4. Where ground fault circuit interrupter (GFCI) circuit breakers are indicated or required by the NEC, provide a unit containing a conventional thermal magnetic trip and a ground fault sensor rated to trip the circuit breaker in approximately 0.025 seconds for a 5 milliampere ground fault (UL Class A sensitivity). Utilize a ground fault sensor having the same rating as the circuit breaker and having a push-to-test button.

SECTION 26 27 00

PART 3 - EXECUTION

3.1 EQUIPMENT BASES

- A. Provide equipment bases for all floor-mounted electrical equipment. Unless otherwise indicated, bases shall be poured-in-place concrete, nominally 3.5-inches high, and be one inch larger on all exposed edges than the equipment to be mounted. Bolt equipment to pad. Provide additional surface-mounted channels where required to match and lineup with existing equipment. Provide concrete pads and mounting provisions for all exterior equipment as indicated on the drawings or specified in other portions of the specifications.

3.2 SUPPORTS

- A. Provide hangers or other devices such as pads, channels, struts, joists, anchors, etc., necessary for the support of electrical equipment. Provide the design, fabrication and erection of supplementary structural framing electrical equipment. Show on shop drawing supplementary framing including design loads, member size and location. When supplementary framing is indicated, verify that dimensions are suitable for the equipment furnished. Provide additional strength when equipment furnished is heavier than that specified.

3.3 DAMP AND WET LOCATIONS

- A. Provide 1/4-inch air space behind all electrical equipment mounted in damp and wet locations and on concrete walls below grade. Use corrosion-resistant washers, bolts and anchors.

END OF SECTION 26 27 00

Part 6

Supplementary Information

PROJECT DOCUMENTATION CHECKLIST

Project S 1st and St Helens Intersection Joint Utility Trenching
& Electrical Services Undergrounding

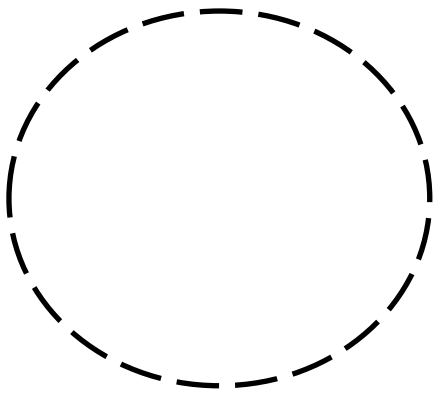
Project No R-685A



City of St. Helens
Department of Public Works – Engineering Division
265 Strand Street, St. Helens, OR 97051
Phone: 503.397.6272 Fax: 503.366.3782

Documentation	Reference	When Required
BID OPENING		
Firm Offer (Bid) and Schedule of Prices and Bid Schedule	Bid Forms, pg. 7 -14	At bid opening
Acknowledged Addenda	Bid Forms, pg. 11	At bid opening
First-Tier Subcontractor Disclosure Form	Bid Forms, pg. 13	Not later than 2 hours after bid opening
PROJECT AWARD		
Contractor Data, Certification, and Signature	Public Improvement Contract , pg 17	Within 10 business days of project award
St Helens business license	Public Improvement Contract , pg 29	Within 10 business days of project award
Proof of filing \$30,000 Public Works Bond with BOLI	Public Improvement Contract, Exhibit J	Within 10 business days of project award
Certificates of Insurance per Contract Requirements	Public Improvement Contract, Exhibit B	Within 10 business days of project award
Certification Statement for Corporation or Independent Contractor	Public Improvement Contract, Exhibit C	Within 10 business days of project award
Payment Bond in amount equal to 100% of awarded contract	Public Improvement Contract, Exhibit D	Within 10 business days of project award
Performance Bond in amount equal to 100% of awarded contract	Public Improvement Contract, Exhibit D	Within 10 business days of project award
PRIOR TO START OF CONSTRUCTION		
Construction Schedule	Specification 01310	10 Days after Notice to Proceed
Designation of Superintendent / Competent Person Designation with 24-hour contact information	Specification 01210	Submit at Pre-Construction Meeting
Designation of Emergency Maintenance Supervisor with 24-hour contact information	Specification 01210	Submit at Pre-Construction Meeting
Documentation to be sent to residents in project area	Specification 01300	Anytime prior to start of construction
Project Safety Plan	Specification 02100	Anytime prior to start of construction
Pre-Construction jobsite conditions (digital photo or video)	Specification 01300	Anytime prior to start of construction
Location of dump site	Specification 01500	Anytime prior to start of construction
24-Hours - 7 Day Contact Information (Contractor / Subcontractor)	Specification 01210	Anytime prior to start of construction
Product Data, including product literature, application, installation requirements, etc.	(Refer to Contract Documents)	Anytime prior to start of construction
Shop drawings, schedules, and drawings	(Refer to Contract Documents)	Anytime prior to start of construction
MSDS on all materials to be used on site	Specification 01500	Anytime prior to start of construction
Materials and equipment list	Specification 01500	Anytime prior to start of construction
Traffic Control Plan	Specification 02200	Anytime prior to start of construction
Other required submittals as stated elsewhere in Contract Documents	(Refer to Contract Documents)	Anytime prior to start of construction
DURING CONSTRUCTION		
Updated Construction Schedule, as required	Specification 01310, 01500	Whenever schedule falls behind by 10+ Days
Required Testing	(Refer to Contract Documents)	During construction, as required
WEEKLY BASIS		
Weekly certified payroll	Specification 01500	Submit Before or with Pay Requests
MONTHLY BASIS		
Pay Requests	Specification 01600	Submit Monthly for Engineering Review
AT SUBSTANTIAL COMPLETION		
Exhibit E - Certificate of Substantial Completion	Exhibit E	*
PRIOR TO FINAL ACCEPTANCE		
Maintain and submit redline drawings showing all changes	Specification 01320, 01700	Before Final Completion
Exhibit F - Certificate of Compliance submitted by Contractor	Exhibit F	After punchlist items are completed
Exhibit G - Release of Liens & Claims	Exhibit G	After punchlist items are completed
Exhibit H - Certificate of Final Completion issued by City	Exhibit H	After all documentation have been submitted & punchlist items are complete

*This project submittal list may be incomplete and may or may not list all submittals required on this project. This list shall be considered minimum and may be expanded during the course of the work at the direction of the Engineer. *Work is considered substantially complete when, in accordance with the Contract Documents, the Owner can occupy or utilize the work for its intended use.*



<INSERT CONTRACTOR'S LOGO>

CONSTRUCTION NOTICE FOR

**S 1ST AND ST HELENS
INTERSECTION JOINT
UTILITY TRENCHING &
ELECTRICAL SERVICES
PROJECT NO. R-679A**

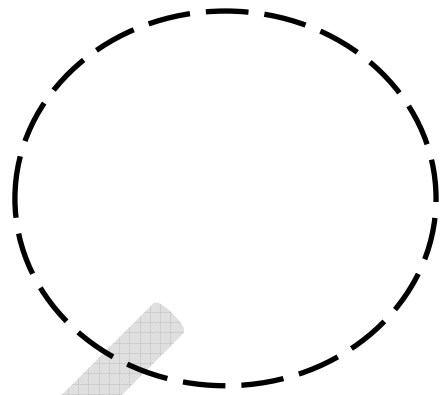
We plan to be in or around your area on

IF YOU HAVE ANY QUESTIONS OR CONCERNS
PLEASE CALL OUR REPRESENTATIVE BELOW:

<CONTRACTOR REPRESENTATIVE>

<REPRESENTATIVE PHONE NUMBER>

Thank you for your cooperation!



<INSERT CONTRACTOR'S LOGO>

CONSTRUCTION NOTICE FOR

**S 1ST AND ST HELENS
INTERSECTION JOINT
UTILITY TRENCHING &
ELECTRICAL SERVICES
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Thank you for your cooperation!

Part 7

Construction Drawings

(Separately Bound)