

| То: | Board of Directors |
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| From: | Stephen Dickey, Director of Transportation Development |
| Thru: | Allan Pollock, General Manager |
| Date: | December 13, 2018 |
| Subject: | Approval of Keizer Transit Center Signalized Intersection Project Budget and Construction Contract Execution |

ISSUE

Shall the Board authorize the General Manager to execute a contract with Brown Contracting, Inc. for the construction of Keizer Transit Center (KTC) Signalized Intersection Project in the not to exceed amount of \$1,815,645 that includes a 15% project contingency of \$236,823?

BACKGROUND AND FINDINGS

In 2011, the City of Keizer developed a Master Plan for Area B that incorporated the function of the KTC into the overall development. An element included in the Master Plan was a signalized intersection to be located at the entrance of the KTC. This intersection also included a drive access serving the parcels and future businesses on the opposite side of Keizer Station Boulevard across from the entrance to the KTC.

In late 2010, a scope of work was developed for the engineering and design of the KTC. Based on the construction cost estimates developed during the preliminary design phase, the cost to construct the signalized intersection was estimated at \$1.1 - \$1.3 million. When considered with the rest of the estimated construction costs to complete the facility, in comparison to the available funds for the project, it was determined to eliminate the signalized intersection from the project until a later date. From an operational perspective, this was not optimal and would result in a significant loss of productivity due to the out of direction travel required by a right only exit from the facility; it was acceptable for the immediate future.

In the summer of 2012, the KTC opened and service began to operate. The project ultimately came in under budget with project revenue remaining after expenses had been paid. After a year of operation, planning and operations staff determined that the time loss for each route having to travel through the commercial area of Keizer Station in order to proceed to their routes was four minutes. With a signal and still operating one route through Keizer Station, the amount of time each day saved is nine hours under our current service. This service will be used to provide better coverage in the SAMTD service area. The signalized intersection will also help people using the park and ride lot, which (based on periodic observations) is currently being used at around 70% of capacity, to have better access in and out of the KTC.

As a result of the information presented by planning and operations, and the sufficient grant funds that remain from the KTC project, it was determined that construction of the signalized intersection would be the best use of the remaining funds. This proposal was presented to the Citizen's Advisory Committee for their consideration and received their support. The intersection would also have value to the City of Keizer. A cost sharing agreement was negotiated with them as well. The cost sharing IGA in paragraph 3(d) states that the city of Keizer's reimbursement obligation shall not exceed \$461,861 without further negotiation between the parties. The total local match needed for this project based on the project bid price and the potential need to use the full contingency would be \$363,129; well within the not to exceed amount identified in the cost sharing IGA.

On October 1, 2018, SAMTD released an Invitation to Bid (ITB) for the construction the KTC Signalized Intersection project as identified in the construction bid documents included in the bid solicitation. These documents were prepared under contract by Kittleson and Associates, Inc. on behalf of Salem Area Mass Transit District (SAMTD). The closing date for submittals was November 13, 2018. The bids were received and opened in a public bid opening. Four qualified bids were received with Brown Contracting, Inc. from Eugene, Oregon being the lowest responsible bidder with a total project bid of \$1,578,822. The other three qualified bidders were CPM Development, PCR, Inc., and Mainline Paving, Inc.

A copy of the proposed contract is included in **Attachment A**.

FINANCIAL IMPACT

Funding for this proposed contract is included in the FY2018-19 Adopted Budget in the Capital Project Fund. The KTC Signalized Intersection project is funded by federal grants with local match, and the activities of this contract are covered in the grant agreements.

RECOMMENDATION

Staff recommends that the Board authorize the General Manager to execute a contract with Brown Contracting, Inc. for the construction of Keizer Transit Center Signalized Intersection Project in the not to exceed amount of \$1,815,645 that includes a 15% project contingency of \$236,823.

PROPOSED MOTION

I move that the Board authorize the General Manager to execute a contract with Brown Contracting, Inc. for the construction of Keizer Transit Center Signalized Intersection Project in the not to exceed amount of \$1,815,645.

SALEM AREA MASS TRANSIT DISTRICT

CONTRACT FOR THE PROVISION OF CONSTRUCION SERVICES

FOR

KTC SIGNALIZED INTERSECTION

SAMTD CONTRACT NO. 18-026

This Contract is made and entered into this 17th day of December, 2018 ("Effective Date") between the SALEM AREA MASS TRANSIT DISTRICT ("SAMTD"), a mass transit district and a political subdivision of the State of Oregon, and **BROWN CONTRACTING, INC.** ("CONTRACTOR"), a corporation organized pursuant to the laws of the State of Oregon. SAMTD and Contractor may hereinafter from time to time be referred to as "Party" or, collectively as the "Parties".

RECITALS

WHEREAS, SAMTD desires to enter into a Contract with CONTRACTOR to provide construction services as described Exhibit A – Scope of Work, which is incorporated herein by reference ("Services" or the "Work"); and

WHEREAS, SAMTD has selected CONTRACTOR to provide the Work in accordance with its Procurement Policy and Rules Manual; and

WHEREAS, the CONTRACTOR has represented to SAMTD that it is sufficiently qualified and experienced to provide those Services detailed in the solicitation, and SAMTD has relied on such representations; and

WHEREAS, sufficient authority exists in SAMTD's rules and regulations and state statute, sufficient funds have been budgeted for these purposes and are available, and other necessary approvals have been obtained.

NOW, THEREFORE, in consideration of the mutual understandings and agreements set forth, SAMTD and the CONTRACTOR agree as follows:

ARTICLE 1 – SCOPE OF WORK

The required Work are as enumerated and described in Exhibit A – Scope of Work, which document is attached hereto and incorporated herein.

ARTICLE 2 – COMPENSATION AND PAYMENT

The terms for Compensation and Payment are set forth in Exhibit B – Compensation and Method of Payment, attached hereto and incorporated herein.

Any work not required by the terms of this Contract that is performed without prior written authority from SAMTD, is unauthorized and is performed at the sole risk and expense of CONTRACTOR. Work so performed will not be compensated, and no extension in the period of performance will be granted on account thereof.

The parties agree that SAMTD is a governmental entity and that all obligations beyond the current fiscal year are subject to funds being budgeted and appropriated by its Board of Directors. SAMTD's financial obligation under the Contract shall be contingent upon the availability of appropriated funds, and, if applicable grant funds, from which payment for Contract purposes can be made. No legal liability on the part of SAMTD for any payment may arise until funds are made available for the Contract by SAMTD's Board of Directors.

ARTICLE 3 – CONTRACT TYPE

This is a Lump Sum (Firm, Fixed Price) Contract. The total dollar value of the Contract is specified in Exhibit B – Compensation and Method of Payment.

ARTICLE 4 – CONTRACT AND CONTRACT DOCUMENTS

The Contract consists of the following "Contract Documents":

- (1) This agreement between SAMTD and CONTRACTOR;
- (2) Exhibit A Scope of Work, including Project Schedule;
- (3) Exhibit B Compensation and Method of Payment;
- (4) Exhibit C General Terms and Conditions;
- (5) Exhibit D Federal Contract Clauses;
- (6) Exhibit E State Contract Clauses;
- (7) Contract Drawings
- (8) Performance Bond
- (9) Payment Bond

The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

In the event of an inconsistency between any provisions of the Contract Documents, the more specific provisions shall govern the less specific provisions and written addenda, change orders or other modifications approved in writing by both parties shall govern the original documents.

There are no Contract Documents other than those listed above. The Contract Documents may only be altered, amended or repealed by written agreement executed by both parties to the Contract.

ARTICLE 5 – ORDER OF PRECEDENCE OF THE CONTRACT DOCUMENTS

In the event of conflicts between provisions of the Contract Documents, the conflict will be resolved by giving precedence in the following order:

- (1) Contract Amendments;
- (2) Supplemental General Conditions, if any;
- (3) This agreement between The Salem Area Mass Transit District and CONTRACTOR;
- (4) Exhibit A Scope of Work;
- (5) Exhibit D Federal Contract Clauses;
- (6) Exhibit E State Contract Clauses;
- (7) Exhibit C General Terms and Conditions;
- (8) Exhibit B Compensation and Method of Payment; and
- (9) The Plans and Specifications.

ARTICLE 6 – PROJECT AUTHORIZATION AND PERFORMANCE

The CONTRACTOR agrees to perform the required Work in accordance with the Project Schedule as agreed upon by SAMTD and the CONTRACTOR prior to contract execution. Following Contract execution, SAMTD will issue a Notice to Proceed to CONTRACTOR, and which shall authorize and direct CONTRACTOR to begin work on the Contract. The CONTRACTOR shall begin work no later than fourteen (14) calendar days after the Effective Date of the Contract, or three (3) calendar days after receipt of the Notice to Proceed, whichever is later.

ARTICLE 7 – CONTRACT MANAGER AND KEY PERSONNEL

- (1) The SAMTD Contract Manager for this Contract is SAMTD's Director of Transportation Development, unless otherwise designated in writing by the SAMTD Procurement and Contracts Department or the SAMTD General Manager ("GM").
- (2) Contractor's Key Personnel. Contractor shall provide a list of its Key Personnel with contact information to the SAMTD Contract Manager no later than fourteen (14) calendar days after the Effective Date of the Contract, or three (3) calendar days after receipt of the Notice to Proceed, whichever is later.
- (3) All workers will have sufficient skill and experience to perform the work assigned to them. SAMTD will have the right, in its sole and absolute discretion, to require the removal of Contractor's personnel at any level assigned to the performance of the Work, at no additional cost to SAMTD, if SAMTD considers such removal necessary in its best interests and requests such removal in writing. Further, an employee who is so removed will not be re-employed on this Contract.

ARTICLE 8 – CONTRACT TIME

Time is of the essence in the performance of this Contract.

- (1) <u>Date of Commencement</u>. The CONTRACTOR shall commence the Work on the date specified in Article 6.
- (2) <u>Time</u>.
 - a. <u>KTC Signalized Intersection</u>. Unless another date is specified in the Project Schedule, Substantial Completion of the Work shall be achieved by not later than **August 16, 2019**.
 - b. Unless otherwise specified in the Certificate of Substantial Completion, the Work shall be finally complete not later than August 16, 2019, unless another date is specified in the Project Schedule or unless the contract time is extended by SAMTD as provided in the Contract, or sooner terminated as herein provided.

ARTICLE 9 – SCHEDULE OF WORK

The Contractor shall submit, for review by the Design Professional and approval by SAMTD, a Schedule of Work as required by Section H of Exhibit C, the General Terms and Conditions.

SAMTD may determine the sequence in which the Work shall be performed, provided it does not unreasonably interfere with the Schedule of Work. SAMTD may require the Contractor to make reasonable changes in the sequence at any time during the performance of the Work in order to facilitate the performance of Work by SAMTD or others. To the extent changes initiated by SAMTD increase the Contractor's time and costs, the Contract Price and Contract Time may be equitably adjusted by Change Order as provided in Section D of Exhibit C, the General Terms and Conditions.

ARTICLE 10 – DELAYS AND EXTENSIONS OF TIME

(1) If the Contractor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Contractor, the Contractor shall be entitled to relief if provided for in Section D2 of Exhibit C, the General Terms and Conditions.

ARTICLE 11 – INDEPENDENT CONTRACTOR

The Contractor is not an officer, employee, or agent of SAMTD or the State of Oregon as those terms are used in the State Tort Claims Act (ORS 30.265).

Contractor shall perform the Work required under this Contract as an Independent Contractor, not as an agent or employee of SAMTD. Contractor has no authority to make any statement, representation, or commitment of any kind or to take any action binding upon SAMTD, without SAMTD's prior written authorization. SAMTD is only interested in the results achieved by the Work performed by the Contractor; the manner of legally achieving those results is the responsibility of the Contractor.

All of the Work required by this Contract shall be performed by Contractor or under its supervision, and all personnel engaged in the Services shall be fully qualified.

Furthermore, it is understood that SAMTD will not provide insurance or benefits of any nature to the Contractor, its employees, or subcontractors.

The Contractor agrees 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 Work hereunder. The Contractor further agrees that in the performance of the Contract, no person having any such interests shall be employed.

ARTICLE 12 – EMPLOYMENT OF THE DISTRICT'S PERSONNEL

The Contractor shall not employ any person or persons in the employ of SAMTD for any work required by the terms of this Contract without the written permission of SAMTD, except as may otherwise be provided for herein.

ARTICLE 13 – CONTRACTOR REPRESENTATIONS

- (1) No advantage shall be taken by the CONTRACTOR in the omission of any part or detail which goes to make the execution of the Work complete even though such part or detail is not named in the Scope of Work or Contract Documents. In order to induce SAMTD to enter into this Contract, the CONTRACTOR makes the following representations:
 - a. CONTRACTOR has familiarized itself with the nature and the extent of the Contract Documents, Scope of Work, Specifications, the location and site of the Work and all local conditions, as well as federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the work.
 - b. CONTRACTOR has carefully studied all physical conditions at the site and the existing facilities affecting cost, progress and performance of the Work.
 - c. CONTRACTOR has promptly given SAMTD written notice of all conflicts, errors, inconsistencies, omissions, or discrepancies that it has discovered and the written resolution thereby by SAMTD is acceptable to the CONTRACTOR.

- (2) CONTRACTOR agrees to remedy all defects appearing in the Work or developing in the materials furnished and the workmanship performed under this Contract as provided for in Section I of the General Terms and Conditions.
- (3) SAMTD shall not be responsible for any loss or for any unanticipated costs that may be suffered by the CONTRACTOR as a result of the CONTRACTOR'S failure to acquire full information in advance in regarding to all conditions pertaining to the Work.
- (4) SAMTD will be entitled to make such corrections therein and interpretations thereof as it may deem necessary for the fulfillment of the intent of this Contract. Omissions or erroneous descriptions of any Services that are manifestly necessary to carry out the intent of this Contract, or that are customarily performed, will not relieve CONTRACTOR from performing such Services at no additional expense and/or delay, and such Work will be performed as if fully and correctly set forth in this Contract.

ARTICLE 14 – INDEMNIFICATION

- (1) <u>Professional Liability</u>. The Contractor shall exercise in its performance of the Services the standard of care normally exercised by nationally recognized organizations engaged in performing comparable services. The Contractor shall be liable to SAMTD for any loss, damages or costs incurred by SAMTD for the repair, replacement or correction of any part of the project or Services to be rendered which is deficient or defective as a result of any failure of the Contractor to comply with this standard.
- (2) <u>Indemnification</u>. To the fullest extent permitted by law the Contractor shall indemnify, defend, and hold harmless SAMTD and all of its officers, principals, agents and employees from and against all claims, damages, demands, losses, expenses, or liability whatsoever, including but not limited to attorneys' fees or claims by subcontractors of any tier, arising out of or resulting from the performance of this Contract.

In case any suit or legal proceeding is brought against SAMTD, the Contract Manager, or any of SAMTD's officers, principals, agents or employees, alleging loss or damage sustained by any person or property as a result of the performance of the Work covered by this Contract; the Contractor agrees to assume the defense thereof, and to pay costs and expenses connected therewith, and judgments that may be obtained against SAMTD, the Contract Manager, or any of SAMTD's officers, principals, agents, or employees, as a result of such suits, the Contractor shall, at once, and in not less than seven (7) days, cause the same to be dissolved and discharged by giving bond or otherwise. Except as provided by law, the Contractor's agreement to defend and pay all related expenses exists whether or not such injuries or damage are caused by the inherent nature of the Work, as specified.

Such obligations shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Contract. SAMTD may, if it so desires, withhold the payments due the Contractor so long as shall be reasonably necessary to indemnify SAMTD on account of such injuries.

In any and all claims against SAMTD or any of its agents or employees by any employee of the Contractor, any subcontractor of the Contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligations under this Contract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor.

The parties agree that nothing contained herein waives or is intended to waive any other rights, protections, immunities, defenses or limitations on liability provided by law, and subject to any applicable provisions of the Oregon Constitution and applicable laws.

Contractor will perform and require its subcontractors to perform the Services in accordance with the requirements of this Contract and in accordance with professional standards of skill, care, and diligence adhered to by firms recognized for their expertise, experience and knowledge in performing services of a similar nature. Contractor will be responsible for the professional quality, technical accuracy, completeness, and coordination of the Services, it being understood that SAMTD will be relying upon such professional quality, accuracy, completeness, and coordination in utilizing the Services. The foregoing obligations and standards will constitute the "Standard of Performance" for purposes of this Contract.

ARTICLE 15 – INSURANCE

- (1) See Section G3 of Exhibit C, the General Terms and Conditions, for insurance requirements.
- (2) Contractor and SAMTD waive all rights against (1) each other and any of their Contractors, agents and employees, each of the other, and (2) SAMTD, separate Contractors, and any of their Contractors, subcontractors, agents and employees for damages caused by fire or other perils to the extent covered by property insurance provided under the Contract or other property insurance applicable to the work, except such rights as they may have to proceeds of such insurance held by the SAMTD as fiduciary. Contractor shall require of their agents and employees, by appropriate agreements, written where legally required for validity, similar waivers in favor of other parties enumerated herein. The policies, except for workers' compensation, shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.
- (3) <u>Special Provisions</u>:
 - (a) Insurance coverage carried by the Contractor, or any subcontractor, shall not be subject to limitations, conditions or restrictions reasonably deemed by SAMTD to be inconsistent with the intent of the Insurance Requirements to be fulfilled by Contractor under this Article 15.
 - (b) All policies are to be written through companies duly entered and authorized to transact that class of insurance in the State of Oregon, adjusted annually per ORS 30.271 and 30.272, and that are acceptable to SAMTD. The insurance companies must have an A.M. Best rating of A:XI or better in the most recent Best's Key Rating Guide.
 - (c) Approval, disapproval or failure to act by SAMTD regarding insurance supplied by the Contractor shall not relieve the Contractor of full responsibility or liability pursuant to Article 14 for damages. Neither shall the bankruptcy, insolvency or denial of liability by the insurance company exonerate the Contractor from liability.
 - (d) If the liability policies do not contain the standard ISO separation of insured provision, or a substantially similar clause, they shall be endorsed to provide a Separation of Insureds provisions.

- (e) Contractor shall make no request for special payments for any insurance that the Contractor may be required to carry as identified under this Article; all are included in the Contract price.
- (f) Contractor shall require all of its subcontractors of any tier provide insurance coverage and limits identical to the insurance required of the Contractor under this Contract, unless this requirement is expressly waived in writing by SAMTD. The sufficiency of subcontractor insurance and coverage limits is subject to SAMTD's approval and must be shown by appropriate insurance certificates in a form acceptable to SAMTD.
- (g) <u>Deductibles and Self-Insured Retention.</u> All deductibles and/or self-insured retention amounts must be declared to SAMTD.
- (h) <u>Certificates of Insurance</u>. Before commencing performance on the Contract, Contractor and it subcontractors must furnish certificate(s) of insurance (using ACORD form or equivalent) to SAMTD evidencing:
 - i. Insurance coverage in accordance with this Article 15 Insurance
 - ii. Signature by person authorized by insurer to bind coverage on its behalf.
 - iii. Effective expiration dates of policies.
 - iv. SAMTD must be given thirty (30) days written notice, in accordance with policy terms, or all cancellation, non-renewal, or material changes in policy by either Insurer or Contractor.
 - v. SAMTD is added as Additional Insured party on the Commercial General Liability.
 - vi. A waiver of subrogation endorsement applies on the General Liability.
 - vii. Any deductible and/or self-insured retention.
 - viii. Certificate of Insurance title block format is as follows: Salem Area Mass Transit District, 555 Court St NE, Suite 5230, Salem, Oregon 97301.
- (4) This Contract can be terminated for default for failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal. SAMTD shall have the right, but not the obligation, of prohibiting Contractor or any subcontractor from entering the project site, or from performing Work, until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by SAMTD.

ARTICLE 16 – WARRANTY OF WORK AND BONDING REQUIREMENTS

- (1) The Contractor shall be required to obtain performance and payment bonds as provided in Section G2 of Exhibit C, the General Terms and Conditions.
- (2) The Contractor shall exercise in its performance of the Services the standard of care normally exercised by nationally recognized organizations engaged in performing comparable services. Contractor further warrants and agrees that it, and any persons assigned by Contractor, and all of its subcontractors, shall perform this Contract in compliance with all relevant requirements of federal, state, and local laws, statutes, acts, ordinances, rules, regulations, codes, or standards.
- (3) The CONTRACTOR warrants to SAMTD that, unless otherwise specified by SAMTD, all labor, materials, and equipment furnished under this Contract will be of highest quality, all materials and equipment will be new, and that all labor, materials, and equipment will be free from faults and defects and in conformance with the Contract. All work not so conforming to these standards shall be considered defective. If required by SAMTD, the CONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

- (4) Work is found to be not in conformance with the Contract Documents ("Defective Work") shall be promptly corrected by the CONTRACTOR at its own cost and time.
- (5) The CONTRACTOR hereby guarantees the Work against defective materials or faulty workmanship for a minimum period of twelve (12) months after Final Payment by SAMTD and CONTRACTOR shall, subject to the terms of this Contract, replace or repair any defective materials or equipment or faulty workmanship during the period of the guarantee at no cost to SAMTD. As additional security for these guarantees, the CONTRACTOR shall, prior to the release of Final Payment, furnish separate Maintenance (or Guarantee) Bonds in a form acceptable to SAMTD written by the same corporate surety that provides the Performance Bond and Payment Bond for this Contract. These bonds shall secure the CONTRACTOR's obligation to replace or repair defective materials and faulty workmanship for a minimum period of one (1) year after Final Payment and shall be written in an amount equal to one-hundred percent (100%) of the total contract price, as adjusted (if at all).

ARTICLE 17 – SUBLETTING, ASSIGNMENT, OR TRANSFER

The Contractor remains fully responsible for the performance of any and all subcontractors and shall not be relieved of any responsibility for the performance of its duties under the Contract, regardless of any subcontract entered into by the Contractor. Subcontractors must comply with the same terms and conditions, provide the same assurances, and meet the same standards of service required of the Contractor, unless otherwise provided herein.

ARTICLE 18 – APPLICABLE LAWS AND VENUE

This Contract shall be governed by the laws of the State of Oregon. This Contract shall be deemed entered into in Marion County, Oregon. At SAMTD's option, the location for settlement of any and all claims, controversies and disputes arising out of or related to this Contract or any breach thereof, whether by alternative dispute resolution or litigation, shall be proper only in this county.

ARTICLE 19 – SEVERABILITY

If any provision of this Contract is held to be invalid, illegal, or unenforceable for any reason, the validity, legality, and enforceability of the remaining provisions of this Contract will not be adversely affected.

ARTICLE 20 – ASSIGNABILITY

This Contract may not be assigned by CONTRACTOR without the prior written consent of SAMTD, which may be withheld in its discretion. The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

ARTICLE 21 – NOTICES

- (1) All official notices and communications under this Contract shall be in writing and shall be deemed to have been duly given (i) on the date of delivery if delivered personally to the party to whom notice is given, or (ii) the day following the date of deposit in the United States mail (postage prepaid, return receipt requested).
- (2) Notices and other communications shall be directed to the parties at the addresses listed below:

Notice to Contractor:

Brown Contracting, Inc. PO Box 26439 Eugene, Oregon 97402 Attn: Sean Emerick, Vice President Copy: Supplier to identify Notice to SAMTD:

Salem Area Mass Transit District 555 Court St., NE, Suite 5230 Salem, Oregon 97301 Attn: General Manager Copy: Procurement & Contracts Manager

Telephonic and electronic mail communications and facsimile transmittals may be used to expedite communications, but neither shall be considered official communications under this Contract unless and until confirmed in writing in accordance with this Article 21, paragraph (1) above.

ARTICLE 22 – PUBLICATION AND PUBLICITY

Subject to the limitations set forth in this Agreement, articles, papers, bulletins, data, studies, statistics, interim or final reports, oral transmittals, or any other materials reporting the plans, progress, analyses, results, or findings of Work conducted under this Contract shall not be presented publicly or published without prior written approval by SAMTD.

All releases of information, findings, and recommendations shall include a disclaimer provision and all published reports shall include that disclaimer on the cover and title page in the following form:

"The contents of this publication reflect the views of the author(s), who is (are) responsible for the facts and accuracy of the data presented herein. The opinions, findings, and conclusions in this publication are those of the author(s) and do not necessarily reflect the official views or policies of the Salem Area Mass Transit District or the Federal Transit Administration. This publication does not constitute a standard, specification, or regulation."

If any information concerning the Services, their conduct, results, or data gathered or processed should be released by the Contractor without prior approval from SAMTD, the release of same shall constitute grounds for termination of this Contract. In addition, the Contractor shall indemnify and hold harmless SAMTD, its officers, employees, and agents from any liability arising from such unauthorized release of data.

Any request for information directed to the Contractor, pursuant to the Oregon Public Records Law, by the public shall be immediately redirected to SAMTD for handling. SAMTD shall be responsible for providing the response to requests under the Oregon Public Records Law. The Contract shall cooperate with SAMTD in responding to such requests.

ARTICLE 23 – NONWAIVER

No failure or waiver or successive failures or waivers on the part of either party, its successors or permitted assigns, in the enforcement of any condition, covenants, or article of this Contract shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party hereto, their successors or permitted assigns, to enforce the same in the event of any subsequent breaches by the other party hereto, its successors or permitted assigns.

ARTICLE 24 – MERGER

This Contract constitutes the entire agreement of the parties, all prior discussions, representations, and agreements being merged herein. The Contract may not be changed, modified, extended, or amended,

nor any provision thereof waived, except by a written amendment executed by duly authorized representatives of the respective parties. The captions in this Contract are for convenience only and shall not affect the substantive meaning of any provision herein.

ARTICLE 25 – NO THIRD PARTY RIGHTS

Except as expressly set forth herein, the representations, warranties, terms, and provisions of this Contract are for the exclusive benefit of the parties hereto and no other person or entity shall have any right or claim against either party by reason of any of these terms and provisions or be entitled to enforce any of these terms and provisions against either party.

ARTICLE 26 – FOREIGN CONTRACTOR REPORT TO DEPARTMENT OF REVENUE (ORS 279A.120)

The following provision is applicable to all contracts with a contract price exceeding \$10,000 if the Contractor is not domiciled in or registered to do business in the State of Oregon:

Where a public contract is awarded to a foreign Contractor and the contract price exceeds \$10,000, the Contractor shall promptly report to the Department of Revenue, on forms provided by the Department of Revenue, the total contract price, terms of payment, length of contract, and such other information as the Department of Revenue may require. The Contractor shall provide SAMTD with copies of all forms provided to the Department of Revenue before final payment will be made on the contract.

ARTICLE 27 – CONTRACTOR'S COMPLIANCE WITH TAX LAWS

- (1) Contractor must, throughout the duration of this Contract and any renewal terms, comply with all tax laws of this state and all applicable tax laws of any political subdivision of the State of Oregon. For the purposes of this Section, "tax laws" includes all the provisions described in the required Contractor's Representations and Warranties Certification, included as part of this Contract.
- (2) Any violation of subsection 1 of this section shall constitute a breach of this Contract, for which SAMTD may terminate this Contract for default. Further, any violation of the conditions specified in the **Contractor's Representations and Warranties Certification**, concerning the Contractor's compliance with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a breach of this Contract, for which SAMTD may terminate this Contract for default. Any violation shall entitle SAMTD to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, at law, or in equity, including but not limited to:
 - a. Termination of this Contract, in whole or in part;
 - b. Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to State's setoff right, without penalty; and
 - c. Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. SAMTD shall be entitled to recover any and all damages suffered as the result of Contractor's breach of this Contract, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing [replacement Services/replacement Goods/a replacement contractor].

These remedies are cumulative to the extent the remedies are not inconsistent, and SAMTD may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

Salem Area Mass Transit District – Contract 18-026 KTC Signalized Intersection

ARTICLE 28 – RESERVED

ARTICLE 29 – COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS

The Contractor must comply with all federal, state, and local regulations relative to wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, etc. Failure or neglect on the part of the Contractor to comply with any or all such regulations shall not relieve the Contractor of these obligations nor of the requirements of this contract.

Upon request of SAMTD or FTA, Contractor shall provide evidence of the steps it has taken to ensure its compliance with the FTA requirements, as well as evidence of the steps it has taken to ensure subcontractor performance, and/or submit evidence of subcontractor's compliance, at all tiers.

The Contractor also agrees to include a substantially similar provision in its contracts with subcontractors.

ARTICLE 30 – RIGHT TO MODIFY CONTRACT

SAMTD may extend the term of this Contract, expand the specifications, or otherwise amend the Contract. Any such extension, expansion, or amendment shall be effective only upon written agreement of the parties in accordance with a Change Order.

ARTICLE 31 – NONAPPROPRIATION CANCELLATION

This contract is automatically canceled upon thirty (30) days' notice to the Contractor if funds are not appropriated for the purpose specified in this agreement.

ARTICLE 32 – FUNDS AVAILABLE AND AUTHORIZED

SAMTD certifies at the time the contract is written that sufficient funds are available and authorized for expenditure to finance costs of this contract within SAMTD's current appropriation or limitation. This contract is partially federally funded and is subject to federal regulations.

ARTICLE 33 – TAXES

Contractor hereby certifies, under penalty of perjury, that hereby certifies, under penalty of perjury, that Contractor is, to the best of its knowledge, not in violation of any tax laws described in ORS 305.380(4).

ARTICLE 66 – REGISTRATION OF CORPORATIONS

CONTRACTOR certifies that IT IS in compliance with the State of Oregon statutory requirements governing registration of corporations and/or assumed business names.

[Signatures Next Page]

IN WITNESS WHEREOF, said parties have hereunto set their hand and affixed their seals the day and year above first written.

BROWN CONTRACTING, INC. SALEM AREA MASS TRANSIT DISTRICT

| Ву: | | Ву: | |
|------------------------------|--------------------------------|-----------------|--|
| | Sean Emerick Vice President | Name: Title: | Allan Pollock General Manager |
| E-mail: | sean@browncontracting.net | E-mail: | allan.pollock@cherriots.org |
| Address PO Box Eugene, | | | s: urt St., NE, Suite 5230 Oregon 97301 |
| | | Approv | ed as to legal form: |

Ву: _____

EXHIBIT A

SCOPE AND SPECIFICATIONS

Scope Description

SAMTD intends to enter into a contract with Brown Contracting, Inc. to provide construction of a signalized intersection at the entrance to Keizer Transit Center, and associated required improvements to Keizer Station Blvd. and the intersection of Keizer Station Blvd. and Lockhaven Drive.

Intersection Project: Signalization of the intersection at the Keizer Transit Center. The project will construct a fully directional traffic signal at the intersection of Keizer Station Blvd. and the Keizer Transit Center, located at 5860 Keizer Station Blvd. in Keizer, Oregon. Improvements will include modifications to the existing horizontal alignment of Keizer Station Blvd. in such a way as to create a single signalized intersection at the entrance to the Keizer Transit Center. Additionally, the project will include required road drainage, removal of an existing retaining wall and construction of a new wall to facilitate roadway widening, any required storm water system modifications, and other public utility modifications as needed.

Additional Roadway Improvements: Due to traffic impacts, a second (2nd) left-turn lane at the Lockhaven Drive / NE Keizer Station Blvd. / Chemawa Rd. NE intersection will be added with related signal modifications.

Special Notes:

- 1. Contractor to provide all construction survey services.
- 2. Contractor to provide services in accordance with "Keizer Transit Center Signalized Intersection Special Provisions" attached to this EXHIBIT A and incorporated herein.
- 3. Contractor to provide services in accordance with EXHIBIT B Drawings. These are 100% "Stamped" Drawings.

KEIZER TRANSIT CENTER SIGNALIZED INTERSECTION CONTRACT DRAWINGS & PLANS COVER PAGE

KTC Signalized Intersection 100% "Stamped" Drawings immediately follow this Keizer Transit Center Signalized Intersection cover page. The Drawings Package consists of sixty-two (62) pages of individual specific drawings and plans.



SALEM AREA MASS TRANSIT DISTRICT



KEIZER STATION BOULEVARD INTERSECTION

SEPTEMBER 2018

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COVER CONTROL NETWORK

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- L.06 IRRIGATION DETAILS AND NOTES

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| 10.01 | TRAFFIC CONTROL FLAN - STAGE T |
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- NE-LOCKHAVEN DR NE
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- CENTER
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| | | |

STREET LIGHTING

STREET LIGHTING LEGEND & DETAILS IL.01 IL.02 STREET LIGHTING PLAN IL.03 STREET LIGHTING DETAILS

SIGNING & STRIPING

| SS.01 | STRIPING PLAN |
|-------|--------------------------|
| SS.02 | STRIPING PLAN |
| SS.03 | SIGNING LEGEND |
| SS.04 | SIGN AND POST DATA TABLE |
| SS.05 | STRIPING DETAILS |



S

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TAX LOT 1400

063W36BD



LEGEND:

| | ÷ | EXISTING BOUNDARY LINE | |
|------------|-----|--|--|
| | - | EXISTING CENTERLINE | |
| | - | EXISTING RIGHT-OF-WAY LINE | |
| - x | - | FENCE LINE, TYPE AS NOTED | |
| - SD | 3 | STORM DRAINAGE LINE | |
| - ss | - | SANITARY SEWER LINE | |
| — w — | - | UNDERGROUND WATER LINE | |
| - E | - | UNDERGROUND ELECTRICAL LINE | |
| - T | | UNDERGROUND TELEPHONE LINE | |
| - FO | | UNDERGROUND FIBER OPTIC LINE | |
| - CTV | 1 | UNDERGROUND CABLE TV LINE | |
| - G | | UNDERGROUND NATURAL GAS LINE | |
| -() | - | INDICATES DATA FROM AS BUILT INFORMATION | |
| OHW | 1 | OVERHEAD WIRE | |
| | • | EXISTING ASPHALT SURFACE | |
| ▼ 4 | | EXISTING CONCRETE SURFACE | |
| 0 | | FOUND MONUMENT. PROTECT AT ALL TIMES | |
| 규 | | GAS WARNING SIGN | |
| Ŝ | | SANITARY SEWER MANHOLE | |
| D | ÷. | STORM DRAIN MANHOLE | |
| | | CATCH BASIN | |
| E | . + | CATCH BASIN - TRAPPED TYPE | |
| -0- | | FIRE HYDRANT | |
| 0 | | WATER VALVE | |
| 0 | | IRRIGATION CONTROL BOX | |
| | 4 | SHOEBOX LIGHT (SINGLE) | |
| * | 1 | ACORN/GLOBE LIGHT | |
| \$-X | | STREET LIGHT (COBRA ARM) | |
| | | STREET LIGHT JUNCTION BOX | |
| E | | ELECTRICAL VAULT | |
| | 2 | TRANSFORMER | |
| Ē | | ELECTRICAL CABINET | |
| -0- | | UTILITY POLE | |
| E | 4 | GUY WIRE | |
| \bigcirc | | TELEPHONE MANHOLE | |
| | | FIBER OPTIC VAULT | |
| | | CABLE TELEVISION RISER | |
| | ĩ | | |
| ULE I | - | TRAFFIC SIGNAL POLE AND STREET LIGHT | |
| <u>م</u> | - | PEDESTRIAN SIGNAL POLE | |
| | | SIGNAL JUNCTION BOX | |
| CO | - | UNKNOWN CLEANOUT | |
| STP | - | STAND PIPE | |
| Ū | - | UNKNOWN UTILITY VAULT | |
| | | UNKNOWN JUNCTION BOX | |
| | - | SIGN POST | |
| M | | CONIFEROUS TREE | |
| 25 | - | COMI ENOUG INCE | |
| m - | | | |

DECIDUOUS TREE

 (\cdot)

| | | | | | EDL DESIGNED | DATE | PROFE |
|-----|------|---------|-------|-----------|-----------------|------|--|
| | | | | | ACO DRAWN | DATE | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |
| | | | | | CHECKED | DATE | OR JULY ERIC |
| NO. | DATE | вү снк. | APPD. | REVISIONS | APPROVED | DATE | RENEWAL D |

NE LOCKHAVEN DR

CONTROL NETWORK THE INTERSECTION OF NE KEIZER STATION BLVD & NE LOCKHAVEN DRIVE CITY OF KEIZER, MARION COUNTY, OREGON



| | P | oint To | able | |
|---------|----------|---------|-----------|-------------|
| Point # | Northing | Easting | Elevation | Description |
| 4 | 4541.79 | 5032.12 | 154.68 | CP PK |
| 1 | 5006.85 | 5032.25 | 144.83 | CP PK |
| 2 | 4974.73 | 4603.72 | 147.46 | CP PK |
| 3 | 4685.28 | 4418.54 | 152.05 | CP PK |

| DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
|-----------------|---------------|-------------|
| CONTROL NETWORK | G.01 | 1 OF 61 |
| | | |

| | | POINT OF CURVATURE | P PC | FIRE ALARM BOX | F FABX | ASPHALTIC CONCRETE OR ALTERNATING CURRENT | A AC |
|---|----------|--|-------------------|------------------------------|--------------|---|--------------------|
| | LEGEND: | PORTLAND CEMENT CONCRETE or POINT OF COMPOUND CURVATURE | | FIBER CONDUIT FLOOR DRAIN | FC FD | AREA DRAIN AMERICANS WITH DISABILITIES ACT | AD ADA |
| - EXISTING BOUNDARY LINE | | PEDESTRIAN | PED | FINISH FLOOR | FF | AGGREGATE | AGG |
| - EXISTING CENTERLINE | | PERFORATED | PERF | FINISHED GRADE | FG | AGGREGATE BASE | AGG B |
| | | PROFILE GRADE LINE | PGL | FIRE HYDRANT | FH | AGGREGATE SUB-BASE | AGG SB |
| EXISTING RIGHT-OF-WAY LINE | | PLATE OR PROPERTY LINE | PL | FINISH | FIN | AHEAD | AHD |
| FENCE LINE, TYPE AS NOTED | x | POWER POLE | PP | FLOW LINE | FL | ANGLE POINT | AP |
| - STORM DRAINAGE LINE | SD | POINT OF REVERSE CURVATURE | PRC | FLOOR | FLR | ASPHALT | ASPH |
| - SANITARY SEWER LINE | P2 | POUNDS PER SQUARE FOOT | PSF | FRAME | FR | AMERICAN SOCIETY FOR TESTING AND MATERIALS | ASTM |
| | 00 | POUNDS PER SQUARE INCH | | FINISHED SURFACE OF SLAB | FS | | |
| - UNDERGROUND WATER LINE | W | POINT OF TANGENCY | PT | FOOT OR FEET | FT | | 1.000 |
| - UNDERGROUND ELECTRICAL LINE | - E | PUBLIC UTILITY EASEMENT | PUE | FACE OF CURB | F/C | BEGIN | B BEG |
| - UNDERGROUND TELEPHONE LINE | | POLYVINYL CHLORIDE PAVEMENT | PVC PVMT | FACE TO FACE | F/F | BITUMINOUS | BIT |
| - UNDERGROUND FIBER OPTIC LINE | FO | PAVEMENT | PVIVIT | GAUGE | C C | BACK | BK |
| | 70 | QUANTITY | Q QTY | GAUGE | G GA GALV | BASELINE | BL |
| - UNDERGROUND CABLE TV LINE | CTV - | CONTIN | Qui | GRATE ELEVATION | GE | BUILDING BOULEVARD | BLDG |
| - UNDERGROUND NATURAL GAS LINE | G | RADIUS | RR | GAS METER | GM | BENCHMARK | BLVD |
| - INDICATES DATA FROM AS BUILT INFORM | | REINFORCED CONCRETE PIPE | RCP | GALVANIZED STEEL CONDUIT | GSC | BEARING | BM BRG |
| - OVERHEAD WIRE | 1 | MANHOLE RIM ELEVATION | | SALTANZED STELL GONDON | 660 | BASEMENT | BSMT |
| - OVERHEAD WIRE | OHW | REFERENCE | REF | HORIZONTAL | H HORIZ | BACK TO BACK | B/B |
| | | REINFORCE, REINFORCING, REINFORCEMENT | REINF | HIGH POINT | HP | BACK OF WALK | BW |
| - EXISTING ASPHALT SURFACE | | RIGID GALVANIZED STEEL | RGS | HIGH STRENGTH | HS | | 5,1 |
| | | RIGHT-OF-WAY | R/W | | | CATCH BASIN | ССВ |
| - EXISTING CONCRETE SURFACE | | RIGID STEEL CONDUIT | RSC | INSIDE DIAMETER | I ID | CUBIC FEET | CF |
| | 4 | RIGHT | RT | INVERT ELEVATION | IE | CURB INLET | CI |
| - FOUND MONUMENT. | | | | INCHES | IN | CAST-IN-PLACE | CIP |
| PROTECT AT ALL TIMES | • | SOUTH | Ss | INVERT | INV | CENTER LINE | ę |
| | | STORM DRAIN | SD | IRON PIPE | IP | CLEAR, CLEARANCE | CLR |
| - CONTROL POINT | | SHEET | SHT | IRON ROD | IR | CORRUGATED METAL PIPE | CMP |
| - GAS WARNING SIGN | <u>_</u> | SLOPE | SLP | | | CONCRETE | CONC |
| - SANITARY SEWER MANHOLE | Ś | STEEL PIPE | SP | JOINT | J J | CONDUIT | CND |
| | | SQUARE FEET | SQ FT | | 2 | CLEANOUT | co |
| - STORM DRAIN MANHOLE | O | STREET | ST | LINEAR FEET | LLF | CONTINUOUS | CONT |
| - CATCH BASIN | | STATION STANDARD | STA STD | LEFT | LT | CONSTRUCTION | CONST |
| - CATCH BASIN - TRAPPED TYPE | | STEAM LINE | | METER | NA 14 | CORRUGATED | CORR |
| SATURDADIA HALLED THE | | SYMMETRICAL | SYM | MAXIMUM | M M MAX | CONCRETE PIPE | CP |
| - FIRE HYDRANT | -0- | SANITARY SEWER | SS | MANHOLE | MAA | CEMENT TREATED BASE COPPER | CTB |
| - WATER VALVE | Θ | or an and benefic | 00 | MINIMUM | MIN | CUBIC INCH | CU CU IN |
| | | TEMPORARY BENCHMARK | Т твм | MISCELLANEOUS | MISC | CLEAN WATER SERVICES | CWS |
| - IRRIGATION CONTROL BOX | 1 | TYPICAL | TYP | MIDDLE ORDINATE | MO | CUBIC YARD | CY |
| SHOEBOX LIGHT (SINGLE) | | TOP OF CURB | TC | MONUMENT | MON | CURBLINE | C/L |
| - ACORN/GLOBE LIGHT | \$ | TOP OF WALL | T/W | MILES PER HOUR | MPH | | |
| - STREET LIGHT (COBRA ARM) | é-X | | | | | | |
| | | UNDERDRAIN | U UD | NORTH | NN | DROP INLET | DDI |
| - STREET LIGHT JUNCTION BOX | | UNITED STATES COASTAL & GEODETIC SURVEY | USC&GS | NEAR FACE | NF | DIAMETER | DIA |
| - ELECTRICAL VAULT | E | | | NOT IN CONTRACT | NIC | DUCTILE IRON PIPE | DIP |
| - TRANSFORMER | | VARIABLE | the second second | NON-METALLIC CONDUIT | NMC | DRIVEWAY | DRWY |
| - ELECTRICAL CABINET | | VITRIFIED CLAY PIPE (EXTRA STRENGTH) | | NUMBER | NO | DRAWING | DWG |
| - ELECTRICAL CABINET | E | VERTICAL | VERT | NOMINAL | NOM | | |
| - UTILITY POLE | -0- | | 1.01 | NEAR SIDE | NS | EAST | ΞE |
| - GUY WIRE | ← | WEST | WW | NOT TO SCALE | NTS | EACH | EA |
| - TELEPHONE MANHOLE | T | WATER METER | WM | | 0 | EACH FACE | EF |
| | | WORK POINT | WP | ON CENTER | O oc | ELEVATION | EL |
| - FIBER OPTIC VAULT | F | WITH | W/ | OUTSIDE DIAMETER | OD | EQUAL | EQ |
| - CABLE TELEVISION RISER | | WITHOUT SANITARY SEWER/WASTE WATER | W/O WW | OVERLAY | OLAY | EQUATION | EQN |
| | | CARTAIN DEVELVINOTE WATEN | ~~~ | OPPOSITE | OPP | EASEMENT | ESMT |
| | A. | | 140 - 1 C | | | EACH WAY | EW |
| TRAFFIC SIGNAL POLE AND STREET LIGH | Ъ. | CROSSING | X XING | | | EXISTING | EVet |
| TRAFFIC SIGNAL POLE AND STREET LIGH PEDESTRIAN SIGNAL POLE | | CROSSING CROSSOVER | X XING X-OVER | | | EXISTING | EXST |
| | | CROSSING CROSSOVER | | | | EXISTING EXPANSION EDGE OF PAVEMENT | EXST EXP E/P |

UTILITY CONTACT INFORMATION

COMCAST CABLE: DAVID HAMMILL 503-991-6520

david_hammill@cable.comcast.com CENTURY LINK: Josh Fallin 503-399-4931 josh.fallin@centurylink.com

NORTHWEST NATURAL: Chris Flu 971-271-3721 ctf@nwnatural.com

PORTLAND GENERAL ELECTRIC: Kerri Arnzen 503-463-4383 kerri.arnzen@pgn.com

| | | | | | BWR | 04-20-17 | OFD P |
|----|------|---------|-------|-----------|----------|------------------|-------------|
| | | | 1 | | DESIGNED | DATE | SUPENCIN |
| | | | | | | 04-20-17 DATE | 84294 |
| | | | | | NAO | 03-13-18 | THE COREG |
| | | | | | CHECKED | DATE | TH WALL |
| | | | | | APPROVED | DATE | EXPIRES: 12 |
| 0. | DATE | ВУ СНК. | APPD. | REVISIONS | APPROVED | DATE | |

- EET LIGHT

- STAND PIPE

STP

M

M

 \odot

- UNKNOWN UTILITY VAULT
- UNKNOWN JUNCTION BOX
- SIGN POST
- CONIFEROUS TREE
- DECIDUOUS TREE



WSP USA Inc. 851 SW Sixth Ave Suite 1600 Portland, OR 97204 Tel: 1 503 274 8772



610 SW ALDER STREET, SUITE 700 PORTLAND, OR 97205 P 503.228.5230 F 503.273.8169

Cherriots SALEM-KEIZER TRANSIT



SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS **KEIZER STATION BOULEVARD INTERSECTION** STRUCTURAL GENERAL NOTES AND LEGEND

| S | SCALE: | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
|---|--------|---------------|---------------|-------------|
| | | C01 | C.01 | 2 OF 61 |





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| SIT | SCALE: | 1.00 | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
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| SCALE: | | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
|--------|-----|---------------|---------------|-------------|
| | NTS | C03-C04 | C.04 | 5 OF 61 |













| 83.96' LT. 27, FL. 149.77 | 1Z | 9+71.97, 69.10' LT. EL. 150.07 |
|-----------------------------------|-----|--|
| 80.91' LT. 25, FL. 149.75 | 11A | 9+72.61, 71.98' LT. EL. 150.07 |
| 75.34' LT. 70, FL. 149.70 | 11B | 9+73.91, 77.84' LT. EL. 150.13 |
| 69.49' LT. 64, FL. 149.64 | 11C | 9+74.35, 79.79' LT. EL. 150.13 |
| 64.16' LT. 09, FL. 149.59 | 11D | 9+78.95, 83.61' LT. EL. 150.28 |
| 61.92' LT. 08 FL. 149.58 | 11E | EE. 100.40 (ME) |
| 54.31' LT. 03, FL. 149.53 | 11F | 9+85.49, 88.29' LT. TC. 150.31, FL. 149.81 (ME) |
| 52.50' LT. 02, FL. 149.52 | 11G | 9+73.22, 67.06' LT. EL. 150.09 |
| 48.25' LT. 48, FL. 149.48 | 11H | 9+56.81, 48.79' LT. EL. 149.90 |
| 44.26' LT. 43, FL. 149.43 | 111 | 9+68.21, 87.26' LT. EL. 145.3 |
| 40.64' LT. 37, FL. 149.37 | 11J | 9+64.81, 81.56' LT. EL. 145.3 |
| 39.65' LT. 36, FL. 149.36 | 11K | 9+63.85, 76.77' LT. EL. 145.3 |
| 49.11' LT. 34 | (M | IE) = MATCH EXISTING |
| 53.10' LT. 9 | | |
| 37.58' LT. 33, FL. 149.33 (ME) | | |
| 43.60' LT. 57 (ME) | | |
| 45.28' LT. 37 | | |
| 50.93' LT.)1 | | |
| 52.82' LT. 1 | | |
| 56.82' LT. 96 | | |
| 58.15' LT. 94 | | |
| 57.69' LT.)6 | | |
| 64.48' LT. 4 | | |
| 70.90' LT. 0 | 1 | |
| 76.76' LT.)6 | | |

| 2A | 9+63.90, 63.62' RT. TC. 150.03, FL. 149.53 |
|----|--|
| 2B | 9+68.70, 67.91' RT. TC. 149.77, FL. 149.77 |
| 2C | 9+72.23, 71.93' RT. TC. 149.86, FL. 149.86 |
| 2D | 9+79.17, 84.02' RT. TC. 150.77, FL. 150.27 |
| 2E | 9+73.07, 86.27' RT. TC. 150.86, EL. 150.86 |
| 2F | 9+67.05, 75.86' RT. TC. 150.42, EL. 149.92 |
| 2G | 9+66.66, 76.17' RT. TC. 150.43, EL. 149.93 |
| 2H | 9+63.71, 72.82' RT. TC. 150.37, EL. 149.87 |
| 21 | 9+64.07, 72.47' RT. TC. 150.36, EL. 149.86 |
| 2J | 9+59.84, 68.71' RT. TC. 150.06, EL. 150.06 |
| 2K | 9+80.90, 89.25' RT. TC. 150.93, FL. 150.43 (ME) |
| 2L | 9+74.49, 91.08' RT. EL. 151.07 (ME) |





CURB RAMP DETA





610 SW ALDER STREET, SUITE 700 PORTLAND, OR 97205 P 503.228.5230 F 503.273.8169

SD Supplement



WSP USA Inc. 851 SW Sixth Ave Suite 1600 Portland, OR 97204 Tel: 1 503 274 8772

| 3A | 10+71.54, 89.44' LT. TC. 152.22, FL. 151.71 (| ME) 3L 10+82.91, 6 EL. 151.95 | 5.18' LT. | | |
|-----------|--|---|---|-------------|-----------------------------------|
| 38 | 10+78.25, 61.35' LT. TC. 151.50, FL. 151.50 | 3M 10+86.09, 6 EL. 151.92 | | TEO. | |
| 30 | 10101 41 56 50'IT | 3N 10+90.44, 5 EL. 151.88 | 5.77' LT. NC | | T COMPLY WITH |
| 30 | 10+02 60 52 0511 T | 30 10+93.17, 6 EL. 151.96 | | ADA GUIDLIN | |
| 38 | 10,04 00 E2 1411T | 3P 10+97.66, 5 EL. 151.93 | 7.06' LT. 2. | | EED 4.5% GUTTER AMP LOCATIONS. |
| 3F | 10+87.16, 50.37' LT. | 20 10+94.95, 5 | 2.45' LT. | | |
| 30 | 10+91.69, 47.03' LT. | 2D 10+86.80, 6 | 8.47' LT. | | |
| 3+ | 10+96.78, 44.37' LT. | 20 10+86.53, 6 | 8.88' LT. | | |
| 31 | 10. 151.07, FL. 151.37 | 10+83.78.6 | 9.57' LT. | | |
| | EL. 152.32 (ME) | 3T EL. 152.02 | '0.18' LT. | | |
| 3. | EL. 152.09 | 3U EL. 151.99 | 6.78' LT. | | |
| ЗК | TC. 151.82, FL. 151.57 | | FL. 151.53 | | |
| | | 3W EL. 152.00 | | | |
| | | 3X 11+10.77, 4 TC. 151.79, | FL. 151.29 | | |
| E | | | EL. 151.60 | | |
|) E | EE | 3Z 11+07.42, 5 EL. 151.76 | (ME) | | |
| | E E | 31A 11+06.58, 4 EL. 151.62 | (ME) | | |
| 1 | | E 31B 11+02.28, 4 EL. 151.68 | | | |
| 2 | | 31C 10+72.37, 8 TC. 152.00, | | | |
| 6 | m | 31D 10+73.07, 7 TC. 151.84, | '6.26' LT. | | |
| (32 | w t | W 31E 10+78.07, 8 EL. 152.19 | 1.14' LT. | | |
| 81A | | 215 10+77.87, 8 | | | |
| - | | 10+78.80, 7 | | | |
| \square | | 211 10+78.59, 7 | | | |
| | | 10+79.59, 7 | | | |
| | | (ME) = MATCH | (ME) | | |
| | PT 3X | | | | |
| P.150. | PT (4M) | TC. 152.04 , FL. 4B 10+86.85, 51.29 TC. 151.49 , FL. 4C 10+92.23, 47.41 TC. 151.94 , FL. 4E 10+97.19, 53.87 TC. 152.40, FL. 4F 10+97.19, 53.87 TC. 152.40, FL. 4F 10+92.57, 56.71 EL. 151.93 4G 11+00.85, 51.57 TC. 152.01, EL. 4H 11+05.83, 55.15 EL. 152.05 4I 11+05.7, 58.37 EL. 151.96 4J 10+96.10, 61.24 EL. 152.01 4K 10+93.89, 62.58 EL. 152.01 4L 10+87.13, 62.20 EL. 152.10 4M 11+18.43, 40.00 TC. 151.74 , FL. 4N 11+05.11, 47.57 EL. 151.91 4O 11+10.97, 50.45 EL. 151.92 4P 11+19.30, 46.50 | ' RT. 151.49 ' RT. 151.44 ' RT. 151.89 ' RT. ' RT. | | QZ. |
| | | 40 11+19.30, 40.50 | 'RT. | INCH WHEI | JALS ONE N DRAWING |
| | | 40 EL. 151.68 | | | FULL SIZE. ACCORDINGLY |
| 4 | | | 5 | Ŷ | 2.5 5 10 |
| C.05 | | | | | CALE 1 = 5 FT. |
| bre | | EIZER STATIC | IASS TRA CHERRIOTS N BOULEVARD CIVIL CURB RAMP DETAIL | NSIT C | DISTRICT |
| RANSIT | CONTE | | A/ LOCKHAVEN INTE | | |
| AAASII | SCALE: | " = 5' C10-C11 | DRAWING NO C.10 | | SHEET NO.: 11 OF 61 |
| | | | | | |







| 3 | SCALE: | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
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| | AS NOTED | C12-14 | C.13 | 14 OF 61 |





| SCALE: | SD0.103 | SD.01 | s |
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| | | | |







- CURB STORM DRAIN MANHOLE
- STORM CATCH BASIN/AREA DRAIN
- STORM DRAIN LINE
- CONCRETE

CONSTRUCTION NOTES:

- 01 INSTALL TYPE 2 CATCH BASIN. SEE SHEET SD.03 DETAILS ST-31 AND ST-33
- 02 INSTALL 10" DIP STORM LINE, BEDDING & BACKFILL. SEE SHEET SD0.3 DETAIL ST-55
- 04 INSTALL 60" STANDARD MANHOLE. SEE SHEET SD0.3 DETAIL ST-40
- 05 SANITARY SEWER LINE CROSSING. CONTRACTOR TO POTHOLE EXISTING SANITARY SEWER LINE AND NOTIFY ENGINEER OF DEPTH PRIOR TO CONSTRUCTION. SEE PROFILE ON THIS SHEET FOR APPROXIMATE INVERT ELEVATION.
- 06 EXISTING SWALE TO REMAIN, SEE SHET SD0.4 FOR CROSS SECTIONS
- 07 CONTRACTOR TO POTHOLE EXISTING STORM SEWER PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER.
- 08 INSTALL 24" PVC 3034 STORM LINE
- 09 CONSTRUCT OUT FALL. SEE SHEET SD0.4 FOR OUTFALL DETAIL
- 610 POST PAVING, SET MANHOLE AT FINAL GRADE USING ODOT METHOD C
- (01) EXISTING CONDUIT BANK CROSSING. CONTRACTOR TO POTHOLE AND NOTIFY ENGINEER OF DEPTH PRIOR TO CONSTRUCTION. SEE SHEET SD0.4 STORM LINE PROFILE B FOR APPROXIMATE CONDUIT CROSSING ELEVATIONS

INCH_

BAR EQUALS ONE INCH WHEN DRAWING

IS PLOTTED FULL SIZE. IF NOT, SCALE ACCORDINGLY

> SCALE 1 INCH = 20 FT.

(012) CORE EXISTING 60" FLAT TOP MANHOLE TO CONNECT 24" PVC STORM PIPE.

SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS **KEIZER STATION BOULEVARD INTERSECTION**

CIVIL

STORM PLAN AND PROFILE

| SIT | SCALE: | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
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| | | SD0.103 | SD.02 | 17 OF 61 |

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BD Supplement - 145

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5415 SW WESTGATE DR, STE 100, PORTLAND, OR 97221 TEL: (503) 419 - 2500 FAX: (503) 419 - 2600 www.cardno.com

BD Supplement - 146



145 FG -40 5.91E 135 APPROXIMATE PGE 328.0 LF - 12" @ 0.0296 CONCRETE - ENCASED CONDUIT ------ LOCATION. 130 130 ----_ CONTRACTOR TO 48" EXT MH VERIFY DEPTH AND NOTIFY ENGINEER STA: 4+61.18 , 74.13'Rt. RIM = 138.32 IE IN(10"SW) = 131.60 IE IN(10"NW) = 131.60 IE OUT(12"E) = 131.45 PRIOR TO CONSTRUCTION 125 125 24.5 LF - 10" @ 0.1000-SDCB-B1 (TYPE 2 CATCH BASIN) STA: 16+29.14 KEIZER STATION BLVD 120 RIM = 139.12 IE OUT(10"SE) = 137.64 SUMP = 136.14 120 115 └─ 0+00 0+50 1+00 1+50

STORM LINE ALIGNMENT (B) STA: 0+00 TO 1+50 VERTICAL: 1"=5" HORIZONTAL: 1"=20'



SCALE:

SALEM AREA MASS TRANSIT DISTRICT CHERRIOTS

KEIZER STATION BOULEVARD INTERSECTION

CIVIL STORM PLAN AND PROFILE

DRAWING NAME:

SD0.1-.03

DRAWING NO .: SD0.4


| VE ALL CATCH BASIN INSERTS AFTER | \cap | | |
|---|--------------------------|--|---|
| | (1) | INSTALL INLET PROTECTI STANDARD DRAWING NO | |
| BILIZATION MEASURES SHALL INCLUDE PERMANENT VEGETATIVE COVER VIA ED MIX. SEE LANDSCAPE PLANS FOR MIX. | 2 | CONSTRUCT UNSUPPOR PER CWS STANDARD DRV E.03. ALL FENCES TO BE I EASEMENTS. | VAING NO. 875, SHEET |
| BILIZATION SHALL INCLUDE COVERING RAW MULCHING OR OTHER APPROVED | 3 | CONSTRUCT GRAVEL CO ENTRANCE PER CWS STA 855, SHEET E.03 | |
| REAS SHALL BE STABILIZED THROUGH / MULCHING, EROSION CONTROL TTLES OR OTHER APPROPRIATE EEDING 25% MAY REQUIRE ADDITIONAL | 4 | CONSTRUCT CONCRETE STRAW BALES ACCORDIN STANDARD SPECIFICATIO | IG TO ODOT |
| SURES. ILIZATION MEASURES "INCLUDING LACE OVER ALL EXPOSED SOILS BY | 5 | DETAIL 3. SHEET E.04 INSTALL INLET PROTECTI STANDARD DRAWING NO | |
| RARY OR PERMANENT SEEDING SHALL BE ANDSCAPE PLANS. | 6 | INSTALL STRAW MULCHIN TEMPORARY SLOPE STAL TO NOTES ON THIS SHEE | IG TO PROVIDE BILIZATION ACCORDING |
| ONSITE AT ALL TIMES | | PROVISIONS. | |
| | LEGI | | FENCE |
| / | | | OF FLOW (PROPOSED), (TYP) |
| / | | WATTLE | |
| | | | |
| | | | ECTION, CWS TYPE 4, 5 |
| | | GRAVEL CO | INSTRUCTION ENTRANCE |
| a a fa | | | TION STAGING AREA |
| A A | | | Y SLOPE STABILIZATION |
| The set of | OS CO. | | |
| | | INC IS P | AR EQUALS ONE H WHEN DRAWING LOTTED FULL SIZE. SCALE ACCORDINGLY |
| // | | | SCALE 1 INCH = 20 FT. |
| | ER STATION ERO SED | ASS TRANSI CHERRIOTS N BOULEVARD INTE SION PREVENTION AND MENT CONTROL PLAN A. 9+63 TO STA. 14+80 | |
| R TRANSIT SCALE: | DRAWING NAME: | DRAWING NO.: | SHEET NO .: |
| 1" = 20' | E01-E04 | E.01 | 20 OF 61 |







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10_SAMDT_KITTELSON_KEIZERINTERSECTION\CADD\PLAN-SET\E01-E04.DWG, E04, 8/20/2018 7:42:01 AM



WSP USA Inc. 851 SW Sixth Ave Suite 1600 Portland, OR 97204 Tel: 1 503 274 8772



610 SW ALDER STREET, SUITE 700 PORTLAND, OR 97205 P 503.228.5230 F 503.273.8169

Cherriots SALEM-KEIZER TRANSIT





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| SKINGONET OAK | 00 0.0. | | FALL: YELLOW-BROWN |
|--|---|------------------------|--|
| EXISTING TREES TO REMAIN, EVERGRE CONTRACTOR TO PROTECT WITHIN DI | | JS | SEE TREE PROTECTION & DEMOLITION PLANS |
| GROUNDCOVERS ITEM | SIZE | QTY. | COMMENTS |
| ARCTOSTAPHYLOS 'EMERALD CARPET' EMERALD CARPET KINNIKINNICK | 4" POTS 3' O.C. | 2,962 SF 400 PLANTS | REFER TO DETAIL 1 / SHEET L.03 MATURE: 1' HT. / 3-5' WD. FULL SUN / EVERGREEN |
| PT 404 CWS NATIVE UPLAND MIX W/ COLOR BY PRO TIME LAWN SEED | SEED 40 LBS / ACRE 1 LB. / 1,000 SF | 6,055 SF 60 LBS | CALIFORNIA BROME, BLUE WILDRYE, STREAMBANK LUPINE, WESTERN YAF STABILIZATION FOR DRIER, UPLAND A |
| | 1 20.7 1,000 01 | | OTABILIZATION TON DRIEN, |

| SIT | SCALE: | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
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LANDSCAPE PLANT MATERIAL SCHEDULE



| ITEM | SIZE | QTY. | COMMENTS |
|---|---------------------|--------------------------------|---|
| QUERCUS ROBUR 'FASTIGIATA' SKYROCKET OAK | 3" CAL. 30' O.C. | 14 | REFER TO DETAIL 3 / SHEET L.03 MATURE: 45' HT. / 15' WD. FALL: YELLOW-BROWN |
| EXISTING TREES TO REMAIN, EVERGRE CONTRACTOR TO PROTECT WITHIN D | | US | SEE TREE PROTECTION & DEMOLITION PLANS |
| | | | |
| GROUNDCOVERS ITEM | SIZE | QTY. | COMMENTS |
| | | QTY. 2,962 SF 400 PLANTS | COMMENTS REFER TO DETAIL 1 / SHEET L.03 MATURE: 1' HT. / 3-5' WD. FULL SUN / EVERGREEN |

FOR PLANTING DETAILS AND NOTES SEE SHEET L.03



| RIGHT-OF-WAY LINE | 7106 |
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GENERAL NOTES: LANDSCAPE PLAN

- 1. LANDSCAPE PLANTING SHALL CONFORM TO THE STANDARDS ESTABLISHED UNDER THE CITY OF KEIZER PUBLIC WORKS DEPARTMENT.
- 2. ALL PLANT BEDS SHALL HAVE A 3" DEPTH OF BARK MULCH.
- 3. ALL NEW LANDSCAPE AREAS SHALL HAVE A COMPLETE UNDERGROUND AUTOMATIC, IRRIGATION SYSTEM WITH FULL HEAD TO HEAD COVERAGE THAT IS RETROFITTED TO EXISTING IRRIGATION SYSTEM.
- 4. ALL PLANT MATERIAL DELIVERED TO THIS SITE SHALL MEET THE AMERICAN NURSERYMAN'S ASSOCIATION STANDARDS.

5. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.





SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS **KEIZER STATION BOULEVARD INTERSECTION**

LANDSCAPE PLANTING PLAN

SCALE:

DRAWING NAME: 1222-CD-PLANT

DRAWING NO .: L.02





- 1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AN ALTERNATE NUMBER IN THE BASE BID TO FURNISH AND INSTALL AMENDED TOPSOIL IN ALL LANDSCAPE BEDS AND SEEDED AREAS AS SPECIFIED BELOW UNLESS OTHERWISE NOTED. AMENDED TOPSOIL SHALL INCLUDE ALL NECESSARY FERTILIZERS, ORGANIC AND INORGANIC AMENDMENTS, BASED ON INDUSTRY STANDARDS FOR EXCEPTIONAL PLANT DEVELOPMENT.
- SCARIFY ALL PLANTING AREA SUBGRADE TO A DEPTH OF 6". INSTALL & TILL IN 2" LAYER OF AMENDED TOPSOIL INTO SCARIFIED SUBGRADE AND RE-COMPACT TO 95%.
- PROVIDE MIN. 12" DEPTH AMENDED TOPSOIL TO ALL PLANTING AREAS.
 PROVIDE MIN. 18" DEPTH AMENDED TOPSOIL TO ALL PLANTER ISLANDS PLUS MOUNDING REQUIREMENT.
- 2. UPON BEING AWARDED THE CONTRACT, THE GENERAL CONTRACTOR SHALL COORDINATE WITH A STATE LICENSED SOIL LABORATORY AND THE LANDSCAPE ARCHITECT, TO DETERMINE THE SUITABILITY AND AVAILABILITY OF THE EXISTING SITE TOPSOIL. THE CONTRACTOR SHALL SEND THE TOPSOIL TO A SOIL LABORATORY FOR ANALYSIS STATING THAT THE TOPSOIL BE ANALYZED FOR A LANDSCAPE CROP. AFTER RECEIVING RECOMMENDATIONS FROM THE SOILS EXPERT FORWARD A COPY TO THE OWNERS REPRESENTATIVE AT WHICH TIME A DECISION WILL BE MADE BY THE OWNER AS TO WHETHER OR NOT THE EXISTING ON-SITE STOCKPILE WILL BE USED FOR THE PROJECT.
- 3. IF THE EXISTING TOPSOIL IS TO BE USED THE CONTRACTOR SHALL ADD THE RECOMMENDED AMENDMENTS AND FERTILIZERS AS STATED IN THE SOILS ANALYSIS ALONG WITH ADDITIONAL AMENDMENTS AND FERTILIZERS LISTED IN NOTE #6 AND #7 BELOW.
- 4. IN THE EVENT THE EXISTING ON-SITE TOPSOIL IS OF POOR QUALITY (AS DETERMINED BY THE SOIL ANALYSIS) OR IS UNAVAILABLE FOR USE, THE OWNER'S REPRESENTATIVE WILL MAKE A DECISION AS TO WHETHER OR NOT THE NUMBER FOR IMPORTING 9" OF AMENDED IMPORTED TOPSOIL WILL BE ADDED TO THE SIGNED CONTRACT AGREEMENT.
- 5. IF AMENDED IMPORTED TOPSOIL IS TO BE USED, THE GENERAL CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER'S REPRESENTATIVE AND THE CONTRACT MODIFIED ACCORDINGLY. TOPSOIL SHALL BE OBTAINED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP. DO NOT OBTAIN FROM BOGS OR MARSHES. IMPORTED TOPSOIL TO COMPLY WITH ASTM D 5268, WITH A PH RANGE OF 5.5 TO 7.0, FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION, AND ANY OTHER EXTRANEOUS MATERIALS (ROCKS, STICKS, RUBBISH, SOD) HARMFUL TO PLANT GROWTH. AN ADDITIONAL SOILS ANALYSIS WILL BE REQUIRED FOR THE IMPORTED TOPSOIL.
- 6. AMENDED IMPORTED TOPSOIL SHALL INCLUDE ALL NECESSARY FERTILIZER AND AMENDMENTS PER THE SOIL ANALYSIS RECOMMENDATIONS. TOPSOIL ANALYSIS SHALL STATE ORGANIC MATTER, INORGANIC MATTER (SILT, CLAY AND SAND), DELETERIOUS MATERIAL, PH, MINERAL AND PLANT-NUTRIENT CONTENT. IN ADDITION THE REPORT SHALL ALSO STATE RECOMMENDED QUANTITIES (BY PERCENTAGE OF WEIGHT "I.E. 2 LBS OF 15-15-15 PER 1000SF) OF NITROGEN, PHOSPHORUS AND POTASH, NUTRIENTS AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY AMENDED TOPSOIL. FURNISH REPORT AND RECOMMENDATIONS TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO MOBILIZATION.
- 7. IN ADDITION TO THE SOILS ANALYSIS RECOMMENDATIONS THE LANDSCAPE CONTRACTOR SHALL ADD 1 PART (2 " LAYER) OF APPROVED HUMUS MATERIAL TO 2 PARTS AMENDED TOPSOIL. SUBMIT CUT SHEET OF HUMUS MATERIAL (CERTIFIED FINE COMPOSTED YARD DEBRIS) TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL PRIOR TO MIXING.
- 8. PRIOR TO PLACEMENT OF TOPSOIL SCARIFY AND LOOSEN SUBGRADE OF PLANTING BED AREA TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STONES LARGER THAN 1" IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATERIALS. REMOVE WEEDS FROM EXISTING SUBGRADE AND TREAT WITH NECESSARY HERBICIDE TO PREVENT WEED GROWTH. SPREAD HALF OF THE AMENDED TOPSOIL MIXTURE AND WORK INTO TOP OF LOOSEN SUBGRADE TO CREATE A TRANSITION LAYER. PLACE REMAINING HALF OF THE PLANTING SOIL MIXTURE TO THE DEPTH REQUIRED TO MEET THICKNESS, GRADES AND ELEVATIONS SHOWN, AFTER LIGHT ROLLING AND NATURAL SETTLEMENT.
- WITHIN TREE WELLS & PLANTER ISLANDS, REMOVE EXISTING SOIL AND OTHER DEBRIS, TO A MINIMUM DEPTH OF 18" AND REPLACE WITH AMENDED TOPSOIL. ADD ADDITIONAL SOIL AS REQUIRED PER DETAILS AND NOTES.
- 10. THE CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT, SHIPPING TICKETS FOR IMPORTED TOP SOIL AND HUMUS MATERIAL, 60 DAYS PRIOR TO INSTALLATION FOR REVIEW AND WRITTEN APPROVAL.

4 TOPSOIL NOTES SCALE: N/A



PORTLAND 6720 SW MACADAM AVE, STE 200, PORTLAND, OR 97219 TEL: (503) 419 - 2500 FAX: (503) 419 - 2600 www.cardno.com **KITTELSON** & ASSOCIATES 851 SW 6TH AVENUE, SUITE 600

PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

BD Supplement - 153

INSTALL 18" X 15' ROOT BARRIER* WHERE ANY TREE LOCATION IS WITHIN 4" OF ANY CURB, SIDEWALK, OR DRIVEWAY. *APPROVED ROOT BARRIERS:

ROOT BARRIER REQUIREMENT:

REMOVE CONTAINER FROM PLANT AND

BACKFILL WITH TOPSOIL. AMEND

TOPSOIL PER LAB ANALYSIS AND

SCORE ROOTBALLS TO LOOSEN ANY

ROOTBOUND MATERIAL PRIOR TO

PROJECT SPECIFICATIONS.

INSTALLATION.

AND RECOMPAC

DEEPROOT UB 18-2 NDS EP-1850 OR EQUIVALENT

3/4" WIDTH PLASTIC TREE TIE - CHAIN LOCK OR APPROVED EQUAL.

6' MIN. BRANCHING HEIGHT

2"x2" WOOD STAKE DRIVEN 18" BELOW UNDISTURBED SOIL AND LONG ENOUGH TO SECURE LOWER 2/3 OF TREE TRUNK FROM SWAY.

BACKFILL WITH TOPSOIL TO MINIMUM DEPTH OF 18". AMEND TOPSOIL PER LAB ANALYSIS AND PROJECT SPECIFICATIONS. **GENERAL PLANTING PLAN NOTES:**

- ALL CEMENT TREATED LANDSCAPE AREAS SHALL BE EXCAVATED A MINIMUM OF 6" BELOW BOTTOM OF TREAT AREA AND REMOVED FROM THE SITE. BACKFILL WITH TOPSOIL TO ORIGINAL GRADE PRIOR TO ADDING THE SPECIFIED AMENDED SOIL PER THE PLANS.
- 2. CONTRACTOR TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.
- 3. CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
- 4. CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO THE LANDSCAPE ARCHITECT.
- 5. ALL PLANT MASSES TO BE CONTAINED WITHIN A 3" LAYER OF BARK MULCH BED, UNLESS NOTED OTHERWISE.
- 6. BED EDGE TO BE NO LESS THAN 12" AND NO MORE THAN 18" FROM OUTER EDGE OF PLANT MATERIAL BRANCHING. WHERE GROUND-COVER OCCURS, PLANT TO LIMITS OF AREA AS SHOWN.
- 7. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS.
- 8. CONTRACTOR TO FINE GRADE AND ROCK-HOUND ALL PLANTING AREAS PRIOR TO PLANTING, TO PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES (BUMPS OR DEPRESSIONS) & EXTRANEOUS MATERIAL OR DEBRIS.
- 9. QUANTITIES ARE INTENDED TO ASSIST CONTRACTOR IN EVALUATING THEIR OWN TAKE OFFS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BID QUANTITIES AS INDICATED ON THE PLANS. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER IN THE PLANT LEGEND AND THE QUANTITY OF GRAPHIC SYMBOLS SHOWN, THE GRAPHIC SYMBOL QUANTITY SHALL GOVERN.
- 10. COORDINATE PLANTING INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLER AND DRAINAGE SYSTEMS.
- 11. CONTRACTOR SHALL NOT REMOVE ANY TREES DURING CONSTRUCTION WITHOUT THE EXPRESS WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- 12. WHERE PROPOSED TREE LOCATIONS OCCUR UNDER EXISTING OVERHEAD UTILITIES OR CROWD EXISTING TREES, NOTIFY LANDSCAPE ARCHITECT TO ADJUST TREE LOCATIONS.
- 13. LANDSCAPE MAINTENANCE PERIOD BEGINS IMMEDIATELY AFTER THE COMPLETION OF ALL PLANTING OPERATIONS AND ACKNOWLEDGEMENT THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED BY THE CONTRACTOR. MAINTAIN TREES, SHRUBS, LAWNS AND OTHER PLANTS UNTIL FINAL ACCEPTANCE OR 90 DAYS AFTER NOTIFICATION AND ACCEPTANCE, WHICHEVER IS LONGER. WARRANTY ALL PLANTING FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.
- 14. REMOVE EXISTING WEEDS FROM PROJECT SITE PRIOR TO THE ADDITION OF ORGANIC AMENDMENTS AND FERTILIZER.
- BACKFILL MATERIAL FOR TREE AND SHRUB PLANTING SHALL CONTAIN: ONE PART FINE GRADE COMPOST TO FOUR PARTS TOPSOIL BY VOLUME. INCORPORATE ANY SLOW RELEASE FERTILIZERS AND AMENDMENTS PER SOIL LAB ANALYSIS RECOMMENDATIONS.
- 16. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT 90 DAYS PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
- 17. CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL PLANT MATERIAL IN THE SIZE SPECIFIED ON PLAN PRIOR TO INSTALLATION. IN THE EVENT THE PLANT MATERIAL IS NOT AVAILABLE IN THE SIZE SPECIFIED, THE CONTRACTOR SHALL SUBMIT TO THE OWNERS' REPRESENTATIVE, AND THE LANDSCAPE ARCHITECT, A WRITTEN ESTIMATE TO INCREASE PLANT MATERIAL (AND INSTALL) THE NEXT AVAILABLE CONTAINER SIZE PLANT (I.E. 4" POT TO ONE GALLON CONTAINER, 2" CALIPER TREE TO 2.5" CALIPER).
- 18. CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT BEST MANAGEMENT PRACTICES TO STABILIZE ALL SLOPES 3:1 OR GREATER AND PREVENT EROSION OR MOVEMENT OF SOIL FROM SLOPES. THIS COULD INCLUDE, BUT NOT LIMITED TO, EROSION CONTROL FABRIC, STAKING, NETTING, AND STRAW WATTLES. SUBMIT METHOD OF SLOPE STABILIZATION TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO IMPLEMENTATION.
- 19. PRIOR TO MOBILIZATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT, IN WRITING, IF THEY BELIEVE ANY OF THE PLANT MATERIAL IDENTIFIED ON THE PLAN MAY NOT BE SUITABLE FOR THE SITE OR MAY DIE. SUBSTITUTION REQUESTS MAY BE GRANTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF NOTIFICATION IS NOT GIVEN TO THE LANDSCAPE ARCHITECT ALL PLANTING WHICH FAILS TO GROW (EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE AS DETERMINED BY THE OWNER, NEGLECT OR VANDALISM) SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 20. NOTIFY THE LANDSCAPE ARCHITECT IN WRITING, WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR PLANTING SOIL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, PRIOR TO PLANTING.
- 21. PLANTING RESTRICTIONS PLANTING IS NOT PERMITTED DURING THE FOLLOWING CONDITIONS, UNLESS OTHERWISE APPROVED IN WRITING:
- A. COLD WEATHER: LESS THAN 32 DEGREES FAHRENHEIT B. HOT WEATHER: GREATER THAN 90 DEGREES FAHRENHEIT
- C. WET WEATHER: SATURATED SOIL
- D. WINDY WEATHER: WIND VELOCITIES GREATER THAN 20 M.P.H.
- 22. ALL PLANTING AREAS SHALL BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
- 23. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPE AREAS DISTURBED BY CONSTRUCTION TO PRE-CONSTRUCTION CONDITION IF THAT AREA IS NOT INCLUDED IN THE PLANTING PLAN.
- 24. DO NOT LOCATE TREES IN EASEMENTS.
- 25. SEE CIVIL PLANS FOR EXISTING TREES TO REMAIN ON SITE.
- 26. ALL PLANTS MUST COMPLY TO THE AMERICAN STANDARD FOR NURSERY STOCK. THOSE THAT DO NOT WILL BE REJECTED, 2" CALIPER TREES MUST BRANCH AT 6' MIN. HT.

PLANTING GENERAL NOTES



SCALE: N/A

SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS KEIZER STATION BOULEVARD INTERSECTION

LANDSCAPE PLANTING DETAILS & NOTES

SCALE:

DRAWING NAME: 1222-CD-PLANT DRAWING NO.: L.03



| BOL | NOZZLE & SPRAY BODY | | GALLONS PE | ER MINUTE | P.S.I. | RADIUS | |
|------|--|-------------------|-------------------------------|-----------------|--------|--------|------|
| | MP ROTATOR ON PRS40 SPRAY HEAD | <u>360°</u> | 210°-270° | <u>90°-210°</u> | | | |
| | HUNTER MP1000 | OLIVE = 0.65 | LT BLUE = 0.48 | MAROON = 0.45 | 40 | 14' | 1.00 |
|) ® | HUNTER MP2000 ON | RED = 1.27 | GREEN = 0.95 | BLACK = 0.86 | 40 | 19' | |
| RCS | HUNTER MPLCS515, MPRCS515 ON | LEFT STRIP: IN | ORY RIGHT STRI | P: COPPER = .22 | 40 | 5'x15' | |
| DRCS | HUNTER MPSS530 | SIDE STRIP: B | ROWN = 0.38 | | 40 | 5'x30' | - |
| | FIXED SPRAY AND MP ROTATOR NOTE: INSTALL 4" (-04) POP-UP HEADS IN ALL LAWI INSTALL 12" (-12) POP-UP HEADS IN ALL OTH | | REAS. | | | | E |
| | MAJOR SYSTEM COMPONENTS | | | | | | |
| | ALL MAJOR SYSTEM COMPONENTS ARE EXI THAT IT IS FUNCTIONING. THIS INCLUDES, E BACKFLOW PREVENTER, CONTROLLER, PRI VALVE, FLOW SENSOR, AND WEATHER OR S | BUT IS NOT LIMITE | D TO: METER, (IF USED), MA | | | | |
| .00 | SPRAY ZONE FLOW TOTAL IN GALLONS PER | | | | | | |
| 2" | SPRAY ZONE NUMBER AND CONTROLLER P | ROGRAM / VALVE | SIZE | | | | |
| | SPRAY ZONE VALVE PRESSURE REGULATING ELECTRIC REMOT | E CONTROL VALVE | E. (0 DOI 70) | 150 | | | |

| KANSII | SCALE: | DRAWING NAME: | DRAWING NO .: | SHEET NO .: |
|--------|--------|---------------|---------------|-------------|
| | | 1222-CD-IRRIG | L.04 | 27 OF |
| | | | | |



| RIGATIO | IN MATERIALS AND LEGE | | | | - | | | |
|----------------------------|--|--|---------------------------------|-----------------|--------|--------|---------------------------|--|
| SYMBOL | NOZZLE & SPRAY BODY | | GALLONS P | ER MINUTE | P.S.I. | RADIUS | | PIPE, SLEEVING & CHEC |
| | MP ROTATOR ON PRS40 SPRAY HEAD | <u>360°</u> | 210°-270° | <u>90°-210°</u> | | | and an and a subsequences | 2-1/2" EXISTING MAINLIN |
| \odot \bigcirc \odot | HUNTER MP1000 | OLIVE = 0.65 | LT BLUE = 0.48 | MAROON = 0.45 | 40 | 14' | | 2-1/2" NEW MAINLINE - SO |
| RGK | HUNTER MP2000 ON | RED = 1.27 | GREEN = 0.95 | BLACK = 0.86 | 40 | 19' | | 1" LATERAL - CLASS 200 |
| | HUNTER MPLCS515, MPRCS515 ON | LEFT STRIP: N | VORY RIGHT STRI | P: COPPER = .22 | 40 | 5'x15' | | |
| \bigcirc | HUNTER MPSS530 | SIDE STRIP: B | ROWN = 0.38 | | 40 | 5'x30' | | 1-1/2" LATERAL - CLASS 2 |
| | FIXED SPRAY AND MP ROTATOR NOTE: INSTALL 4" (-04) POP-UP HEADS IN ALL LAWI INSTALL 12" (-12) POP-UP HEADS IN ALL OTH | | REAS. | | | | | UNDERPAVEMENT SLEE 4" DIAMETER SCHEDULE 2" DIAMETER SCHEDULE |
| | MAJOR SYSTEM COMPONENTS | | | | | | | EXTEND SLEEVES 18" IN |
| | ALL MAJOR SYSTEM COMPONENTS ARE EX THAT IT IS FUNCTIONING. THIS INCLUDES, E BACKFLOW PREVENTER, CONTROLLER, PRI VALVE, FLOW SENSOR, AND WEATHER OR S | BUT IS NOT LIMITE | D TO: METER, R (IF USED), M/ | | | | Ex | KING BROS. IN LINE SPR LOCATE AS NECESSARY |
| | | | | | | | | FOR IRRIGATION |
| 25.00 | SPRAY ZONE FLOW TOTAL IN GALLONS PER SPRAY ZONE NUMBER AND CONTROLLER F | | SIZE | | | | | SHEET L.06 |
| | | NOONAWIT VALVE | OILL | | | | | |
| | SPRAY ZONE VALVE PRESSURE REGULATING ELECTRIC REMOT ADJUST PRESSURE REGULATING DIAL AT V ADJUST PRESSURE REGULATING DIAL AT V DESIGN NOTE: 30 PSI ZONES ARE NOTED O ZONE FLOW BASED ON PSI. | ALVE TO 50 PSI FO ALVE TO 40 PSI FO | OR 40 PSI ZON OR 30 PSI ZON | NES | | | | |
| | HUNTER 1" VALVE (MODEL: ICV-101G-FS-AS | -ADJ) | | | | | | |
| (| QUICK COUPLING VALVE, KEY & SWIVEL HUNTER 3/4" QUICK COUPLER= HQ-33DLRC | KEY= HK-33 SWI | VEL= HS-0) | | | | | |
| \bowtie | ISOLATION VALVE - SIZE PER LINE SIZE MFG.: APOLLO MODEL: 32-(LINE SIZE)-27 | | | | | | | |
| | | | | | | | | |



SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS **KEIZER STATION BOULEVARD INTERSECTION**

LANDSCAPE IRRIGATION PLAN

DRAWING NO .:

L.05

DRAWING NAME: 1222-CD-IRRIG SHEET NO .: 28 OF 61

| NO. | | | | | | DESIGNED | DATE DATE DATE | LA |
|-----|------|----|-------|-----------|--|----------|----------------------|----|
| NO. | DATE | BY | APPD. | REVISIONS | | APPROVED | DATE | |



- WATER PROOF CONNECTION (2)



BD Supplement - 156

- HUNTER SPRAY HEAD, SEE LEGEND ON PLAN

- PVC LATERAL PIPE

HUNTER 'PRO-FLEX' TUBING, HSBE-050 ELBOWS (2), & MARLEX STREET ELBOW (1)

SCREENED BACKFILL 1/2" MAXIMUM ROCK DIAMETER LATERAL LINE TRACKING WIRE, 6"

ABOVE MAINLINE ONLY ATTACH IRRIGATION WIRE TO MAINLINE AT

INTERVALS OF 25'-0" MAINLINE - SIZE AS REQUIRED CLEAN BUILDER'S SAND

PVC SCHEDULE 40 SLEEVE FOR IRRIGATION LATERAL

- PVC SCHEDULE 40 SLEEVE FOR IRRIGATION MAINLINE.

IRRIGATION NOTES:

- CONTRACTOR TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES WHETHER SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.
- 2. CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS OR INCONSISTENCIES WITH PLANS TO LANDSCAPE ARCHITECT.
- 3. NEW IRRIGATION SYSTEM TO BE RETROFITTED TO EXISTING SYSTEM. CONTRACTOR TO EXAMINE ALL EXISTING IRRIGATION EQUIPMENT TO REMAIN FOR DEFECTS AND FUNCTION. FIELD LOCATE CONTROLLER AND VERIFY ITS FUNCTION. CONTRACTOR WILL BE RESPONSIBLE TO COORDINATE WITH DEMOLITION TEAM TO INSURE THAT MAINLINE AND CONTROL WIRES ARE PRESERVED FOR RECONNECTING. 2007 AS-BUILT IRRIGATION PLANS AVAILABLE UPON REQUEST.
- 4. CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
- CONTRACTOR WILL BE RESPONSIBLE FOR IRRIGATION TO ANY LANDSCAPE AREA THAT IS CURRENTLY SERVED BY EXISTING IRRIGATION SYSTEM, BUT WILL BE EFFECTED BY MAINLINE SHUT DOWN DURING CONSTRUCTION.
- 6. CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH INSTALLATION OF LANDSCAPING AND DRAINAGE SYSTEMS. CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATION WITH OTHER SUBCONTRACTORS FOR INSTALLATION OF UNDERGROUND SLEEVES.
- 7. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS AND ALL LAWN AREAS.
- 8. ALL PIPE SHALL BE LAID IN OPEN TRENCHES. INSTALL MAINLINE AND LATERALS TO THE DEPTHS SPECIFIED IN DETAILS.
- 9. CONTRACTOR TO PROVIDE OWNER WITH KEYS AND HOSE SWIVELS FOR EACH QUICK COUPLER VALVE.
- 10. CONTRACTOR SHALL PROVIDE A REPRODUCIBLE AS-BUILT IRRIGATION PLAN. PLAN SHALL BE PREPARED, UPON FINAL ACCEPTANCE OF IRRIGATION INSTALLATION, ON A REPRODUCIBLE SITE PLAN (PROVIDED TO CONTRACTOR BY LANDSCAPE ARCHITECT). AS-BUILT PLAN SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
- 11. CONTRACTOR SHALL PLACE A COLOR CODED ZONE MAP OF THE IRRIGATION SYSTEM INSIDE OF IRRIGATION CONTROLLER.
- 12. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PRODUCT SUBSTITUTIONS BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. PRODUCTS, MANUFACTURERS, AND MODELS NOT IN COMPLIANCE WITH DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT WITHOUT PRIOR WRITTEN APPROVAL. AT NO COST TO THE OWNER THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PRODUCTS THAT ARE IN COMPLIANCE WITH THE MANUFACTURERS AND MODELS ON THE IRRIGATION PLAN.
- 13. THE IRRIGATION SYSTEM HAS BEEN DESIGNED TO OPERATE AT 65 PSI AFTER THE METER. IF THE PRESSURE IS LESS THAN 60 PSI, OR GREATER THAN 75 PSI, NOTIFY THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IN WRITING, PRIOR TO PROCEEDING WITH THE INSTALLATION OF THE IRRIGATION SYSTEM. A PRESSURE REDUCING VALVE MAY BE NECESSARY FOR PRESSURES ABOVE 75 PSI.
- 14. CONTRACTOR SHALL INSTALL CHECK VALVES WHEREVER AN ELEVATION DIFFERENCE OF 3 FEET OR GREATER OCCURS WITHIN THE SAME IRRIGATION ZONE.

IRRIGATION GENERAL NOTES

SCALE: NOT TO SCALE

SALEM AREA MASS TRANSIT DISTRICT

CHERRIOTS **KEIZER STATION BOULEVARD INTERSECTION**

LANDSCAPE IRRIGATION DETAILS & NOTES

SCALE:

Ots

DRAWING NAME: DRAWING NO .: 1222-CD-IRRIG L.06

SHEET NO .:



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|------------|------|---------|-------|-----------|-----------------|------|----------------|
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| 1 | - | | | | JBB CHECKED | DATE | OREGON |
| N110/10340 | DATE | вү снк. | APPD. | REVISIONS | HJS APPROVED | DATE | EXPIRES: 6/30/ |













LEGEND:

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UNDER CONSTRUCTION



Conception in succession in the local division in the local divisi

PEDESTRIAN DETOUR ROUTE

M4-9B 30x30 (MOUNT ON B (II)L)

SCALE:

-

SALEM AREA MASS TRANSIT DISTRICT CHERRIOTS

KEIZER STATION BOULEVARD INTERSECTION

PEDESTRIAN DETOUR PLAN

DRAWING NAME: DRAWING NO.: SHEET NO.: 18340-TC TC.05





(EX C

С

IC

INSTALL MODEL 2070E CONTROLLER IN MODEL 332-S (STRETCH) CABINET WITH RISER FRAME. ORIENT FRONT (LOUVERED) DOOR AS SHOWN. MOUNT CABINET ON CONCRETE FOUNDATION.

MAINTAIN AND PROTECT EXISTING CONTROLLER CABINET.

TRAFFIC SIGNAL CONTROLLER CABINET (SEE SIGNAL PLAN).

SEE INTERCONNECT PLAN

SIGNALS



INSTALL PHASE (Ph) OR PHASES (Ph)/(Ph) OR PHASES (Ph)/(OVERLAP) VEHICLE SIGNAL WITH LED'S.

INSTALL PHASE (Ph) VIBROTACTILE PUSHBUTTON (WITH RAISED ARROW AND LED INDICATIONS), INTERNAL AUDIBLE SOUND DEVICE, AND INSTRUCTION SIGN.

INSTALL PHASE (Ph) COUNTDOWN PEDESTRIAN SIGNAL WITH CLAM SHELL MOUNTING, VIBROTACTILE PUSHBUTTON (WITH RAISED ARROW AND LED INDICATIONS), INTERNAL AUDIBLE SOUND DEVICE, AND INSTRUCTION SIGN.

MAINTAIN AND PROTECT EXISTING PHASE (Ph) VEHICLE SIGNAL.



RX

(PB)

RX P/B

(TSL)

PP

EX VPh

MAINTAIN AND PROTECT EXISTING PEDESTRIAN SIGNAL

REMOVE EXISTING PEDESTRIAN PUSHBUTTON AND INSTRUCTION SIGN. (PLUG HOLES LEFT IN MAST ARM POLE AFTER REMOVAL)

REMOVE EXISTING PEDESTRIAN SIGNAL AND PUSHBUTTON.

POLES

INSTALL (T=TYPE) CITY OF SALEM STANDARD TRAFFIC SIGNAL MAST ARM POLE WITH RECESSED TERMINAL COMPARTMENT AND LUMINAIRE POLE EXTENSION (35' MOUNTING HEIGHT). SEE TRAFFIC SIGNAL POLE ENTRANCE CHART.

INSTALL PEDESTRIAN SIGNAL PEDESTAL WITH FRANGIBLE BASE



INSTALL (L) FOOT TRAFFIC SIGNAL MAST ARM. (TO BE DRILLED IN THE FIELD)

 $\begin{pmatrix} LA \\ L \end{pmatrix}$ INSTALL (L) FOOT LUMINAIRE ARM

(EX)

MPL

RX

MPL

RX PP

MAINTAIN AND PROTECT EXISTING TRAFFIC SIGNAL MAST ARM POLE WITH LUMINAIRE EXTENSION.

REMOVE EXISTING FLASHER MAST POLE WITH LUMINAIRE EXTENSION, MAST ARM AND ALL ATTACHED COMPONENTS.

REMOVE EXISTING PEDESTRIAN SIGNAL PEDESTAL.

ALUMINUM SIGNS

AL 12 AL GS1

EX

EX GS

INSTALL ALUMINUM (30"X36", TYPE "W7 MOD.") "RIGHT TURN YIELD TO PEDS ON GREEN BALL" SIGN. (OR22-14)

INSTALL OVERHEAD GUIDE SIGN ON MAST ARM. SEE DETAIL ON THIS SHEET.

MAINTAIN AND PROTECT EXISTING STREET NAME SIGNS.

MAINTAIN AND PROTECT EXISTING GUIDE SIGNS.

| | | | | | ACJ | -6.24 | |
|-----|------|------------|-------|-----------|----------|-------|------|
| _ | | | _ | | DESIGNED | DATE | 601 |
| - | | | | | JBB | DATE | 44 |
| | | | | | CHECKED | DATE | Dett |
| NO. | DATE | ВҮ СНК. | APPD. | REVISIONS | APPROVED | DATE | EX |

| CA | BINET |
|---|---|
| SCL 1G | INSTALL SERVICE ILLUMINATION CIR DETAIL SHEET TS |
| RTC | INSTALL RECESSE (SEE DETAIL SHEE |
| EX SC | MAINTAIN AND PR |
| EX TC | MAINTAIN AND PR |
| FIF | REPRE |
| F-N Ch | INSTALL CHANNEL |
| EX FD | MAINTAIN AND PR |
| (FF Ch | INSTALL CHANNE |
| JU | NCTION |
| JB 1S | INSTALL 17" x 10" x PER STANDARD P AS APPLICABLE. |
| JB 2 | INSTALL 13" x 24" : PER STANDARD P AS APPLICABLE. |
| (JB) 2A | INSTALL 13" x 24" : AND CONCRETE A SIGNAL" OR "STRE |
| JB 2S | INSTALL 13" x 24" : PER STANDARD P AS APPLICABLE. |
| JB 3 | INSTALL 17" x 30" : PER STANDARD P AS APPLICABLE. |
| JB 3A | INSTALL 17" x 30" x AND CONCRETE A OR "STREET LIGH |
| JB 3S | INSTALL 17" x 30" : PER STANDARD P AS APPLICABLE. |
| $\begin{pmatrix} JB \\ 4 \end{pmatrix}$ | INSTALL 24" x 36" : PER STANDARD P APPLICABLE. |
| (RX JB | REMOVE EXISTING |
| JB IP | JUNCTION BOX (S |
| LU | MINAIR |
| LED | INSTALL COBRAHI AND 18,000 MINIM PROVISIONS FOR |
| RX L | REMOVE EXISTING |
| (PE) 1 | INSTALL PHOTO C |
| EX PE | MAINTAIN AND PR |
| CO | NDUITS |
| S | INSTALL (S) INCH E |
| | INTERCONNECT C |
| W | INSTALL CONDUIT |
| | |

CABINET, 120/240 VOLT, FOR BOTH SIGNAL AND RCUITS, WITH CONTACTOR AND TEST SWITCH. (SEE .10)

ED TERMINAL CABINET ET T-751)

ROTECT EXISTING SERVICE CABINET.

ROTECT EXISTING TERMINAL CABINET

EMPTION

L (Ch), (N)-WAY FIRE PRE-EMPTION DETECTOR UNIT.

ROTECT EXISTING FIRE PREEMPTION DETECTOR UNIT

L (Ch) FIRE PRE-EMPTION DETECTOR FEEDER CABLE.

N BOXES

x 12" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS"

x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS"

x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER APRON PER STANDARD PLAN 705. LABEL COVER "TRAFFIC EET LIGHTS" AS APPLICABLE.

x 12" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS"

" x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS"

x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER APRON PER STANDARD PLAN 705. LABEL COVER "TRAFFIC SIGNAL" ITS" AS APPLICABLE.

x 12" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS"

x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS" AS

IG JUNCTION BOX.

SEE INTERCONNECT PLAN).

RES

EAD STYLE LED LUMINAIRE WITH MEDIUM, TYPE 3 DISTRIBUTION, JUM INITIAL LUMENS. SEE STREET LIGHTING TABLE AND SPECIAL ADDITIONAL DETAILS.

IG LUMINARE (BY PGE).

CONTROL ELECTRIC RELAY ON POLE (25' -30' ABOVE POLE BASE).

ROTECT EXISTING PHOTO CONTROL ELECTRIC RELAY ON POLE.

ELECTRICAL CONDUIT.

CONDUIT (SEE INTERCONNECT PLAN)

AND WIRE AS REQUIRED BY POWER COMPANY.



& ASSOCIATES

851 SW 6TH AVENUE, SUITE 600 PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

| - | | |
|---|-----|-----|
| r | her | |
| | NDU | rvr |
| | NA | 10 |
| | | |

| EX EC | (S) MAINTAIN AND PROTECT EXISTING (S) INCH ELECTRICAL COND |
|-----------|---|
| AX | ABANDON EXISTING ELECTRICAL CONDUIT AND WIRING. |
| HDD |) INSTALL CONDUIT BY HORIZONTAL DIRECTIONAL DRILLING. OPP ALLOWED. |
| W | IRES |
| N-C | INSTALL (N) NO. 8 TYPE THWN WIRE (SIGNAL SYSTEM COMMON) |
| N-120 | INSTALL (N) NO. 12 TYPE THWN WIRE (PEDESTRIAN SIGNAL SYSTEM COMMON). |
| NG | INSTALL (N) NO. (G) TYPE THWN WIRES. |
| N G | INSTALL (N) NO. (G) TYPE XHHW WIRES. |
| G | Ph = INCLUDES 3 SPARE WIRES FOR PHASE(S) (Ph) AS PER TABLE. |
| EX W |) MAINTAIN AND PROTECT EXISTING WIRING. |
| (RX) W |) REMOVE EXISTING WIRING. |
| RR W | REMOVE AND RELOCATE EXISTING WIRING. |
| 0 | |



REINSTALL EXISTING WIRING.

DETECTION



MAINTAIN AND PROTECT VIDEO VEHICLE DETECTOR CAMERA.



INSTALL VIDEO DETECTION COAXIAL FEEDER AND POWER CABLE





(See Signing & Striping Plans)

| N | D | υ | r | Г | |
|---|---|---|---|---|--|
| | | | | | |

MAST ARM MOUNTED STREET NAME SIGNS



INSTALL (24" X [L]) ALUMINUM STREET NAME SIGN. "CHEMAWA RD/LOCKHAVEN DR" IN 6" HIGH LETTERS. SEE DETAIL ON THIS SHEET.

PEN TRENCH NOT



2/

INSTALL (12" X [L]) ALUMINUM STREET NAME SIGN. "KEIZER STATION BLVD" IN 6" HIGH LETTERS. SEE DETAIL ON THIS SHEET.

ERA,



| SIGNAL HEAD CONFIG. | ^ | ISTRUCTION |
|--|----|---|
| 2 = 12" RED, 12" YELLOW, 12" GREEN | /1 | REPLACE JUNCTION BO AND COMPARE TO NEW |
| 3L = 12" RED LTA, 12" YELLOW LTA, 12" GREEN LTA | | |
| 3BL = 12" RED LTA, 12" YELLOW LTA, 12" BIMODAL GREEN/ FLASHING YELLOW LTA | 2 | STUB NEW CONDUIT IN |
| 5 = VERTICAL 12" R, 12" Y, 12" G, 12" YRTA, 12" GRTA | 3 | DISCONNECT AND REM WIRING (4 - NO. 14 WIRE CONDUIT AND RE-PULL MAINTAIN AND PROTEC |
| | 4 | RECONNECT EXISTING AND 1 - NO. 12 PED SIGI |
| ADDDEVIATIONS | | |
| S = SIZE SHOWN | 5 | INSTALL WIRES FOR FU AS FUTURE RIGHT-TUR |
| S = SIZE SHOWN G = AWG SIZE SHOWN T = TYPE SHOWN | 5 | |
| S = SIZE SHOWN G = AWG SIZE SHOWN | ~ | AS FUTURE RIGHT-TUR |
| S = SIZE SHOWN G = AWG SIZE SHOWN T = TYPE SHOWN Ch = CHANNEL SHOWN N = NUMBER SHOWN | ~ | AS FUTURE RIGHT-TUR PHOTOELECTRIC CIRC DISCONNECT AND REM |

GENERAL NOTES:

1. ALL SPLICE VAULTS, HAND HOLES, AND JUNCTION BOXES SHALL HAVE CONCRETE APRONS OR BE PLACED IN SIDEWALK AREA AND SURROUNDED BY CONCRETE.

2. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND UNCOVERING, IF BURIED, EXISTING JUNCTION BOXES. ACTUAL LOCATION OF EXISTING JUNCTION BOXES MAY VARY FROM THAT SHOWN ON THESE PLANS.

3. EQUIPMENT SUBMITTALS AND POLE DRAWINGS SHALL BE PROVIDED TO AGENCY BY THE CONTRACTOR AFTER AN INITIAL REVIEW HAS BEEN COMPLETED BY THE PROJECT ENGINEER. AGENCY APPROVAL OF THESE SUBMITTALS MUST BE OBTAINED PRIOR TO CONSTRUCTION.

4. FOR THE CONSTRUCTION OF THE PEDESTRIAN RAMPS AND INSTALLATION OF PEDESTRIAN PEDESTALS IN EACH INTERSECTION CORNER, THE CONTRACTOR SHALL PREPARE TEMPORARY PEDESTRIAN ACCESSIBLE ROUTE PLANS CONSISTENT WITH STANDARD SPECIFICATIONS SECTION 00220.02(B) FOR REVIEW AND APPROVAL BY ENGINEER.

5. ALL CONDUIT LOCATIONS SHOWN ARE APPROXIMATE. LOCATE ALL CONDUITS AND OTHER UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

| | | | | | | | 1.1.5 |
|-----|------|---------|-------|-----------|-----------------|-------|-------------|
| _ | _ | | | | ACJ | DATE | TERED |
| | | | | | BSC | DATE | Col ENC |
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| | | | 1000 | | HJS APPROVED | DATE | EXPIRES: |
| 10. | DATE | ВҮ СНК. | APPD. | REVISIONS | | | EN INEC. |

NOTES

OX IN PLACE. VERIFY DEPTH OF EXISTING CONDUITS AND WIRING, V JUNCTION BOX DEPTH TO CONFIRM NEW JUNCTION BOX DEPTH.

TO EXISTING JUNCTION BOX LOCATION.

OVE EXISTING PHASE 6 PEDESTRIAN SIGNAL AND PUSHBUTTON ES AND 1 - NO. 12 PED SIGNAL COMMON WIRE) FROM EXISTING THROUGH NEW CONDUIT TO NEW PEDESTRIAN SIGNAL PEDESTAL. T ALL OTHER REMAINING WIRING.

PEDESTRIAN SIGNAL AND PUSHBUTTON WIRING (4 - NO. 14 WIRES NAL COMMON WIRE).

JTURE LEFT-TURN FLASHING YELLOW ARROW OPERATION AS WELL N BIMODAL OPERATIONS ..

UIT.

NOVE ALL EXISTING WIRING BACK TO THE TRAFFIC CONTROLLER

TO CITY OF SALEM. CONTACT CITY SIGNAL SHOP SUPERVISOR TO

OW RIGHT-TURN ARROWS SHALL BE OPERATED BY THE RY FILE OVERLAP LOAD SWITCH.





851 SW 6TH AVENUE, SUITE 600 PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

Cherriots















| RANSIT | SCALE: | DRAWING NAME: 18340-TS | DRAWING NO.: TS.07 | 5 |
|--------|--------|---------------------------|-----------------------|---|
| | | | | |

| | | | | | EQUI | IPMEN | T ON P | POLE | | | | | | | | | | ength in Feet and Equipment Type) | | | | | | | | FIX | FIXTURE | | |
|-------------|-------------|-----------|------------------------|------------------------|--------------------------|--------------|----------------|---------------------------|---------------------------|---------------|-----------------|-------------------|--------------------|---------------------------|---------------------|------------------|------------|-----------------------------------|-----|----------|----------|----------|---------------------------------|---------------|-------------|--------------------|---------|---------|---------|
| POLE NO. | DWG. NO. | TYPE | PED. SIGNAL DEG. | PUSH BUTTON DEG. | TERM. CABINET DEG. | SIGN DEG. | CAMERA DEG. | TRAFFIC SIGNAL DEG. | PHOTO ELECTRIC CELL | ARM LENGTH | D 1 | D 2 | D 3 | D 4 | D 5 | D 6 | D 7 | D 8 | D 9 | D 10 | D 11 | D 12 | REQUIRED FOUNDATION DEPTH | ARM LENGTH | ARM DEG. | MOUNTING HEIGHT | TYPE | TYPE | WATTAGE |
| A1 | TS3 | TSL-3 | - | - | 180 | - | - | - | - | 55 | <u>3.0</u> F | <u>3.0</u> V3L | <u>13.0</u> V3L | <u>23.0</u> V2 | <u>33.0</u> V2 | 43.0 V5 | 47.0 SA | 52.0 SNS | | | | | 13'-0" * | 20 | 0 | 35 | LED | M-C-III | 263 |
| A2 | TS3 | PP | 10 | 190 | - | - | - | - | - | - | | | | | | | | | | | | | ** | - | - | - | - | - | - |
| A3 | TS3 | PP | 290 | 290 | - | - | - | - | - | - | | | | | | | | | | | | | ** | - | - | - | - | - | - |
| A4 | TS3 | EX MPL | - | - | EX | EX | - | - | EX | 50(EX) | EX V3L | EX F | EX V3L | <u> </u> | EX V2 | EX SNS | | | | | | | - | 20(EX) | 0(EX) | EX | LED | M-C-III | 263 |
| A5 | TS3 | PP | 110 | 290 | - | - | - | - | - | - | | | | | | | <u> </u> | | | | | | ** | - | - | - | - | - | - |
| A6 | TS3 | PP | 190 | 190 | - | - | - | - | - | - | | | | | | | <u> </u> | | | | | <u> </u> | ** | - | - | - | - | - | - |
| A7 | TS3 | EX MPL | - | - | EX | | - | - | - | 45(EX) | EX F | EX V3BL | EX V2 | <u>– EX</u> V2 | EX V3R | EX SNS | EX V3R | | | | | | - | 20(EX) | 0(EX) | EX | LED | M-C-III | 263 |
| A8 | TS3 | PP | 10 | 10 | - | - | - | - | - | - | | | | | | | | | | | | | ** | - | - | - | | - | - |
| A9 | TS3 | EX MPL | - | - | EX | - | - | - | - | 50(EX) | EX V3L | EX F | EX V3L | | | | | | | | | | - | 20(EX) | 0(EX) | EX | LED | M-C-III | 263 |
| A10 | TS3 | EX MPL | · | - | EX | EX | - | - | - | 45(EX) | EX V2 | EX V2 | EX SNS | | | | | | | | | | - | 20(EX) | 0(EX) | EX | LED | M-C-III | 263 |
| A11 | TS3 | PP | 10 | 10 | - | - | - | - | - | - | | | | | | | | | | | | | ** | - | - | - | | - | - |
| B1 | TS4 | TSL-3 | - | - | 180 | - | - | - | - | 45 | V3BL | | <u>11.0</u> V2 | <u>_14.0</u> C | 21.0 V2 | 37.5 SNS | | | | | | | 13'-0" * | 20 | 0 | 35 | LED | M-C-III | 150 |
| B2 | TS4 | PP | 60 | 240 | | - | - | - | - | - | | | | | | | | | | | | <u> </u> | ** | - | - | - | - | - | - |
| B3 | TS4 | TSL-3 | | - | 180 | - | - | 70 | 180 | 45 | 0.5 V3BL | <u>1.5</u> F | C | <u>10.5</u> V2 | _14.5 SA | <u>18.5</u> C | | | | | | <u> </u> | 13'-0" * | 20 | 0 | 35 | LED | M-C-III | 150 |
| B4 | TS4 | PP | 55 | 235 | | | - | - | | - | | | | | | | | | | | | | ** | - | - | - | - | - | - |
| B5 | TS4 | PP | 145 | 325 | - | - | - | - | - | - | | | | | | | | | | | | | ** | - | ÷ | - | - | - | - |
| B6 | TS4 | TSL-2 | · · · . | - e - | 180 | - | 130 | 210 | - | 35 | 4.0 V3BL | <u>7.0</u> F | <u>_14.0</u> V2 | <u>_24.0</u> V2 | 30.0 SNS | | | | | | | | 10'-0" * | 20 | 0 | 35 | LED | M-C-III | 150 |
| B7 | TS4 | PP | 145 | 325 | - | - | - | - | - | - | | <u></u> | | | | | | | | | | | ** | - | - | - | - | - | - |
| B8 | TS4 | TSL-3 | - | - | 180 | - | - | - | - | 40 | 0.5 V3BL | <u>1.5</u> F | <u>6.0</u> C | <u> 12.5 </u> V2 | _ <u>24.5</u> V2 | | | | | <u> </u> | <u> </u> | | 13'-0" * | 20 | 0 | 35 | LED | M-C-III | 150 |

BRACKET MOUNT V2 = Traffic Signal Type 2, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462) V6L = Traffic Signal Type 6L, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462) SA = Sign, 30"x36 Aluminum w/ Adjustable Bracket Mount Tenon not Required (See Equipment Mounting Details Sheet) SNS = Street Name Sign On Mast Arm Mount (See Std Dwg. TM679) V3L = Traffic Signal Type 3L, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462) V3BL = Traffic Signal Type 3L (3 Section Bimodal), With Adjustable Bracket Mount (See Std. Dwg. TM462) V4 = Traffic Signal Type 4, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462) V5= Traffic Signal Type 5, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462)

MISC. ITEMS

F = Fire Preemption (See Std. Dwg. TM465)

C = Video Camera (See Equipment Mounting Detail Sheet)

| | | / | | | | |
|-----|------|------|-------|-----------|----------|------|
| | | | | | ACJ | |
| | | | | | DESIGNED | DATE |
| | | | | | BSC | |
| | | | | | DRAWN | DATE |
| | | | | | JBB | |
| | | | | | CHECKED | DATE |
| | | | | | HJS | |
| NO. | DATE | BY | APPD. | REVISIONS | APPROVED | DATE |
| | | СНК. | | | | |

C of Arm

NOTE:

POLE ENTRANCE CHART

* SEE CITY OF SALEM STANDARD PLAN NO. 578 AND 579 ** SEE ODOT STD. DWG. TM457



TS.08

18340-TS

42 OF 61







| PL 1 1 1 1 1 1 1 1 1 1 1 1 1 | PL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | MA C | 15,00 | | | SCALE 20 40 |
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| BLE. | ST CEN | | | 4 | | |
| CONNECT CONDUIT. | ACCESS | | | | | |
| PLICE VAULT. | SPC | INSTALL FIBER OF EACH FIBER IC.09 FOR SPL | R OPTIC CABLE IN S | SURE, CO PLICE VAU | IL A MINIMUM OF 50' FRO JLT. (SEE DETAIL SHEET | OM EACH DIRECTION IS IC.07, IC.08 AND |
| PLICE CLOSURE. | SV F0 | COVER LABELE TRUNK LINE C SPLICE VAULT | ED "TRAFFIC SIGNAL | " IN SIDE IRECTION E SPECIFI | | OF 50' OF FIBER OPTIC |
| BER OPTIC CABLE. | (HH) FO | COVER LABELI | 30" x 24" HD POLYM ED "TRAFFIC SIGNAL SHEET IC.03 AND S | " IN SIDE | RETE FIBER OPTIC HAND WALK PER STANDARD PL ROVISIONS. | AN 705. SEE FIBER |
| AND HOLE BOX. | S | | NCH ELECTRICAL CO | | | |
| CABINET, AND EQUIPMENT. | (AX) IC | ABANDON EXI | STING INTERCONNE | CT COND | UIT. | |
| | FON | INSTALL FIBE | R OPTIC CABLE WITH | H (N) STR | ANDS SINGLE MODE. | |
| | PL | INSTALL POLY | ' PULL LINE (500 LB | TENSILE | STRENGTH). | |
| E. | NG | INSTALL (N) N | NO. (G) TYPE THWN | WIRES. | | |
| ROVISIONS) | DMX N | INSTALL (X) F | BER DISTRIBUTION | I MODULE | MTP (N) STRAND CABLE | (S). |
| 1 | SA | | C | HERR | | |
| intr | | KEIZE | | | VARD INTERSE | CTION |
| IZER TRANSIT | SCALE: | | DRAWING NAME: | PLA | | SHEET NO .: |
| IZEN INANJII | SUALE: | | 18340-IC | | IC.01 | 45 OF 61 |



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| - | _ | | | | ACJ | DATE | ERED |
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| | | | | | JBB | 5.4 MP | 1500 |
| | | | | | CHECKED | DATE | CARD YOM |
| | | | | | HJS | | aR |
|), | DATE | BY CHK. | APPD. | REVISIONS | APPROVED | DATE | EXPIRES: |



851 SW 6TH AVENUE, SUITE 600 PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

Cherricts SALEM-KEIZER TRANSIT

INTERCONNECT PLAN

| ER TRANSIT | SCALE: | DRAWING NAME: 18340-IC | DRAWING NO.: IC.02 | SHEET NO .: 46 OF 61 |
|------------|--------|---------------------------|-----------------------|----------------------|
| | | | | |

SEE IC.02 STA 21+00 N 22+00 EX HH PL 1 FO RX RX EX 16 96 FO24 ID IC S RIGHT 00 ABOVE STA 27+ SEE CONSTRUCTION NOTES INSTALL NO. 16 TYPE THWN TRACER/ LOCATE WIRE PER ODOT SPECIFICATIONS. INSTALL EACH LOCATE WIRE CONTINUOUS FROM CONTROLLER CABINET TO CONTROLLER CABINET. ACJ DESIGNED DRAWN CHECKED HJS APPROVED NO. DATE BY APPD. REVISIONS DATE EXPIRES: 12/31/2019 CHK.





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Cherriots

BD Supplement - 174



SCALE:

MAINTAIN AND PROTECT EXISTING (S) INCH INTERCONNECT CONDUIT.

MAINTAIN AND PROTECT EXISTING FIBER OPTIC HAND HOLE BOX.

REMOVE EXISTING (N) STRAND FIBER OPTIC CABLE.

DRAWING NAME:

18340-IC

MAINTAIN AND PROTECT EXISTING FIBER OPTIC SPLICE VAULT.

INSTALL FIBER OPTIC CABLE WITH (N) STRANDS SINGLE MODE.



SALEM AREA MASS TRANSIT DISTRICT CHERRIOTS KEIZER STATION BOULEVARD INTERSECTION

INTERCONNECT PLAN

DRAWING NO .:

IC.03

SHEET NO .: 47 OF 61







| | - | \geq | | | ACJ | | |
|----|------|---------|-------|-----------|----------|------|------------------|
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| | | | | | BSC | | TT SEE |
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| | | | | | JBB | DATE | CEL ORE |
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SALEM-KEIZER TRANSIT

IC.04

18340-IC

48 OF 61



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| BSC - | DATE | 7796 |
| JBB | DATE | THE YONE I |
| HJS - | DATE | EXPIRES: 12 |
| | JBB CHECKED | DRAWN DATE JBB CHECKED DATE HJS |

INSTALL (X) FIBER DISTRIBUTION MODULE MTP (N) STRAND





DMX N

851 SW 6TH AVENUE, SUITE 600 PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

Cherrie SALEM-KEIZE

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| CONDUIT. | | - | SCAL 0 20 | E 40 |
| r. JRE. | | | | |
| IOX. | | | | |
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| E. CABLE(S). | | | | |
| inte | | R STATION | SS TRANS CHERRIOTS BOULEVARD INTE | IT DISTRICT ERSECTION |
| ER TRANSIT | | DRAWING NAME: 18340-IC | PLAN DRAWING NO.: IC.05 | SHEET NO.: 49 OF 61 |





| SPECIAL NOTE: ER MTP CABLE SHAL BUFFER TUBE BREA BLE END CONTAININ CONNECTORS | L HAVE A 2 AKOUT FOR | | | | | |
|---|--|---------------------------|------------------|-----------------------------|--------|----------------------|
| FIBER OPTIC TO CHEMAWA TRAFF | ISTING INTERCONNECT RD/STADIUM DR IC SIGNAL | ATER DRWY | | | | |
| | | | | | | |
| | <u>FI</u> | BER COLO FIBER | FIBER | | | |
| | 0 | NUMBER | COLO | 2 | | |
| | | 2 | BLUE | F | | |
| | | 3 | GREEN | | | |
| | | 4 | BROWN | 4 | | |
| E | | 5 6 | SLATE WHITE | | | |
| | | 7 | RED | | | |
| | | 8 | BLACK | | | |
| R 4U PANEL | | 9 | YELLO | | | |
| ON OF F.D.M. | | 10 11 | VIOLET ROSE | | | |
| | | 12 | AQUA | | | |
| | SALEM A | | CHER | TRANS RIOTS EVARD INT | | |
| TRANSIT | CHEMAV | VA/LOCKH | RCONNI AVEN A | ECT DETAIL | STATIC | |
| | SUMLE. | DRAWING NAME: 18340-IC | | DRAWING NO.: IC.07 | | SHEET NO .: 51 OF 61 |

LABEL EACH CABLE OR CABLE TRAY INDICATING INTERSECTION DESTINATION OF EACH FIBER

FIBER OPTIC INTERCONNECT

TO CHEMAWA-LOCKHAVEN/KEIZER STA BLVD TRAFFIC SIGNAL

GENERAL NOTES:

1. CONTRACTOR RESPONSIBLE FOR SUPPLYING FIBER DISTRIBUTION MODULE CABLES OF ADEQUATE LENGTH TO MEET INTERCONNECT PLAN SPECIFICATIONS INCLUDING CABLE STORAGE REQUIREMENTS.

2. CONTRACTOR RESPONSIBLE FOR SUPPLYING; (A) PATCH CABLES FOR FIBER TERMINATIONS BETWEEN FIBER DISTRIBUTION MODULE AND MODEMS. (B) CATEGORY-5 CABLES BETWEEN CISCO ETHERNET SWITCHES AND/OR ETHERNET MODEMS/MODULES.

SUPPLY FIBER OPTIC CABLE CONSISTING OF 24 SINGLE MODE FIBERS (24SMFO) WITH (2)-12 SINGLE MODE FIBERS (12SMFO) PIGTAILS. EACH 12SMFO LINE SHOWN REPRESENTS EACH PIGTAIL CONNECTION.

| | | | | | ACJ DESIGNED | DATE | STERED PROFESS |
|------------|------|---------|-------|-----------|-----------------|------|---------------------|
| Keizer | | | | | BSC | DATE | TT961 |
| - 4 | | | | | JBB CHECKED | DATE | THE 1, 201 B |
| H:/18/183 | DATE | ву снк. | APPD. | REVISIONS | APPROVED | DATE | EXPIRES: 12/31/2019 |



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| LABEL ON FLOOR OF 1U OR 4U PANEL | | 10 | VIOLET | | |
|-------------------------------------|--------|------------------------------|----------------------------------|-------------|----------|
| ONT OF APPLICABLE PORTION OF F.D.M. | | 11 | ROSE | | |
| | | | | | |
| 1 | SALE | MAREA MAS | S TRANSI | T DISTR | RICT |
| | | KEIZER STATION BO | DULEVARD INTER | RSECTION | |
| erriots | | INTERCO KEIZER STATION BL | NNECT DETAILS /D / TRANSIT CE | | |
| SALEM-KEIZER TRANSIT | SCALE: | DRAWING NAME: 18340-IC | DRAWING NO.: IC.08 | SHEET NO .: | 52 OF 61 |

FIBER COLOR CODE

FIBER

COLOR

BLUE

ORANGE

GREEN

BROWN

SLATE

WHITE

BLACK

YELLOW

RED

FIBER

NUMBER

FIBER OPTIC INTERCONNECT -TO KEIZER STA BLVD/STADIUM DR TRAFFIC SIGNAL



| LEGI | | |
|------------|---|--|
| LP | REMOVE EXISTING LUMINAIRE POLE, ARM AND LUMINAIRE. | |
| (EX) LP | MAINTAIN AND PROTECT EXISTING LUMINAIRE POLE. | |
| (RR) LP | REMOVE AND RELOCATE EXISTING LUMINAIRE POLE, ARM AND LUMINAIRE. | |
| RILP | REINSTALL EXISTING LUMINAIRE POLE, ARM, AND LUMINAIRE ON NEW FOUNDATION. | |
| (N) | LIGHT POLE NUMBER (N). | |
| JB 1A | INSTALL 13" x 24" PRECAST CONCRETE JUNCTION BOX FOR STREET LIGHTING PER CITY OF KEIZER STANDARDS. | |
| JB 2A | INSTALL 13" x 24" x 18" HD POLYMER CONCRETE JUNCTION BOX WITH HD COVER AND CONCRETE APRON PER STANDARD PLAN 705. LABEL COVER "TRAFFIC SIGNAL" OR "STREET LIGHTS" AS APPLICABLE. | |
| (EX JB | MAINTAIN AND PROTECT EXISTING JUNCTION BOX. | |
| (RX) JB | REMOVE EXISTING JUNCTION BOX. | |
| RR PE | REMOVE AND RELOCATE PHOTOELECTRIC CELL ON POLE. | |
| RI PE | REINSTALL PHOTOELECTRIC CELL ON POLE. | |
| S | INSTALL (S) INCH ELECTRICAL CONDUIT. | |
| (LO) | SPLICE NEW ELECTRICAL CONDUIT TO EXISTING ELECTRICAL CONDUIT | |
| (EX) | MAINTAIN AND PROTECT EXISTING ELECTRICAL CONDUIT. | |
| | ABANDON EXISTING ELECTRICAL CONDUIT. | |
| W | INSTALL CONDUIT AND WIRE AS REQUIRED BY POWER COMPANY. | |
| (EX) W | MAINTAIN AND PROTECT EXISTING WIRING. | |
| RX W | REMOVE EXISTING WIRING. | |
| RI | REINSTALL EXISTING ILLUMINATION SERVICE CABINET | |
| RR | REMOVE AND RELOCATE EXISTING ILLUMINATION SERVICE CABINET | |
| N G | INSTALL (N) NUMBER OF TYPE XHHN CONDUCTORS NO. (G) AWG SIZE PER CITY OF KEIZER STA | |

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| BRADLEY BE EXPIRES: 12/31/2019 |
| L/1 11/L0. 12/01/2010 |

JBB CHECKED

HJS APPROVED

DATE

GENERAL NOTES:

BRAND, OR APPROVED EQUAL:

- . ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO P.G.E. OPTION "B" SPECIFICATIONS. ALL MATERIALS AND INSTALLATION SHALL BE APPROVED BY CITY OF SALEM AND CITY OF KEIZER.
- ALL ELECTRICAL EQUIPMENT SHALL CONFORM TO THE CURRENT STANDARDS OF THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) AND THE UNDERWRITERS LABORATORIES, INC. (U.L.). WHEREVER APPLICABLE. IN ADDITION TO THE REQUIREMENTS OF THE PLANS, STANDARD SPECIFICATIONS, AND THE SPECIAL PROVISIONS, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) THE NATIONAL ELECTRICAL SAFETY CODE, STANDARDS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AND ANY LOCAL ORDINANCES WHICH MAY APPLY.
- LOCATION OF ILLUMINATION CONDUITS AND JUNCTION BOXES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH OTHER UTILITIES TO ENSURE PROPER INSTALLATION.
- . EXISTING STREET LIGHTS ARE METERED AND ARE CITY OWNED AND MAINTAINED. CONTRACTOR SHALL COORDINATE WORK WITH KERRI ARNZEN OF PGE AT (503)463-4383 REGARDING RELOCATION OF SERVICE CABINET FOR LIGHTING SYSTEM.
- ALL JUNCTION BOXES SHALL BE IN LANDSCAPE AREAS. ANCHOR POLE FOOTINGS SHALL BE PGE APPROVED FOOTING OF THE FOLLOWING

| POLE TYPE | MANUFACTURER | CATALOG NUMBER | | |
|--------------------|---------------|----------------|--|--|
| 14-FOOT DECORATIVE | UTILITY VAULT | 20R-LB-PGE | | |
| 35-FOOT COBRA HEAD | UTILITY VAULT | 5CL-LB-PGE | | |
| SOT COT CODIATIEND | OTIENT WADEN | SOL ED I GE | | |

. EQUIPMENT SUBMITTALS AND POLE DRAWINGS SHALL BE PROVIDED TO AGENCY BY THE CONTRACTOR AFTER AN INITIAL REVIEW HAS BEEN COMPLETED BY THE PROJECT ENGINEER. AGENCY APPROVAL OF THESESUBMITTALS MUST BE OBTAINED PRIOR TO CONSTRUCTION.

| ROADWAY SEGMENT OR INTERSECTION | ROADWAY OR INTERSECTION CLASSIFICATION | DESIGN LIGHTING RESULTS | | TARGET VALUES | LIGHT LOSS FACTOR |
|---|--|-------------------------|---|--|----------------------|
| Keizer Station Boulevard/ Chemawa Rd-Lockhaven Drive Intersection | Arterial/Arterial | Max: 4.4 Min: 0.8 | Light Level: 2.7 fc Uniformity 3.8:1 | Light Level: 2.8 fc Uniformity \leq 4:1 | 0.7 * |
| Keizer Station Boulevard - Chemawa Road to Transit Center Segment | Arterial | Max: 3.7 Min: 0.4 | Light Level: 1.5 fc Uniformity 2.5:1 | Light Level: 1.4 fc Uniformity \leq 4:1 | 0.7 |
| Keizer Station Boulevard/ Transit Center Intersection | Arterial/Local | Max: 3.4 Min: 0.6 | Light Level: 2.3 fc Uniformity 2.1:1 | Light Level: 2.0 fc Uniformity \leq 4:1 | 0.7 * |
| Keizer Station Boulevard - Transit Center to Railroad Crossing Segment | Arterial | Max: 3.6 Min: 0.4 | Light Level: 1.6 fc Uniformity 4.0:1 | Light Level: 1.4 fc Uniformity ≤ 4:1 | 0.7 |

* Light loss factor of 0.9 was used for LED luminaires on signal poles at intersections.





LIGHT LEVEL SUMMARY TABLE


















851 SW 6TH AVENUE, SUITE 600 PORTLAND, OR 97204 P 503.228.5230 F 503.273.8169

Cherriots SALEM-KEIZER TRANSIT



 $\langle 5 \rangle$









2 Required See City of Keizer Detail ST-15



| N | SIGN | | | BORDER | | | ARROW | | SUB- | - | c | OLOR 1/ | | s | SIGN | | | | TYPE | OF SUF | PPORT | r T | | | SIZE | LENGTH | FOOTI | NG MIN. | - R | EFER TO | DRAWI | IG NUM | BER | REMARKS |
|----------------|--|--|--------------------------|------------------|--------------|-----------------|--|---|---------------------------|-----------------------------|--------------|-----------------------------|-----------------------------|----------------|----------------------|--|---|---|---------------------------|-----------------------|--------------------|---|-------------------------|----------------------|--------------------------------|-----------------------------|-------------|------------|----------------------|-------------------------|-------------------------------|----------------------|----------------------------|--|
| | OCATION 4/ | SIGN | DIMENSIONS | WIDTH | RA | DIUS | SIZE | SIGN TYP | STRATI | BAC | KGROUND | | EGEND | | 10. <u>2</u> / | ORT | (y (ssc) | | | ORT | m | KET CRT | | NDARY SIGN UPPORT | | | LOCATION 3/ | DEPTH | - | | | | | |
| | | WIDTH | HEIGHT | 1/2" 1" 2" | 1 1/2" 3" | 6" 9" 12" | | (PER SEC. 940 SPEC. PROVISIONS) | PLYWOOD SHEET ALUM. | ASTM TYPE III OR TYPE IV | ASTM TYPE IX | ASTM TYPE III OR TYPE IV | ASTM TYPE VII OR TYPE IV | NON-REFLECTIVE | | SQUARE TUBE SIGN SUPP TRIANGULAR BASE BREAK | POST BREAKAW | BRIDGE RAIL MOUNT STRIDGE RAIL MOUNT | CANTILEVER SIGN BRIDGE | EXIT NUMBER SIGN SUPP | ROUTE MARKER FRAMI | MILEPOST MARKER POS ADJUSTABLE SIGN BRACH CROSSWALK CLOSED SUPF | C 4 X 5.4 C 4 X 7.25 | LENGTH | (BASED ON ESTIMATED LENGTH) | (MUST BE FIELD VERIFIED) | | | TM600 & 601 TM602 | TM635 TM670 TM675 | TM676 & 208 TM677 TM678 | TM680 TM681 - 685 | TM200 & 201 TM220 & 225 | TM221 & 222 |
| + | 12+03 RT | 36" | 36" | | | | | W9-1R | | | | | | | 1 | x | | ++ | | | | | | | 4"x6" | 11'-6" | | | | X | | | x | Existing Sign moved to new post |
| t | 13+69 LT | 36" | 30" | | | | | R4-4 | | - | | | | - | 6 | x | | | | | | | | | 4"x6" | 9'-9" | | | | X | | | x | Existing Sign moved to new post. |
| | 17+45 LT | 36" | 36" | | | | | W3-3 | | - | | | | - | 8 | х | | | | | | | | | 4"x6" | 11'-6" | | | | X | | | | Existing Sign moved to new post |
| \pm | 17+33 RT | 36" | 48" | | | | | | | 1 | | | | | 9 | x | | | | | | | | | 4"x6" | 10'-3" | | | | X | | | x | Existing Sign moved to new post |
| + | 11+87 LT | 30" | 30" | | | | | R3-7 | | _ | | | | | 10 | x | | | | | | | | | 4"x4" | 9'-9" | | | | X | | | x | Existing Sign moved to new post |
| - | 12+86 LT | 64" | 30" | | | | | R3-8LLTR | X | W | | ВК | | _ | 12 | X | | | | | | | | | 4"x6" | 9'-9" | | | | X | | | x | Existing sign moved to new post |
| | 14+63 RT 15+34 RT 15+47 RT 15+52 RT | 24" 24" 24" 24" | 18" 18" 18" 18" | | | | | OR22-7 OR22-7 OR22-7 OR22-7 | X X X X | W W W | | BK BK BK BK | | | 13 13 13 13 | | | | | | | X X X X | | | | | | | | | | | | See TM490 |
| | 14+10 RT | 36" | 36" | | | | | W4-2R | X | Y | | BK | | | 14 | x | | | | | | | | | 4"x6" | 11'-6" | | | | X | | | x | |
| | 14+47 LT | 36" 24" 36" | 43" 24" 17" | X X | X X | | 12 | G1 F1 Y5 | X X X X | | G Y | W BK | | | 15 15 15 | | | | | X | (| | | | | | | | | | | X | | Mount on Signal Mast Arm Interstate 5 Shield |
| | 14+93 LT 15+08 LT | 16' 16' | 5' | | | | | | | W W | | R | | | 16 | | | | | | | | | | 4"x4" 4"x4" | 8'-0' 8'-0' | | | | | | | | Barricade Per City of Keizer Detail ST-18 Barricade Per City of Keizer Detail ST-18 |
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KEIZER TRANSIT CENTER SIGNALIZED INTERSECTION

SPECIAL PROVISIONS

(A Sub-Section of Exhibit A – Scope And Specifications)

CONTRACT 18-026

(Note: These Special Provisions are to be used in conjunction with the 2018 Oregon Standard Specifications for Construction)



Prepared by:





🔵 Cardno

wsp

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SECTION 00140 - SCOPE OF WORK

00140.50 Environmental Pollution Changes – Add the following to end of this section:

LIST OF AGENCIES

In compliance with ORS 279C.525, the following is a list of federal, state, and local agencies that have enacted statutes, ordinances, or regulations relating to environmental pollution and the preservation of natural resources that may affect the Contract:

- City Councils
- County Courts
- County Commissioner, Board of
- Design Commissions
- Historical Preservation Commission
- Planning Commissions

Federal Agencies

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

State Agencies

- Administrative Services, Department of
- Agriculture, Department of Soil and Water Conservation Commission
- Columbia River Gorge Commission

- 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
- Improvement Contracts July 1998
- Insurance and Finance, Department of
- Land Conservation and Development Commission
- Parks and Recreation, Department of
- State Lands, Division of
- State of Oregon Standard Terms and Conditions for Public
- Water Resources Department of

SECTION 00150 – CONTROL OF WORK

00150.15 Construction Stakes, Lines, and Grades

Replace the text for subsection (b) and (c) with the following:

00150.15(b) Agency Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will perform the Agency responsibilities described in the Construction Surveying Manual for Contractors, Chapter 1.5 (see Section 00305).

00150.15(c) Contractor Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall perform the Contractor responsibilities described in the Construction Surveying Manual for Contractors, Chapter 1.6 (see Section 00305).

The Contractor shall perform slope staking including intersections and set stakes defining limits for clearing which approximate right-of-way and easements.

00150.35 Plans, 3D Engineered Models, Working Drawings, and 3D Construction Models

Replace this section with the following:

(a) **Plans** - The Agency-prepared Plans will show details of lines, grades, Cross Sections, and Typical Section of the Roadway, and locations and design details of Structures.

(b) Working Drawings - The Contractor shall supplement the Agency-prepared Plans with stamped Working Drawings, or unstamped Working Drawings that show all information necessary to complete the Work. The applicable Section or Subsection of the Standard Specifications will indicate the supplemental information required and whether the drawings are to be stamped or unstamped. Stamped Working Drawings, and unstamped Working Drawings are defined as follows:

(1) **Stamped Working Drawings** - Working Drawings, calculations, and other data which are prepared by or under the direction of a Professional Engineer licensed in the State of Oregon, and which bear the engineer's signature, seal, and expiration date.

(2) **Unstamped Working Drawings** - Working Drawings, calculations, and other data that do not bear an engineering seal.

(c) Number, Size, and Format of Working Drawings - The Contractor shall submit Working Drawings according to one of the following methods:

(1) Paper Submittal - The Contractor shall submit to the Engineer seven (7) copies of Working Drawings for steel Structures and six (6) copies of Working Drawings for other Structures. The submitted copies shall be clear and readable. Drawing dimensions shall be 8 1/2 by 11 inches, 11 by 17 inches, or 22 by 36 inches in size. One (1) copy of the submitted Working Drawings will be returned to the Contractor after processing. The Contractor shall submit such additional number of copies to the Engineer for processing that the Contractor would like to have returned.

(2) Electronic Submittal - The Contractor shall submit electronic Working Drawings according to the "Guide to Electronic Shop Drawing Submittal", which is available from the Engineer.

(d) Processing Working Drawings - The Engineer will process Working Drawings as follows:

(1) Stamped Working Drawings - Stamped Working Drawings will be designated as "accepted", "accepted with comments", or "returned for correction" by the Engineer. If stamped Working Drawings are returned for correction by the Engineer, the Contractor shall address all comments and resubmit the stamped Working Drawings.

(2) Unstamped Working Drawings - Unstamped Working Drawings will be designated as "approved", "approved as noted", or "returned for correction" by the Engineer. If unstamped Working Drawings are returned for correction by the Engineer, the Contractor shall address all comments and resubmit the unstamped Working Drawings.

The Contractor shall not fabricate or construct any structural components until the stamped or unstamped Working Drawings are returned by the Engineer with a written designation of "accepted", "accepted with comments", "approved", or "approved as noted", as applicable for the Working Drawings.

The Engineer's processing of the Working Drawings does not amend any contractual obligations of the parties.

The Engineer will process and return Working Drawings within 21 Calendar Days (65 Calendar Days if Railroad approval is required) after receipt by the Engineer. If the Engineer fails to return such drawings within this period of time, the Engineer will consider granting a Contract Time extension according to 00180.80. If the Contractor is required to resubmit Working Drawings to the Engineer, the Engineer will process and return the Working Drawings within 21 Calendar Days (65 Calendar Days if Railroad approval is required) after receipt of the resubmitted Working Drawings by the Engineer.

00150.38 Submittals - New section to be added

Unless otherwise indicated in any other section of this document the following shall apply: (a) **Requirements** - The types of submittals specified in this Section include shop drawings, product data, samples, and other miscellaneous Work-related submittals. Submittal requirements are specified in applicable Specification Sections for each unit of Work. Refer to the General Conditions and other Section 001** sections for requirements of administrative submittals, such as pay requests.

(b) Definitions: Work-related submittals of this Section are categorized for convenience as follows:

(1) Shop drawings include specially prepared technical data for this Project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements, and similar information not in standard pre-printed form for general application.

(2) **Product data** includes standard, pre-printed information on materials, products, and systems not specially prepared for this Project.

(3) **Samples** include both fabricated and unfabricated physical examples of materials, products, and units of Work either for limited visual inspection or (where indicated) for more detailed testing and analysis.

(4) **Mock-ups** are a special form of sample that are too large or otherwise inconvenient to handle in the manner specified for sample submittals.

(5) Miscellaneous submittals related directly to the Work (non-administrative) include warranties, maintenance agreements, workmanship bonds, Project photographs, survey data and reports, physical work records, temporary traffic control plans, quality testing and certifying reports, copies of industry standards, as-built drawings, field measurement data, overrun stock, and similar information, devices, and/or materials applicable to the Work but not processed as shop drawings, product data, samples, or mock-ups.

(c) General Submittal Requirements

(1) Coordination and Sequencing: Coordinate preparation and processing of submittals with the Work so that Work will not be delayed by submittals. Coordinate and sequence different categories of submittals for the same Work and for interfacing units of the Work so that one will not be delayed by coordination with another.

(2) **Preparation of Submittals**: Provide permanent marking on each submittal to identify Project, date, Contractor, subcontractor, submittal name, and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking. Package each submittal appropriately for transmittal and handling. Submittals received from sources other than through the Contractor's office will be returned.

(3) All submittals shall be accompanied by Contractor 's letter of transmittal.

(4) **Provide Contractor's certification** on transmittal forms stating that information submitted complies with the requirements of Contract Documents.

(d) Specific-Category Submittal Requirements

(1) General: Except as may otherwise be indicated in individual Specification Sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate and final submittals similar to initial submittals where indicated.

(2) Shop Drawings: Provide Project-specific information on standard-sized sheets with graphic information at an accurate scale with name of preparer indicated (firm name). Show dimensions and note dimensions that are based on field measurements. Identify materials and products. Indicate compliance with standards and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Engineer to be used in connection with the Work.

a. Initial Submittal: Six (6) blue-line or black-line prints and one (1) reproducible print; three (3) will be returned.

b. The initial submittal is the final submittal unless returned by the Engineer marked with an "Action" that indicates an observed noncompliance. Resubmit corrected submittal in same quantities as initial submittal.

(3) Product Data: Collect required data into one (1) submittal for each unit of Work or system and mark or highlight each copy to show which choices and options are applicable to Project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements, and special coordination requirements. Maintain one (1) set of product data (for each submittal) at Project Site, available for reference by Engineer and others.

a. Initial Submittal: Six (6) copies; three (3) will be returned.

b. The initial submittal is the final submittal unless returned by the Engineer marked with an "Action" that indicates an observed noncompliance.

c. Installer's Copy: Do not proceed with installation of materials, products, or systems until a final copy of applicable product data is in possession of installer.

(4) Samples: Provide units identical to proposed materials or products for the Work. Include "range" samples (not less than three (3) units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of available samples where Engineer's selection is required. Prepare samples to match Engineer's sample where so indicated. Include information with each sample to show generic description, source or product name, manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture, and "kind" by Engineer. Engineer will not "test" samples (unless otherwise indicated) for compliance with requirements, which are the exclusive responsibility of the Contractor.

a. Submittal: At Contractor's option, provide preliminary submittal of a single set of samples for Engineer's review and "Action." Otherwise, the initial submittal is the final submittal unless returned with an "Action" marking that requires a resubmittal. Submit three (3) sets of samples; two (2) sets will be returned.

b. Reusable Samples: Returned samples that are intended or permitted to be incorporated into the Work are so indicated in the individual Work Sections and must be in undamaged condition at time of use.

(5) Certifications: Refer to each Specification Section for specific general requirements regarding certifications. In addition to copies desired for Contractor's use, furnish three (3) executed copies.

(6) Inspection and Test Reports: Classify each as either a "shop drawing" or "product data," depending on whether the report is uniquely prepared for Project or a standard publication of workmanship control testing at point of production, and process accordingly.

(7) **Standards**: Where indicated, and except where specified integrally with a "Product Data" submittal, submit a single (1) copy for the Engineer's use. Where workmanship at Project Site or elsewhere is governed by the standard, furnish additional copies to fabricators, installers, and others involved in performance of the Work.

(8) Warranties: Refer to each Specification Section for specific general requirements regarding warranties and/or maintenance agreements. In addition to copies desired for Contractor's use, furnish three (3) executed copies.

(9) Close-out Submittals: Follow General Conditions for submittal of close-out information.

(10) As-Built Drawings: Furnish one (1) set.

(11) Materials and Tools: Refer to individual Work Sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar items.

(12) Temporary Traffic Control Plan: Furnish four (4) copies.

(13) Construction Schedule: Furnish four (4) copies for review prior to the preconstruction conference.

(e) General Distribution

Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities, and others as necessary for proper performance of the Work. Include such additional copies in transmittal to Engineer where required to receive "Action" marking before final distribution. Show such distributions on transmittal forms.

(f) Owner's Operation and Maintenance Manuals

Compile and prepare the Owner's final Operation and Maintenance Manual from approved submittals. Cooperate and provide additional information as may be required by the ENGINEER for inclusion in the Owner's final Operation and Maintenance Manual.

(g) Engineer's Review of Submittals

ENGINEER'S REVIEW OF SUBMITTALS IS FOR CONFORMANCE OF THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH INFORMATION PRESENTED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL DIMENSIONS AND HANDING; INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES; METHODS, SEQUENCES, AND TECHNIQUES OF CONSTRUCTION; VERIFICATION OF ELECTRICAL POWER CHARACTERISTICS AND FUEL REQUIREMENTS; AND THE COORDINATION OF THE WORK OF ALL TRADES.

Approval of a submittal by the Engineer does not relieve the Contractor from its ultimate responsibility to construct the Project in accordance with the specified requirements found in the Contract Documents.

(h) Engineer's Action on Submittals

Where action and return is required, the Engineer will review each submittal, mark with "Action," and, where possible, return within two (2) weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised immediately.

(1) Final Unrestricted Release: Materials may be ordered and Work may proceed, in accordance with the Contract Documents, when the submittal is returned with the following:

Marking: "Approved."

(2) Final-But-Restricted Release: Materials may be ordered and Work may proceed provided they comply with notations and corrections on the submittal and with the Contract Documents when submittal is returned with the following: Marking: "Approved as Noted."

(3) Returned for Resubmittal: Do not order materials or proceed with Work. Revise submittal in accordance with notations thereon and resubmit immediately to obtain a different action marking. Do not allow submittals with the following marking (or unmarked submittals where a marking is required) to be used in connection with performance of the Work:

Marking: "Revise and Resubmit."

(4) Other Action: Where a submittal is returned for other reasons, with Engineer's explanation included, it will be marked as follows: Marking: "No Action Required."

Payment for Work under this Section will be based on the Unit Price amount for Submittals as stated in the Schedule of Contract Prices and no separate payment will be made.

00150.45 Work Restrictions - New section to be added

- (a) Normal working hours shall be restricted to daytime hours (7:00 am to 10:00 pm) Monday through Friday.
- (b) Special arrangements shall be made with inspectors for Work allowed requiring inspection after these hours and weekend Work.
- (c) Saturday Work: By special request only 48-hour notice required.
- (d) Sunday Work: Not allowed.

00150.50(c) Contractor Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall:

- Follow applicable rules adopted by the Oregon Utility Notification Center;
- Contact Utility owners during Bid preparation and after the Contract is awarded to verify all Utilities' involvement on the Project Site;
- Hold a Utility scheduling meeting and monthly Utility coordination meetings (see also 00180.42)
- Coordinate Project construction with the Utilities' planned adjustments, take all precautions necessary to prevent disruption of Utility service, and perform its Work in the manner that results in the least inconvenience to the Utility owners;
- Include all Utility adjustment work, whether to be performed by the Contractor or the Utilities, on the Contractor's Project Work schedule submitted under 00180.41;
- Protect from damage or disturbance any Utility that remains within the area in which Work is being performed. Maintain and re-establish location marks according to OAR 952-001-0090(2)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Not disturb an existing Utility if it requires an unanticipated adjustment, but shall protect the Utility from damage or disturbance and promptly notify the Engineer;
- Determine the exact location before excavating within the reasonable accuracy zone according to OAR 952-001-0090(2)(c);
- Backfill any exposed Utilities as recommended and approved by the Utility representative. Obtain Utility locate warning tape from the Utility and replace damaged or removed warning tape. Utility locate warning tape may not be present at all existing Utilities;
- Stake, place warning tape, and maintain no work limits around critical Utility facilities as shown or directed by the Engineer and the Utility;
- In addition to the notification required in OAR 952-001-0090(5), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown Utility issues; and
- Report to the Engineer any Utility owner who fails to cooperate or fails to follow the planned Utility adjustment.

Subject to the Engineer's approval, the Contractor may adjust the Utilities by asking the Utility owners to move, remove, or alter their facilities in ways other than as shown on the Plans or in the Special Provisions. The Contractor shall conduct all negotiations, make all arrangements, and assume all costs that arise from such changes.

Add the following subsection:

00150.50(g) Utility Information (Anticipated Relocations):

The following organizations may be adjusting Utilities within the limits of the Project during the period of the Contract. The Contractor shall coordinate the work with each of the organizations to accomplish the Utility adjustment work as early as practically feasible during the Project.

| Subsection | Utility | Contact Person's Name, Address, Email, and Phone Number |
|----------------|---------------------|--|
| 00150.50(g)(1) | Gas – NW Natural | Chris Flu, ctf@cnwnatural.com, 971-271-3721 |
| 00150.50(g)(2) | Power – Portland | Kerri Arnzen, kerri.arnzen@pgn.com, |
| | General Electric | 503-463-4383 |
| 00150.50(g)(3) | Telecommunication – | David Hammill, David hammill@cable.comcast.com, |
| | Comcast Cable | 503-991-6520 |
| 00150.50(g)(4) | Telecommunication – | Josh Fallin, josh.fallin@centurylink.com, |
| | CenturyLink | 503-399-4931 |

The Contractor shall contact the Engineer to view the approved Utility Relocation Plans.

The Contractor shall notify, in writing, the Utilities listed above, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project.

(1) NW Natural - "Gas Utility":

The Contractor shall notify the Gas Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the gas pipeline.

Natural gas lines owned by the Gas Utility may require adjustment to maintain cover depth over the lines, or due to possible conflict with the proposed storm drain facilities to be constructed by the Contractor.

In the event of an emergency, and in addition to the calls required by the Utilities notification system, the Contractor shall call:

• Northwest Natural Gas 1-800-882-3377

(2) Portland General Electric - "Power Supplier":

The Contractor shall notify the Power Supplier(s) in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the power line(s).

The Contractor shall coordinate with the Power Supplier on their requirements and schedule for the activities, including, but not limited to the following:

- The Contractor is responsible for preparing grades and staking final grade elevations in preparation for the Power Supplier adjusting the existing electrical vault lid and installing the new electrical vault and associated conduits and cabling.
- The Contractor is responsible for preparing grades and installing a gravel base for the new micropad transformer to be installed by Portland General Electric. The Contractor is responsible for the installation of conduits connecting the micropad

transformer to the new electrical vault as well as conduits connecting the relocated street lighting service cabinet and new traffic signal service cabinet.

• The Contractor shall schedule and coordinate activities with the Power Supplier such that the existing City of Keizer street lighting service cabinet to be relocated by the Contractor as part of the Project remains in service until the new service cabinet location is ready to be connected.

(3) Comcast Cable - "Telecommunication Utility":

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Telecommunication Utility facilities.

A cable pedestal and associated underground conduit system owned by the Telecommunication Utility must be relocated by the Utility as part of the Project.

(4) CenturyLink - "Telecommunication Utility":

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Telecommunication Utility facilities.

An existing vault lid owned by the Telecommunication Utility must be adjusted to final finish grade by the Utility as part of the Project. Underground conduit depths may need to be adjusted by the Utility to accommodate adjustments to finish grade and cover requirements.

SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES

Add the following subsection:

00170.01(e) Railways – Work on railroad property is not anticipated for this Project. Should the Contractor require access to railroad right of way during construction, such access must be approved by Portland & Western Railroad. The Contractor shall obtain all necessary permits and licenses and pay all fees (see 00170.02). The Contractor shall obtain a fully executed copy of the agreement and requirements between the Contractor and the railway and provide a copy of it to the Engineer before beginning work on or within the railway property or right-of-way.

The Railway contact person for this Project is:

Dennis Hannahs Portland & Western Railroad, Permits and Flagging Salem, OR 97301 503-508-7440 dhannahs@gwrr.com

SECTION 00180 – PROSECUTION AND PROGRESS

00180.41 Project Work Schedules - After the paragraph that begins "One of the following Type..." add the following paragraph:

In addition to the "look ahead" Project Work schedule, a Type B schedule as detailed in the Standard Specifications is required on this Contract.

00180.42 Preconstruction Conference - Add the following paragraph to the end of this subsection:

The Contractor shall conduct a group Utilities scheduling meeting with representatives from the Utility companies involved with this Project and the Engineer before the preconstruction conference. The Contractor shall incorporate the Utilities time needs into the Contractor's schedule submitted at the preconstruction conference.

Add the following subsection:

00180.50(h) Contract Time – There is one Contract Time on this Project as follows:

The Contractor shall complete all Work to be done under the Contract, except for plant establishment, no later than August 16, 2019.

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications modified as follows:

00210.40 Mobilization Replace the second bullet of the bullet list with the following:

• Establishing offices, buildings, and other facilities necessary for Work on the Project, including fencing to secure the construction staging area.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

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

Add the following subsection:

00220.01(d) Terminology - According to 00110.05(a), for the purposes of this Contract, the terms "sidewalk ramp" and "sidewalk ramps" shall respectively refer to and shall be read to mean "curb ramp" and "curb ramps".

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 00225.02. 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.
- When paving operations create an abrupt edge, protect traffic by installing a "DO NOT PASS" (R4-1) sign before the work area at sign spacing "A" from the TCD Spacing Table" shown on the standard drawings. Alternate "ABRUPT EDGE" (CW21-7) signs with appropriate (CW21-8) rider and "DO NOT PASS" (R4-1) signs at 1/2 mile spacings. Install a "BUMP" (W8-1) sign 100 feet prior to the transverse paving edge.
- 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)(1) Closed Lanes - Replace this subsection, except for the subsection number and title, with the following:

One or more Traffic Lanes may be closed as listed below and shown on the plans when allowed, shown, or directed during the following periods of time except as indicated in 00220.40(e)(2):

- Lockhaven Drive: Eastbound left-turn and Keizer Station Boulevard northbound receiving lane
 - For the duration of Stages, 2, 3, and 4
- Keizer Station Boulevard: Southbound right-turn
 - For the duration of Stage 4

SECTION 00225 - WORK ZONE TRAFFIC CONTROL

Comply with Section 00225 of the Standard Specifications modified as follows:

Add the following subsection:

00225.01(d) Terminology - According to 00110.05(a), for the purposes of this Contract, the terms "sidewalk ramp" and "sidewalk ramps" shall respectively refer to and shall be read to mean "curb ramp" and "curb ramps".

00225.02(a) Temporary Signs - Add the following to the end of this subsection:

Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36-by-24-inch "FINES DOUBLE" (R2-6aP) rider on Keizer Station Boulevard, Chemawa Road and Lockhaven Drive, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.

Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of (A \div 2) according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

For each leg of the intersection affected by the new traffic signal at Keizer Station Boulevard & Keizer Transit Center, install the following warning signs:

- A "Signal Ahead" (W3-3) symbol sign approximately 350 feet in advance of the intersection, shown on the Standard Drawings or as modified by the Plans.
- A "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 350 feet in advance of the "Signal Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "Signal Ahead" sign.

Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 350 feet in advance of the Keizer Station Boulevard & Chemawa Road-Lockhaven Drive intersection, facing southbound incoming traffic.

Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after opening the dual southbound left-turn lanes at the signal.

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.

Add the following subsection:

00225.19 Pole Base Excavation Covers - Use pole base excavation covers meeting the following requirements:

- Utility grade plywood
- 3/4-inch minimum thickness
- New or in like new condition

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

00280.00 Scope - Add the following paragraph to the end of this subsection:

The Agency's NPDES 1200-CA Permit is not applicable to the Project. Before beginning Work on the Project, obtain an NPDES 1200-CA Permit from the applicable local jurisdiction or an NPDES 1200-C Permit that is applicable to the Project.

00280.14(f) Compost Erosion Blanket - Replace the paragraph that begins "Furnish commercially manufactured..." with the following paragraph:

Furnish commercially manufactured medium compost material meeting the requirements of Section 03020. Add tackifier meeting the requirements of 01030.16.

Add the following subsection:

00280.14(g) Straw Bales - Furnish rectangular straw bales weighing between 80 and 100 pounds, meeting the requirements of 01030.15(b).

00280.16(i) Concrete Washout - Delete the bullet that begins "**Geotextile** - Type 2 drainage...".

00280.44(f) Compost Erosion Blanket - Replace this subsection, except for the subsection number and title, with the following:

Blend tackifier with compost according to the manufacturer's recommendations. Apply compost and tackifier with equipment that propels the material directly at the soil surface and achieves direct contact with the soil. Apply compost at a uniform depth of 2 inches to all exposed soil surfaces.

Add the following subsection:

00280.44(g) Straw Bales - Unless otherwise approved, use straw bales only by breaking apart and spread as mulch to a thickness of 2 inches. Tack in place according to 01030.48(b)(3).

The use of straw bales in any other application requires approval from the Engineer.

SECTION 00305 - CONSTRUCTION SURVEY WORK

Section 00305, which is not a Standard Specification, is included for this Project by Special Provision.

Description

00305.00 Scope - Provide construction survey work according to the current edition on the date of Advertisement, of the ODOT "Construction Surveying Manual for Contractors". This manual is available on the web at:

http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx

Measurement

00305.80 Measurement - No measurement of quantities will be made for construction survey work.

Payment

00305.90 Payment - The accepted quantities of construction survey work will be paid for at the Contract lump sum amount for the item "Construction Survey Work".

Payment will be payment in full for furnishing all material, equipment, labor, and incidentals necessary to complete the work as specified.

No separate or additional payment will be made for any temporary protection and direction of traffic measures including flaggers and signing necessary for the performance of the construction survey work.

No separate or additional payment will be made for preparing surveying documents including but not limited to office time, preparing and checking survey notes, and all other related preparation work.

Costs incurred caused by survey errors will be at no additional cost to the Agency. Repair any damage to the Work caused by Contractor's survey errors at no additional cost to the Agency. The Engineer may make an equitable adjustment, which may decrease the Contract Amount, if the required survey work is not performed.

SECTION 00310 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

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

00310.41 Removal Work – Add the following subsection

(f) Concrete Barrier – Remove and salvage concrete barrier in the areas indicated on the Plans, taking care not to damage the items. Store and protect items until they are ready to be reinstalled. Barriers damaged during removal, storage or replacement shall be replaced with new concrete barrier by the contractor at no expense to the Agency.

00310.91 Lump Sum Basis – Replace item (b) in the pay item list with the following:

(b) Removal of Barriers..... Lump Sum

Replace the paragraph beginning with "In item (b)..." with the following:

Item (b) includes removal and storage of precast concrete barriers and removal of pedestrian railing. Payment for reinstallation of concrete barrier will be made under Section 00820.

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:

00330.70 General – Add the following to the third bullet in the bullet list:

Do not deposit excess material on an unimproved dedicated street area without permission from the Engineer. Do not deposit excess material on any private property without approval from the City of Keizer or the property owner(s).

SECTION 00350 – GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

SECTION 00405 – TRENCH EXCAVATION, BEDDING, AND BACKFILL

Comply with Section 00405 of the Standard Specifications modified as follows:

00405.12 Bedding - Replace the bullet that begins "3/8" - 0 PCC Fine Aggregate..." with the following bullet:

• 3/8" - 0 PCC fine Aggregate conforming to 02690.30(g).

SECTION 00415 – VIDEO PIPE INSPECTION

Comply with Section 00415 of the Standard Specifications.

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications modified as follows:

Add the following subsection:

00440.01 Terminology - According to 00110.05(a), for the purposes of this Contract, the terms "sidewalk ramp" and "sidewalk ramps" shall respectively refer to and shall be read to mean "curb ramp" and "curb ramps".

SECTION 00442 – CONTROLLED LOW STRENGTH MATERIALS

Comply with Section 00442 of the Standard Specifications.

SECTION 00445 - SANITARY, STORM, CULVERT, SIPHON, AND IRRIGATION PIPE

Comply with Section 00445 of the Standard Specifications.

SECTION 00470 – MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications.

SECTION 00490 – WORK ON EXISTING SEWERS AND STRUCTURES

Comply with Section 00490 of the Standard Specifications modified as follows:

00490.10 Materials - Replace the "Precast Concrete Sections" line with the following line:

SECTION 00510 – STRUCTURE EXCAVATION AND BACKFILL

Comply with Section 00510 of the Standard Specifications modified as follows:

00510.80(b) Structure Excavation – Insert the following before the first sentence:

No measurement of quantities will be made for structure excavation for Wall W1.

00510.80(d) Granular Wall/Structure Backfill - Replace this subsection, except for the subsection number and title, with the following:

No measurement of quantities will be made for granular wall backfill or granular structure backfill. The estimated quantity of granular wall backfill or granular structure backfill is:

| Location | Granular Wall/Structure Backfill |
|----------|----------------------------------|
| | (Cubic Yard) |
| | |

120

Wall W1

00510.90(d) Granular Wall/Structure Backfill – Add the following to the end of this subsection:

Granular wall backfill for Wall W1 is considered incidental to the retaining wall Work. No payment for the item "Granular Wall Backfill" will be made for this Work.

SHORING DESIGN CHECKLIST

Instructions - This shoring design checklist was developed to facilitate the design, review, and erection of shoring to be used for ODOT construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed by the shoring design engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit this Shoring Design Checklist for each stage and phase of the project, along with the shoring design summary, Working Drawings and calculations according to 00510.04.

YES NO N/A

A. General

1. Are the shoring Working Drawings and supporting calculations prepared, stamped, and signed by an engineer registered to practice in the state of Oregon?

2. Are the temporary shoring installation plans, construction sequence, and removal plan compatible with the project construction staging/phasing?

B. Design Standards

- 1. Does the shoring design comply with standards identified in ODOT GDM 15.3.26.3 and related sections?
- 2. 4. Is the design standard and edition identified in the shoring design calculations?

C. Loading

- 1. Have the design loads, including special loading conditions i.e. cranes, stockpiles, etc., used for shoring design of all members been noted in the design calculations?
- 2. Have the appropriate load and resistance factors or factors of safety on the shoring system been identified, for all applicable load combinations or load cases?
- 3. If public traffic is near or directly above the shoring system, has a minimum traffic live load surcharge of 250 psf been applied?
- 4. Have the loads from actual construction equipment and not less than 250 psf been included in the shoring system design?
- 5. Have the construction loads for different stages of construction been considered and included in the calculations?
- 6. Have the effects of any construction activities adjacent to the shoring system on the stability/performance of the shoring system been addressed in the shoring design (e.g., excavation or soil disturbance in front of the wall or slope, excavation dewatering, vibrations and soil loosening due to soil modification/construction activities)?
- 7. Have earth pressure diagrams been included?
- 8. Does the shoring design consider the effect of water saturated soil pressure acting on the full height of the shoring?

D. Geotechnical and Structural Analysis

- 1. Has internal stability been evaluated?
- 2. Has eccentricity/overturning stability been evaluated?

| | 3. | Has sliding been evaluated? | | |
|----|------|---|------|--|
| | 4. | Has overall/global stability been evaluated? | | |
| | 5. | Has bearing capacity been evaluated? | | |
| | 6. | Have displacement constraints or other performance objectives of the shoring system been identified and evaluated? | | |
| | 7. | Has each stage of the shoring system construction been evaluated to carry traffic and construction loads and ensure internal and external stability through the construction and loading sequence? | | |
| | 8. | Are the allowable stress and the calculated stress listed in the summary for each different shoring member? | | |
| | 9. | Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange? | | |
| | 10. | Have connections for all phases of construction and removal been designed for all interim loading? | | |
| | 11. | Has buckling, bracing strength, and stiffness been evaluated for all compression members? | | |
| E. | Mate | erials | | |
| | 1. | Are all soil, rock, and other material properties used for the design of the shoring system provided and consistent with GDM and the subsurface field and lab data? | | |
| | 2. | Are timber grades noted on shoring drawings and in accompanying calculations? | | |
| | 3. | Are the minimum lumber dimensions shown in the calculations and noted on the Working Drawings? | | |
| | 4. | Are steel structural shapes, bolts, connections, and plates identified by ASTM number on the shoring Working Drawings and in the calculations? | | |
| F. | Sho | ring Working Drawings | | |
| | 1. | Is the field verified ground topography above and below the shoring wall shown? | | |
| | | 5 | | |

| | 3. | Are horizontal and vertical clearance requirements identified and shown on the shoring Working Drawings? | - |
|----|------|---|-------|
| | 4. | Are plan view, elevation and cross sections drawn to scale, with dimensions defining location and size of the temporary shoring, components, and excavation limits? | _ |
| | 5. | Are the magnitude and location of all loads, equipment and personnel that will be supported by the shoring shown or noted on the shoring Working Drawings? | _ |
| | 6. | Has a dewatering plan been shown? | - |
| | 7. | Have all connections been detailed? | - |
| | 8. | Has bracing been detailed? | - |
| G. | Test | ing and Monitoring | |
| | 1. | If a "yes" response to No. D-7, is a monitoring plan provided to verify adequate performance of the shoring system throughout the design life of the system? | _ |
| | 2. | Has a load testing program been provided for soil nails, tiebacks, or other applicable elements of the shoring system | - |
| | | | |

Design Engineer of Record Signature

Date

SECTION 00530 – STEEL REINFORCEMENT FOR CONCRETE

Comply with Section 00530 of the Standard Specifications modified as follows:

00530.80 Measurement – Insert the following before the first sentence:

No measurement for reinforcement will be made for Wall W1.

SECTION 00540 – STRUCTURAL CONCRETE

Comply with Section 00540 of the Standard Specifications modified as follows:

00540.17(a) Aggregate - Replace this entire subsection, including 00540.17(a)(1) and 00540.17(a)(2), with the following subsection:

00540.17(a) Aggregate - Acceptance of aggregate will be according to 02690.12.

00540.17(c)(2) Actual Strength Test Value - Replace the sentence that begins "If the compressive strength of a single test..." with the following sentence:

If the compressive strength of a single test specimen is less than 90 percent of the average of the other two specimens, that compressive strength value will be discarded.

00540.51 Curing Concrete - Replace this entire subsection with the following subsection:

00540.51 Curing Concrete - See 00440.40(e) for concrete curing requirements.

00540.80(a) Concrete - Insert the following before the first sentence:

No measurement will be made for concrete for Wall W1.

SECTION 00593 – POWDER COATING METAL STRUCTURES

Comply with Section 00593 of the Standard Specifications modified as follows:

00594.10(b) Color – Add the following to the end of this subsection:

For pedestrian railing, furnish top-coat color matching existing metal handrail. Handrail color is believed to be Federal Standard 595C color #24272. Prior to coating, provide a color sample to the Engineer for approval. Do not coat handrail without approval of color from the Engineer.

SECTION 00596C – CAST-IN-PLACE CONCRETE RETAINING WALLS

Comply with Section 00596C of the Standard Specifications modified as follows:

00596C.80 Measurement - No measurement of quantities will be made for retaining walls.

The estimated quantity of retaining walls are:

| Station Limits | Area |
|------------------------------|----------------------------|
| Sta. 17+75 to Sta. 18+74 Lt. | <u> 353 </u> sq. ft. |

The estimated quantities, for estimating purposes only, of concrete, steel reinforcement, excavation, shoring, and specified backfill for retaining wall systems are:

| Structure Numbe | r Material | Estimated Quantities |
|-----------------|---|----------------------|
| W1 | Structural Concrete, Class 4000 – 1 1/2 | <u>60</u> cu. yd. |
| <u>W1</u> | Reinforcement | <u>625</u> lb. |

Excavation below elevations shown will be measured according to 00510.80(b).

Payment

00596C.90 Payment - The accepted quantities of work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item

Unit of Measurement

(a) Retaining Wall, Cast-In-Place Concrete Rigid Gravity.....Lump Sum

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.

Excavation below elevations shown will be paid for according to 00510.90(c).

No separate or additional payment will be made for:

- excavation, shoring, and specified backfill
- granular wall backfill
- wall drainage and filter systems
- concrete and reinforcement for concrete

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

Comply with Section 00620 of the Standard Specifications modified as follows:

00620.43 Maintenance Under Traffic - Replace this subsection, except for the subsection number and title, with the following:

Traffic is not allowed on the cold planed surface. Before opening the area to traffic, pave the surface according to 00744.51.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

Comply with Section 00641 of the Standard Specifications modified as follows:

00641.10(a) Base and Shoulder Aggregate - In the paragraph that begins "Aggregate for bases...", add the following sentence after the first sentence:

Base aggregate shall be either 1" - 0 or $\frac{3}{4}" - 0$ size.

SECTION 00730 – EMULSIFIED ASPHALT TACK COAT

Comply with Section 00730 of the Standard Specifications modified as follows:

00730.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

No separate or additional payment will be made for Emulsified Asphalt tack coat. Approximately 4 tons of Emulsified Asphalt in tack coat will be required on this Project.

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 PG 64-22 grade asphalt cement for this Project.

Add the following subsection:

00744.51 Opening Sections to Traffic - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the top Base Course before opening to traffic. Traffic will be allowed on the top Base Course up to 30 Calendar Days.

Before beginning wearing Course paving operations, make repairs to the existing surface as directed. Payment for the repairs will be made according to 00195.20.

SECTION 00756 – PLAIN CONCRETE PAVEMENT

Comply with Section 00756 of the Standard Specifications.

SECTION 00759 – MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications modified as follows:

Add the following subsection:

00759.01 Terminology - According to 00110.05(a), for the purposes of this Contract, the terms "sidewalk ramp" and "sidewalk ramps" shall respectively refer to and shall be read to mean "curb ramp" and "curb ramps".

Add the following subsection:

00759.02(c) ADA Certification for Contractors - For all supervisory personnel who will directly supervise the curb ramp Work, submit the names, telephone numbers, and copies of the ODOT ADA Certification for Contractors with initial bid submittal.

00759.03 Preplacement Conference - Add the following to the end of this subsection:

All supervisory personnel who have an active ODOT ADA Certification for Contractors and will directly supervise the curb ramp Work must attend the preplacement conference.

Add the following subsection:

00759.22 Smart Level - Slopes will be verified with the use of a 24-inch SmartTool level model 92379 or model 92500, and a 6-inch SmartTool level model 92346. The 6-inch level will only be used to measure counter slope when there is a concrete gutter. All other locations will use a 24-inch level to measure slopes.

Contractor shall also furnish a 72-inch SmartTool level model 92683 for verification of slopes.

Add the following subsection:

00759.31 Qualifications - Use supervisory personnel who have an active ODOT ADA Certification for Contractors to directly supervise the curb ramp Work.

00759.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:

The quantities of Structures constructed under this Section will be measured according to the following:

• Volume Basis - Measurement will be limited to the Neat Lines of the finished Structure as shown or directed.

Area Basis - Measurement will be the finished surface, limited the Neat Lines shown or directed.

Measurement of concrete walks will include the total area of concrete walk, including the area of concrete curb ramps within the footprint of the concrete walk.

When monolithic curb and sidewalks are measured on the area basis, measurement will include the total area of monolithic curb and sidewalk, including the area of concrete curb ramps within the footprint of the monolithic curb and sidewalk.

Measurement of concrete islands will include the total area of concrete islands, including the area of concrete curb ramps within the footprint of the concrete islands.

When concrete curb ramp construction is not adjacent to concrete walk, monolithic curb and sidewalk, or concrete island Work, the area of the concrete curb ramp Work will be included in the measurement of concrete walks.

• Length Basis - Measurement of concrete items will be along the face of the Structure, from end to end including curb tapers or depressed lengths at driveways and ramps.

Measurement of metal handrail will be along the top rail member, from center of end post to center of end post.

• **Each Basis** - Measurement will be by actual count. Extra for Curb Ramps will be counted for each instance of where a curb ramp crosses a curb at the transition between a pedestrian facility and a roadway.

00759.90 Payment -

Replace pay items (m) and (n) with the following pay item:

(n) Extra for New Sidewalk Ramps Each

Delete the paragraph that begins "Item (m) includes...".

Replace the paragraph that begins "Item (n) includes the..." with the following paragraph:

Item (n) includes the additional Work required to construct a curb ramp or replace an existing curb ramp. When replacing an existing curb ramp or retrofitting a curb ramp into an existing concrete pedestrian facility, Item (n) also includes saw cutting and removal.

Add the following to the end of this subsection:

No separate or additional payment will be made for providing supervisory personnel who have an active ODOT ADA Certification for Contractors to directly supervise the curb ramp Work.

SECTION 00820 – CONCRETE BARRIER

Comply with Section 00820 of the Standard Specifications.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications.

SECTION 00860 - LONGITUDINAL PAVEMENT MARKINGS - PAINT

Comply with Section 00860 of the Standard Specifications.

SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS

Comply with Section 00867 of the Standard Specifications.

SECTION 00902 – CROSSWALK CLOSURE BARRICADES

Section 00902, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00902.00 Scope - This work consists of constructing crosswalk closure barricades as shown.

Materials

00902.10 Materials - Furnish materials meeting the following requirements:

| Commercial Grade Concrete | |
|---------------------------|-----------------------|
| Steel | 01070.10 and 01070.12 |
| Signs | 00940 |

Construction

00902.40 General - Construct crosswalk barricades as shown or directed.

Measurement

00902.80 Measurement - The quantities of crosswalk closure barricades will be measured on the unit basis.

Payment

00902.90 Payment - The accepted quantities of work done under this Section will be paid for at the Contract unit price, per each, for the item "Crosswalk Closure Barricades".

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 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications.

SECTION 00910 - WOOD SIGN POSTS

Comply with Section 00910 of the Standard Specifications.

SECTION 00930 – METAL SIGN SUPPORTS

Comply with Section 00930 of the Standard Specifications.

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SECTION 00940 – SIGNS

Comply with Section 00940 of the Standard Specifications.

SECTION 00942 - PERMANENT BARRICADES

Section 00942, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00942.00 Scope - This Work consists of furnishing, fabricating, and installing permanent Type III barricades as shown.

Materials

00942.10 Materials - Furnish Materials for permanent Type III barricades meeting the following requirements:

| Hardware | 02910.40 |
|---|----------|
| Plywood | 02910.11 |
| Posts | 02110.40 |
| Reflective Sheeting (Type III or Type IV) | 02910.20 |

Construction

00942.40 General - Construct permanent barricades as shown.

Place reflective sheeting on the horizontal member before assembling the required splice.

A sheeting manufacturer approved lubricant may be used on the nylon and metal washers to prevent sign sheeting deformation. Replace damaged horizontal members or horizontal members with sheet deformation at no additional cost to the Agency.

Measurement

00942.80 Measurement - The quantities of permanent barricades will be measured on the unit basis.

Payment

00942.90 Payment - The accepted quantities of permanent barricades will be paid for at the Contract unit price, per each, for the item "Permanent Type III Barricades".

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

No separate or additional payment will be made for excavation and backfill.
SECTION 00950 - REMOVAL OF ELECTRICAL SYSTEMS

Comply with Section 00950 of the Standard Specifications modified as follows:

00950.02 Definitions - Add the following after the electrical systems definition:

The electrical systems to be removed under this Contract include:

- (a) Existing traffic signal conduit, wiring, junction boxes, cabinets, poles, foundations, and other miscellaneous equipment and appurtenances as shown on the Drawings, Sheets TS.03 through TS.04.
- (b) Existing illumination conduit, wiring, junction boxes, poles, foundations, and other miscellaneous lighting equipment and appurtenances as shown on the Drawings, Sheets IL.01 through IL.03.
- (c) Existing interconnect conduit, wiring, hand holds, splice vaults, and other miscellaneous interconnect equipment and appurtenances as shown on the Drawings, Sheets IC.01 through IC.07.

00950.42 Salvaging and Stockpiling Materials - Add the following to the end of this subsection:

The following materials will remain the property of the Agency. Salvage the materials and stockpile them at the locations indicated. Contact City of Keizer at 503-856-3558 (for street light pole) and City of Salem at 503-930-0379 (for traffic signal pole) to confirm delivery 48 hours prior to delivery.

| Cto okraila | |
|-------------|-----------|
| Stockpile | Locations |

Traffic Signal Pole Light Pole No. 3C

Materials

Coordinate with City of Salem Coordinate with City of Keizer

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

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

00960.41(c) Excavation for Conduit – Replace the table with the following:

Minimum Cover from Finished Surface ¹

| Type of Conduit | Roadway and Shoulders | Other Areas |
|-------------------|--------------------------|-------------|
| Metal | 24 inches | 18 inches |
| Rigid Nonmetallic | 30 inches | 30 inches |

¹ Use permit depths if greater than these.

00960.42(a) General – Replace the third paragraph beginning "Install a No. 16 AWG" with the following:

Install a No. 16 AWG TFFN stranded copper wire with orange base and blue tracer in all conduits as a locate wire, even if not shown on the Drawings. Each locate wire shall be continuous without breaks or connections from each pole to the controller cabinet. Label each locate wire in the controller cabinet with its associated pole number shown on the signal drawings for conduit containing field wiring; for conduit containing fiber optic interconnect cable(s) label each locate wire with the name of the nearest traffic signal the fiber optic interconnect cable is routed to. Use only labels approved by the Owner (see below). Coil 6 feet of each locate wire in bottom of controller cabinet.

- Panduit S100X150VAC Vinyl Self-Laminating Label with 1¹/₂-inch x 1-inch Fitting, White;
- DYMO RhinoPRO Heat-Shrink Cable Label Tubes, ½-inch, 5 feet, White;
- or approved equal.

00960.48 Coating – Replace this subsection, except for the subsection number and title, with the following:

Coatings shall conform to all applicable portions of ODOT Standard Specification Sections 00593 Powder Coating Metal Structures and 00594 Preparing and Coating Metal Structures. Do not paint equipment fabricated of aluminum, stainless steel, or hot-dipped galvanized material, except as shown or specified.

(a) **Signal Heads** - Pedestrian signal heads, vehicle signal heads, visors, beacon heads, and backboards shall be powder coated inside and out to meet Federal Standard 595a-37038 (dull black). Powder coating shall consist of a minimum of 2.5 mils of primer and 2.5 mils of moisture-cured polyurethane

(b) Signal Control Cabinets - Anodize signal control cabinets constructed of aluminum.

(c) **Brackets and Hangers** - Apply two coats of aluminum paint to signal head mounting brackets, arms, and ungalvanized hangers after they have been prime painted. Tri-stud signal adapters shall be powder-coated dull black.

(d) Equipment Control Cabinets - Apply a prime coat and two coats of aluminum paint to equipment control cabinets, if not aluminum or galvanized.

SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

Replace the entire Section 00962 of the Standard Specifications with the following:

00962.00 Scope - This work consists of furnishing, fabricating, coating, and installing materials for roadway illumination and traffic signal supports and foundations. The location

of roadway illumination/traffic signal material shown is approximate, with exact locations established in the field.

00962.01 Regulations, Standards, and Codes - All designs and workmanship shall conform to the following standards where applicable:

- AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 2013" with the interim 2015 revisions.
- AWS D1.1

Wherever reference is made to any of the standards mentioned above, the reference means the code, order, or standard in effect on the date the Project is advertised unless otherwise shown or specified in the Specials Provisions.

Do not begin installations until all permits are obtained and copies are given to the Engineer.

00962.02 Calculations and Drawings - Within 30 calendar days after execution of the Contract and / or prior to construction, submit two copies of:

- Calculations and Shop Drawings of all poles.
- Calculations and installation drawing of all pole foundations (direct burial or anchor base).

All engineered details and drawings which are not prepared by the Owner, but are required in the Contract Documents, shall be submitted for review prior to fabrication.

Designs, details, plans, and calculations shall be prepared by or under the direction of a Professional Engineer licensed in the State of Oregon, and which bear the engineer's signature, seal, and expiration date.

Upon completion of the installation, and prior to Final Completion of the Project, submit two copies of the Traffic Signal and Roadway Illumination plans showing all changes made during construction from the original Drawings.

- 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.

00962.05 Design - Design all traffic signal poles, roadway illumination poles, mast arms, luminaire arms, and foundations according to the AASHTO Standard Specifications listed in subsection 00962.01 of these Special Provisions, with the following design factors and specifications.

(a) Traffic Signal Mast Arm Supports - Design factors include:

| Basic wind speed (3 second gust) | 95 mph |
|----------------------------------|--------|
| Gust factor (G) | 1.14 |

Importance Factor (Ir)1.0 (50 year recurrence interval)Fatigue CategoryII

- (1) Design all metal poles with self-supporting upsweep arms similar to the details shown.
- (2) The design, fabrication, and installation of metal poles shall be round or 16 sided nearly round in shape, and conform to the requirements of Drawings (T-750, T-751, and T-752) enclosed after these Special Provisions.
- (3) All traffic signal pole drawings shall be submitted for the review and approval of the Engineer prior to fabrication.
- (4) Design of Non-Standard Foundations Design non-standard foundations according to the ODOT Traffic Structures Design Manual.
- (b) Roadway Illumination Supports Design factors include:

Basic wind speed (fastest mile per hour) 100 mph

Support a minimum luminaire effective projected area (EPA) of 1.5 square feet.

Support a 60-pound luminaire weight mounted on the specified mast arm length.

(1) New design, fabrication, and installation of steel light poles and fixed base foundations shall conform to the requirements of ODOT Standard Drawings TM 629 and TM 630.

Materials

00962.20 Materials - Furnish materials meeting the following requirements within this subsection.

00962.21 Steel Traffic Signal Poles - Furnish steel pole materials meeting the requirements shown on Drawings (T-750, T-751, and T-752) enclosed after these Special Provisions.

00962.22 Steel Luminaire Poles - Furnish steel pole materials meeting the requirements of ODOT Standard Specifications 02530 modified as follows:

- Provide steel sheet for pole and arms meeting the requirements of ASTM A 595, Grade A or B, or approved equal.
- Provide all other steel sheet and plate meeting the requirements of AASHTO M223 or ASTM A 572, or approved equal. Supplement S18 of ASTM A6 regarding maximum tensile strength shall apply.
- Galvanized base plates and small and hidden pieces do not require controlled silicon content.

- The silicon content for steel, except small incidental pieces, shall be in the range of 0 to 0.04 percent or 0.15 percent to 0.25 percent. All steel used in the metal pole assemblies including base plates, flange plates and gusset plates shall have a yield strength of 345MPa (50 ksi). The Contractor shall submit mill certificates to the Project Manager verifying silicon content and prefabrication strength.
- Anchor bolts shall conform to ASTM A307C. All nuts shall conform to ASTM A563 GR DH Heavy Hex. All washers shall conform to ASTM F436 Type 1. Connection bolts shall conform to ASTM A325. All anchor bolts, connection bolts, nuts, and washers shall be galvanized according to ASTM A123 and ASTM A153.

00962.24 Non-Steel Luminaire Poles and Arms - Non-steel luminaire poles shall be constructed of aluminum or fiberglass, depending on mounting height requirements. Furnish materials meeting the requirements of ODOT Standard Specifications 02926 modified as follows:

(a) Aluminum luminaire poles:

- Aluminum luminaire poles shall be natural aluminum color, satin finished, and 4-bolt anchor base style.
- Shaft shall be fabricated from ASTM Alloy Designation 6061 or 6063 seamless aluminum alloy and heat treated to T-6 temper.
- Shaft shall be round with constant taper, and hollow with a nominal top and bottom diameter as shown ±1/2-inch.
- The pole shall be reinforced at the hand hole.
- Mast arms shall be constructed of 6061-T6 or 6063-T6 seamless aluminum alloy. The regular arm shall be attached to the pole with stainless steel bolts.
- The anchor base shall be cast from A356 aluminum alloy heat treated to a T-6 temper. The anchor base casting and shaft shall be joined by a continuous circumferential weld at the outside top and inside bottom of the anchor base. The completed assembly shall be heat treated to T-6 temper after welding is completed.
- The base shall be designed for the following attachments: 1-inch anchor bolts located on an 11-inch diameter bolt circle.
- Four nut covers of A-356 aluminum alloy; four steel hot-dip galvanized anchor bolt nuts; eight flat washers; and four lock washers to match the anchor bolts (11" BC = 1–8 UNC; 8" BC = ³/₄– 10 UNC) shall be supplied with each pole.

(b) Fiberglass Luminaire Poles:

• Fiberglass luminaire poles shall be gray in color applicable for direct embedment, single or two-piece construction, enlarged at the bottom to increase bearing, and resist uplift and rotation.

- The surface of the pole shall be finished with a coating having weathering and ultraviolet properties equal to or better than modified acrylic polyurethane. This surface must withstand accelerated weathering per ASTM G53 for a minimum of 2,500 hours with no change in appearance other than a slight dulling. Minimum surface coating thickness shall be 1½ mils.
- Pole and stub sections shall be a filament wound or centrifugally cast fiberglass reinforced composite design, containing a minimum of 65 percent glass by weight. The shaft shall be round with constant taper, and hollow with a nominal top and bottom diameter as shown ±½-inch. The laminate shall be pigmented throughout to match the color of the final surface coating. The outer surface of the top section shall have a smooth finish or be wrapped with a "veil cloth" material, with no visible windings. The veil cloth shall be thoroughly saturated and top coated with UV inhibited polyester resin. The pole shall be reinforced at the hand hole.
- (c) Non-steel luminaire arms shall be constructed of aluminum and be manufactured and provided by the luminaire pole manufacturer as appropriate for use on their product.
- (d) See the attached Special Provisions to ODOT Standard Specifications 02926 for a listing of pre-approved materials and equipment for use with the Roadway Illumination System.

Construction

00962.40 Installation of Roadway Illumination and Traffic Signal Pole Foundations -

Construct cast in place foundations according to subsection 960.43 of these Special Provisions. Anchor base, non-steel luminaire poles may use pre-cast pole footings found in subsection 962.24 of these Special Provisions.

00962.46 Roadway Illumination and Traffic Signal Poles - Metal poles include vertical posts, signal mast arm, luminaire arms, connection hardware, and anchor rods. Do not erect poles until the Engineer has made a visual inspection of pole welding.

Fabricate entrance openings in metal poles and arms, including handholds, before galvanizing, except as shown on the Drawings for mounting traffic signal material.

(a) **Design** – Design all metal poles with self-supporting upsweep arms similar to the details shown.

(b) **Pole Height** - Provide roadway illumination and traffic signal poles of heights as shown on the Drawings or specified.

(c) Mast Arm - Install mast arms for traffic signals and signs according to details provided by the manufacturer. Use proper type and size of mounting appurtenances that correctly fit the pole furnished, or as shown on the Drawings. Provide self-supporting mast arms without tie rods or braces. Provide tapered mast arms that are either round or 16 sided.

All mast arms shall allow wiring entrances directly into the pole from inside the mast arm.

(d) Luminaire Arm - The luminaire end of the arm shall be level when loaded to design weight. Use a bolted, flange type connection to join the upsweep arm to the pole. The

connection shall be rain tight and shall develop the strength of the arm. Provide the mast arm rise according to the Drawings, or as specified.

Arms shall be self-supporting without tie rods, or braces. Measure upsweep rise from the point of attachment to the pole to the end tangent portion of the arm. Provide tapered arms that are either round, or 16 sided.

All arms shall allow for wiring entrances directly into the pole from inside the arm.

All pole bracket attachments for mounting upsweep arms shall have reamed smooth ends.

The nominal mounting height (MH) specified or shown in the Drawings is the distance between the roadway at the edge of the pavement and the luminaire. This height may vary plus or minus 1-foot.

(e) **Deflection** - The horizontal dead load deflection at the top of the poles shall not exceed 1 percent of the pole length (2 percent for strain poles).

(f) Deviation from Straightness - After the poles are delivered to the job site, and before they are erected on the foundations, the Contractor may be required to check any or all poles for deviation from straightness according to the following:

(1) **Deviation in One Plane and One Direction Only** - A straight line joining the surface of the pole at the base and the same surface of the pole at the top shall not be more than ½-inch from the surface of the pole for each 10 feet of length from the closest of these points. The opposite surface shall meet the same requirement.

(2) **Deviation in Any Plane** - A straight line connecting the midpoint of the pole at the base, with the midpoint at the top, shall not pass through the surface of the pole at any intermediate point. Any pole not meeting these requirements will be rejected. If more than 25 percent of the poles fail to meet these requirements, sufficient cause exists to reject the entire shipment of poles for the Project.

Any pole not meeting these requirements will be rejected. If more than 25 percent of the poles fail to meet these requirements, sufficient cause exists to reject the entire shipment of poles for the Project.

(g) Welding - Weld steel roadway illumination and traffic signal poles according to AWS D1.1.

Workmanship and finish shall be equal to the best general practice of a metal fabrication shop. Exposed welds, except fillet and fatigue resistant welds and welds on top of mast arms, shall be ground flush with the base metal. Exposed edges of the plates which make up the base assembly and flange connections shall be finished smooth and exposed corners of plates shall be neatly rounded unless otherwise shown on the Drawings.

The fabricator shall inspect welds according to details and requirements called out on the Contract Documents. This requirement will override all appropriate weld inspection requirements called out in Section 5.15 WELDING CONNECTIONS in AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."

Submit all testing procedures for Engineer's review prior to starting inspection. Submit certified copies of inspection reports to the Engineer for review.

If requested by the Engineer, additional weld inspection may be required upon arrival of the material at the job site. If defects are found by this additional inspection, the Contractor shall be responsible for the additional testing and repair costs. If no defects are found, the Engineer will be responsible for the additional inspection costs.

(h) Welding Steel After Galvanizing - No field welding of galvanized steel will be allowed. The effected piece shall have the existing galvanizing removed from the heat affected area before welding. Perform the weld, remove the galvanizing totally from the entire piece, and hot-dip galvanized it. Submit the following data, stamped according to subsection 962.02, of these Special Provisions, for review:

- Explanation for modification
- Name of shop performing the work
- Welding procedure
- Description of the work that will be performed
- Name of the shop performing the hot-dip galvanizing

(i) Identifying Tags - Attach a stainless steel identifying tag to all poles. Provide tags that are at least 1/16-inch thick. Tag lettering shall be at least 1/4-inch in height, and be stamped into the tag. Attach tags with stainless steel pop rivets of at least 3/16-inch nominal body diameter. Do not locate pop rivet holes within 6 inches of welds. Locate the pole tag approximately 24 inches below the top of the mast arm or messenger cable attachment point. Locate the tag on the side of the pole furthest from the intersection. Drill holes for pop rivets prior to hot-dip galvanizing. Remove excess hot-dip galvanizing from holes and repair according to ASTM A 780.

Include the following information on the tags, if applicable:

- Manufacturer
- Month and year of manufacture
- Lum Arm Yield (ksi)
- Lum Arm thickness (inch)
- Mast Arm Yield (ksi)
- Mast Arm thickness (inch)
- Pole Yield (ksi)
- Pole thickness (inch)

- Base Plate Yield (ksi)
- Anchor Rod Yield (ksi)

(j) **Erecting Metal Poles** - Erect metal poles on concrete foundations and according to the recommendations of the pole manufacturer and as shown. Exercise reasonable care to prevent marking the finish and damaging poles.

Install all joint traffic signal and roadway illumination poles so the distance from the pavement to the light center is as shown or specified. Use the same tapered design for traffic signal and street light arms.

Bolt protrusion on slip base poles shall not interfere with the breakaway action of pole. File sharp edges smooth and repair according to ASTM A780.

(1) **Repair Damaged Finish** - Repair damaged galvanizing according to ASTM A 780. Minor scratches less than 3 inches long by $3/_{16}$ -inch wide or an area of $\frac{1}{2}$ square inch can be repaired with the sprayed zinc method.

(2) Assembly of Supports and Bolt Tightening - Nuts shall have full thread engagement.

a. Anchor Rods for Traffic Signal Supports and Fixed Base Luminaire Supports - After foundation concrete strength and curing requirements are satisfied and after inspection of the foundation, pole installation may begin.

Lubricate anchor rods and nuts according to ODOT Standard Specifications 02560.70. Estimate the required rake, if any, and set the lubricated leveling nuts accordingly, so that when pole installation is complete and all appurtenances are installed on the pole, the top of the pole is plumb with the base of the pole.

Lift the pole into position on the leveling nuts and washers. Make sure all leveling nuts and washers are in full contact with the base plate.

Install washers and lubricated top nuts, and bring to a snug tight condition. Snug tight is defined as the condition when all plies of the connection are in firm contact, and can be obtained by the full effort of a worker on the end of a 12-inch long wrench. Several passes may be required to obtain uniform snug tightness.

When all anchor rods are snug tight, proceed with installation of arms and other appurtenances, if not previously installed. When installation of arms and appurtenances is complete, and the pole is plumb as defined above, final anchor rod tightening may begin. If the pole is not plumb, adjust as required and repeat snug tightening as described above. As a safety measure, provide crane support of the pole until anchor rods tightening is completed.

Mark the position of each turned element (nut or bolt head) with a felt tip pen or similar marker. Rotate each top nut past snug tight by the amount shown in subsection 962.42(j)(2)c. (below). Several passes may be required to obtain uniform final tightness. "Cheater" bars or slugging wrenches are allowed if required for large diameter anchor rods.

(b) High-Strength Bolts in Mast Arm-to-Pole Connections and Luminaire Arm-to-Pole Connections - Lubricate high-strength bolts according to Section 02560.70. Provide all high-strength bolts with hardened flat washers under the element turned during tightening.

If arms or appurtenances are attached after pole erection, support them until bolts are snug tight.

Install high-strength 4-bolt connections to a snug tight condition. Snug tight is defined as the condition when all plies of the connection are in firm contact, and can be obtained by the full effort of a worker on the end of a 12-inch long wrench. Mark the position of each turned element (nut or bolt head) with a felt tip pen or similar marker. Rotate the top nut of each anchor rod past snug tight by the amount indicated in paragraph .d below. Several passes may be required to obtain uniform snug tightness.

Install high-strength 8-bolt connections according to OSSC 00930.40(d).

(c) **Final Tightening** - Required final tightening of anchor rods and high-strength bolts are shown in the following Table:

| Connection Type | Rotation Past Snug Tight |
|--------------------------------|---|
| ASTM A 307 Anchor rods | 30° (½ turn) |
| ASTM A 449 Anchor rods | 60° (¹ / ₆ turn) |
| ASTM F 1554 Gr. 55 Anchor rods | 60° (¹ / ₆ turn) |
| ASTM A 325 4-bolt connection | 60° (¹ / ₆ turn) |

(3) **Bolt Inspection** - The Engineer will observe the installation and tightening operations to ensure that proper procedures are followed. All inspections will be visual and no testing will be conducted.

The installation will be rejected if the top surface of bolts or rods are not flush with, or do not extend beyond, the top of the nut.

00962.48 Coating - Coat according to all applicable portions of subsection 960.48 of these Special Provisions.

00962.50 Grounding and Bonding - For fixed base poles, provide a ½-inch, Type 308, 309, or 310 stainless steel stud on the inside of the shaft. Locate the stud directly opposite and level with the hand hole in the pole. Attach grounding electrode conductors and bonding conductors to the stud with a grounding wire clamp, "acorn style."

For slip base poles, do not allow the grounding wire to intrude into the slip plane. Instead, run a bond wire from the grounding electrode to a ½-inch, Type 308, 309, or 310 threaded stainless steel stud welded to the bottom base slip plate.

SECTION 00963 - SIGNAL SUPPORT DRILLED SHAFTS

Comply with Section 00963 of the Standard Specifications modified as follows:

00963.47(a) Concrete Placement - Replace the paragraph that begins "Unless otherwise approved, allow..." with the following paragraph:

Allow a maximum of 60 minutes between concrete placements and use no concrete older than 90 minutes from batch time. Use procedures for concrete placement which ensure that the concrete within the shaft becomes a monolithic, homogeneous unit.

00963.80 Measurement – Replace this subsection, except for the subsection number and title, with the following:

No measurement of quantities will be made for this work.

00963.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

No separate or additional payment will be made for traffic signal support drilled shafts.

Payment for traffic signal support drilled shafts will be included in payment made for the Contract unit price for the Bid Item "TRAFFIC SIGNAL INSTALLATION, Keizer Station Blvd/Transit Center Access" and "TRAFFIC SIGNAL MODIFICATION, Keizer Station Blvd/Chemawa Rd NE-Lockhaven Dr NE". See subsection 990.90 of these Special Provisions.

SECTION 00970 - HIGHWAY ILLUMINATION

Comply with Section 00970 of the Standard Specifications modified as follows:

00970.45 LED Luminaires – Add the following at the end of the Subsection:

(a) Lamp Size and Identification Decals:

(1) **Identification Decals** - Indicate the luminaire lumen output size and type with a NEMA-approved decal on each luminaire as specified below. Apply decals on clean and prepared surfaces. Use decals that provide a durable, legible surface for the life of the luminaire, and:

- Are at least 3 inches square.
- Are made of noncorrosive, pressure sensitive material.
- Have a colored background with numbers as shown in this section.

For pole-mounted luminaires, install the decals on the bottom side of the luminaire or on the arm adjacent to the luminaire, whichever is more visible, as directed.

(2) Lumen Output Size and Identification Decal Code - Use the lumen output size and color codes as follows:

LED Luminaires - Blue background with white numbers representing the lumen output thousands (i.e. "16" for a 16,000 lumen output fixture)

00970.55 Power Sources - The Contractor shall provide connection of roadway lighting circuits to PGE specified power sources as shown on the Drawings. The Contractor is required to coordinate in advance with PGE for verification of the ultimate power service locations and power connections.

SECTION 00990 - TRAFFIC SIGNALS

Comply with Section 00990 of the Standard Specifications modified as follows:

00990.42(h) Audible Pedestrian Signals – Replace this subsection, except for the subsection number and title, with the following:

Audible Pedestrian Signals shall be installed at the intersection for each pedestrian phase. These devices shall be comprised of the following features and items:

- The system shall be composed of two components; the driver module and the pedestrian station. The pedestrian station housing shall be black in color.
- The driver unit shall be designed to mount in a 332 Stretch Cabinet.

- The pedestrian station shall contain the push button, speaker, LED, instruction sign, raised directional arrow, and the vibro tactile device. The pedestrian station shall be designed within the following parameters:
 - (1) The surface of the pushbutton shall be orientated parallel to the direction of the associated crosswalk.
 - (2) The raised directional arrow shall be orientated parallel to the direction of the associated crosswalk.
 - (3) Either the push button or **all** raised arrows shall be vibro-tactile equipped.
 - (4) The instruction sign shall be an MUTCD R10-4B modified legend with optional arrow.
- The system shall produce a locating tone. Both the locating tone and audible message or sound shall be self-adjusting in volume based on ambient noise levels.
- The audible sound shall be capable of being programmed with a verbal message or the standard fast-ticking percussive tone.
- The push button shall be equipped with a red LED to indicate that the button has been activated, and the LED shall remain on until the "WALK" signal is in effect. The minimum viewing angle of the LED shall be 120 degrees.
- Activation of the push button shall occur within 125 ms (1/8 second) or less from any intentional depression or slapping of the pushbutton. The device shall produce an audible "beep" sound so that pedestrians may also have an audible cue that the button has been activated.
- The push button shall be designed so that the electrical contacts/input device is wired in parallel or in a fail-safe combination so that if any part of the audible pedestrian signal system should fail, the button will continue to operate as a standard push button.
- The vibro-tactile feature shall be initiated and remain active during the "WALK" phase of operation.
- The fast ticking percussive tone and verbal message portion of the audible pedestrian signal system shall only be activated after the pushbutton has been depressed for a continuous period of 3 seconds. A message of "Wait" or other similar message would be played to let the person know that the audible pedestrian signal system has been activated. Following an additional 1 second depression of the pushbutton a programmable instructional message of "wait to cross_____ at ____, wait," may also be used. The locating tone shall be active at all times except when the above items are active.
- The System shall be designed so that all sound adjustments can be made without opening the pedestrian station or any other electronics to the weather.
- The system shall only use the existing wiring in the traffic signal system for communication between the driver module and the pedestrian station.
- The audible sound shall be capable of being programmed with a verbal message and the standard fast-ticking percussive tone. Coordinate programming of pushbuttons in advance

of installation with the City Traffic Signal Field Supervisor. Contractor shall fill out manufacturer's custom voice message form and submit to Owner for approval prior to programming.

- Prior to the installation of any audible equipment in the controller cabinet, coordinate the location to be installed with the City Traffic Signal Field Supervisor.
- These pedestrian units have already been approved for use:
 - (1) Polara two wire EZ Navigator

00990.43(a) Pedestrian Push Buttons – Replace this subsection, except for the subsection number and title, with the following:

Mount pedestrian push buttons on a pole, pedestal, or post whose foundation directly abuts an asphalt concrete or Portland cement concrete landing or walkway. Install push buttons in pole side mounting frames oriented with an arrow pointing to the crosswalk for which it is intended.

00990.43(c) Video Detection Systems – Replace this subsection, except for the subsection number and title, with the following:

This subsection describes the physical and functional properties of a video detection system. This system shall be capable of monitoring all vehicles on the roadway for a minimum of 330 feet from the stop bar, providing all directions of vehicle detection at the intersection.

- (1) The entire video vehicle detection system shall consist of the following:
 - a. Video Detection Module(s).
 - b. Extender Card(s) and Cable(s).
 - c. Video Camera(s) with IR filter, lens, enclosure, and sunshield.
 - d. Luminaire Arm Sensor Bracket(s).
 - e. Four Position Fuse Block Assembly.
 - f. Surge Suppressor.
 - g. Programming Devices and/or Software with training.
 - h. Coaxial/Power Cable.
 - i. All other necessary equipment.
 - j. Training for installation, operation, and maintenance.

(2) Agency Approved Equipment - The following equipment package has been preapproved for use on this Project (quantities for each item are shown on the Drawings):

- a. Traficon Model VIP3D.1 and VIP3D.2 Video Image Processors (see the Drawings for actual quantity).
- b. Traficon Extender Cards with Cables (see the Drawings for actual quantity).
- c. Rainbow BL58FZD65K Cameras with Motorized Zoom Lens (see the Drawings for actual quantity).
- d. Agis HS9383/60 Enclosures (see the Drawings for actual quantity).
- e. Agis HS9388/00 Sunshields (see the Drawings for actual quantity).
- f. Pelco Mast Arm Sensor Brackets (see the Drawings for actual quantity).
- g. Traficon Luminaire Arm Sensor Brackets (see the Drawings for actual quantity).
- h. Traficon ViewCom/E Max+ transmission board with Ethernet communication device(s).

The City of Salem currently has programming devices for this equipment package and no additional devices are necessary.

(3) Hardware - The following are the minimum standards for the Video Vehicle Detection System. All equipment shall be completely compatible with existing Traficon video detection and ViewCom video transmission equipment and software currently used by the City of Salem.

- a. The system components shall be modular by design and install in a standard 2070 style input file. The system shall control from 1 to 6 Video Input Processor Boards (VIP). One or more modules and cameras can be added as needed.
- b. The system shall be designed to operate reliably in the adverse environment of roadside cabinets and shall meet or exceed all NEMA TS-1 and TS-2, as well as Type 170/2070 environmental specifications.
- c. Ambient operating temperature shall be from -35° C to +75° C at 0 to 95 percent relative humidity non-condensing.
- d. The system shall be powered by 95 -135 VAC, 60 Hertz, single phase and draw less than 0.4 Amperes, or by 190-270 VAC, 50 Hertz, single phase and draw less than 0.2 Amperes.
- e. The rack mounted model (2070 input file) shall utilize 24 VDC from the cabinet power supply.
- f. Surge ratings shall be set forth in the NEMA TS-1 and TS-2, Specifications.
- g. Serial communications shall be through an RS-232 or RS-485 serial port. These ports can be used for communications to a modem, laptop, traffic controller, etc.

- h. The system shall have one video input (RS-170 NTCS or CCIR composite video) per VIP board and one spare video input.
- i. Each VIP board shall have four opto-isolated open collector outputs. I/O Extender modules shall be provided as shown on the Drawings (see video detector wiring diagrams) to provide additional outputs. The outputs shall be programmed for signaling the presence, the arrival, or the departure of vehicles. Outputs shall be brought out via screw connectors.
- j. Each VIP board shall have error detection. An output contact will open if the video signal is bad or the VIP board is not functioning properly.
- k. The system shall have the capability of accepting a video system transmission board. This board performs all primary functions for communication and transmission of traffic data and alarm events issued by the VIP detectors. The board also handles the digitization and compression of video images. This allows real time video to be transmitted via Serial or Ethernet modems. The board shall be completely compatible with the VIP unit and shall accommodate both Serial and Ethernet communications. Serial and Ethernet (TCP/IP) communications shall be through respectively an RS-232 serial port (F DB9 connector) and Ethernet port meeting IEEE 802.3 with a 10Mbits/s Ethernet RJ-45 connection using TCP/IP based protocol.
- I. The VIP module shall have separate light emitting diodes (LED) that indicate the following:

| 1. | POWER | Red to verify power supply. |
|----|-------|--|
| 2. | VIDEO | Red to confirm the presence of video input 75 Ohm 1Vp-p. |
| 3. | RX/TX | Red to indicate communications via the serial port. |
| 4. | L1L4 | Green if the corresponding detection group is active. |

(4) Functional Capabilities:

- a. Real Time Detection—Each VIP board shall be capable of processing the video signal of one camera. The video signal shall be analyzed "in real time."
- b. The system shall be expandable up to 6 VIP boards that may be connected to different cameras, and programmed independently.
- c. Each VIP board will detect within the view of the connected camera the presence of vehicles in user defined zones and count the number of vehicles passing over user definable lines.
- d. Each VIP board shall have 24 detection zones.

- e. Each VIP board shall have the capability of a pulse mode. A pulse shall be generated at the arrival or the departure of a vehicle in a defined window.
- f. The pulse width shall be programmable between 20 ms and 1 100 ms in 20 ms increments.
- g. The setup parameters shall be kept on the VIP board in non-volatile memory.
- h. The system shall have the capability of up-loading and down-loading setup parameters via a PC directly or via a communication network.
- (5) Vehicle Detection Zone The detection zone placement shall be simple and flexible.
 - a. The detection zones shall be defined using a simple keyboard and monitor, or by using a laptop PC with appropriate software.
 - b. Each detection zone shall consist of different lines of detection that are generated automatically in the defined zone.
 - c. When a vehicle is within a detection zone and approaching from the proper direction, the detection zone will change color between white, gray, and black.
 - d. Each detection zone shall have an auto adaptive sensitivity system. No adjustments are needed.
 - e. Each detection zone shall be able to detect the presence of vehicles during day and night periods. Based on proper camera position and sensitivity, the minimum accuracy during normal conditions shall be 98 percent and 96 percent during adverse (fog, rain, snow, sleet, etc.) conditions.

(6) **Traffic Data Collection** - Each VIP board shall have the following traffic data collection features:

- a. Traffic volume counts per lane for five vehicle classes based on user defined vehicle lengths.
- b. Collect traffic data at user defined intervals of 1, 2, 3, 5, 6, 10, 15, 30, and 60 minutes.
- c. Average vehicle speeds per lane and per length class.
- d. Average gap time per length class and per lane.
- e. Average headway per lane.
- f. Percent occupancy per lane.
- g. Concentration (vehicles/mile) per lane.
- h. Confidence level (0-10) per lane.

- i. Ability to store up to 6713 intervals of data in non-volatile memory.
- j. Ability to allow the remote retrieval of traffic data via the existing Traficon software in the City of Salem Traffic Control Center.

(7) **Image Sensor** - The video system shall use the signal from a medium or high resolution color or black and white CCD camera.

- a. The camera shall produce a noise free signal at scene luminance of 0.06 lux.
- b. The image sensor shall have an automatic gain control, automatic iris, and black level clamping.
- c. The video signal arriving at the VIP board shall have a 1V peak to peak level with noise below 100mv.
- d. The camera shall be housed, as a minimum, in a NEMA-4 water-resistant, dust proof enclosure.

(8) Installation and Training - A certified representative of the video detection and transmission system supplier shall be available to advise the customer concerning proper camera selection and site installation. Upon request, the representative shall be available to supervise the installation of the camera equipment.

- a. The certified representative shall do the initial setup for the detection zones and testing of the system.
- b. The certified representative shall be responsible for the training of Contractor and City personnel.
- c. The video detection supplier shall provide all documentation necessary to maintain and operate the system.

(9) **Warranty** - Furnish a Manufacturer's Warranty for the video detection system accordingly for a Warranty period of one year. The Warranty starts on the date the Engineer accepts the work and authorizes final payment. The Warranty shall provide for replacement of equipment as necessary to restore full functionality of the video detection system in the event of failure as defined below, at no additional cost to the Owner. For purposes of the Warranty, the video detection system shall be deemed to have failed if it is not detecting traffic properly, or there is malfunctioning of the video transmission or communication interface with the City of Salem Traffic Control Center.

00990.70(g) Field Testing – Replace this subsection, except for the subsection number and title, with the following:

The Contractor is responsible to conduct a "Flash Test" of the entire installation prior to notifying the City that they are ready for the traffic signal turn on. Field testing of traffic signal installations will be performed by City Electrical Crews.

Notify the Project Manager one week in advance of the anticipated signal completion date. The Project Manager will notify the City's Traffic Signal Services Unit and the City's Electrical Crew of the anticipated completion date.

Field testing will be performed within ten days following the date of completion. The Project Manager will notify the Contractor of the test results.

Tests to be performed on the signal installation will follow City procedures. Information on testing procedures is available from the Project Manager.

00990.70(h) Traffic Signal Turn-on – Replace this subsection, except for the subsection number and title, with the following:

The Contractor may request the traffic signal turn on once the traffic signal installation and flash test is complete. The Contractor shall allow within the Project schedule a minimum of ten working days from the date of completion to the requested turn on date. The Owner will establish the date and time the installation is to be turned on.

The traffic signal turn-on will occur on a Tuesday, Wednesday, or Thursday.

• The City will turn on the signal within one week after completion of corrections identified during field testing.

Before implementing the operation of the traffic signal, protect traffic by installing "TRAFFIC CONTROL CHANGE AHEAD" (CW20-10-48) signs in advance of the intersection.

- Signs shall be placed approximately 300 feet in advance of the intersection on all approaches.
- These signs shall remain in place for approximately 30 calendar days after completion of the modifications to the traffic signal or traffic control device(s).

The Contractor's electrician responsible for the Project shall be present at the Project Site during turn on to help trouble shoot any issues previously unidentified.

After traffic signals are turned on and operating as designed, the Owner will assume operation and maintenance of the signal. Turn-on does not constitute final approval. The Contractor is still obligated to finish any incomplete portion of the installation and correct problems with workmanship or replace material that does not meet Specifications. After turn-on, damage to the traffic signal installation caused by conditions beyond the Contractor's control will be the responsibility of the Owner.

SECTION 00995 – FIBER OPTIC INTERCONNECT

Description

00995.00 General - In addition to requirements of Sections 00960 and 00990 of these Special Provisions, install fiber optic interconnect to the following Specifications.

00995.02 Scope - This work consists of existing fiber relocation, provide and maintain a temporary communication link during construction, and furnish, install, and test materials to provide a permanent communication link into, through, and out of the Project limits as shown on the Drawings.

00995.04 Codes and Standards - Equipment shall conform to applicable rules and regulations of the FCC. Cable, cable assemblies, and connectors shall meet NEC standards for voltage, current and environmental ratings.

00995.06 Abbreviations and Definitions

(a) Abbreviations:

- (1) ANSI—American National Standards Institute.
- (2) APC—Angled Physical Contact.
- (3) ASTM—American Society for Testing and Materials.
- (4) AWG—American Wire Gauge.
- (5) dB—Decibel.
- (6) EIA—Electronics Industries Association.
- (7) FCC—Federal Communications Commission.
- (8) FHWA—Federal Highway Administration.
- (9) FSK—Frequency Shift Keying.
- (10) FO—Fiber Optic.
- (11) FOP—Fiber Optic Outside Plant Cable.
- (12) FOTP—Fiber Optic Test Procedure.
- (13) I/O—Input/Output.
- (14) LC—Type of Fiber Optic Connector.
- (15) LED—Light Emitting Diode.
- (16) MDPE—Medium Density Polyethelyne.
- (17) NEC—National Electrical Code.
- (18) NEMA—National Electronic Manufacturer's Association.
- (19) NESC—National Electrical Safety Code.

- (20) nm nanometer.
- (21) OD—Outside Diameter.
- (22) ODOT—Oregon Department of Transportation.
- (23) OSHA—Occupational Safety and Health Administration.
- (24) OSP—Outside Plant.
- (25) OTDR—Optical Time Domain Reflectometer.
- (26) OTR—Optical Transceiver (optical modem).
- (27) PC—Physical Contact.
- (28) PVC—Polyvinyl Chloride.
- (29) PWR—Power.
- (30) RD—Received Data.
- (31) SC—Type of Fiber Optic Connector.
- (32) SM—Singlemode (fiber cable).
- (33) SMFO—Singlemode Fiber Optics.
- (34) SNMP—Simple Network Management Protocol.
- (35) ST—Type of Fiber Optic Connector.
- (36) TIA—Telecommunications Industries Association.
- (37) TCR—Traffic Control Room.
- (38) UL—Underwriter's Laboratory.
- (39) UPC—Ultra Physical Contact.
- (40) UPS—Uninterruptible Power Supply.
- (41) UV—Ultraviolet.

(b) Definitions:

(1) Connector—A mechanical device used to provide a means for attaching to and decoupling from a transmitter, receiver, or another fiber (such as on a patch panel).

- (2) Couplers—Device that mates two fiber optic connectors to facilitate transition of optical light signals from one connector into another. Couplers may also be referred to as: adapters, feed-thru, and barrels. Normally located within FDU's mounted in panels. May also be used un-mounted to join two simplex fiber runs.
- (3) Fiber Optic Link—This work consists of furnishing, installing, and testing the fiber optic communication link. The fiber optic communication link includes single mode fiber optic cable, splice enclosures, splices, factory connectorized branch cables, patch cords, and communications equipment.
- (4) Integrated System Testing—Testing associated with the functional performance of the system with all subsystems composing the system properly interconnected and powered; testing of the complete system with all elements working together.
- (5) Jumper—Short fiber optic cable (900 microns) with male optical connectors installed on both ends, generally used in temporary connections and testing.
- (6) Patch Cord—A short fiber optic cable (900 microns) with a connector on both ends.
- (7) Power Meter—Portable piece of fiber optic test equipment that, in conjunction with a light source, is used to perform end-to-end attenuation testing. Contains a detector sensitive to light at designed wavelength of system under test. The display indicates amount of power injected by light source that arrives at receiving end of link.
- (8) Segment—Section of FO cable not connected to any active device-may or may not have splices per design.
- (9) Splice Module Housing (SMH)—Splice trays used in the FDU to house spliced single mode fibers.

Required Submittals

00995.10 Preconstruction - Within 30 calendar days after execution of the Contract and/or prior to construction, submit two copies of:

- (a) **Materials** A list of electrical materials specific to the Fiber Optic Interconnect system that the Contractor proposes to install.
 - (1) Submit information for all items listed in subsection 995.20 of these Special Provisions.
 - (2) List all material shown or specified by manufacturer's name, size, and model number, if applicable. Supplement the list with other data as necessary.
 - (3) Brochures, technical bulletins, parts lists, service instructions, working drawings, and other technical information relative to products proposed for use on the Project.

- (b) Fiber Optic Cable Installation Procedure The detailed Fiber Optic Cable Installation Procedure shall including the following information:
 - (1) Fiber optic cable cutting lengths reflecting the cable order and reel allocations.
 - (2) Cable pulling plan which shall state the exact operational procedures to be utilized and which identifies the physical locations for equipment placement, proposed equipment setup at each location, pulling tension on all cables for each pull, staffing, and the pulling methodology for each type of cable.
 - (3) Exact splice points as provided for herein and on the Drawings.
- (c) Workforce Proposal and Qualifications—The Workforce Proposal and Qualifications shall include the following information:
 - (1) Fiber optic splice personnel
 - a. Submit the names and contact information for all personnel conducting fiber optic splices. Include a listing of each individual's qualifications, certifications with expiration dates, and responsibilities.
- (d) **Test Plan and Procedures**—The Test Plan and Procedures for the fiber optic cable and splices shall include the following information:
 - (1) Type of Testing to be performed.
 - (2) Equipment to be used.
 - (3) Test Sheets to be used.
 - (4) Documentation for all testing and training requirements listed in these Special Provisions.

00995.12 Post Construction - Upon completion of the installation and prior to Final Completion, submit two copies of all fiber optic cable test results.

00995.13 Submittal Approvals - The Engineer's approval of any submitted documentation shall in no way relieve the Contractor from compliance with the safety and performance requirements as specified herein.

Labor

00995.20 Fiber Optic Splice Personnel - Every person engaged in the splicing of fiber optic cables shall be trained and currently certified for fiber optic cable installation and splicing by an industry standard organization outside of the company doing the installation work.

Materials

00995.30 Equipment List

- (a) The equipment to be installed on this Project includes:
 - (1) Fiber Optic Cabling.
 - (2) Splice Closures.
 - (3) Ethernet Switches.
 - (4) Patch Panels with Fiber Distribution Modules (FDM).
 - (5) Coupler Panels with Fiber Coupler Plates.
 - (6) Patch Cords.
- (b) **Pre-Approved Equipment** The following equipment has been pre-approved for use on this Project:
 - (1) Fiber Optic Cabling

| a. | Prysmian | FlexLink Loose Tube Cable for Aerial and Duct | |
|----|----------|---|--|
| | - | Applications | |

b. Corning ALTOS Gel-Free, All Dialectric Cables, Enhanced

(2) Splice Closures

| a. 3M Corporation 2178-L/S serie |
|----------------------------------|
|----------------------------------|

- b. Preformed Line Products Coyote Closure (PLP)
- c. Tyco Electronics Raychem series

(3) Ethernet Switches

- a. Cisco IE3010 Ethernet Switch
- (4) Patch Panels with Fiber Distribution Modules
 - a. Fiber Connections 1U and 4U Panel and FDMs Inc
 - b. BEJED 1U and 4U Panel and Cassettes
- (5) Coupler Panels with Fiber Coupler Pates
 - a. Fiber Connections Closed 6U Panel and Coupler Plates Inc.
 - b. BEJED Closed 6U Panel and Coupler Plates
- (6) MTP Cables (male connectors)

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- a. Fiber Connections Inc.
- b. BEJED

(c) Specific Equipment by Location

(1) Equipment to be installed by the Contractor in traffic signal controller cabinets for the **Base Bid**:

| Location | Equipment |
|---|---|
| Existing Traffic Signal Cabinet – Keizer Station Blvd / Chemawa Rd NE / Lockhaven Dr NE | One 4U Panel, and three FDM with 24 LC connectors each. One 144-fiber pigtail with angled polish male MTP connector. Twelve Fiber Optic patch cables with LC duplex connectors on each end to connect between the FDMs and Cisco Switch. One category 5 cable to connect between the Cisco Switch and the 170 Controller. |
| Traffic Signal Cabinet – Keizer Station Blvd / Keizer Transit Center Access | One 1U Panel, and one FDM with 24 LC connectors each. One 24-fiber pigtail with angled polish male MTP connector. Four Fiber Optic patch cables with LC duplex connectors on each end to connect between the FDMs and Cisco Switch. One category 5 cable to connect between the Cisco Switch and the 2070E Controller. |
| Existing Traffic Signal Cabinet – Keizer Station Blvd / Stadium Drive | One 1U Panel, and one FDM with 24 LC connectors each. One 24-fiber pigtail with angled polish male MTP connector. Four Fiber Optic patch cables with LC duplex connectors on each end to connect between the FDMs and Cisco Switch. One category 5 cable to connect between the Cisco Switch and the 170 Controller. |
| Existing Traffic Signal Cabinet – Keizer Station Blvd / Ulali Drive | One 1U Panel, and one FDM with 24 LC connectors each. One 24-fiber pigtail with angled polish male MTP connector. Four Fiber Optic patch cables with LC duplex connectors on each end to connect between the FDMs and Cisco Switch. One category 5 cable to connect between the Cisco Switch and the 170 Controller. |

00995.31 Fiber Optic Cable - All fiber optic cable shall be single mode loose tube, suitable for the type of installation indicated in the Drawings and in the Special Provisions, and comply with recommendations published in the International Telecommunication Union (ITU) Telecommunication Standardization Sector of ITU (ITU-T).

The Contractor shall provide manufacturer's certification that the fiber optic cable complies with ITU-T G.652D attributes.

Fiber optic cable(s) shall be able to withstand bending to a minimum radius of 10 times the cable outer diameter without tensile load applied and 20 times the cable outer diameter with maximum load applied (during installation only), without damage to the cable components or degradation of the optical fiber performance.

The optical fibers shall be contained within loose buffer tubes. The loose buffer tubes shall be stranded around an all dielectric central member in a Reverse Oscillation Lay with Aramid yarn as the primary strength member and a polyethylene sheath for overall protection. Each buffer tube shall contain 12 fibers. Fiber counts are shown in the Drawings.

All fibers in the buffer tube shall be factory attenuation tested at 1310 nm and 1550 nm. Fibers shall be nonarmored with dielectric central strength member and tape water blocked (dry filled). Fibers shall be usable and shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of these Specifications. The attenuation of each fiber shall be provided with each cable reel.

- (a) General Fiber Characteristics—The submitted cable shall be listed by the manufacturer as suitable for the intended use and meet the requirements set forth in the Contract Documents. Any deviations from theses Special Provisions shall be conspicuously noted in the Contractor's submittal.
 - (1) Cable life expectancy should be at least 30 years.
 - (2) Cable shall meet industry standards and specifications including ANSI/ICEA-S-87-640 and Telcordia GR-20.
 - (3) Single mode fibers within the finished cable shall meet the following requirements:

| Parameters | Value |
|-------------------------|---|
| Mode | Single |
| Туре | Step Index |
| Core Diameter | 8.3 µm (nominal) |
| Cladding Diameter | 125 μm ±1.0 μm |
| Core to Cladding Offset | ≤1.0 μm |
| Coating | Dual-layered, UV-cured acrylate strippable mechanically or chemically without damaging fibers |
| Optical Fibers | Doped silica core with concentric silica cladding |
| Coating Diameter | 250µm ± 15µm |

| Cladding Non-circularity defined as: [1-(min.cladding dia/max. | ≤2.0 percent |
|--|---|
| cladding dia.)]x100 | |
| FOP cable | All dielectric, loose tube, duct-aerial |
| | type |
| Proof/Tensile Test | 50 kpsi, min. |
| Attenuation | |
| 1,310 nm | ≤ 0.4 dB/km |
| 1,550 nm | ≤ 0.3 dB/km |
| Test cable in accordance with: | TIA/EIA-455-25-C(FOTP-25) |
| | TIA-455-33-A(FOTP-33) Condition II |
| | TIA/EIA-455-41-A(FOTP-41) |
| | TIA/EIA-455-81-B(FOTP-81) |
| | TIA-455-82-B(FOTP-82) |
| | TIA/EIA-455-104-A(FOTP-104) |
| | Conditions I and II |
| Test optical fiber in accordance with: | TIA-455-3-A (FOTP-3) |
| Attenuation at the Water Peak | ≤2.1 dB/km @ 1383 ± 3nm |
| Chromatic Dispersion: | |
| Zero Dispersion Wavelength | 1301.5 to 1321.5 nm |
| Zero Dispersion Slope | \leq 0.092 ps/(nm ² *km) |
| Maximum Dispersion: | ≤3.3ps/(nm*km) for 1385-1330 nm |
| | <18ps/(nm*km) for 1550 nm |
| Cut-Off Wavelength | < 1260 nm |
| Mode Field Diameter | 9.3 ± 0.5µ at 1310 nm |
| Mode Field Diameter | 9.3 ± 0.5µ at 1310 nm |
| (Petermann II) | 10.5 ± 1.0µm at 1550nm |

- (b) Physical Properties The fiber-optic cable shall withstand water penetration when tested with one meter static head or equivalent continuous pressure applied at one end of a one meter length of filled cable for one hour. No water shall leak through the open cable end. Testing shall be done in accordance with EIA/TIA-455-82B, FOTP-82—Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable (ANSI/EIA/TIA-455-82B-92).
 - (1) The cable shall exhibit no flow (drip or leak) at 80° C (176° F). The weight of any compound that drips from the sample shall be less than 0.05 grams (0.002 ounce). A representative sample of cable shall be tested in accordance with EIA/TIA-455-81B, FOTP-81—Compound Flow (Drip) Test for Filled Fiber Optic Cable. The test sample shall be prepared in accordance with Method A.
 - (2) Crush resistance of the finished fiber-optic cables shall be 220 N/cm (126 lbf/in) applied uniformly over the length of the cable without showing evidence of cracking or splitting when tested in accordance with TIA/EIA-455-25C, FOTP-25—Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies. The average increase in attenuation for the fibers shall be <0.10 dB at 1550 nm (single-mode) for a cable subjected to this load. The cable shall not exhibit any measurable increase in attenuation after removal of load. Testing shall be in accordance with TIA/EIA-455-41A, FOTP-41—</p>

Compressive Loading Resistance of Fiber Optic Cables (ANSI/TIA/EIA-455-41A-93) except that load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for ten minutes.

- (3) The cable shall withstand 25 cycles of mechanical flexing at a rate of 30 ± 1 cycles/minute. The average increase in attenuation for the fibers shall be <0.10 dB at 1550 nm (single mode) at the completion of the test. Outer cable jacket cracking or splitting observed under 10 x magnifications shall constitute failure. The test shall be conducted in accordance with TIA/EIA-455-104A, FOTP-104—Fiber Optic Cable Cyclic Flexing Test (ANSI/TIA/EIA-455-100A-89, R99) except that the sheave diameter shall be a maximum diameter of 20 times the cable outside diameter. The cable shall be tested in accordance with Test Conditions I and III of the EIA-455.</p>
- (4) The cable shall withstand a tensile load of 2,700 N (600 lb-feet) without exhibiting an average increase in attenuation of greater than 0.10 dB (singlemode). The test shall be conducted in accordance with TIA/EIA-455-33A, FOTP-33—Fiber Optic Cable Tensile Loading and Bending Test (ANSI/EIA-455-33A-87) using a maximum mandrel and sheath diameter of 560 mm. The load shall be applied for one hour in Test Condition II of the EIA-455 procedure.
- (c) Color Coding Since the cable will contain multiple buffer tubes each with multiple fibers, each fiber strand shall be distinguishable from others in the same tube by means of color-coding. The colors shall be targeted in accordance with the Munsell color shades and shall meet Telecommunications Industries Association (TIA) and Electronic Industries Association (EIA) TIA/EIA-598-B, Optical Fiber Cable Color Coding (American National Standards Institute (ANSI)) ANSI/TIA/EIA-598-B).
 - (1) The color formulation shall be compatible with the fiber coating and the buffer tube filling compound and be heat stable. It shall not fade or smear or be susceptible to migration and it shall not affect the transmission characteristics of the optical fibers and shall not cause fibers to stick together.
- (d) Cable Construction Supply FO cables in configurations specified and shown. Contain optical fibers within loose buffer tubes. Strand loose buffer tubes around an all dielectric central member. Use aramid yarn and/or fiberglass as a primary-strength member and a medium- or high-density polyethylene outside jacket for overall protection.
 - (1) Fiber Optic Cable FO cable shall consist of, but not be limited to, the following:
 - a. Buffer Tubes The loose buffer tubes shall provide clearance between the fibers and the inside of the tube to allow for thermal expansion without restraining the fiber. The fibers shall be loose or suspended within the tubes. The fibers shall not adhere to the inside of the buffer tube.
 - The loose buffer tubes shall be extruded from material having a coefficient of friction sufficiently low to allow the fiber free movement. Buffer tubes shall be made of tough abrasion resistant

material to provide mechanical and environmental protection of the fibers, yet designed to permit safe intentional "scoring" and breakout entry without jeopardizing the internal fibers.

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- Buffer tube filling compound shall be gel-free and designed to prevent water intrusion and migration.
- ٠
 - Buffer tubes shall be stranded around a central member by the reverse oscillation stranding process.
- •
- Each buffer tube shall be distinguishable from other buffer tubes in the cable by means of color-coding.
- •
- Each buffer tube shall contain 12 fibers.
- b. Central Member—The central member which functions as an antibuckling element shall be a glass reinforced plastic rod with similar expansion and contraction characteristics as the optical fibers and buffer tubes. A linear overcoat of Polyethylene may be applied to the central member of the main trunk fiber cable to achieve the optimum diameter to provide the proper spacing between buffer tubes during stranding.
- c. Filler Rods—Fillers may be included in the cable to lend symmetry to the cable cross section. Filler rods shall be solid medium or high-density polyethylene. The diameter of filler rods shall be the same as the outer diameter of the buffer tubes.
- d. Stranding—Completed buffer tubes shall be stranded around the overcoated central member using stranding methods, lay lengths, and positioning such that the cable shall meet mechanical, environmental, and performance specifications. A polyester binding shall be applied over the stranded buffer tubes to hold them in place. Binders shall be applied with sufficient tension to secure the buffer tubes to the central member without crushing the buffer tubes. The binders shall be nonhygroscopic, non-wicking, and dielectric with low shrinkage.
- e. Core and Cable Flooding—The cable core interstices shall contain a water blocking material to prevent water ingress and migration. The water blocking material shall be either a polyolefin based compound which fills the cable core interstices, or an absorbent polymer, which fills voids and swells to block the ingress of water. Use a flooding compound that is homogeneous, non-hygroscopic, electrically non-conductive, and non-nutritive to fungus. Compound shall also be nontoxic, safe to exposed skin, and compatible with all other cable components.
- f. Tensile Strength Member—Tensile strength shall be provided by high tensile strength aramid yarns and fiberglass that shall be helically stranded evenly around the cable core. The aramid yarns shall not adhere to other cable components.

- g. Outer Jacket—Outer jacket shall be free of holes, splits, and blisters, and shall be medium- or high-density polyethylene, or medium-density cross-linked polyethylene, with a minimum jacket thickness of 1 mm ± 0.076 mm. Apply jacketing material directly over tensile-strength members and water blocking materials. Material shall not adhere to aramid strength material. Use polyethylene containing carbon black to provide ultraviolet light protection and discourage fungal growth.
 - 1. Mark the jacket or sheath with manufacturer's name, the words "Optical Cable," number of fibers, "SM," year of manufacture, and sequential measurement markings (in feet) every 3 feet. Use a color that contrasts with cable jacket for the marking. Print height of marking shall be approximately 2.5 mm.
- h. Other—The cable shall contain at least one ripcord under the inner sheath for easy sheath removal.
- (2) Quality Assurance—All optical fibers shall be proof-tested by the fiber-optic cable manufacturer at a minimum load of 3,500 kg/square mm (2,500 tons/square inch). Documentation of factory results shall be provided to the Project Engineer prior to shipping.
 - a. All optical fibers shall be attenuation tested by the manufacturer. An OTDR shall be used and readings are to be done at 1310 nm and 1550 nm. The attenuation of each fiber shall be provided with each cable reel.
 - b. The shipping, storage, and operating temperature range of the cable shall be -40° C to +70° C. The installation temperature range of the cable shall be -30° C to +70° C.
 - c. The fiber optic cable shall withstand a maximum pulling tension of 2700 Newtons (600 lbf) during installation (short term) with no damage and 600 N (135 lbf) installed (long term).
 - d. All cables shall be free of material or manufacturing defects and dimensional non-uniformity that would:
 - Interfere with the cable installation using accepted cable installation practices.
 - Degrade the transmission performance and environmental resistance after installation.
 - Inhibit proper connection to interfacing elements.
 - Otherwise yield an inferior product.
 - e. The outer jacket material used in construction of this cable shall be fungus inert as described in ASTM G-21.

f. Fibers shall contain no factory splices. All fibers in buffer tube shall be usable fibers, meeting optical, mechanical, and environmental requirements of these Special Provisions.

00995.32 Fiber Optic Connector - All connectors must be factory installed. Connectors shall be of the ceramic ferrule LC/UPC type for single mode. Outdoor LC/UPC connector body housing shall be glass reinforced polymer. The associated coupler shall be of the same material as the connector housing. Fiber optic connectors shall be the 1.25 mm LC/UPC connector ferrule type with Zirconia Ceramic material with a UPC (Ultra Physical Contact) pre-radiused tip.

- The LC duplex connector operating temperature range shall be -40° C to +70° C.
- Insertion loss shall not exceed 0.2 dB (bi-directional sum) for a single mode connector and 0.75 dB for a single mode connector pair, and the return reflection loss on single mode connectors shall be less than -55 dB.
- Connection durability shall be less than a 0.2 dB change per 500 mating cycles per EIA-455-21A (FOTP-21).
- All terminations shall provide a minimum 50 lbf (222 N) pull out strength.
- Factory test results shall be documented and submitted to the Engineer prior to installing any of the connectors.
- Single mode connectors shall have a yellow color on the body and/or boot that renders them easily identifiable.
- Field terminations shall be limited to splicing of adjoining cable ends. Notify the Engineer no less than five working days prior to beginning any splicing or connector operations.
- Branch cables shall be factory terminated with a female MTP connector on one end only. MTP connector shall meet EIA/TIA-604-5 and IEC 61754-7.

00995.33 Fiber Optic Cable Lubricant - Fiber optic cable lubricant shall be as follows:

- Compatible with the cable jacket.
- Non-combustible.
- Water-based leaving little or no residue.

00995.34 Patch Panel with Fiber Distribution Modules - Provide Factory Terminated Fiber Optic Branch Cable with integrated Patch Panel and Fiber Distribution Modules that meet the following requirements:

• Fiber Optic cable shall have 12 or 24 single mode fibers (see Drawings for exact quantity).

- Fiber Optic Glass shall meet or exceed all specifications listed under subsection 995.31(a) of these Special Provisions.
- Include a sealed, factory terminated patch panel with 12 or 24 LC duplex female connectors (see Drawings for exact quantity).
- Factory terminated patch panel shall include mounting bracket that accommodates a 1U or 4U panel that fits into a standard 19-inch rack.
- The panel shall be no more than 11 inches deep if it is larger than 1U.
- Each connector shall be clearly labeled with the corresponding fiber number.
- Each Branch Cable length shall include the installed distance between the proposed splice vault and the traffic signal controller cabinet, plus 50 feet for coiling within the splice vault.

00995.35 Fiber Optic Patch Cords - Provide cable assemblies (patch cords) from a single manufacturer.

- (a) Patch cords shall meet the following requirements:
 - Patch cords minimum 6 feet in length.
 - 250 µm buffering of each fiber.
 - 900 µm buffering of each fiber applied after the initial 250µm buffering.
 - Maximum factory measured insertion loss of less than 0.4 dB per EIA/TIA 455-171.
 - Return Reflection loss of less than -55dB.
 - Less than 0.2 dB loss when subjected to EIA/TIA-455-1B, 300 cycles, 1.1 lbs. (0.5 kg).
 - Aramid yarn strength member.
 - Rugged 0.12-inch (3 mm) (approximate) PVC sheathing.
 - Minimum bend radius of 12.5 inches (320 mm) following installation, 25 inches (640 mm) during installation.
 - Connector performance temperature range: -20° C to +70° C.
 - Rated by the manufacturer for use in outdoor field cabinets.
- (b) Use duplex patch cords. No zip cord construction will be allowed. Provide permanent markings on duplex patch cords that provide a visual distinction between the two fibers.

- (c) Provide strain relief for patch cords at both ends and elsewhere as needed.
- (d) Adhere to manufacturer recommended installation and minimum bend radius requirements.
- (e) No index-matching fluids, gels, or anti-reflection coating shall be applied to fiber ends in couplers.

00995.36 Fiber Optic Splice Closure - The FO field splices shall be enclosed in splice closures which shall be complete with splice organizer trays, brackets, clips, cable ties, seals, and sealant, as needed. The splice closure shall be suitable for a direct burial, pull box, or aerial application.

- (a) Manufacturer's installation instructions shall be supplied to the Engineer prior to the installation of any splice closures. Location of the splice closures shall be where a splice is required as shown on the Drawings, where fiber ends are cut and no other splices or closure is shown, designated by the Engineer, or described in the Special Provisions.
- (b) The fiber optic splice closure shall consist of an outer closure and splice trays, and shall conform to the following requirements:
 - Non-filled thermoplastic case.
 - Rodent proof, water proof, re-enterable and moisture proof.
 - Expandable from two cables per end to eight cables per end by using adapter plates.
 - Cable entry ports shall accommodate 10 mm to 25 mm diameter cables.
 - Multiple grounding straps.
 - Accommodate up to eight splice trays.
 - Suitable for "butt" or "through" cable entry configurations.
 - Place no stress on finished splices within the splice trays.
 - All materials in the closures shall be non-reactive and shall not support galvanic cell action.
 - The outer closure shall be compatible with the other closure components, splice trays, and cables.
 - The end plate shall consist of two sections and shall have capacity for two fiber optic trunk cables and two fiber optic branch cables.
- (c) The outer closure shall protect the splices from mechanical damage, shall provide strain relief for the cable, and shall be resistant to salt corrosion.

- (d) The outer closure shall be waterproof, re-enterable and shall be sealed with a gasket. The outer closure shall be flash-tested to manufacture recommended pressure.
- (e) The inner closure shall be of metallic construction. The inner closure shall be compatible with the outer closure and the splice trays, and shall allow access to and removal of individual splice trays. The splice trays shall be compatible with the inner closure and shall be constructed of rigid plastic or metal.
- (f) Adequate splice trays shall be provided to splice all fibers of the largest fiber optic cable, plus 12 fibers. Each splice shall be individually mounted and mechanically protected in the splice tray.

00995.37 Splice Tray - Splice trays must accommodate a minimum of 12 individual fusion splices and must allow for a minimum bend radius of 2 inches. Splice trays shall be of the same manufacturer as the splice closure or fiber distribution unit.

00995.38 Fiber Optic Line Transceiver - Fiber Optic Line Transceiver shall be capable of simultaneous, fiber optic communications links over single mode fiber and copper twisted pair cable, be temperature rated from -37° F to $+74^{\circ}$ F, include visual indicators of communication performance, include a back-up battery, and meet the following requirements:

- (a) Optical Characteristics:
 - Optical Connectors shall be LC style for single mode fiber.
 - Optical Dynamic range shall be minimum 12dB @ 1310nm.
 - Data rate shall be capable of up to 1Mbps (Asynchronous).
 - Bit error rate shall be better than 1x10⁻⁹@ 15dB.
- (b) FSK Characteristics:
 - Modulation shall be Phase coherent.
 - Freq Range Shall be 1000 to 2400 Hz.
 - Output level shall be -8 to 0dBm adjustable.
 - Data rate shall be 0-100 baud.
 - Optical Connectors shall be SC style for single mode fiber.

00995.39 Quality Assurance - Each electrical product and enclosure shall be listed for intended use.

The product shall bear the listing organization's label. In the absence of a label, provide documentation verifying product listing.

If a product is not listed in the above directories or guide, provide a product that has been tested and certified by a laboratory which has been nationally recognized in accordance with 29 CFR 1910.7. Provide the following:

- (a) OSHA documentation that demonstrates recognition.
- (b) Laboratory documentation that verifies testing in accordance with national code or standard. Products delivered and installed shall be of new manufacture and shall have been produced under a formal quality assurance program. The product manufacturer shall be ISO 9000 certified (or equivalent). Products utilized shall be serialized and the manufacturer's quality assurance organization shall maintain configuration and modification status management traceable to serial number.
- (c) Inspect all material delivered to the construction site to validate that it is of new manufacture, is free from visible damage, and good workmanship has been utilized. Verify that the product is the correct model and configuration as approved by the Engineer and as purchased by the Contractor. Replace any defective and/or nonconforming equipment installed at Contractor's cost. Poor workmanship will be cause for rejection of the material delivered and installed by the Contractor. (Poor Workmanship is as defined by the Society of Quality Assurance.)

Construction

00995.40 Fiber Optic System Installation - No splices or breaks in the fiber optic cable will be permitted except as shown on the Drawings, approved by the Engineer, or as indicated in these Special Provisions.

- (a) Install fiber optic cable according to subsection 960.45 of these Special Provisions, EIA/TIA 468A (Commercial Building Telecommunication Cabling), installation shall comply with both the NEC and NESC.
- (b) When installing cable, provide enough spare cable to allow for flexibility in placing equipment within a rack or side of a console. In addition, provide spare cable as indicated on the Drawings.

00995.41 Fiber Optic Cable Installation - The Contractor shall determine a suitable cable installation method to ensure that all cable installation requirements shall be met in all conduit sections. All work shall be carried out in accordance and consistent with the highest standards of quality and craftsmanship in the communication industry with regard to the electrical and mechanical integrity of the connections; the finished appearance of the installation; as well as the accuracy and completeness of the documentation.

- (a) The Contractor shall make a physical survey of the Project Site for the purpose of establishing the exact cable routing and cutting lengths prior to the commencement of any fiber optic work or committing any fiber optic materials.
- (b) Splicing is only allowed for the programmed connection of reels and as shown in the Drawings to connect a lateral fiber optic cable to the main line distribution fiber optic cable.

- (c) The Contractor shall submit a cable routing plan that shows the locations of all splices. All splice locations other than those shown in the Drawings must be approved by the Engineer.
- (d) The Contractor shall provide all materials required for the installation and splicing of the specified communications cables, power cables, and associated interface devices.
- (e) Fiber optic cables shall be installed in continuous lengths without intermediate splices throughout the Project.
- (f) The Contractor shall comply with the cable manufacturer's specifications and recommended procedures including, but not limited to the following:
 - Installation.
 - Proper attachment to the cable strength elements for pulling during installation.
 - Bi-directional pulling.
 - Cable tensile limitations and the tension monitoring procedure.
 - Cable bending radius limitations.
- (g) The Contractor shall protect the loops from tangling or kinking. At no time during the length of the Project shall the cable's minimum bending radius specification be violated.
- (h) To accommodate long, continuous installation lengths, bi-directional pulling of the fiber optic cable shall be permitted.
- (i) In all pull boxes, cable slack of 9 feet shall be left by the Contractor. In cable vaults, the slack shall be 50 feet (15 m). The fiber optic cable shall be coiled and secured with tie raps to racking hardware.
- (j) The pulling eye/sheath termination hardware on the fiber optic cables shall not be pulled over any sheave blocks.
- (k) When power equipment is used to install fiber optic cabling, the pulling speed shall not exceed 30 meters per minute. The pulling tension limitation for fiber optic cables shall not be exceeded under any circumstances. Large diameter wheels, pulling sheaves, and cable guides shall be used to maintain the appropriate bending radius. Tension monitoring shall be accomplished using commercial dynamometers or loadcell instruments.

00995.42 Fiber Optic Splices - The fiber optic cable splices shall be the fusion type and shall not exceed 0.10 dB loss per splice (bi-directional average).

(a) The average splice loss is defined as the summation of the attenuation as measured in both directions through the fusion splice, divided in half.
(b) No individual splice loss measured in a single direction shall exceed 0.30 dB maximum as required by TIA/EIA-758, and when measured in accordance with TIA/EIA 455-8 (FOTP 8) "Measurement of Splice or Connector Loss and Reflectance Using an OTDR."

00995.43 Fiber Optic Splice Closure - The Contractor shall furnish and install an underground splice enclosure where indicated on the Drawings. Furnish underground splice closures complete with splice trays, brackets, plugs, clips, and cable ties.

- (a) Install the fiber splice closures in junction boxes where splicing is required. The fiber optic splice closures shall be securely fastened or bolted to the side wall of the junction boxes using standard hardware found in manholes.
- (b) Provide all mounting hardware required to securely mount the closures to the junction box. The fiber splice closure shall be mounted horizontally in a manner that allows the cables to enter at the end of the closure.
- (c) The unprotected fibers exposed for splicing within the closure shall be protected from mechanical damage using the fiber support tube or tubes, and shall be secured within the fiber splice closure. Upon completion of the splices, the splice trays shall be secured to the inner closure.
- (d) Verify the quality of each splice prior to sealing the splice closure. The splice closure shall not be sealed until link testing is performed and is approved by the Engineer (see subsection 995.74 of these Special Provisions for testing).
- (e) The closure shall be sealed using a procedure recommended by the manufacturer that will provide a waterproof environment for the splices. Care shall be taken at the cable entry points to ensure a tight salt-resistant and waterproof seal is made which will not leak upon aging. It is acceptable to have multiple pigtails enter the fiber splice closure through one hole as long as all spaces between the cables are adequately sealed.

00995.44 Fiber Optic Cable Splicing - The Contractor shall notify the Engineer no less than five working days prior to beginning any splicing.

- (a) The Contractor shall submit to the Engineer for approval the resumes with references of people who will be performing splices as well as proof of training certification from either IMSA or ETA. Splices shall be performed only by experienced personnel with experience including successful completion of no less than 2,000 fusion splices. Only those individuals approved by the Engineer shall be allowed to make fiber optic splices.
- (b) Field splices for main line (trunk) to lateral (branch) cables and for end-to-end main line cables shall be located as shown in the Drawings. No additional splices shall be allowed without the prior written approval of the Engineer. Should additional splicing be approved by the Engineer, no such splices shall be less than 3,000 feet apart, and will not be separately paid for. The Contractor shall install an additional fiber optic pull box at intermediate splice locations if not already shown on the Drawings, and the cost of any such intermediate splices and pull boxes shall be incidental to the bid item listed in the measurement and payments sections.

- (c) All fusion splicing equipment shall be in good working order, properly calibrated, and meeting all industry standards and safety regulations.
- (d) Splice trays shall utilize two ½ shells bolted together with stainless steel bolts and be fitted with a neoprene gasket. Selected splices shall not require a re-entry kit. Cable preparation, closure installation, and splicing shall be accomplished in accordance with accepted and approved industry standards.
- (e) Upon completion of the splicing operation, all waste material shall be deposited in suitable containers for fiber optic disposal, removed from the job site, and disposed of in an environmentally acceptable manner.
- (f) The Contractor shall use the fusion method with local injection and detection for all fiber optic splicing.
- (g) The fiber optic cable splices shall be the fusion type and shall not exceed 0.10 dB loss per splice (bi-directional average). No individual splice loss measured in a single direction shall exceed 0.10 dB. The average splice loss is defined as the summation of the attenuation as measured in both directions through the fusion splice, divided in $\frac{1}{2}$.
- (h) Only those fibers that are to be spliced shall be removed from the cable and buffer tubes. All other fibers shall remain in their tubes and shall be suitably protected.
- (i) The Contractor shall seal all cables where the cable jacket is removed. The cable shall be sealed per the cable manufacturer's recommendation with an approved blocking material.
- (j) All below ground splices shall be contained in waterproof splice closures. All splices above or below ground shall be contained in splice trays utilizing strain relief, such as heat shrink-wraps, as recommended by the splice tray manufacturer. Splice trays to be located in below ground splice closures shall be approved for use by the splice closure manufacturer.
- (k) The Contractor shall keep accurate detailed records of each splice and each splice location. These records shall include the following:
 - Date each splice was made.
 - Name of the splicer.
 - Splice location.
 - Splice loss.
 - Fiber and tube color codes.
 - Splice tray number and position of the fiber within the tray.

- (I) For each splice enclosure, the Contractor shall provide the Engineer with a chart indicating the source and destination of every fiber spliced in that enclosure, and indicating the tray and position within each tray.
- (m) To log the fiber routes and splices, the Contractor shall use a series of numbers and letters to describe the cable, tube, fiber, and location of the splice. The exact procedure used to log the splicing must be approved by the Engineer before the splicing begins.

00995.45 Splice Trays - Loop individual fibers one full turn within splice tray to allow for future splicing.

- (a) Maintain a 2-inch minimum bend radius during installation and after placing in optical fiber splice tray. Individually restrain each fiber in splice tray.
- (b) Optical fibers in buffer tubes and placement of optical fibers in splice tray shall be such that there is no discernible tensile force on optical fiber. Buffer tubes must be secured near the entrance of the splice tray. Buffer tubes shall be secured with channel straps.

00995.46 Distribution Breakout Cable - Terminate distribution breakout cables in an FDU. Remove cable jacket, aramid yarn and filler rods, and expose buffer tubes. Expose buffer tubes as recommended by manufacturer. Secure buffer tubes to splice tray. Remove remainder of tubes and expose individual fibers for routing on splice tray. Remove moisture-blocking gel from exposed buffer tubes and fibers following manufacturer's directions to ensure gel will not flow from end of buffer tube. Strip and prepare individual fibers for splicing.

00995.47 Markings - The completed (trunk or branch) cables shall have sequentially numbered length markers in a contrasting color to the cable jacket, at regular intervals of not more than three feet along the outside of the jacket. Printed on the jacket shall be the cable code to identify the number and type of fibers, the manufacturer's name, manufacturer's part number, the year of manufacture, and the sequential length markings.

- (a) All elements of the communication system shall be clearly labeled in a neat, professional manner using permanent methods and products approved by the Engineer. Labeling methods and nomenclature should follow the system set forth in ANSI/EIA/TIA standard 606-A-2002.
- (b) At a minimum, the following elements of the system shall be labeled:
 - Communication cables at pull boxes, splice vaults, cabinets, racks, and other points of entry (see Section 7-06.3 of ANSI/EIA/TIA standard 606-A-2002).
 - Patch cords and Jumper Cables.
 - End equipment (switches, transceivers, etc.).
- (c) Communications cabling shall be routed and managed in a neat and professional manner, in conformance with cable management vendor recommendations and as approved by the Engineer. Cables shall be grouped, neatly, and safely secured. Strain relief shall be provided where applicable.

00995.48 Cable Racking in Splice Vaults - The Contractor shall rack the cable in vertical figure-8 loops, which shall permit pulling slack from the vaults without introducing twist to the cable.

- (a) Cables shall be secured in racked positions with tie wraps. The Contractor shall be careful not to over tighten the tie wraps to prevent damage to the fiber optic cables. Identification or warning tags shall be securely attached to the cables in at least two locations in each cable vault or pull box.
- (b) All coiled cable shall be protected to prevent damage to the cable and fibers. Racking shall include securing cables to brackets (racking hardware) that extend from the side walls of the cable vault or pull box.
- (c) The Contractor shall provide Coyote #8003279 Manhole Support Bracket Kits (or approved equal) and other racking hardware required for the fiber optic cable racking operations as specified. All racking hardware shall be stainless or galvanized steel.

00995.49 As-Built Records - The Contractor shall provide the Engineer with a cable route diagram indicating the actual cable route and "foot marks" for all intersections, directional change points in the cable routing, splice vaults, pull boxes, and all termination points. The Contractor shall record these points during cable installation.

(a) The Contractor shall provide cable system "as-built" drawings showing the exact cable route to the Engineer. Information such as the location of slack cable and its quantity shall also be recorded in the cable route diagram.

Testing

00995.70 Fiber Optic Cable Testing:

- (a) General—Testing shall include the tests on elements of the passive fiber optic components:
 - (1) at the factory;
 - (2) after delivery to the Project site, but prior to installation; and
 - (3) after installation, but prior to connection to any other portion of the system.
- (b) Provide all personnel, equipment, instrumentation, and materials necessary to perform all on-site testing.
- (c) Provide documentation of all test results to the Engineer two working days after test is completed.
- (d) At least 15 working days prior to arrival of cable on site, provide detailed field testing procedures. In the procedures include the tests involved and method by which tests are to be conducted. Include in notification model, manufacturer, configuration, calibration, and alignment procedures for all proposed test equipment.

00995.71 Test Plan and Test Procedures - Prior to beginning testing of fiber optic cable, provide the Engineer with a test plan detailing methods of testing, format of test documentation (sample output), and a schedule for the tests. The test plan will include any required jurisdictional personnel needed to support testing. The test plan shall be submitted with three hard copies plus a soft copy. Submit all test results, including results of failed tests or retests to the Engineer. The Contractor shall supply all test equipment.

- (a) The Contractor will be notified by the Engineer of the acceptance or rejection of the formal test procedures no later than 30 days after submittal. Formal testing for record, measurement, and pay shall not start until the Contractor has an approved test procedure in writing, received from the Engineer. If the test plan is rejected, submit the revised test procedure within 15 days after formal receipt of comments. A minimum of two working day's notice shall be given to the Engineer before start of formal testing by the Contractor. No test or associated individual test procedure shall be deemed valid unless witnessed and signed by the Engineer or Engineer Representative. The documented test results will be the formal test record. Successful completion of all test procedures and equipment burn-in periods represents passing of the pre-installation and acceptance tests.
- (b) Incorrectly documented and/or incorrectly performed tests will be retested. The Engineer will designate any retesting that is deemed necessary based on corrective action that modifies the test baseline. The Contractor shall be responsible for all cost of retesting after the second failure to comply with the test procedures. This includes all jurisdictional cost associated with retesting.

00995.72 Factory Testing - Supply manufacturer's documentation of compliance with fiber specifications listed in Fiber Characteristics Table. Test all fibers for attenuation before shipment, but while on shipping reel. Also, maintain copies on file for at least seven years and attach a set to the cable reel in a waterproof pouch. OTDR techniques of measurement shall be utilized for point defects, length, and attenuation.

(a) Factory test data sheets shall be for each reel of cable delivered, including attenuation tests. Factory test data shall be included in a waterproof, plastic envelope attached to each reel of cable. Conduct testing of the fiber cable prior to cable installation to verify that no damage has occurred during shipment and that attenuation conforms to these Special Provisions.

00995.73 Arrival On-Site Testing - Physically inspect cable and reel on delivery and measure attenuation for 100 percent of the fibers to demonstrate conformance with the requirements in this specification. Failure of any single fiber in the cable is cause for rejection of the entire reel.

- (a) Test results shall be recorded, dated, compared, and filed, with a copy accompanying shipping reel in a weather-proof envelope. Notify Engineer of attenuation deviations greater than five percent from the shipping records. Submit copies of traces and test results to Engineer.
- (b) If test results are unsatisfactory, the reel of fiber optic cable shall be considered unacceptable, and all records corresponding to that reel of cable shall be marked accordingly. Replace unsatisfactory reels of cable with new reels of cable at Contractor's expense. Test new reels of cable to demonstrate acceptability.

(c) Do not install cable until the test sequence is complete and the Engineer provides written notice of acceptance of the cable.

00995.74 Optical Time Domain Reflectometer (OTDR) Testing - Testing shall be performed with an OTDR (optical time domain reflectometer) and/or optical power meter and light source, as directed below.

- (a) Testing shall be done at the following stages in the system construction:
 - (1) OTDR test at cable delivery (arrival on-site test);
 - (2) OTDR test following cable installation prior to connectorization, termination, or splicing;
 - (3) OTDR link test, following installation of all splices, pigtails, connectors, and termination devices, but prior to sealing any splice closures. This test shall be performed end-to-end, on all strands that are spliced or onto which optical equipment is terminated.
- (b) Each test at each stage of construction shall be performed at the 1310 nm and the 1550 nm wavelengths. Every fiber in each cable shall be tested whether it is being "lit" under the Project or not.
- (c) The Contractor shall submit written documentation of each test result, at each stage of testing. The written documentation, in order to be considered for acceptance, shall include the parameter measurements as specified herein. The Contractor shall submit all results to the Engineer, with a transmittal letter indicating which test results are being submitted. The Contractor shall receive written approval from the Engineer to proceed with any further testing for subsequent stages.
- (d) All fibers shall be tested end to end. The end to end total attenuation shall not exceed the sum of the maximum allowable attenuation for the component cable segments, splices, and typical loss for connectors. Nor shall the attenuation from an individual connector or splice exceed the maximum allowable losses.
- (e) If the fibers in the cable installed under this Project exceed the allowable loss, the Contractor shall take corrective measures to bring the cable's total attenuation below the allowable limit, including replacement of the cable at the Contractor's expense.
- (f) The Contractor shall perform all OTDR testing in the presence of the Engineer or designee. The Engineer or designee shall attach their written mark to all test documentation made by the Contractor at the time of the test. Testing performed by the Contractor and not witnessed by the Engineer or designee shall not be accepted, and re-testing will be required.
- (g) The Contractor shall verify that the attenuation and optical continuity of each active and spare optical fiber in the cable plant satisfies the specified requirements. The Contractor shall record the attenuation of each optical link. Optical links shall be identified in the test results by identifying the label identifier on each drop cable, and

by identifying the field cabinet at which light was launched and at which it was received.

- (h) While performing backscatter measurements, the end of the fiber link that is not connected to the OTDR shall be capped to prevent the ingress of infrared radiation.
- (i) A 1,000-foot launch cable or launch cable box set for a 1,000-foot fiber cable shall be inserted between the OTDR and the optical link to overcome the initial "dead zone" on the fiber trace.
- (j) The OTDR testing shall be done at a scale of at least 1 dB per division on the vertical scale. It shall have a dynamic range of at least 30dB at 1310 nm and distance measurement accuracy of ±0.01 percent.
- (k) The Contractor shall record each optical link measured for attenuation by means of an electronic data file of the OTDR trace. The Contractor shall supply a software package to read, store, and compare the electronic data files created by the OTDR instrument.
- (I) A hard copy printout of each trace shall also be provided, which shall include the measurements listed below. The OTDR traces shall be compared with this software following each testing stage of the installation. Documentation of this comparison shall be provided to the Engineer, as specified above.
- (m) Optical links shall be designated in the test results by indicating the label identifier on each drop cable and by identifying the field cabinet at which light was launched.
- (n) The OTDR traces shall be marked noting the physical location of each splice or connector. The notation shall be clear and understandable.
- (o) The test results shall include the following measurements:
 - Total measured length of the optical link (m);
 - Total end-to-end attenuation of the optical link (dB), not including launch cable;
 - End-to-end attenuation per unit length (dB/km), not including launch cable;
 - Mean attenuation of each splice in the optical link under test (dB);
 - Wavelength of the measurement (nm);
 - Date and time of the test;
 - Cable ID number;
 - Fiber color or ID;
 - Refractive index setting of the OTDR;
 - · Averaging interval of the test.

- (p) The Contractor shall demonstrate that each fiber and splice satisfies the specified requirements.
- (q) Optical Time Domain Reflectometer Equipment
 - (1) An acceptable OTDR shall be used to measure the back scattered light profile of the designated optical links. The OTDR shall include all necessary hardware to couple it to either a connectorized or non-connectorized fiber.
 - (2) The OTDR shall be of a manufacture recommended by the cable supplier. The OTDR used shall be provided with certification of its most recent calibration and shall not be more than 12 months old.
 - (3) The OTDR operator shall hold a current operators certificate for the equipment used. This certificate shall represent not less than 16 hours of training from the equipment manufacturer. This certificate shall be presented to the Engineer or designee at the start of testing.

00995.75 Power Meter and Light Source - At the conclusion of the OTDR testing, test all connectorized fiber links end-to-end with a power meter and light source, in accordance with EIA Optical Test Procedure 171 and in the same wavelengths specified for the OTDR tests. Conduct these tests in both directions at the 1310 and 1550 nanometer wavelength. The differential in test results shall not exceed 0.5 dB.

- (a) Test results shall be recorded, compared, and filed with the other recordings of the same links. Submit test results to the Engineer. The following information shall be documented for each fiber test measurement:
 - Wavelength
 - Fiber type
 - Cable, tube, and fiber lds
 - Near end and far end test locations
 - End-to-end attenuation
 - Date, time, and operator
- (b) Attenuation shall be calculated by the insertion method. Normalization between the light source and the power meter shall be performed at the beginning of each day of testing.

00995.76 Fiber Cable Testing Documentation - The Contractor shall submit one hard copy and one electronic copy of the fiber test results to the Engineer for approval. The Contractor shall take corrective actions on portions of the fiber installation determined to be out of compliance with these Special Provisions.

- (a) Upon acceptance of the cable installation and test results, the Contractor shall submit three hard copies and one electronic copy of the fiber test results to the Engineer. Hard copy submittals shall be bound in 3-ring binders. The electronic submittal shall be on a CD or DVD, and include one licensed copy of the applicable OTDR reader program.
- (b) The following information shall be included in each test result submittal:
 - Contract number, Contract name, Contractor name, and address.
 - Dates of cable manufacture, installation, and testing.
 - Cable specifications.
 - Location of all splices.
 - OTDR test results.
 - Attenuation test results.
- (c) Within 30 days of submitting the test results, the Contractor, in the presence of the Engineer, shall re-test a minimum of 5 percent of the previously tested locations to validate the test results. A 5 percent sample will be selected randomly from the terminal device locations.

00995.77 Test Failures - If the link loss measured from the power meter and light source exceeds the calculated link loss, or the actual location of the fiber ends does not agree with the expected location of the fiber ends (as would occur with a broken fiber), the fiber optic link will not be accepted.

- (a) Replace the unsatisfactory segments of cable, or splices, with a new segment of cable or splice at the Contractor's expense. Complete the OTDR Testing, Power Meter and Light Source Testing and Cable Verification Worksheet for the repair to determine acceptability. Submit copies of the test results to the Engineer.
- (b) The removal and replacement of a segment of cable shall be interpreted as the removal and replacement of a single continuous length of cable connecting two splices or two connectors. The removal of only the small section containing the failure and therefore introducing new unplanned splices, will not be allowed.

Measurement

00995.80 Measurement - Quantities of work done under this Section, installed and accepted, will be measured on the lump sum basis or the unit basis, as shown on the Bid Form.

Payment

00995.90 Payment - The accepted quantities of work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following item:

Payment for the lump sum Bid Item <u>Fiber Optic Interconnect System, Complete</u> shall be payment in full for the modification, configuration, and maintenance of an operating fiber optic interconnect to the operational signal (existing, temporary, or new) at the intersection of Keizer Station Blvd/Chemawa Rd NE-Lockhaven Dr NE, Keizer Station Blvd/Keizer Transit Station Access, Keizer Station Blvd/Stadium Dr, and Keizer Station Blvd/Ulali Dr and through the Project at all times during construction. Payment shall include all required fiber optic cable, splice closures, splices, communications hardware, patch cords, mounting brackets and power connections for a complete and operational system. Payment also includes all required subsystem testing and documentation. Payment will be payment in full for all materials, equipment, labor, and incidentals necessary to complete the work. No additional or separate payment will be made for any items used temporarily to maintain a communication link including temporary conduit, hand holes, or splice vaults.

SECTION 01030 – SEEDING

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.13(f) Types of Seed Mixes - Add the following to the end of this subsection:

Provide the following seed mix formulas:

• Permanent Seeding:

| Botanical Name (Common Name) PT 404 CWS | | (% Purity x (minimum) | <pre>% Germination) = (minimum)</pre> | Amount (Ib/acre) |
|---|--------|--------------------------|---------------------------------------|---------------------|
| Native Upland Mix | 40 LBS | - | - | 40 |

Add the following subsection:

SECTION 01040 – PLANTING

Comply with Section 01040 of the Standard Specifications modified as follows:

01040.49 General Planting - Add the following to the end of this subsection:

The following watering frequencies are required:

- Deciduous trees that are 1 1/2 inch and larger, water at a frequency of 1 inch per week from June 15 through October 15.__2018____.
- Conifer trees that are over 4 feet tall, water at a frequency of 1 inch per week from June 15 through October 15.___2018___.
- All shrubs, water at a frequency of 1 inch per week from June 15 through October 15.____2018____.

01040.90(d) Plant Materials - Replace the paragraph that begins "Partial payments for plant Materials will..." and the partial payment table with the following paragraph and table:

Partial payments for plant Materials will be made as follows:

| At the time of the original planting | 60% |
|---|-----|
| After the first plant establishment inspection | |
| After the second plant establishment inspection | 10% |
| After the third plant establishment inspection | 10% |
| At completion of the establishment period | 10% |

SECTION 01120 – IRRIGATION SYSTEMS

Comply with Section 01120 of the Standard Specifications.

SECTION 02001 – CONCRETE

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

02001.31(f) Aggregate - Replace this subsection, except for the subsection number and title with the following:

If the nominal maximum size of the coarse Aggregate is not included as a part of the class of concrete, or shown on the Plans, any size from 1 1/2 inch to 3/8 inch nominal maximum size Aggregate may be used according to ACI guidelines except:

- Use 1 1/2 inch nominal maximum size Aggregates in bridge deck concrete.
- Use 1 1/2 inch nominal maximum size Aggregates in paving concrete unless otherwise indicated.
- Use 3/8 inch nominal maximum size Aggregates in drilled shafts unless otherwise indicated.

Proportion all HPC for a minimum coarse Aggregate absolute solid volume according to Table 02001-4:

Table 02001-4Absolute Solid Volume

| Maximum Nominal Aggregate Size | Cu. Yd. (Aggregate) / Cu. Yd. (Concrete) |
|-----------------------------------|---|
| 3/8" | 0.36 |
| 1/2" | 0.38 |
| 3/4" | 0.40 |
| 1" | 0.42 |
| 1 1/2" | 0.44 |

Two or more Aggregate products or sources meeting Specifications may be blended to improve concrete properties. Blending non-specification Aggregate materials, except for gradation, with specification materials is not allowed.

SECTION 02010 - PORTLAND CEMENT

Comply with Section 02010 of the Standard Specifications.

SECTION 02050 - CURING MATERIALS

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

Replace subsection 02050.10 with the following:

02050.10 General - Use curing material (s) conforming to one or more of the following requirements or as specified:

- White Burlap-Polyethylene Sheets for Curing Concrete: AASHTO M 171
- Waterproof Paper for Curing Concrete: AASHTO M 171
- Liquid Membrane-Forming Compounds for Curing Concrete* (white-pigmented): AASHTO M 148
- White Polyethylene (Film) for Curing Concrete Burlap Cloth (Jute or Kenaf): AASHTO M 182

*Not permitted on bridges, reservoirs, and box culverts.

Delete subsections 02050.20 and 02050.30

SECTION 02320 – GEOSYNTHETICS

Comply with Section 02320 of the Standard Specifications.

SECTION 02440 – JOINT MATERIALS

Comply with Section 02440 of the Standard Specifications modified as follows:

02440.10 Preformed Joint Fillers for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish preformed joint fillers for concrete from the QPL conforming to the requirements of AASHTO M 153 or AASHTO M 213, except that those furnished under AASHTO M 213 shall be tested in conformance to ASTM D 1751. Fillers conforming to AASHTO M 213,

except that the binder, if other than bituminous material, may also be used provided that they otherwise meet these Specifications and provided further that they have been demonstrated to be rot and vermin proof for a period of at least five years.

02440.20 Preformed Joint Fillers for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Utilize preformed elastomeric joint seals conforming to AASHTO M 220.

02440.30 Hot Poured Joint Filler - Replace this subsection, except for the subsection number and title, with the following:

Furnish hot poured joint filler from the QPL and conforming to the requirements of ASTM D6690, Type II.

SECTION 02510 – REINFORCEMENT

Comply with Section 02510 of the Standard Specifications.

SECTION 02630 – BASE AGGREGATE

Comply with Section 02630 of the Standard Specifications modified as follows:

02630.10(a) Grading – Add the following to the end of this subsection:

The percent passing the U.S. Standard No. 200 sieve shall less than 5 percent by dry weight.

02630.10(b) Fracture of Rounded Rock – Replace the second sentence of this subsection with the following:

Provide at least two fractured faces based on the following percentage of particles retained on the 1/4 inch sieve for the designated size

SECTION 02690 – PCC AGGREGATES

Replace Section 02690 of the Standard Specifications with the following Section 02690:

SECTION 02690 - PCC AGGREGATES

Description

02690.00 Scope - This Section includes the requirements for coarse and fine aggregates for portland cement concrete.

02690.01 Definitions:

Coating - Foreign or deleterious substances found adhering to the aggregate particles.

Detrimental Materials - Materials that adversely affect concrete, including but not limited to clay, shale, mica, silt, bark, alkali, sticks, organic matter, soft and flaky particles.

Nominal Maximum Size Of Aggregate - One sieve larger than the first sieve that retains more than 10 percent of the material using an agency specified set of sieves based on cumulative percent retained. Where large gaps in specification sieves exist, intermediate sieves may be inserted to determine nominal maximum size.

Materials

02690.10 Materials - PCC Aggregates shall consist of natural or crushed rock that is hard, strong, durable and free from adherent coatings or other detrimental materials.

Produce, handle and store the aggregates in a way that will maintain passing material properties and avoid introducing deleterious materials or segregation prior to its use in portland cement concrete.

02690.11 Alternate Grading - The Contractor may request approval to produce coarse and fine aggregates in sizes other than those stated in 02690.20 and 02690.30. The request shall be in writing, and shall state the proposed target value and specified tolerances for each of the individual sieve sizes of the materials the Contractor proposes to produce.

02690.12 Acceptance of Aggregate - Acceptance of aggregate will be according to Section 00165 and based on the Contractor's quality control testing, if verified, according to Section 00165.

(a) Aggregate Gradation - A stockpile contains specification aggregate gradation when the quality level for each sieve size calculated according to 00165.40 is equal to or greater than the quality level indicated in Table 00165-2 for a PF of 1.00. Each required sample represents a sublot. When the quality level indicated in Table 00165-2 yields a PF of less than 1.00 for any constituent, the material is non-specification.

(b) Non-specification Aggregate Gradation - Stockpiled aggregates that contain nonspecification aggregate gradation will be rejected by the Engineer unless non specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

Reprocessing of non-conforming material and the testing required for acceptance will be at no additional cost to the Agency. Acceptance of reprocessed material will be based on passing test results or accepted visually by the Engineer.

02690.20 Coarse Aggregate:

(a) Harmful Substances - Harmful substances shall not exceed the following limits:

| | Test N | lethod | Percent |
|------|--------|--------|-------------|
| Test | ODOT | AASHTO | (by Weight) |

| Lightweight Pieces | — | T 113 | 1.0 |
|--------------------------------|--------|-------|------|
| Material passing No. 200 sieve | — | T 11 | 1.0 |
| Wood Particles | TM 225 | _ | 0.05 |

(b) **Soundness** - Coarse aggregates for concrete shall be tested for soundness using sodium sulfate salt, according to AASHTO T 104. The weighted percentage loss shall not exceed 12 percent by weight.

(c) **Durability** - Coarse aggregates shall meet the following durability requirements:

| | Test | Method | |
|---|--------|--------|--------------|
| Test | ODOT | AASHTO | Requirements |
| Abrasion Oregon Air Aggregate Degradation: | _ | T 96 | 30.0% Max. |
| Passing No. 20 sieve | TM 208 | _ | 30.0% Max. |
| Sediment Height | TM 208 | — | 3.0" Max. |

(d) PCC Paving Aggregate - In addition to requirements above, comply with the following:

(1) Fracture - Provide aggregate with at least two fractured faces on at least 50 percent of the particles retained on the 3/8 inch, 1/2 inch, 3/4 inch, 1 inch, and 1 1/2 inch sieves, as determined by AASHTO T 335.

(2) Elongated Pieces - Provide aggregate with elongated pieces not exceeding 10 percent by weight of the material retained on the No. 4 sieve when tested according to ODOT TM 229 with the proportional caliper device set at a ratio of 5:1.

(e) Grading and Separation by Sizes for Prestressed Concrete - Sampling shall be according to AASHTO T 2 and sieve analysis shall be determined according to AASHTO T 27 and AASHTO T 11. PCC coarse aggregate shall conform to grading and separated sizes as follows:

(1) Where indicated in Table 02690-1, the coarse aggregate shall be separated into two sizes and each separated size shall be measured into the batch in the quantity determined by the mix design.

For each of the indicated maximum sizes of coarse aggregates, the separated sizes shall be as indicated in Table 02690-2:

Table 02690-1

| Maximum Nominal Size of Aggregates | Separated Sizes |
|---------------------------------------|------------------------------|
| 1" | 1" - No. 4 |
| 3/4" | 3/4" - No. 4 |
| 3/4" | 3/4" - 1/2" and 1/2" - No. 4 |
| 3/4" | 3/4" - 3/8" and 3/8" - No. 4 |

No. 4

No. 200

0 - 10

0 - 15

(2) The grading of each of the specified separated sizes of coarse aggregate shall conform to the following:

| Table 02690-2 | | | | | | |
|-----------------------------|------------|-------------|------------|------------|-------------|-------------|
| Separated Sizes | | | | | | |
| Sieve Size | 1" - No. 4 | 3/4"- No. 4 | 3/4"- 1/2" | 3/4"- 3/8" | 1/2"- No. 4 | 3/8"- No. 4 |
| Percent Passing (by Weight) | | | | | | |
| 1 1/2" | 100 | _ | _ | _ | _ | _ |
| 1" | 90 - 100 | 100 | 100 | 100 | _ | _ |
| 3/4" | 50 - 80 | 90 - 100 | 85 - 100 | 85 - 100 | 100 | 100 |
| 1/2" | _ | _ | 0 - 15 | _ | 85 - 100 | — |
| 3/8" | 15 - 40 | 20 - 50 | _ | 0 - 15 | 35 - 65 | 85 - 100 |

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

______*

0 - 15

0 - 10

(f) Grading and Separation by Sizes for Other Concrete - Sampling shall be according to AASHTO T 2. Sieve analysis shall be according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting the gradation requirements of Tables 02690-3 and 02690-4 for structural concrete. Provide a CAgT to perform sampling and testing when required.

Table 02690-3

Gradation of Coarse Aggregates

| | Combined* | Separated | Separated | Separated |
|------------|-------------------------|---------------|-----------|----------------------|
| Sieve Size | Sizes 1 1/2" - No. 4 | Sizes | Sizes | Sizes 3/4" - 1/2" |
| | Percent | t Passing (by | Weight) | |
| 2" | 100 | 100 | _ | _ |
| 1 1/2" | 90 - 100 | 90 - 100 | 100 | _ |
| 1" | 70 - 89 | 20 - 55 | 90 - 100 | 100 |
| 3/4" | 35 - 70 | 0 - 15 | _ | 85 - 100 |
| 1/2" | _ | _ | 25 - 60 | 0 - 15 |
| 3/8" | 10 - 30 | 0 - 5 | _ | _ |
| No. 4 | 0 - 5 | _ | 0 - 10 | _ |
| No. 8 | - | _ | 0 - 5 | _ |
| No. 200 | ** | ** | ** | ** |

* For 1 1/2 inch coarse aggregate use two or more separated sizes which when combined shall meet the gradation limits for 1 1/2" - No. 4

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

Table 02690-4 Gradation of Coarse Aggregates

| Sieve Size | Separated Sizes 3/4" - 3/8" | Separated or Combined Sizes 3/4" - No. 4 | Separated Sizes 1/2" - No. 4 | Separated Sizes 3/8" - No. 8 |
|------------|-----------------------------------|---|------------------------------------|------------------------------------|
| | | Percent Passi | ng (by Weight |) |
| 1" | 100 | 100 | _ | _ |
| 3/4" | 90 - 100 | 90 - 100 | 100 | _ |
| 1/2" | 20 - 55 | _ | 90 - 100 | 100 |
| 3/8" | 0 - 15 | 20 - 55 | 40 - 70 | 85 - 100 |
| No. 4 | 0 - 5 | 0 - 10 | 0 - 15 | 10 - 30 |
| No. 8 | - | 0 - 5 | 0 - 5 | 0 - 10 |
| No. 16 | - | _ | - | 0 - 5 |
| No. 200 | * | * | * | * |

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

02690.30 Fine Aggregates:

(a) **Different Sources** - Do not mix fine aggregates from different sources of supply, or store in the same pile. Do not use alternately in the same class of mix, without prior approval.

(b) Harmful Substances - The amount of harmful substances shall not exceed the following limits:

| Test | Test Method (AASHTO) | Percent (by Weight) |
|--------------------------------|-------------------------|------------------------|
| Lightweight Pieces | T 113 | 2.0% |
| Material passing No. 200 sieve | T 11 | 3.0% |

(c) **Soundness** - Fine aggregate shall be tested for soundness using sodium sulfate salt, according to AASHTO T 104. The weighted percentage loss shall not exceed 10 percent by weight.

(d) **Organic Impurities** - All fine aggregate shall meet the requirements of AASHTO M 6 for organic impurities.

(e) **Sand Equivalent** - Fine aggregate shall be tested according to AASHTO T 176 and shall have a sand equivalent of not less than 75.

(f) Sand for Mortar - Sand for mortar shall conform to the requirements of this Section.

(g) Grading - Sampling shall be according to AASHTO T 2. Sieve analysis shall be determined according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting

the gradation requirements of Table 02690-5 for structural concrete. Provide a CAgT to perform sampling and testing when required.

| Table 02690-5 | | |
|------------------------------|--------------------------------|--|
| Gradation of Fine Aggregate* | | |
| Sieve Size | Percent Passing (by Weight) | |
| 3/8" | 100 | |
| No. 4 | 90 - 100 | |
| No. 8 | 70 - 100 | |
| No. 16 | 50 - 85 | |
| No. 30 | 25 - 60 | |
| No. 50 | 5 - 30 | |
| No. 100 | 0 - 10 | |
| No. 200 | ** | |

- * Determine the fineness modulus according to AASHTO T 27 and AASHTO T 11. Maintain the fine aggregate fineness modulus within plus or minus 0.20 from the fineness modulus used in the Contractor's mix design. Fine aggregates in which the fineness modulus varies by more than 0.20 from the mix design target shall not be incorporated until an assessment is done to determine whether an adjustment in the aggregate proportions is necessary. Proportion changes must be performed by a CCT according to the provisions of ACI 211. Submit analysis of FM and mix design adjustments to the Engineer for approval.
- ** See 02690.30(b). Do not evaluate material passing No. 200 sieve according to 0165.40.

SECTION 02830 – METAL HANDRAIL

Comply with Section 02830 of the Standard Specifications modified as follows:

Add the following subsection:

02830.32 Powder Coating – Coat handrail in accordance with Section 00593.

SECTION 02910 - SIGN MATERIALS

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

02910.00 Scope - Add the following paragraph to the end of this subsection:

This Section also includes the requirements for anti-graffiti coating.

Add the following subsection:

02910.70 Anti-Graffiti Coating for Signs:

(a) **General** - Use Anti-graffiti coating from the QPL. Apply anti-graffiti coating over both the background and legend sheeting, per the manufacturer's recommendation.

(b) Acceptance - Furnish a quality compliance certificate according to 00165.35, certifying that the anti-graffiti coating used is an acceptable product on the QPL.

SECTION 02920 – COMMON ELECTRICAL MATERIALS

Comply with Section 02920 of the Standard Specifications modified as follows:

02920.14(d) Polymer Concrete Junction Boxes – Delete the entire Subsection and replace with the following:

(d) Polymer Concrete Junction Boxes and Fiber Optic Splice Vaults - Polymer concrete junction boxes shall be precast water meter type. Material shall consist of aggregate bonded with a polyester resin and reinforced with fiberglass strands. The box and cover shall be gray in color. Covers shall be capable of withstanding a load of 15,000 pounds over a 10 inch by 10-inch square surface. Covers shall have a skid-resistant surface, and bolt to the junction box with a recessed stainless steel hex-head bolts. All covers shall be recessed and fit the box so that when the cover is set in the box, the top of the cover shall be even with the top of the box.

Heavy duty polymer concrete junction boxes shall be supplied for this Project. Lids for each junction box shall be integrally marked appropriately depending on the type of use. Mechanically attached or stick on markings are not acceptable and the lid will be rejected.

Junction boxes and lids shall be one of the following or approved equals:

- (1) For JB/2 boxes (covers marked "Traffic Signal or Street Lighting"):
 - Strongwell (Quazite) Box: PG1324BA18 Lid: PG1324HA00
 - Armorcast A6001946TAPCX18 with heavy duty lid
 - Synertech S1324B18FA with heavy duty lid S1324HBBOA01

(2) For JB/3 boxes (covers marked "Traffic Signal"):

- Strongwell (Quazite) Box: PG1730BA18 Lid: PG1730HA00
- Armorcast A6001640TAPCX18 with heavy duty lid
- Synertech S1730B18FA with heavy duty lid S1730HBBOA01

(3) For JB/4 boxes (covers marked "Traffic Signal"):

- Strongwell (Quazite) Box: PG2436BA18 Lid: PG2436HA00
- Synertech S2436B18FA with heavy duty lid S2436HBBOA01.

(4) For Fiber Optic Hand Holes (covers marked "Traffic Signal"):

- Strongwell (Quazite) Box: PG1730BA24 Lid: PG1730HA00
- Armorcast A6001640TAPCX24 with heavy duty lid
- Synertech S1730B24FA with heavy duty lid S1730HBBOA01

(5) For Fiber Optic Splice Vaults (covers marked "Traffic Signal"):

- Strongwell (Quazite) Box: PG2436BA36 Lid: PG2436HA00
- Synertech S2436B36FA with heavy duty lid S2436HBBOA01

When a Fiber Optic Splice Vault is specified or identified on the Drawings, said vault shall have a nominal inside dimension of 24 inches wide by 36 inches long by 36 inches deep and shall have a cover with the appropriate logo. An oversized Fiber Optic Splice Vault (SV2) shall have a nominal inside dimension of 30 inches wide by 48 inches long by 36 inches deep and shall have a cover with the appropriate logo. The cover shall be a heavy duty locking cover when the box is located within a roadway or other place where frequent traffic loading may occur, or an approved steel cover. This vault shall not be used within roadways, unless the vault is designed for traffic loading and is approved by the Engineer.

Each Fiber Optic Splice Vault shall be equipped with cable racks, rack hooks and all associated hardware to suspend the fiber optic cable(s) and splice closures off the ground surface. All brackets, hangers, and installation hardware shall be galvanized steel and be sized appropriately for installation in the vault.

The Fiber Optic Splice Vault and cover shall be the same manufacturer's product for each installation, including an approved equal.

When a JB/4 is specified or identified on the Drawings, said junction box shall have a nominal inside dimension of 24 inches wide by 36 inches long by 18 inches deep and shall have a cover with the appropriate logo.

SECTION 02925 - TRAFFIC SIGNAL MATERIALS

Comply with Section 02925 of the Standard Specifications modified as follows:

02925.40 Cabinets - Delete the text of the last paragraph of this Subsection and replace it with the following:

Provide each terminal cabinet with a latching device for a standard padlock. Provide a "BEST" brand locking device for the controller cabinet and service cabinet with black plastic cores. Owner shall provide construction cores during construction and will switch to final T-1 core following construction. Provide and install riser frame assembly for controller cabinet.

002925.40 Cabinets – Add the following Subsection at the end of this Section:

Traffic Signal Power Service Cabinet - Power service cabinet shall be a tamper (a) resistant, slim line, weatherproof, pad mounted pedestal with main and subfeed circuit breakers and controls as shown on the City of Salem standard equipment plan sheet. It shall be metered. The electrical equipment enclosure shall be factory prewired and tested to meet or exceed NEMA and UL standards. Enclosure wiring shall conform to NEMA Class II C. Control wiring shall be seven strand No. 14 TW, except for hinge wiring, which shall be 19 strand No. 14 THHN. Wiring shall be arranged so that any piece of apparatus may be removed without disconnecting any wiring except the leads to permanent clip sleeve wire markers. Wiring troughs shall be provided in the enclosure as necessary. All wiring shall be marked with permanent slip sleeve wire markers. A copy of the wiring diagram for the integrated system shall be laminated in plastic and mounted inside the electrical equipment enclosure. Name plates shall be provided for each control component. Metal work shall be fabricated from 1/8-inch aluminum sheet stock electrically welded and reinforced where required and anodized after fabrication. External corners and seams shall be ground smooth. The main door shall have a three point latching device with a "BEST" Brand locking device. All other doors shall be padlock able and vandal resistant. Hinges shall be continuous stainless steel piano type. No screws, rivets, or bolts shall be visible on the outside of the enclosure. The enclosure door shall be gasketed to provide a weatherproof and dustproof seal.

- (1) This cabinet shall conform to the provisions of the ES-2B, Style a, Type 3 service cabinet of the State of California, and be similar in design to the TESCO Class 27-100 or TESCO Class 24-200 service pedestal as shown on the Drawings. The cabinet shall also provide a generator disconnect circuit as shown on the Drawings. The cabinet shall be sized appropriately to include the additional street light circuits.
- (2) A hybrid power line surge protection device such as the EDCO Surrestor SHA-1210 (with plastic cover) or equal shall be furnished in each controller cabinet.

(b) **Power Service/Flasher Unit Cabinet** - An anodized aluminum power service/flasher unit (combined) cabinet designed in accordance with the standard detail sheet as shown on the Drawings. The cabinet shall be supplied by one of the following companies:

- Skyline electric and Manufacturing Company;
- Fouch Manufacturing;
- Or approved equal

The Contractor shall submit manufacturer drawings for approval prior to installation on the Project.

02925.41(b) Circuit Breakers - Add the following text to the end of this subsection:

A 120 volt, 20 amp circuit breaker shall be supplied and installed, including all necessary brackets and wiring, in each cabinet.

02925.42 Traffic Signal Control Devices - Add the following text to the end of this subsection:

Model 2070E controller(s) shall be supplied by the Contractor and delivered to the State Testing Lab. Model 2070E controller(s) shall be compatible with and shall properly operate the City's BiTran 2033 traffic signal control program. The Owner will supply the traffic signal control programs to be installed for this Contract.

The cost of ODOT lab testing of the 332 stretch cabinet shall be paid by the Contractor.

Model 764 3-M Opticom brand discriminator(s) shall be supplied by the Contractor for all Model 2070E Traffic Signal installations. The preemption harness shall be factory wired into the controller cabinet before delivery for testing.

Standard Modem Installation—McCain Model M33332A Ethernet Modem(s) or an equivalent Ethernet modem(s), shall be furnished and installed for this Contract.

(a) The following changes are made to the September 2001 Standard Specifications for Microcomputer Signal Controller:

- (1) Replace Chapter 2, Section 1, Unit 10 with the following:
 - a. 3.1.6.1 Replace "15 amps" with "10 amps."
 - **b.** 6.1.1.1 Add the following to the listed items: Auxiliary output file.
 - c. 6.1.1.4 In the first sentence, remove "with Model 400 Modem."
 - **d.** 6.5.2.1 Replace the last sentence with the following:

All spade connectors on wires connecting to the input panel (terminal blocks TB1 through TB10 and DC ground bus) and/or input files (terminal blocks T1 through T15) shall be crimped and soldered to the wires.

02925.67(a) Aluminum Signal Heads - Add the following text to the end of this subsection:

Backboards shall have a 2-inch fluorescent yellow reflective sheeting (ASTM Type 9) applied over the power coat finish along the outer perimeter.

SECTION 02926 - HIGHWAY ILLUMINATION MATERIALS

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

02926.41(c) Multiple Light Contactors - Add the following text to the end of this subsection:

Contactors shall be solid state models, containing no mercury as an operating means.

02926.41(e) Photoelectric Relay - Add the following text to the end of this item:

Photoelectric Control Cells shall have a 20 year design life, with a minimum of 10 year manufacturer's guarantee. Use the following or approved equal:

| <u>Manufacturer</u> | Model No. |
|---------------------|-----------|
| SELC | #8483 |
| DTL | DLL Elite |

02926.50 Illumination Lamps - Delete this subsection and replace with the following:

02926.50 Illumination Source - All luminaires shall utilize Light Emitting Diode (LED) light sources for illuminating the roadway. LED light sources shall produce a light color temperature of approximately 4,000 K. Light sources will also meet or exceed the following efficiency and longevity benchmarks:

Light Emitting Diode (LED)MinimumMinimumMinimum LumenLuminousAverage LED LifeMaintenance Factor @Efficacy(hours)50,000 hours70 lumens/Watt> 50,0000.80

02926.54(b) LED Luminaire Types – Delete this subsection and replace with the following:

(b) LED Luminaire Types - All luminaires shall be Cobra head style, sized accordingly to the illumination requirements of the roadway. They will normally be energized by 240 volts. The fixture shall produce a medium, Type III, Cutoff distribution lighting pattern. A generation of the product shall be listed on the DesignLights Consortium Qualified Product List available at:

http://www.designlights.org/solidstate.about.QualifiedProductsList_Publicv2.php.

One of the following preapproved luminaires shall be used or approved equal.

| Ke | Keizer Station Blvd / Chemawa Rd NE-Lockhaven Dr NE Intersection | | |
|----|--|------------------------------------|--|
| | 17,000 – 21,000 lumens Luminaires without Photoelectric | | |
| | Control Cell: | | |
| | (For use on Traffic Signal Poles at 35-feet mounting height) | | |
| | <u>Manufacturer</u> | <u>Model No.</u> | |
| | American Electric | ATB2-80BLEDE70-MVOLT-R3-SH | |
| | GE | ERS3-0-TX-DX-5-40-4-GRAY | |
| | Leotek | GC2-120F-MV-NW-3-GY-530-PC | |
| | BETA | STR-LWY-3M-HT-10-D-UL-SV-700-43K-R | |

| Keizer Station Blvd / Keizer Transit Center Access Intersection | | |
|---|------------------------------------|--|
| 15,000-17,000 lumens Luminaires without Photoelectric | | |
| Control Cell: | | |
| (For use on Traffic Signal Poles at 35-feet mounting height) | | |
| Manufacturer | Model No. | |
| American Electric | ATB2-60BLEDE70-MVOLT-R3-SH | |
| GE | ERS3-0-NX-DX-5-40-4-GRAY | |
| Leotek | GC2-90F-MV-NW-3-GY-530-PC | |
| BETA | STR-LWY-3M-HT-09-D-UL-SV-700-43K-R | |

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SECTION 03020 - EROSION MATERIALS

Comply with Section 03020 of the Standard Specifications.

EXHIBIT B

COMPENSATION AND METHOD OF PAYMENT

I. **Total Compensation.** As full compensation for performance by the Contractor, SAMTD shall pay the lump sum price of **\$1,578,822.00** ("Contract Price"). The lump sum price is hereinafter referred to as the Contract Price.

In no event will Contractor exceed the authorized "not-to-exceed" Contract Price without the express written consent of SAMTD. The maximum compensation under this Contract may only be modified by written agreement of both parties to the Contract.

- **II. Allowances.** All allowances stated in the Contract Documents shall be included in the Contract Price. Allowances shall include the costs of materials and equipment delivered to the Worksite less applicable trade discounts, unloading and handling at the Worksite and labor and installation, unless specifically stated otherwise. The Contractor's overhead and profit for the allowances shall be included in the Contract Price, but not in the allowances. The Contract Price shall be adjusted by Change Order to reflect the actual costs when they are greater than or less than the allowances.
- **III. Schedule of Values.** See Section E1 of Exhibit C, General Terms and Conditions.
- **IV. Progress Payments.** See Section E2 of Exhibit C, General Terms and Conditions.
 - (1) Applications for payment shall be sent electronically to steve.dickey@cherriots.org in PDF format, copy to the SAMTD Procurement and Contracts Manager.
 - (2) Invoices will only be considered for payment on completed items with completion approval by SAMTD during the invoice billing period.
 - (3) Payment terms are net 30 calendar days following receipt of a correct and auditable pay application by SAMTD. A correct and auditable invoice shall include:
 - a. The applicable SAMTD contract number;
 - b. Total pay application amount (including itemized amounts charged for labor and materials);
 - c. Total number of labor hours expended and labor billing rates;
 - d. Invoice billing period;
 - e. Description of the Services performed during the invoice billing period (including completed Deliverables);
 - f. Delineate the Emerging Small Businesses (ESB) and Disadvantaged Business Enterprises (DBE) utilized during the period covered by the pay application if applicable. Information provided should include:
 - i. Business Name
 - ii. Dollar Value of Work performed during period being reported
 - g. Any other information that SAMTD may reasonably require.

- (4) The presentation of a pay application by Contractor to SAMTD constitutes an express warranty and representation by Contractor to SAMTD that the Work has progressed to the point indicated and that the quality of the Work is in accordance with this Contract.
- (5) No approval of any application for payment, nor any payment, final or otherwise, nor any use or approval of deliverables by SAMTD shall itself constitute Acceptance of the Services.
- (6) SAMTD may withhold all or part of any amounts due Contractor to protect SAMTD from a loss, including but not limited to, losses caused by the following:
 - a. Failure to submit data required for reporting to state, federal or other oversight agency in a timely manner;
 - b. Failure of Contractor to make proper payments to its subcontractors for Services;
 - c. Failure of Contractor to carry out and/or remedy the Services in accordance with the Contract;
 - d. Contractor's breach of warranties.
- (7) Contractor shall maintain books and records supporting all amounts invoiced to SAMTD. Contractor shall preserve such books and records for the duration of this Contract and for seven (7) years thereafter, during which time SAMTD and its representatives shall have access to such books and records and shall have the right to make any copies thereof for the purpose of auditing or verifying pay application or for any other reasonable business purpose. Contractor warrants and represents that all books and records specified above shall be complete and accurate and that SAMTD may rely on such records and books for any purposes. If Contractor becomes aware that such records are inaccurate or incomplete, Contractor will promptly notify SAMTD in writing.
- V. Retainage. See Section E5 of Exhibit C, General Terms and Conditions.
- VI. Substantial Completion. When Substantial Completion of the Work or a designated portion thereof is achieved, the Contractor shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, and the respective responsibilities of SAMTD and Contractor for interim items such as security, maintenance, utilities, insurance, and damage to the Work, and fixing the time for completion of all items on the list accompanying the Certificate. The Certificate of Substantial Completion shall be submitted by the Contractor to SAMTD for written acceptance of responsibilities assigned in the Certificate. Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or a designated portion to be determined by SAMTD.
- VII. Final Completion. See Section E6 of Exhibit C, General Terms and Conditions.

CONTRACT No. 18-026

EXHIBIT C

Salem Area Mass Transit District

General Terms And Conditions for Public Improvement Contracts with Federal Funding

GENERAL TERMS AND CONDITIONS

FOR PUBLIC IMPROVEMENT CONTRACTS

SALEM AREA MASS TRANSIT DISTRICT GENERAL TERMS AND CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS

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SALEM AREA MASS TRANSIT DISTRICT GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS ("General Conditions")

SECTION A GENERAL PROVISIONS

A.1 DEFINITION OF TERMS

In the Contract Documents the following terms shall be as defined below:

ARCHITECT/ENGINEER, means the Person appointed by the Owner to make drawings and specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities of the Owner's Authorized Representative to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

AS BUILT DRAWING(S), means a revised set of drawings submitted by the contractor as part of the Record Document Submittal upon completion of the contract reflecting all changes made in the specifications and working drawings during the construction process, and show the exact dimensions, geometry, and location of all elements of the work completed under the contract.

<u>CHANGE ORDER</u>, means a written order issued by the Owner's Authorized Representative to the Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D.1 including Owner's written change directives as well as changes reflected in a writing executed by the parties to this Contract and, if applicable, establishing a Contract Price or Contract Time adjustment for the changed Work.

CLAIM, means a demand by Contractor pursuant to Section D.3 for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these General Conditions.

<u>CONTRACT</u>, means the written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

<u>CONTRACT DOCUMENTS</u>, means the Contract for Provision of Construction Services together will all Exhibits, General Conditions, Supplemental General Conditions, if any, the accepted Offer, Plans, Specifications, amendments and Change Orders.

<u>CONTRACT PERIOD</u>, as set forth in the Contract Documents, means the total period of time beginning with the issuance of the Notice to Proceed and concluding upon Final Completion.

CONTRACT PRICE, means the total of the awarded Offer amount, as increased or decreased by the price of approved alternates and Change Orders.

CONTRACT TIME, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the project schedule.

CONTRACTOR, means the Person awarded the Contract for the Work contemplated.

DAYS, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents, the cost of materials, including sales tax, cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; worker's compensation insurance; project specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater); bond premiums, rental cost of equipment, and machinery required for execution of the work; and the additional costs of field personnel directly attributable to the Work.

<u>FINAL COMPLETION</u>, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described in Section I.2, and the final payment and release of all retainage, if any, released.

FORCE MAJEURE, means an act, event or occurrence caused by fire, riot, war, acts of God, nature, sovereign, or public enemy, strikes, freight embargoes or any other act, event or occurrence that is beyond the control of the party to this Contract who is asserting Force Majeure.

LEGAL REQUIREMENTS are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Services or Work. Without limiting the generality of the foregoing, Design-Builder expressly agrees to comply with the following as applicable: i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act

of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended (vi) all regulations and administrative rules established pursuant to the foregoing laws; and (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Owners' performance under the Contract is conditioned upon Design-Builder's compliance with the provisions of ORS 279C.505, 279C.510, 279C.515, 279C.520, and 279C.530, and the terms and conditions of the Federal Transit Administration Contract Requirements set forth in Exhibit D, all of which are incorporated by reference herein.

NOTICE TO PROCEED, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted to Owner in a suitable form.

OFFER, means a bid in connection with an invitation to bid and a proposal in connection with a request for proposals.

OFFEROR, means a bidder in connection with an invitation to bid and a proposer in connection with a request for proposals.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), expenses of Contractor's offices at the job site (e.g. job trailer) including expenses of personnel staffing the job site office, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means Salem Area Mass Transit District.

OWNER'S AUTHORIZED REPRESENTATIVE, means those individuals identified in writing by the Owner to act on behalf of the Owner for this project. Owner may elect, by written notice to Contractor, to delegate certain duties of the Owner's Authorized Representative to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

PERSON, means an entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, or any other entity possessing the legal capacity to contract.

PLANS, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

<u>PUNCHLIST</u>, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

<u>RECORD DOCUMENT</u>, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer to Owner, operational and maintenance manuals, shop drawings, Change Orders, correspondence, certificate(s) of occupancy, and other documents listed in Subsection B.9.1 of these General Conditions, recording all Services performed.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

<u>SUBCONTRACTOR</u>, means a Person having a direct contract with the Contractor, or another Subcontractor, to perform one or more items of the Work.

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.4.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Approval of any substitute item shall be solely determined by the Owner's Authorized Representative. The decision of the Owner's Authorized Representative is final.

<u>SUPPLEMENTAL GENERAL CONDITIONS</u>, means those conditions that remove from, add to, or modify these General Conditions. Supplemental General Conditions may be included in a separate attachment to the Contract.

WORK, means the furnishing of all materials, equipment, labor, transportation, services and incidentals necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents.

A.2 SCOPE OF WORK

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in the Contract Documents. The Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

- A.3.1 Unless otherwise specifically defined in the Contract Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts among the Contract Documents, interpretations will be based on the following descending order of precedence:
 - 1. Contract amendments and Change Orders, with those of later date having precedence over those of an earlier date;
 - 2. The Supplemental General Conditions, if any;
 - 3. The Contract for Provision of Construction Services;
 - 4. The Scope of Work;
 - 5. The Federal Contract Clauses;
 - 6. The State Contract Clauses;
 - 7. These General Terms and Conditions;
 - 8. The Compensation and Method of Payment; and
 - 9. The Plans and Specifications.
- A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Owner or Owner's Authorized Representative's interpretation in writing.
- A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner or Owner's Authorized Representative. Matters concerning performance under, and interpretation of requirements of, the Contract Documents will be decided by the Owner's Authorized Representative, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner's Authorized Representative (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness.

Interpretations and decisions of the Owner's Authorized Representative (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner's Authorized Representative (or Architect/Engineer).

A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the project is occurring on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

- A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.
- A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.

SALEM AREA MASS TRANSIT DISTRICT (SAMTD) KTC Signalized Intersection

- A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner's Authorized Representative, including without limitation, any nonconformity with applicable laws, statutes, ordinances, building codes, rules and regulations.
- A.4.4 If the Contractor believes that additional cost or Contract Time is involved because of clarifications or instructions issued by the Owner's Authorized Representative (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner's Authorized Representative, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner's Authorized Representative denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from The clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

A.5 INDEPENDENT CONTRACTOR STATUS

The service or services to be performed under this Contract are those of an independent contractor as defined in ORS 670.600. Contractor represents and warrants that it is not an officer, employee or agent of the Owner.

A.6 RETIREMENT SYSTEM STATUS AND TAXES

Contractor represents and warrants that it is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal or state taxes applicable to payment received under this Contract. Contractor will not be eligible for any benefits from these Contract payments of federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual. Unless the Contractor is subject to backup withholding, Owner will not withhold from such payments any amount(s) to cover Contractor's federal or state tax obligations.

A.7 GOVERNMENT EMPLOYMENT STATUS

- A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor from holding another contract with the Federal Government.
- A.7.2 Contractor represents and warrants that Contractor is not an employee of the Owner for purposes of performing Work under this Contract.

SECTION B ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATI ON OF THE CONTR ACT

- B.1.1 The Owner's Authorized Representative will provide administration of the Contract as described in the Contract Documents (1) during construction (2) until final payment is due and (3) during the one-year period for correction of Work. The Owner's Authorized Representative will act on behalf of the Owner to the extent provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner's Authorized Representative may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.
- B.1.2 The Owner's Authorized Representative will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner's Authorized Representative will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner's Authorized Representative will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.
- B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall endeavor to communicate with each other through the Owner's Authorized Representative or designee about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner's Authorized Representative.
- B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner's Authorized Representative, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

B.2 CONTRACTOR'S MEANS AND METHODS; MITIGATION OF IMPACTS

- B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.
- B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.
- B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, and Subcontractors on the project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.3 MATERIALS AND WORKMANSHIP

- B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.
- B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's expense.
- B.3.3 Work done and materials furnished shall be subject to inspection and/or observation and testing by the Owner's Authorized Representative and/or local jurisdiction representatives to determine if they conform to the Contract Documents. Inspection of the Work by the Owner's Authorized Representative and/or the local jurisdiction representative does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.
- B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner's Authorized Representative and/or local jurisdiction representative to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.
- B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner's Authorized Representative and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits and licenses, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, the State of Oregon, and its departments, divisions, members and employees.

B.5 COMPLIANCE WITH GOVERNMENT LAWS AND REGULATIONS

B.5.1 Contractor shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

Contractor's attention is drawn to the fact that ADA compliance of all slopes and ramps will be strictly adhered to. Slopes will be verified with the use of a 24 inch SmartTool digital self-calibrating level, and a 6 inch SmartTool digital self-calibrating level. The 6 inch level will only be used to measure counter slope when there is a concrete gutter. All other locations will use a 24 inch level to measure slopes.

- B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations; and
 - (a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.
 - (b) Contractor shall maintain, in current and valid form, all licenses and certificates required by law, regulation, or this Contract when performing the Work.

- B.5.3 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time they submit their bids to the Contractor.
- B.5.4 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.
- B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503)232-1987.
- B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.6 SUPERINTENDENCE

Contractor shall keep on the site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to the Owner and who shall represent the Contractor on the site. Directions given to the superintendent by the Owner's Authorized Representative shall be confirmed in writing to the Contractor.

B.7 INSPECTION

B.7.1 Owner's Authorized Representative and/or local jurisdiction representative shall have access to the Work at all times.

- B.7.2 Inspection of the Work will be made by the Owner's Authorized Representative and/or local jurisdiction representative at its discretion. The Owner's Authorized Representative and/or local jurisdiction representative will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner's Authorized Representative and/or local jurisdiction representative, shall be removed and replaced at the Contractor's expense.
- B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner's Authorized Representative timely notice of when and where tests and inspections are to be made so that the Owner's Authorized Representative and/or local jurisdiction representative may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner's Authorized Representative and/or local jurisdiction representative and/or local jurisdiction representative and/or local jurisdiction.
- B.7.4 As required by the Contract Documents, Work done or material used without inspection or testing by the Owner's Authorized Representative and/or local jurisdiction representative may be ordered removed at the Contractor's expense.
- B.7.5 If directed to do so any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without sufficient notice to the Owner's Authorized Representative and/or local jurisdiction representative, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner's Authorized Representative and/or local jurisdiction representative, the uncovering and restoration will be paid for as a Change Order.
- B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's Authorized Representative and/or local jurisdiction representative and Architect/Engineer's services and expenses, shall be at the Contractor's expense.
- B.7.7 When the United States government participates in the cost of the Work, or the Owner has an agreement with other public or private organizations, or if any portion of the Work is being performed for a third party or in close proximity to third party facilities, representatives of these organizations have the right to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner's Authorized Representative and/or local jurisdiction representative.

B.8 SEVERABILITY

If any provision of this Contract is declared by a court 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 provision held to be invalid.

B.9 ACCESS TO RECORDS

- B.9.1 Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Change Orders and addenda, in good order and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner's Authorized Representative access thereto.
- B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access to, for a period not less than ten (10) years, all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Contract is involved in litigation, Contractor shall retain all such records until all litigation is resolved. The Owner and/or its agents shall continue to be provided full access to the records during litigation.

B.10 WAIVER

Failure of the Owner to enforce any provision of this Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

B.11 SUBCONTRACTS AND ASSIGNMENT

- B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of Legal Requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.
- B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.
- B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under this Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.12 SUCCESSORS IN INTEREST

The provisions of this Contract shall be binding upon and shall accrue to the benefit of the parties to the Contract and their respective permitted successors and assigns.

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor. If such work takes place within or next to the project site, Contractor will coordinate work with the other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all forces involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner's Authorized Representative will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner's Authorized Representative will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.14 OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. The Contractor of this Contract will fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in section B.13.

B.15 GOVERNING LAW

This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflict of laws.
B.16 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Marion District for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the Owner on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACT BY EXECUTION OF THIS CONTRACT HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16.

B.17 ALLOWANCES

- B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.
- B.17.2 Unless otherwise provided in the Contract
 - Documents:
 - (a) when finally reconciled, allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
 - (b) Contractor's costs for unloading and handling at the site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;
 - (c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (2) changes in Contractor's costs under Section B.17.2(b).
 - (d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner's Authorized Representative if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples which are described below:
 - (a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any sub-subcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work.
 - (b) Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
 - (c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- B.18.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.
- B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate

contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.

- B.18.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.
- B.18.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.
- B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner's Authorized Representative.

B.19 SUBSTITUTIONS

The Contractor may make Substitutions only with the consent of the Owner, after evaluation by the Owner's Authorized Representative and only in accordance with a Change Order. Substitutions shall be subject to the requirements of the bid documents. By making requests for Substitutions, the Contractor represents that the Contractor has personally investigated the proposed substitute product; represents that the Contractor will provide the same warranty for the Substitution that the Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under this Contract including redesign costs, and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

B.20 USE OF PLANS AND SPECIFICATIONS

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under this Contract. Contractor and its Subcontractors and suppliers are authorized to use and reproduce applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of this Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and other reserved rights, in addition to copyrights, are retained by Owner.

B.21 FUNDS AVAILABLE AND AUTHORIZED

Owner reasonably believes at the time of entering into this Contract that sufficient funds are available and authorized for expenditure to finance the cost of this Contract within the Owner's appropriation or limitation. Contractor understands and agrees that, to the extent that sufficient funds are not available and authorized for expenditure to finance the cost of this Contract, Owner's payment of amounts under this Contract attributable to Services performed after the last day of the current biennium is contingent on Owner receiving from the Oregon Legislative Assembly appropriations, limitations or other expenditure authority sufficient to allow Owner, in the exercise of its reasonable administrative discretion, to continue to make payments under this Contract.

B.22 NO THIRD PARTY BENEFICIARIES

Owner and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide 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.

SECTION C WAGES AND LABOR

C.1 MINIMUM WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of the Davis-Bacon and Copeland Acts, and applicable Oregon prevailing wage laws under ORS 279C.800-ORS 279C.850, whichever applicable wage scale is higher. Documents establishing those conditions are included as attachments to or are incorporated by reference in the Contract Documents. Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts.

C.2 PAYROLL CERTIFICATION; ADDITIONAL RETAINAGE; FEE REQUIREMENTS

C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner's Authorized Representative, on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement and that to the Contractor's or Subcontractor's best knowledge and belief the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month.

The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

- C.2.2 Pursuant to ORS 279C.845(7), the Owner shall retain 25 percent of any amount earned by the Contractor on this public works project until the Contractor has filed the certified statements required by section C.2.1. The Owner shall pay to the Contractor the amount retained under this subsection within 14 days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.
- C.2.3 Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement, within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.
 - C.2.4 In accordance with statutory requirements, and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

C.3.1 Pursuant to ORS 279C.505 and as a condition to Owner's performance hereunder, the Contractor shall:

- C.3.1.1 Make payment promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the Work provided for in this Contract.
- C.3.1.2 Pay all contributions or amounts due the State Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the Contract.
- C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.
- C.3.1.4 Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
- C.3.1.5 Demonstrate that an employee drug testing program is in place as follows:
 - (a) Contractor represents and warrants that Contractor has in place at the time of the execution of this Contract, and shall maintain during the term of this Contract, a Qualifying Employee Drug Testing Program for its employees that includes, at a minimum, the following:
 - (1) A written employee drug testing policy,
 - (2) Required drug testing for all new Subject Employees or, alternatively, required testing of all Subject Employees every 12 months on a random selection basis, and
 - (3) Required testing of a Subject Employee when the Contractor has reasonable cause to believe the Subject Employee is under the influence of drugs.

A drug testing program that meets the above requirements will be deemed a "Qualifying Employee Drug Testing Program." For the purposes of this section, an employee is a "Subject Employee" only if that employee will be working on the project job site.

(b) Contractor shall require each Subcontractor providing labor for the project to:

- (1) Demonstrate to the Contractor that it has a Qualifying Employee Drug Testing Program for the Subcontractor's Subject Employees, and represent a warrant to the Contractor that the Qualifying Employee Drug Testing Program is in place at the time of subcontract execution and will continue in full force and effect for the duration of the subcontract, or
- (2) Require that the Subcontractor's Subject Employees participate in the Contractor's Qualifying Employee Drug Testing Program for the duration of the subcontract.
- C.3.2 Pursuant to ORS 279C.515, and as a condition to Owner's performance hereunder, Contractor agrees:
 - C.3.2.1 If 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 project as such claim becomes due, the proper officer that represents the Owner may pay the amount of the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Paying a claim in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to an unpaid claim.
 - C.3.2.2 If the Contractor or a first-tier Subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the public contract for a public improvement within thirty (30) Days after receiving payment from Owner or a contractor, the contractor or first-tier 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(3) 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.
 - C.3.2.3 If the Contractor or a Subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the 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. Every contract related to this Contract must contain a similar clause.
- C.3.3 Pursuant to ORS 279C.580, Contractor shall include in each subcontract for property or services the Contractor enters into with a first-tier Subcontractor, including a material supplier, for the purpose of performing a construction contract:
 - (a) A payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under the subcontract within ten (10) Days out of amounts the Owner pays to the Contractor under the Contract;
 - (b) A clause that requires the Contractor to provide the first-tier Subcontractor with a standard form that the first-tier Subcontractor may use as an application for payment or as another method by which the Subcontractor may claim a payment due from the Contractor;
 - (c) A clause that requires the 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. The Contractor may change the form or the regular administrative procedures the Contractor uses for processing payments if the Contractor:
 - Notifies the Subcontractor in writing at least 45 days before the date on which the Contractor makes the change; and
 - (2) Includes with the written notice a copy of the new or changed form or a description of the new or changed procedure.
 - (d) An interest penalty clause that obligates the Contractor, if the Contractor does not pay the first-tier Subcontractor within thirty (30) Days after receiving payment from Owner, to pay the first-tier Subcontractor an interest penalty on amounts due in each payment the Contractor does not make in accordance with the payment clause included in the subcontract under paragraph (a) of this subsection. Contractor or first-tier Subcontractor is not obligated to pay an interest penalty if the only reason that the Contractor or first-tier Subcontractor did not make payment when payment was due is that the Contractor or first-tier Subcontractor did not make payment when payment was due. The interest penalty 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 is computed at the rate specified in ORS 279C.515(2).
 - (e) A clause which requires each of Contractor's Subcontractors to include, in each of their contracts with lower-tier Subcontractors or suppliers, provisions to the effect that the first- tier Subcontractor shall pay its lower-tier Subcontractors and suppliers in accordance with the provisions of paragraphs (a) through (d) above and requiring each of their Subcontractors and suppliers to include such clauses in their subcontracts and supply contracts.
- C.3.4 All employers, including Contractor, that employ subject workers who work under this contract 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.

C.4 PAYMENT FOR MEDICAL CARE

Pursuant to ORS 279C.530, and as a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, all sums of which the Contractor agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

C.5 HOURS OF LABOR

As a condition to Owner's performance hereunder, Contractor shall comply with ORS 279C.520, as amended from time to time and incorporated herein by this reference:

Pursuant to ORS 279C.520 and as a condition to Owner's performance hereunder, no person shall be employed to perform Work under this Contract for more than ten (10) hours in any one day or forty (40) hours in any one week, except in cases of necessity, emergency or where public policy absolutely requires it. In such instances, Contractor shall pay the employee at least time and a half pay:

- (a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or
- (b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and
- (c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

This section C.5 will not apply to Contractor's Work under this Contract if Contractor is currently a party to a collective bargaining agreement with any labor organization.

This Section C.5 shall not excuse Contractor from completion of the Work within the time required under this Contract.

SECTION D CHANGES IN THE WORK

D.1 CHANGES IN WORK

- D.1.1 The terms of this Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever without prior written approval of the Owner's Authorized Representative, and then only in a manner consistent with the Change Order provisions of this Section D.1 and after any necessary approvals required by public contracting laws have been obtained. Otherwise, a formal contract amendment is required, which shall not be effective until its execution by the parties to this Contract and all approvals required by public contracting laws have been obtained.
- D.1.2 It is mutually agreed that changes in Plans, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, the Owner's Authorized Representative may at any time, without notice to the sureties and without impairing the Contract, require changes consistent with this Section D.1. All Change Order Work shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:
 - (a) Modification of specifications and design.
 - (b) Increases or decreases in quantities.
 - (c) Increases or decreases to the amount of Work.
 - (d) Addition or elimination of any Work item.
 - (e) Change in the duration of the project.
 - (f) Acceleration or delay in performance of Work.
 - (g) Deductive changes.

Deductive changes are those that reduce the scope of the Work, and shall be made by mutual agreement whenever feasible, as determined by Owner. In cases of suspension or partial termination under Section J, Owner reserves

the right to unilaterally impose a deductive change and to self perform such Work, for which the provisions of B.13 (Owner's Right to Do Work) shall then apply.

Adjustments in compensation shall be made under the provisions of D.1.3, in which costs for deductive changes shall be based upon a Direct Costs adjustment together with the related percentage markup specified for profit, Overhead and other indirect costs, unless otherwise agreed to by Owner.

- D.1.3 The Owner and Contractor agree that Change Order Work shall be administered and compensated according to the following:
 - (a) Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for additional Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the additional Work.
 - (b) If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for Change Order Work. In fixed pricing the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. The mark-ups set forth in D.1.3(c) shall be utilized by the parties as a guide in establishing fixed pricing, and will not be exceeded by Owner without adequate justification. Cost and price data relating to Change Orders shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.
 - (c) In the event that unit pricing and fixed pricing are not utilized, then Change Order Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. In addition, the following markups shall be added to the Contractor's or Subcontractor's Direct Costs as full compensation for profit, Overhead and other indirect costs for Work directly performed with the Contractor's or Subcontractor's own forces:

When Change Order Work under D.1.3(c) is invoiced by an authorized Subcontractor at any level, each ascending tier Subcontractor or Contractor will be allowed a 5% supplemental mark-up on each piece of subcontract Work covered by such Change Order.

Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other forces furnished by the Contractor, including Subcontractors, for Change Order Work. Owner may establish a maximum cost for Change Order Work under this Section D.1.3(c), which shall not be exceeded for reimbursement without additional written authorization from Owner. Contractor shall not be required to complete such Change Order Work without additional authorization.

- D.1.4 Any necessary adjustment of Contract Time that may be required as a result of a Change Order must be agreed upon by the parties before the start of the Change Order Work unless Owner's Authorized Representative authorizes Contractor to start the Work before agreement on Contract Time adjustment. Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of the Change Order. If Contractor's request for additional compensation or adjustment of Contract Time is not made within the thirty (30) day time limit, Contractor's requests pertaining to that Change Order are barred. The thirty (30) day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Extended to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.
- D.1.5 If any Change Order Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of, any other part of the Work under this Contract, the Contractor must submit a written request to the Owner's Authorized Representative, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of the Change Order by Contractor.

The thirty (30) day time limit applies to claims of Subcontractors, suppliers, or manufacturers that may be affected by the Change Order and that request additional compensation or an extension of Contract Time to perform; Contractor has responsibility for contacting its Subcontractors, suppliers, or manufacturers within the thirty (30) day time limit, and including their requests with Contractor's requests. If the request involves Work to be completed by Subcontractors, or materials to be furnished by suppliers or manufacturers, such requests shall be submitted to the Contractor in writing with full analysis and justification for the compensation and additional Contract Time requested. The Contractor will analyze and evaluate the merits of the requests submitted by Subcontractors, suppliers, and manufacturers to Contractor prior to including those requests and Contractor's nalysis and evaluation of those requests with Contractor's requests for additional compensation or Contract Time that Contractor submits to the Owner's Authorized Representative. Failure of Subcontractors, suppliers,

manufacturers or others to submit their requests to Contractor for inclusion with Contractor's requests submitted to Owner's Authorized Representative within the time period and by the means described in this section shall constitute a waiver of these Subcontractor claims. The Owner's Authorized Representative and the Owner will not consider direct requests or claims from Subcontractors, suppliers, manufacturers or others not a party to this Contract. The consideration of such requests and claims under this section does not give any person, not a party to the Contract the right to bring a claim against the District, whether in this claims process, in litigation, or in any dispute resolution process.

If the Owner's Authorized Representative denies the Contractor's request for additional compensation or an extension of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

- D.1.6 No request or Claim by the Contractor for additional costs or an extension of Contract Time shall be allowed if made after receipt of final payment application under this Contract. Contractor agrees to submit its final payment application within ninety (90) days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay final payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to this Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its final payment application within ninety (90) days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be waived.
- D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor is notified that numerous changes may be required and that there will be no compensation made to the Contractor directly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

- D.2.1 Delays in construction include "Avoidable Delays", which are defined in Section D.2.1.1, and "Unavoidable Delays", which are defined in Section D.2.1.2. The effect of Avoidable Delays is described in Section D.2.2 and the effect of Unavoidable Delays is described in Section D.2.3.
- D.2.1.1 Avoidable Delays include any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that:
 - (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
 - (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work nor the completion of the whole Work within the Contract Time.
 - (c) Do not impact activities on the accepted critical path schedule.
 - (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.
- D.2.1.2 Unavoidable Delays include delays other than

Avoidable Delays that are:

- (a) Caused by any actions of the Owner, Owner's Authorized Representative, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.
- (b) Caused by any site conditions which differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor shall notify the Owner's Authorized Representative immediately of differing site conditions before the area has been disturbed. The Owner's Authorized Representative will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the Owner's Authorized Representative agree that a differing site condition exists, any additional compensation or additional Contract Time will be determined based on the process set forth in Section D.1.5 for Change Order Work. If the Owner's Authorized Representative disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.
- (c) Caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
- (d) Caused by adverse weather conditions. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been anticipated by the Contractor, and adversely impacted the project in a manner that could not be avoided by rescheduling the Work

or by implementing measures to protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated:

(i) Daily rainfall equal to, or greater than,
 0.50 inch during a month when the monthly rainfall exceeds the normal monthly average by twenty-five percent (25%) or more.

(ii) daily rainfall equal to, or greater than, 0.75 inch at any time.

The Office of the Environmental Data Service of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce nearest the project site shall be considered the official agency of record for weather information.

- D.2.2 Except as otherwise provided in ORS 279C.315, Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.
- D.2.3 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:
 - (a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).
 - (b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.2.1.2 (b), Contractor shall submit a written notification of the delay to the Owner's Authorized Representative within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner's Authorized Representative, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

If Contractor does not timely submit the notices required under this Section D.2., then unless otherwise prohibited by law, Contractor's Claim shall be barred.

D.3 CLAIMS REVIEW PROCESS

- D.3.1 All Contractor Claims shall be referred to the Owner's Authorized Representative for review. Contractor's Claims, including Claims for additional compensation or additional Contract Time, shall be submitted in writing by Contractor to the Owner's Authorized Representative within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner's Authorized Representative, a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim is made in accordance with these time requirements, it shall be waived.
- D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time extension requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner's Authorized Representative. The Owner's Authorized Representative and the Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly make a claim against Owner.
- D.3.3 The Owner's Authorized Representative will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor;
 (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.
- D.3.4 The Owner's Authorized Representative's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation

supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

D.3.5 Owner may at any time and at its discretion issue a construction change directive adding to, modifying or reducing the scope of Work. Contractor and Owner shall negotiate the need for any additional compensation or additional Contract Time related to the change, subject to the procedures for submitting requests or Claims for additional compensation or additional Contract Time established in this Section D. Unless otherwise directed by Owner's Authorized Representative, Contractor shall proceed with the Work while any request or Claim is pending, including but not limited to, a request or Claim for additional compensation or additional Contract Time resulting from Work under a Change Order or construction change directive. Regardless of the review period or the final decision of the Owner's Authorized Representative, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease Work without a written stop work order from the Owner's Authorized Representative.

SECTION E PAYMENTS

E.1 SCHEDULE OF VALUES

The Contractor shall submit, at least ten (10) Days prior to submission of its first application for progress payment, a schedule of values ("Schedule of Values") for the contracted Work. This schedule will provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown will demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by the Owner's Authorized Representative, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner's Authorized Representative, Contractor shall revise the schedule of values and resubmit the same for approval of Owner's Authorized Representative.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses. Payments shall be based upon estimates of Work completed and the Schedule of Values. All payments shall be approved by the Owner's Authorized Representative. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest on the progress payment, not including retainage, due the Contractor. The interest shall commence thirty (30) Days after the receipt of invoice ("application for payment") from the Contractor or fifteen (15) Days after the payment is approved by the Owner's Authorized Representative, whichever is the earlier date. The rate of interest shall equal two 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 thirty (30) Days after receipt of the application for payment from the Contract or fifteen (15) Days after the payment is approved by the Owner, whichever is the earlier date, but the rate of interest shall not exceed twelve (12) percent. Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within fifteen (15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. A defective or improper application for payment, if corrected by the Contractor within seven (7) Days of being notified by the Owner, shall not cause a payment to be made later than specified in this section unless interest is also paid. Accrual of interest will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor.

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for payment that is correct and proper.

Owner, upon written notice to the Contractor, may elect to make payments to the Contractor only by means of Electronic Funds Transfers (EFT) through Automated Clearing House (ACH) payments. If Owner makes this election, the Contractor will be required to arrange to receive EFT/ACH payments.

E.2.2 Contractor shall submit to the Owner's Authorized Representative, an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor, including payments to Subcontractors. Contractor shall include, in its application for payment, a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and, if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, vouchers, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. Each application for payment shall include, on the face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and that the payment therefore has not been received.

Signed:

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- E.2.3 Generally, applications for payment will be accepted only for materials that have been installed. Under special conditions, applications for payment for stored materials will be accepted at Owner's sole discretion. Such a payment, if made, will be subject to the following conditions:
 - (a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.
 - (b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.
 - (c) The material shall be stored in a bonded warehouse and Owner's Authorized Representative shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.
 - (d) The Contractor shall name the Owner as co- insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.

(e) Payments shall be made for materials only. The submitted amount of the application for payment shall be reduced by the cost of transportation and for the cost of an inspector to check the delivery at out of town storage sites. The cost of said inspection shall be borne solely by the Contractor.

- (f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material stored.
- (g) Payment for stored materials shall in no way indicate acceptance of the materials or waive any rights under this Contract for the rejection of the Work or materials not in conformance with the Contract Documents.
- (h) All required documentation must be submitted with the respective application for payment.
- E.2.4 The Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:
 - (a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with the Contract Documents,
 - (b) Third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;
 - (c) Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Owner and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.1);
 - (d) Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
 - (e) Damage to the Owner or another contractor;
 - (f) Reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
 - (g) failure to carry out the Work in accordance with the Contract Documents; or
 - (h) assessment of liquidated damages, when withholding is made for offset purposes.
- E.2.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:
 - (a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in application for payment until the Contract Price has been adjusted by Change Order;
 - (b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;
 - (c) Subtract the aggregate of previous payments made by the Owner; and
 - (d) Subtract any amounts for which the Owner's Authorized Representative has withheld or nullified payment as provided in the Contract Documents.

- E.2.6 Contractor's applications for payment may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.
- E.2.7 The Contractor warrants to Owner that title to all Work covered by an application for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an application for payment all Work for which payments are received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.
- E.2.8 If Contractor disputes any determination by Owner's Authorized Representative with regard to any application for payment, Contractor nevertheless shall continue to prosecute expeditiously the Work. No payment made hereunder shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

E.3 PAYROLL CERTIFICATION REQUIREMENT

Payroll certification is required before payments are made on the Contract. Refer to Section C.2 for this information.

E.4 DUAL PAYMENT SOURCES

Contractor shall not be compensated for Work performed under this Contract from any state agency other than the agency that is a party to this Contract.

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with ORS 279C.550 to 279C.580:

E.5.1.1 Owner may reserve as retainage from any progress payment an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of the retainage and may eliminate retainage on any remaining monthly Contract payments after 50 percent of the Work under the Contract is completed if, in the Owner's opinion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is 97-1/2 percent completed the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to 100 percent of the value of the Work remaining to be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 In accordance with the provisions of ORS 279C.560 and any applicable administrative rules, unless the Owner finds in writing that accepting a bond, security or other instrument described in options (a) or (c) below poses an extraordinary risk that is not typically associated with the bond, security or instrument, the Owner will approve the Contractor's written request:

(a) to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds, securities or other instruments of equal value with Owner or in a custodial account or other mutually-agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner. Interest or earnings on the bonds, securities or other instruments shall accrue to the Contractor. The Contractor shall execute and provide such documentation and instructions respecting the bonds, securities and other instruments as the Owner may require to protect its interests. To be permissible the bonds, securities and other instruments must be of a character approved by the Director of the Oregon Department of Administrative Services, including but not limited to:

(i) Bills, certificates, notes or bonds of the United States.
(ii) Other obligations of the United States or agencies of the United States.
(iii) Obligations of a corporation wholly owned by the federal government.
(iv) Indebtedness of the Federal National Mortgage Association.

- (v) General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon.
- (vi) Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008.
- (b) that retainage be deposited in an interest bearing account, established through the State Treasurer for state agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with interest from such account accruing to the Contractor; or
- (c) that the Contractor be allowed, with the approval of the Owner, to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims and liens in the manner and priority as set forth for retainage under ORS 279C.550 to ORS 279C.625.

Where the Owner has accepted the Contractor's election of any of the options above, Owner may recover from Contractor any additional costs incurred through such election by reducing Contractor's final payment. Where the Owner has agreed to

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Contractor's request to deposit a surety bond under option (c), Contractor shall accept like bonds from Subcontractors and suppliers on the project from which Contractor has required retainage.

- E.5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the final payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of one and one-half percent per month on the final payment due Contractor, interest to commence thirty (30) Days after the Work under the Contract has been completed and accepted and to run until the date Contractor shall notify Owner in writing when the Contractor considers the Work complete and Owner shall, within fifteen (15) Days after receiving the written notice, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run thirty (30) Days after the end of the 15-Day period.
- E.5.1.4 In accordance with the provisions of ORS 279C.560, if the Owner accepts bonds, securities or other instruments deposited as provided in paragraphs (a) and (c) of subsection E.5.1.2, the Owner shall reduce the moneys held as retainage in an amount equal to the value of the bonds, securities and other instruments and pay the amount of the reduction to the Contractor in accordance with ORS 279C.570.
- E.5.1.5 Contractor agrees that if Contractor elects to reserve a retainage from any progress payment due to any Subcontractor or supplier, such retainage shall not exceed five percent of the payment, and such retainage withheld from Subcontractors and suppliers shall be subject to the same terms and conditions stated in Subsection E.5 as apply to Owner's retainage from any progress payment due to Contractor. Provided, however, if in accordance with the provisions of ORS 279C.560 the Contractor has deposited bonds, securities or other instruments or has elected to have the Owner deposit accumulated retainage in an interest-bearing account, the Contractor shall comply with the provisions of ORS 701.435 respecting the deposit of bonds, securities or other instruments by Subcontractors and suppliers and the sharing of interest earnings with Subcontractors and suppliers.
- E.5.2 As provided in subsections C.2.2 and C.2.3, additional retainage in the amount of 25% of amounts earned shall be withheld and released in accordance with ORS 279C.845(7) when the Contractor fails to file certified statements as required by section C.2.1.

E.6 FINAL PAYMENT

- E.6.1 Upon completion of all the Work under this Contract, the Contractor shall notify the Owner's Authorized Representative, in writing, that Contractor has completed Contractor's part of the Contract and shall request final payment. Upon receipt of such notice the Owner's Authorized Representative will inspect the Work, and if acceptable, submit to the Owner a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for final payment. Upon approval of this final estimate by the Owner and compliance by the Contractor with provisions in Section K. 3 AFFIDAVIT/RELEASE OF LIENS AND CLAIMS, and other provisions as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.
- E.6.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner's Authorized Representative (1) a notarized affidavit/release of liens and claims in a form satisfactory to Owner that states that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (3) a written statement that the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, vouchers, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
- E.6. Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.

SECTION F JOB SITE CONDITIONS

F.1 USE OF PREMISES

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, law, ordinances, permits or directions of the Owner's Authorized Representative. Contractor shall follow the Owner's Authorized Representative's instructions regarding use of premises, if any.

F.2 PROTECTION OF WORKERS, PROPERTY, AND THE PUBLIC

- F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage, and shall protect the Owner's Authorized Representative, workers and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to the Owner, any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.
- F.2.2 Contractor and its subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owners-specific safety requirements set forth in the Contract Documents, provided that such Owners-specific requirements do not violate any applicable Legal Requirement. Contractor will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owners' Authorized Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work. Contractor shall take all necessary precautions for the safety of all personnel on the job site, and shall comply with the Contract Documents and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Work site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner's Authorized Representative. Contractor's responsibility for safety under this Section F.2.2 is not intended in any way to relieve subcontractors and sub-subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injury, losses, damages or accidents resulting from their performance of the Work. The Owner's Authorized Representative has no responsibility for Work site safety. Work site safety is the responsibility of the Contractor.
- F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall immediately and in writing, report to the Owner's Authorized Representative, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.
- F.2.4 Contractor is responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, and materials on the site.
- F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials will be conducted so no release will occur that may pollute or become hazardous.
- F.2.6 In an emergency affecting the safety of life or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner's Authorized Representative, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner's Authorized Representative. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with Section D.

F.3 CUTTING AND PATCHING

- F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.
- F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

From time to time as may be ordered by the Owner the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four hours after notification by the Owner the work may be done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

F.5 ENVIRONMENTAL CONTAMINATION

F.5.1 Contractor will be held responsible for and shall indemnify, defend (with counsel of Owner's choice) and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, (including attorney fees), or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Contract which occur as a result of, or are contributed by, the negligence or actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this section F.5.1 shall limit Contractor's responsibility for obtaining insurance coverages required under Section G.3 of these General Conditions, and Contractor shall take no action that would void or impair such coverages

- F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and proper regulatory agencies in a manner that complies with applicable federal, state, and local laws and regulations. Cleanup shall be at no cost to the Owner and be performed by properly qualified personnel.
- F.5.1.2 Contractor shall obtain the Owner's written consent prior to bringing onto the Work site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any applicable federal, state, or local statutes, rules or ordinances. Notwithstanding such written consent from the Owner, the Contractor, at all times, shall:
 - (a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials brought onto the Work site, in accordance with all applicable federal, state, or local statutes, rules, or ordinances;
 - (b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Work site; and
 - (c) promptly clean up, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all applicable federal, state, or local statutes, rules or ordinances.
- F.5.2 Contractor shall report all reportable quantity releases to applicable federal, state, and local regulatory and emergency response agencies. Reportable quantities are found in 40 CFR Part 302, Table 302.4 for hazardous substances and in OAR 340-142-0050 for all products addressed therein. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to the Owner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:
 - (a) Description of items released (identity, quantity, manifest no., and all other documentation required by law.)
 - (b) Whether amount of items released is EPA/DEQ reportable, and, if so, when it was reported.
 - (c) Exact time and location of release, including a description of the area involved.
 - (d) Containment procedures initiated.
 - (e) Summary of communications about the release Contractor has had with members of the press or State officials other than Owner.
 - (f) Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.
 - (g) Personnel injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

- F.6.1 Unless disposition of environmental pollution is specifically a part of this Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor discovers or encounters during performance of the Work required by this Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl (PCB), or petroleum, and any substances, materials or wastes regulated in 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or well being of Contractor's or any Subcontractor's work force.
- F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the project site, Owner shall arrange for the proper disposition of such hazardous substance(s).

F.7 FORCE MAJEURE

A party to this Contract shall not be held responsible for delay or default due to Force Majeure acts, events or occurrences unless they could have been avoided by the exercise of reasonable care, prudence, foresight, and diligence by that party. The Owner may terminate this Contract upon written notice after determining that delay or default caused by Force Majeure acts, events or occurrences will reasonably prevent successful performance of the Contract.

SECTION G

INDEMNITY, BONDING, AND INSURANCE

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

- G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under this Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, personnel, or agents.
- G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner, Owner's Authorized Representative, Architect/Engineer, Architect/Engineer's consultants, and their respective officers, directors, agents, employees, partners, members, stockholders and affiliated companies (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses (including reasonable attorney fees), demands and actions of any nature whatsoever which arise out of, result from or are related to, (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1.2, (b) any accident or occurrence which happens or is alleged to have happened in or about the project site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects, (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract, (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140), and (e) any lien filed upon the project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.
- G.1.3 In claims against any person or entity indemnified under this Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

G.2.1 [reserved]

G.2.2 Performance and Payment Bonding Requirements

The Constractor shall obtain performance and payment bonds as follows:

G.2.2.1 Performance bonds

(a) The penal amount of performance bonds shall be 100 percent of the original contract price, unless SAMTD determines that a lesser amount would be adequate for the protection of SAMTD.

(b) SAMTD may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. SAMTD may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

G.2.2.2 Payment bonds

- (a) The penal amount of the payment bonds shall equal:
- (i) Fifty percent of the contract price if the contract price is not more than \$1 million.
- (ii) Forty percent of the contract price if the contract price is more than \$1 million but not more than \$5 million; or
- (iii) Two and one half million if the contract price is more than \$5 million.
- (b) If the original contract price is \$5 million or less, SAMTD may require additional protection as required by subparagraph 1 if the contract price is increased.
- G.2.3 Bond forms furnished by the Owner and notarized by awarded Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.
- G.2.4 Before execution of the Contract Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2005, Chapter 360, and OAR 839-025-0015, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the

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Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting the Subcontractor to start Work.

G.3 INSURANCE

- G.3.1 Primary Coverage: Insurance carried by Contractor under this Contract shall be the primary coverage and non-contributory with any other insurance and self- insurance, and the Owner's insurance is excess and solely for damages or losses for which the Owner is responsible. The coverages indicated are minimums unless otherwise specified in the Contract Documents.
- G.3.2 Workers' Compensation: All employers, including Contractor, 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. This shall include Employer's Liability Insurance with coverage limits of not less than \$100,000 for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.
- G.3.3 Builder's Risk Insurance:
- G.3.3.1 Builder's Risk: During the term of this Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk form, including earthquake and flood, for an amount equal to the full amount of the Contract. Any deductible shall not exceed \$50,000 for each loss, except the earthquake and flood deductible shall not exceed 2 percent of each loss or \$50,000, whichever is more. The policy will include as loss payees the Owner, the Contractor and its Subcontractors as their interests may appear.
- G.3.3.2 Builder's Risk Installation Floater: For other than new construction the Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. This insurance shall include as loss payees the Owner, the Contractor and its Subcontractors as their interests may appear.
- G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.
- G.3.3.4 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.
- G.3.4 Liability Insurance:
- G.3.4.1 Commercial General Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverages that are satisfactory to the State. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the indemnity provided under this Contract (to the extent contractual liability coverage for the indemnity and shall be issued on an occurrence basis. Contractor shall provide proof of insurance of not less than combined single limit, or the equivalent, of not less than: □ \$200,000; □ \$500,000; □ \$1,000,000; ⊠ \$2,000,000 each occurrence for Bodily Injury and Property Damage. The policy, or an endorsement or amendment to the policy, must provide that the District and its agents, board members, officers, employees and volunteers are "additional insureds", but only with respect to the Contractor's Services to be provided under this Contract.
- G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Automobile Liability Insurance covering owned, non-owned and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than the amounts □ Minimum amounts required by the Oregon Financial Responsibility Law (ORS 806.060 and 806.070); □ \$200,000; □ \$1,000,000; □ \$1,000,000; or ⊠ \$2,000,000 per occurrence, for Bodily Injury and Property Damage, including coverage for all owned, hired or non-owned vehicles, as applicable. The policy, or an endorsement or amendment to the policy, must provide that the District and its board members, officers, agents, employees and volunteers are "additional insureds", but only with respect to the Consultant's Services to be provided under this Contract.
- G.3.4.3 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of this Contract for a duration of 24 months or the maximum time period available in the marketplace if less than 24 months. Contractor will be responsible for furnishing certification of "tail" coverage as described or continuous "claims made" liability coverage for 24 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Contract. This will be a condition of the final acceptance of Work or services and related warranty (if any).

- G.3.5 Excess/Umbrella Insurance: A combination of primary and excess/umbrella insurance is acceptable to meet the minimum coverage requirements for Commercial General Liability and Automobile Liability Insurance. In such case, the insurance certificate must include a list of the policies that fall under the excess/umbrella insurance. Sample wording is "The Excess/Umbrella policy is excess over primary Commercial General Liability and primary Automobile Liability Insurance."
- G.3.6 Additional Insured: The liability insurance coverage, except Professional Liability if included, required for performance of this Contract shall include the District, its departments, divisions, officers, and employees, as Additional Insureds but only with respect to the Contractor's activities to be performed under this Contract.

If Contractor cannot obtain an insurer to name the District, its departments, divisions, officers and employees as Additional Insureds, Contractor shall obtain at Contractor's expense, and keep in effect during the term of this Contract, Owners and Contractors Protective Liability Insurance, naming the District, its departments, divisions, officers and employees as Named Insureds with not less than a \$1,500,000.00 limit per occurrence. This policy must be kept in effect for 12 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.

G.3.7 Certificate(s) of Insurance: As evidence of the insurance coverage required by this Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are Additional Insureds or Loss Payees. Insurance coverage required under this Contract shall be obtained from insurance companies or entities acceptable to the Owner that are allowed to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to do an insurance business in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and are approved by the Owner. The Contractor shall be financially responsible for all deductibles, self-insurance in excess of \$50,000 shall be approved by the Owner in writing prior execution of the Contract and is subject to Owner's approval. The Contractor shall immediately notify the Owner's Authorized Representative in writing of any change in insurance coverage.

SECTION H SCHEDULE OF WORK

H.1 CONTRACT PERIOD

- H.1.1 **Time is of the essence on this Contract**. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein. Contractor shall commence Work on the site within fifteen (15) Days of Notice to Proceed, unless directed otherwise.
- H.1.2 Unless specifically extended by Change Order, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2 (f) and shall be subject to the Change Order process of Section D.1.
- H.1.3 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 SCHEDULE

H.2.1 Contractor shall provide, by or before the pre- construction conference, a detailed schedule for review and acceptance by the Owner. The schedule shall be prepared in a critical path network format, shall be prepared such that no activity has a duration of more than twenty (20) calendar days, and shall have the critical path clearly indicated. The submitted schedule must illustrate Work by significant project components, significant labor trades, long lead items, broken down by building and/or floor where applicable. Each schedule item shall account for no greater than 5 % of the monetary value of the project or 5 % of the available Contract Time. Schedules with activities of less than one day or valued at less than 1% of the Contract will be considered too detailed and will not be accepted. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. Included within the schedule are the following: Notice to Proceed, Substantial Completion, and Final Completion. Schedules will be updated monthly and submitted with the monthly payment application. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner, as to the Contractor's sequencing, means, methods, or allocated Contract Time. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor's scheduled completion.

H.3 PARTIAL OCCUPANCY OR USE

H.3.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work.

Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them for payments, retainage,

if any, security, insurance or self-insurance, maintenance, heat, utilities, and damage to the Work, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents with respect to such portion of the Work. Approval by the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by the Owner's Authorized Representative, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (punch list) work, unless otherwise agreed. At the end of that period, or earlier if requested by the Contractor, Owner shall arrange for inspections of the Work by the Architect/Engineer. Should the Work not be complete, and all corrections made, the costs for all subsequent re-inspections shall be borne by the Contractor. If Contractor fails to complete the punch list work within the above time period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

I.2. Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner except for latent defects which will be remedied by the Contractor at any time they become apparent.

The Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such warranty work within a reasonable time after Owner's demand. If Contractor fails to complete the warranty work within such period as Owner determines reasonable, or at any time in the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractors obligations.

- I.2.2 This provision does not negate guarantees or warranties for periods longer than one year including without limitation such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.
- I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until affected Work has been accepted in writing by the Owner's Authorized Representative.
- 1.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.
- I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.
- I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

SECTION J SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

- J.1.1 The Owner and/or the Owner's Authorized Representative has the authority to suspend portions or all of the Work due to the following causes:
 - (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 Owner's Authorized Representative, which are unsuitable for performing the Work;
 - (e) Time required to investigate differing site conditions;
 - (f) Any reason considered to be in the public interest.
- J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.2 CONTRACTOR'S RESPONSIBILITIES

- J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.
- J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the project in every respect as though its prosecution had been continuous and without suspension.

J.3 COMPENSATION FOR SUSPENSION

J.3.1 Depending on the reason for suspension of the Work, the Contractor or the Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, the Owner may assess the Contractor actual costs of the suspension in terms of administration, remedial work by the Owner's forces or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension. If the suspension was caused by acts or omissions of the Owner, the Contractor shall be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of the Contractor or the Owner, neither party owes the other for the impact.

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

- J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:
 - (a) If Contractor should voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in- possession or the Trustee for the estate fails to assume the Contract within a reasonable time;
 - (b) If Contractor should make a general assignment for the benefit of Contractor's creditors;
 - (c) If a receiver should be appointed on account of Contractor's insolvency;
 - (d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;
 - (e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner or its Authorized Representative; or
 - (f) If Contractor is otherwise in material breach of any part of the Contract.
 - J.4.2 At any time that any of the above occurs, Owner may exercise all rights and remedies available to Owner at law or in equity, and in addition, Owner may take possession of the premises and of all materials and appliances and finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive further payment until the Work is completed. If the Owner's cost of finishing the Work exceeds the unpaid balance of the Contract Price, Contractor shall pay the difference to the Owner.

J.5 TERMINATION FOR CONVENIENCE

J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines that termination of the Contract is in the best interest of the public.

J.5.2 The Owner will provide the Contractor with seven (7) Days' prior written notice of a termination for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination.

J.6 ACTION UPON TERMINATION

- J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.
- J.6.2 As directed by the Owner, Contractor shall upon termination transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.

SECTION K CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

As a condition of final payment (refer also to section E.6), Contractor shall comply with the following: Contractor shall provide to Owner's Authorized Representative, Record Documents of the entire project. Record Documents shall depict the project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to the Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed.

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner's Authorized Representative prior to submission of any pay request for more than 75% of the Work. No payments beyond 75% will be made by the Owner until the 0 & M Manuals have been received. The O & M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, phone list of consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner's Authorized Representative shall review and return one O & M Manual for any modifications or additions required. Prior to submission of its final pay request, Contractor shall deliver three (3) complete and approved sets of O & M Manuals to the Owner's Authorized Representative.

K.3 AFFIDAVIT/RELEASE OF LIENS AND CLAIMS

As a condition of final payment, the Contractor shall submit to the Owner's Authorized Representative a notarized affidavit/release of liens and claims form, in a form satisfactory to Owner, which states that all Subcontractors and suppliers have been paid in full, all disputes with property owners have been resolved, all obligations on the project have been satisfied, all monetary claims and indebtedness have been paid, and that, to the best of the Contractor's knowledge, there are no claims of any kind outstanding against the project. The Contractor shall indemnify, defend (with counsel of Owner's choice) and hold harmless the Owner from all claims for labor and materials finished under this Contract. The Contractor shall furnish complete and valid releases or waivers, satisfactory to the Owner, of all liens arising out of or filed in connection with the Work.

K.4 COMPLETION NOTICES

- K.4.1 Contractor shall provide Owner notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which the Contractor shall finish all items on the punchlist accompanying the Certificate. Both completion notices must be signed by the Contractor and the Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.
- K.4.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner's Authorized Representative. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a punch list be prepared by the Owner's Authorized Representative with submission of the request for the Substantial Completion notice.

K.5 TRAINING

As part of the Work, and prior to submission of the request for final payment, the Contractor shall schedule with the Owner's Authorized Representative, training sessions for all equipment and systems, as required in the individual specifications sections. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner personnel adequate notice.

The O & M Manual shall be used as a basis for training. Training shall be a formal session, held after the equipment and/or system is completely installed and operational in its normal operating environment.

K.6 EXTRA MATERIALS

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the specifications, prior to final payment. Delivery point for extra materials shall be designated by the Owner's Authorized Representative.

K.7 ENVIRONMENTAL CLEAN-UP

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental pollution clean-up performed as a part of this Contract has been disposed of in accordance with all applicable rules, regulations, laws, and statutes of all agencies having jurisdiction over such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above.

K.8 CERTIFICATE OF OCCUPANCY

The Contractor shall not be granted Final Completion or receive final payment if the Owner has not received an unconditioned certificate of occupancy from the appropriate state and/or local building officials, unless failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

K.9 OTHER CONTRACTOR RESPONSIBILITIES

The Contractor shall be responsible for returning to the Owner all items issued during construction such as keys, security passes, site admittance badges, and all other pertinent items. The Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from the Contractor to the Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if the Owner does not take beneficial use of the facility and the Contractor's forces continue with the Work.

K.10 SURVIVAL

All warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract

SECTION L

LEGAL RELATIONS & RESPONSIBILITIES

L.1 LAWS TO BE OBSERVED

In compliance with ORS 279C.525, Sections L.2 through L.4 contain lists of federal, state and local agencies of which the Owner has knowledge that have enacted ordinances or regulations relating to environmental pollution and the preservation of natural resources that may affect the performance of the Contract:

L.2 FEDERAL AGENCIES

Agriculture, Department of Soil Conservation Service Coast Guard 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 Occupation Safety and Health Administration Solar Energy and Energy Conservation Bank Transportation, Department of Federal Highway Administration Water Resources Council

L.3 STATE AGENCIES

Administrative Services, Department of Agriculture, Department of Soil and Water Conservation Commission

Columbia River Gorge Commission 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 Insurance and Finance, Department of Consumer and Business Services, Department of Land Conservation and Development Commission Parks and Recreation, Department of State Lands, Division of Water Resources, Department of

L.4 LOCAL AGENCIES

City Councils County Courts County Commissioner, Board of Design Commissions Historical Preservation Commission Planning Commissions

EXHIBIT D

FEDERAL TRANSIT ADMINISTRATION (FTA) CONTRACT CLAUSES

CONSTRUCTION SERVICES

It is the responsibility of the Contractor to ensure that all clauses applicable to the work of a Contract / Agreement resultant from this Solicitation are adhered to by the Contractor and its Sub-Contractors when applicable.

FEDERAL TRANSIT ADMINISTRATION CONTRACT CLAUSES

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- 9. Bus Testing (not applicable)
- 10. Pre-Award and Post-Delivery Audit Requirements (not applicable)
- 11. Lobbying
- 12. Access to Records and Reports
- 13. Federal Changes
- 14. Bonding Requirements
- 15. Recycled Products
- 16. Davis-Bacon and Copeland Anti-Kickback Acts
- 17. Contract Work Hours and Safety Standards Act
- 18. No Government Obligation to Third Parties
- 19. Program Fraud and False or Fraudulent Statements or Related Acts
- 20. Termination
- 21. Government-Wide Debarment and Suspension (Non-procurement)
- 22. Privacy Act
- 23. Civil Rights Requirements
- 24. Breaches and Dispute Resolution
- 25. Patent and Rights in Data (not applicable)
- 26. Transit Employee Protective Agreements (not applicable)
- 27. Disadvantaged Business Enterprise (DBE) Requirements
- 28. Incorporation of Federal Transit Administration (FTA) Terms Circular 4220.1F
- 29. Drug and Alcohol Testing
- 30. Compliance with Federal, State, and Local Requirements
- 31. Americans with Disabilities Act (ADA)
- 32. FTA Protest Requirements
- 33. Prompt Payment and Return of Retainage
- 34. Veteran; Disabled Veteran; Preference Eligible
- 35. Safe Operation of Motor Vehicles

FEDERAL TRANSIT ADMINISTRATION (FTA) CONTRACT CLAUSES

1. FLY AMERICA REQUIREMENTS

49 U.S.C. § 40118 41 C.F.R. §§ 301-10.131 – 301-10.143

Applicable to: Contracts that have transportation of persons or property, by air, between a place in the U.S. and a place outside the U.S., or between places outside the U.S., when the U.S. government will participate in the costs of such air transportation. Contactors are responsible for ensuring that all subcontractors are in compliance.

Applies to: All contracts: Contractors and subcontractors.

The Contractor agrees to comply with 49 U.S.C. § 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 C.F.R. part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation. The Contractor agrees to include substantially similar provisions in its contracts with subcontractors.

2. BUY AMERICA REQUIREMENTS

49 U.S.C. § 5323(j) 49 C.F.R. Part 661 49 U.S.C. § 24405(a)

Applicable to: All federally assisted procurements using funds authorized by 49 U.S.C. 5323(j); 23 U.S.C. § 103(e)(4); and section 14 of the National Capital Transportation Act of 1969.

Applies to: Contractors and subcontractors.

The Contractor agrees to comply with 49 U.S.C. § 5323(j) and 49 C.F.R. part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by the Secretary of Transportation or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. § 661.7, and include final assembly in the United States for 15-passenger vans and 15-passenger wagons produced by Chrysler Corporation, microcomputer equipment, software, and small purchases (currently less than \$150,000) made with capital, operating, or planning funds.

Separate requirements for rolling stock are set out at 49 U.S.C. § 5323(j)(2)(C) and 49 C.F.R. § 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have more than 65 percent domestic content.

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A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

3. CHARTER BUS REQUIREMENTS

49 U.S.C. § 5323(d) or (r) 49 C.F.R. Part 604 Any other Federal Charter Service Regulations, or Federal Guidance

N/A

4. SCHOOL BUS REQUIREMENTS

49 U.S.C. § 5323(f) or (g) 49 C.F.R. Part 605 Any other applicable Federal "School Bus Operations" Regulations or Federal Guidance

N/A

5. CARGO PREFERENCE REQUIREMENTS

46 U.S.C. § 55305 46 C.F.R. Part 381

Applicable to: All contracts involving equipment, materials, or commodities which may be transported by ocean vessels.

Applies to: Contractors and subcontractors.

Use of United States-Flag Vessels. The Contractor agrees:

- 1. To use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels.
- 2. To furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Office of National Cargo and Compliance, Maritime Administration, Washington D.C. 20590 and the FTA recipient (through the Contractor in t he case of a subcontractor's bill-of-lading.)
- 3. To include these requirements in all subcontracts issued pursuant to the contract when the subcontract may involve the transport of equipment, materials, or commodities by ocean vessel.

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6. SEISMIC SAFETY REQUIREMENTS

42 U.S.C. §§ 7701–7709 49 C.F.R. Part 41

Applicable to: Contracts for the construction of new buildings or additions to existing buildings.

Applies to: Contractors and subcontractors.

The Contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 C.F.R. part 41 and will certify to compliance to the extent required by the regulation. The contractor agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project. The Contractor also agrees to include a substantially similar provision in its contracts with subcontractors.

7. ENERGY CONSERVATION REQUIREMENTS

42 U.S.C. §§ 6321–6327 49 C.F.R. Part 622 Subpart C

Applicable to: All contracts.

Applies to: Contractors and subcontractors.

The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act. The Contractor also agrees to include a substantially similar provision in its contracts with subcontractors.

8. ENVIRONMENTAL REQUIREMENTS

Applicable to: All contracts and subcontracts.

Applies to: Contractors and subcontractors.

- a. <u>General</u>. The Contractor agrees to comply with all applicable environmental and resource use laws, regulations, requirements, and guidance, now in effect or that may become effective in the future, including state and local laws, ordinances, regulations, requirements and guidance. The Contractor also agrees to include substantially similar provisions in its contracts with subcontractors.
- b. <u>National Environmental Policy Act</u>. An Award of federal assistance requires the full compliance with applicable environmental laws, regulations, requirements, and guidance. Accordingly, the Contractor will:

- (1) Comply and facilitate compliance with federal laws, regulations, and requirements, including, but not limited to:
 - (a) Federal transit laws, such as 49 U.S.C. § 5323(c)(2), and 23 U.S.C. § 139,
 - (b) The National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. §§ 4321 *et seq.*, as limited by 42 U.S.C. § 5159, and CEQ's implementing regulations 40 C.F.R. part 1500-1508,
 - (c) Joint FHWA and FTA regulations, "Environmental Impact and Related Procedures," 23 C.F.R. part 771 and 49 C.F.R. part 622,
 - (d) Executive Order No. 11514, as amended, "Protection and Enhancement of Environmental Quality," March 5, 1970, 42 U.S.C. § 4321 note, and
 - (e) Other federal environmental protection laws, regulations, and requirements applicable to the Recipient or the Award, the accompanying Underlying Agreement, and any Amendments thereto.
- (2) Follow the federal guidance identified herein to the extent that the guidance is consistent with applicable authorizing legislation:
 - (a) Joint FHWA and FTA final guidance, "Interim Guidance on MAP-21 Section 1319 Accelerated Decisionmaking in Environmental Reviews," January 14, 2013,
 - (b) Joint FHWA and FTA final guidance, "SAFETEA-LU Environmental Review Process (Pub. L. 109-59)," 71 *Fed. Reg.* 66576, November 15, 2006, and
 - (c) Other federal environmental guidance applicable to the Recipient or the Award, the accompanying Underlying Agreement, and any Amendments thereto.
- c. <u>Environmental Justice</u>. The Contractor agrees to promote environmental justice by following:
 - Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," February 11, 1994, 42 U.S.C. § 4321 note, as well as facilitating compliance with that Executive Order,
 - (2) U.S. DOT Order 5610.2, "Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 62 *Fed. Reg.* 18377, April 15, 1997, and
 - (3) The most recent edition of FTA Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients," August 15, 2012, to the extent consistent with applicable federal laws, regulations, requirements, and guidance.
- d. <u>Other Environmental Federal Laws</u>. The Contractor agrees to comply with all applicable federal laws, regulations, executive orders, and guidance, including, but not limited to, the Clean Air Act, Clean Water Act, Wild and Scenic Rivers Act of 1968, Coastal Zone Management Act of 1972, the Endangered Species Act of 1973, Magnuson Stevens Fishery Conservation and Management Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, and Executive Order Nos. 11988 and 13690 relating to "Floodplain Management."
- e. <u>Use of Certain Public Lands</u>. The Contractor with U.S. DOT laws, specifically 49 U.S.C. § 303 (often referred to as "section 4(f)), and joint FHWA and FTA regulations, "Parks,

Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites," 23 C.F.R. part 774, and referenced in 49 C.F.R. part 622.

- f. <u>Historic Preservation</u>. The Contractor agrees to:
 - (1) Comply with U.S. DOT laws, including 49 U.S.C. § 303 (often referred to as "section 4(f)"), which requires certain findings be made before an Award involving the use of any land from a historic site that is on or eligible for inclusion on the National Register of Historic Places may be undertaken.
 - (2) Encourage compliance with the federal historic and archaeological preservation requirements of section 106 of the National Historic Preservation Act, as amended, 54 U.S.C. § 306108.
 - (3) Comply with the Archeological and Historic Preservation Act of 1974, as amended, 54 U.S.C. § 312501 *et seq*.
 - (4) Comply with U.S. Advisory Council on Historic Preservation regulations, "Protection of Historic Properties," 36 C.F.R. part 800.
 - (5) Comply with federal requirements and follow federal guidance to avoid or mitigate adverse effects on historic properties.
- g. Indian Sacred Sites. The Contractor agrees to facilitate compliance with federal efforts to promote the preservation of places and objects of religious importance to American Indians, Eskimos, Aleuts, and Native Hawaiians, and facilitate compliance with the American Indian Religious Freedom Act, 42 U.S.C. § 1996, and Executive Order No. 13007, "Indian Sacred Sites," May 24, 1996, 42 U.S.C. § 3161 note.
- h. Mitigation of Adverse Environmental Effects.
 - (1) The Contractor agrees that it will comply with all environmental mitigation measures that may be identified as conditions that the Federal Government might impose in finding of no significant impact or record of decision or commitments in the environmental documents that apply to the Award, such as environmental assessments, environmental impact statements, categorical exclusions, memoranda of agreement, documents required under 49 U.S.C. § 303, and other environmental documents.
 - (2) The Contractor agrees that:
 - (a) Any mitigation measures agreed on will be incorporated by reference and made part of the Underlying Agreement and any Amendments thereto,
 - (b) Any deferred mitigation measures will be incorporated by reference and made part of the Underlying Agreement and any Amendments thereto as soon as agreement with the Federal Government is reached, and
 - (c) Any mitigation measures agreed on will not be modified or withdrawn without the written approval of the Federal Government.

The Contractor agrees to include substantially similar provisions in its contracts with subcontractors.

9. BUS TESTING

49 U.S.C. § 5318(e)

N/A

10. PRE-AWARD AND POST-DELIVERY AUDITS REQUIREMENTS 49 U.S.C. § 5323(m)

N/A

11. LOBBYING

31 U.S.C. § 1352 49 C.F.R. Part 20

Applicable to: Contracts exceeding \$100,000.

Applies to: Contractors and subcontractors.

The Contractor agrees that it will not use federal assistance to influence any officer or employee of a federal agency, member of Congress or an employee of a member of Congress, or officer or employee of Congress on matters that involve the Underlying Agreement, including any extension or modification, according to the following:

- 1) Laws, Regulations, Requirements, and Guidance.
 - a) The Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352, as amended,
 - b) U.S. DOT regulations, "New Restrictions on Lobbying," 49 C.F.R. part 20, to the extent consistent with 31 U.S.C. § 1352, as amended, and
 - c) Other applicable federal laws, regulations, requirements, and guidance prohibiting the use of federal assistance for any activity concerning legislation or appropriations designed to influence the U.S. Congress or a state legislature, and
- Exception. If permitted by applicable federal law, regulations, or guidance, such lobbying activities described above may be undertaken through proper official channels.
- 3) The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

12. ACCESS TO RECORDS AND REPORTS

49 U.S.C. § 5325 Former 49 C.F.R. § 18.36 (i) 49 C.F.R. § 633.15

Applicable to: Contracts as described below.

Applies to: Contractors.

The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a

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subgrantee of the FTA Recipient in accordance with 49 C.F.R. § 18.36(i), the Contractor agrees to provide SAMTD, the FTA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions. Contractor also agrees, pursuant to 49 C.F.R. § 633.15 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. § 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. §§ 5307, 5309, or 5311.

- 2. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. § 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. § 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to SAMTD, the Secretary of Transportation, and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection. (If applicable).
- 3. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- 4. The Contractor agrees to maintain all books, records, accounts, and reports required under this contract for a period of not less than seven years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until SAMTD, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives have disposed of all such litigation, appeals, claims, or exceptions related thereto. Reference 2 C.F.R. § 200.333.
- 5. FTA does not require the inclusion of these requirements in subcontracts.

13. FEDERAL CHANGES

Former 49 C.F.R. Part 18

Applicable to: All contracts.

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures, and directives, including without limitation those listed directly or by reference in the Master Agreement (FTA MA (22) dated October 2015) between SAMTD and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract. The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

14. BONDING REQUIREMENTS

Applicable to: For those construction or facility improvement contracts or subcontracts exceeding \$100,000, FTA may accept the bonding policy and requirements of the recipient, provided that they meet the minimum requirements for construction contracts as follows:

- 1. A bid guarantee from each bidder equivalent to ten (10) percent of the bid price. The "bid guarantees" shall consist of a firm commitment such as a bid bond, certifies check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.
- 2. A performance bond on the part to the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.
- 3. A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in the execution of the work provided for in the contract. Payment bond amounts required from Contractors are as follows:
 - a. 50% of the contract price if the contract price is not more than \$1 million;
 - b. 40% of the contract price if the contract price is more than \$1 million but not more than \$5 million; or
 - c. \$2.5 million if the contract price is more than \$5 million.
- 4. A cash deposit, certified check or other negotiable instrument may be accepted by a grantee in lieu of performance and payment bonds, provided the grantee has established a procedure to assure that the interest of FTA is adequately protected. An irrevocable letter of credit would also satisfy the requirement for a bond.

Bid Bond Requirements (Construction)

1. Bid Security:

A Bid Bond must be issued by a fully qualified surety company acceptable to SAMTD and listed as a company currently authorized under 31 C.F.R. part 223 as possessing a Certificate of Authority as described thereunder.

2. Rights Reserved

In submitting this Bid, it is understood and agreed by bidder that the right is reserved by SAMTD to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of [ninety (90)] days subsequent to the opening of bids, without the written consent of SAMTD.

It is also understood and agreed that if the undersigned bidder should withdraw any part or all of his bid within [ninety (90)] days after the bid opening without the written consent of SAMTD, shall refuse or be unable to enter into this Contract, as provided above, or refuse or be unable to furnish adequate and acceptable Performance Bonds and Labor and Material Payments Bonds, as provided above, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, he shall forfeit his bid security to the extent of SAMTD's damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security therefor.

It is further understood and agreed that to the extent the defaulting bidder's Bid Bond, Certified Check, Cashier's Check, Treasurer's Check, and/or Official Bank Check (excluding any income generated thereby which has been retained by SAMTD as provided in [Item x "Bid Security" of the Instructions to Bidders]) shall prove inadequate to fully recompense SAMTD for the damages occasioned by default, then the undersigned bidder agrees to indemnify SAMTD and pay over to SAMTD the difference between the bid security and SAMTD's total damages, so as to make SAMTD whole.

The undersigned understands that any material alteration of any of the above or any of the material contained on this form, other than that requested, will render the bid unresponsive.

Performance and Payment Bonding Requirements (Construction)

The Contractor shall be required to obtain performance and payment bonds as follows:

- 1. Performance bonds
 - a. The penal amount of performance bonds shall be 100 percent of the original contract price, unless SAMTD determines that a lesser amount would be adequate for the protection of SAMTD.
 - b. SAMTD may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. SAMTD may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.
- 2. Payment bonds
 - a. The penal amount of the payment bonds shall equal:
 - i. Fifty percent of the contract price if the contract price is not more than \$1 million.
 - ii. Forty percent of the contract price if the contract price is more than \$1 million but not more than \$5 million; or
 - iii. Two and one half million if the contract price is more than \$5 million.
 - b. If the original contract price is \$5 million or less, SAMTD may require additional protection as required by subparagraph 1 if the contract price is increased.

15. RECYCLED PRODUCTS

42 U.S.C. § 6962 40 C.F.R. Part 247

Applicable to: The Recycled Products requirements apply to all contracts for items designated by the EPA, when the purchaser or contractor procures \$10,000 or more of one of these items during the fiscal year, or has procured \$10,000 or more of such items in the previous fiscal year, using Federal funds.

Applies to: Contractors and subcontractors.

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. § 6962), including but not limited to the regulatory provisions of 40 C.F.R. part 247, as they apply to the procurement of the items designated in subpart B of 40 C.F.R. part 247. The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

16. DAVIS-BACON AND COPELAND ANTI-KICKBACK ACTS

Applicable to: Construction contracts over \$2000 for Davis-Bacon Act.

Applicable to: All construction contracts for Copeland Anti-Kickback Act.

Applies to: Contractors and subcontractors.

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The Contractor agrees to the following, and also agrees to include a substantially similar provision in its contracts with subcontractors:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 C.F.R. part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis–Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen bv the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on

the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis–Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The FTA or SAMTD shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis–Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 C.F.R. 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the FTA if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the FTA. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 C.F.R. § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is this available for purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the FTA if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the FTA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 C.F.R. part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of

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Regulations, 29 C.F.R. part 5, and that such information is correct and complete;

- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 C.F.R. part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the FTA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 C.F.R. § 5.12.

(4) Apprentices and trainees—

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other

than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentices of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable program is approved.

(ii) Trainees. Except as provided in 29 C.F.R. § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 C.F.R. part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 C.F.R. part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 C.F.R. § 5.5(a)(1) through (10) and such other clauses as the FTA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 C.F.R. § 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 C.F.R. § 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 C.F.R. § 5.12.

(8) Compliance with Davis–Bacon and Related Act requirements. All rulings and interpretations of the Davis–Bacon and Related Acts contained in 29 C.F.R. parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 C.F.R. parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis–Bacon Act or 29 C.F.R. § 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis–Bacon Act or 29 C.F.R. § 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

17. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Applicable to: All contracts and subcontracts "financed at least in part by loans or grants from ... the [Federal] Government" [40 U.S.C. § 3701(b)(1)(B)(iii) and (b)(2), 29 C.F.R. § 5.2(h).

Applies to: Contractors and subcontractors.

The Contractor agrees to comply with the following, in accordance with the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701–3708) and U.S. Department of Labor regulations (29 C.F.R. part 5):

- Overtime requirements No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- 2. Violation; liability for unpaid wages; liquidated damages In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor

responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

- 3. Withholding for unpaid wages and liquidated damages SAMTD shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
- 4. **Subcontracts** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

18. NO GOVERNMENT OBLIGATION TO THIRD PARTIES

Applicable to: All contracts.

Applies to: All parties to the contract to which the Federal Government does not have contractual liability, absent specific written consent.

- SAMTD and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- 2. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

19. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

31 U.S.C. §§ 3801–3812 49 C.F.R. Part 31 18 U.S.C. § 1001

Applicable to: All contracts.

Applies to: Contractors and subcontractors who make, present, or submit covered claims and statements.

- 1. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801–3812 and U.S. DOT regulations "Program Fraud Civil Remedies," 49 C.F.R. part 31, apply to its actions pertaining to this contract. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
- 2. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C.§ 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 on the Contractor, to the extent the Federal Government deems appropriate.
- 3. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

20. TERMINATION

2 C.F.R. § 200.339 FTA Circular 4220.1F

Applicable to: All contracts in excess of \$10,000. **Applies to:** All contractors and subcontractors.

The Contractor acknowledges and agrees to the following, and agrees to include a substantially similar provision in its contracts with subcontractors:

1. **Termination for Convenience (General Provision):** SAMTD may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to SAMTD to be paid the

Contractor. If the Contractor has any property in its possession belonging to SAMTD, the Contractor will account for the same, and dispose of it in the manner SAMTD directs.

2. Termination for Default [Breach or Cause] (General Provision): If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, SAMTD may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by SAMTD that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, SAMTD, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

3. **Opportunity to Cure (General Provision):** SAMTD in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions

If Contractor fails to remedy to SAMTD's satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within [ten (10) days] after receipt by Contractor of written notice from SAMTD setting forth the nature of said breach or default, SAMTD shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude SAMTD from also pursuing all available remedies against Contractor and its sureties for said breach or default.

- 4. Waiver of Remedies for any Breach: In the event that SAMTD elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by SAMTD shall not limit SAMTD's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.
- 5. Termination for Default (Construction): If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, SAMTD may terminate this contract for default. SAMTD shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, SAMTD may take over the work and compete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Recipient

in completing the work.

The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

- a. the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of the Recipient, acts of another Contractor in the performance of a contract with the Recipient, epidemics, quarantine restrictions, strikes, freight embargoes; and
- b. the contractor, within [10] days from the beginning of any delay, notifies SAMTD in writing of the causes of delay. If in the judgment of SAMTD, the delay is excusable, the time for completing the work shall be extended. The judgment of SAMTD shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Recipient.

21. GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

2 C.F.R. Part 180 2 C.F.R. Part 1200

Applicable to: All contracts and subcontracts which are equal to or greater than \$25,000.

Applies to: Contractors and subcontractors.

Contractor agrees to comply with the following requirements of 2 C.F.R. part 180, subpart C, as adopted and supplemented by U.S. DOT regulations at 2 C.F.R. part 1200:

- 1) It will not enter into any arrangement with a subcontractor that is debarred or suspended except as authorized by law;
- 2) It will review the U.S. GSA "System for Award Management (SAM)," <u>https://www.sam.gov</u>, if required by U.S. DOT regulations, 2 C.F.R. part 1200, in order to verify that none of the contractor, its principals, as defined at 2 C.F.R. § 180.995, or affiliates, as defined at 2 C.F.R. § 180.905, are excluded or disqualified as defined at 2 C.F.R. §§ 180.940, 180.935
- It will include similar provisions in its contracts with Subcontractors and include Subcontractors to include similar provisions in their contracts with lower-tier Subcontractors; and
- 4) By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:
 - a. The certification in this clause is a material representation of fact relied upon by SAMTD. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available SAMTD, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. part 180, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or

proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

22. FREEDOM OF INFORMATION ACT

5 U.S.C. § 552

Applicable to: All contracts.

Applies to: Contractors and subcontractors.

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

- (1) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.
- (2) The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.
- (3) The Contractor also agrees to comply with other federal laws, regulations, requirements, and guidance concerning access to records pertaining to the contract.

23. CIVIL RIGHTS REQUIREMENTS 42 U.S.C. § 2000 42 U.S.C. § 6102, 42 U.S.C. § 12101 et seq. 49 U.S.C. § 5332 29 C.F.R. Part 1630, 41 C.F.R. Parts 60 et seq. 28 C.F.R. § 50.3

Applicable to: All contracts.

Applies to: Contractors and subcontractors.

The Contractor agrees to the following, and also agrees to include substantially similar provisions in its contracts with subcontractors:

<u>Civil Rights Requirements.</u> The Contractor agrees that it must comply with applicable federal civil rights laws, regulations, requirements, and guidance, and follow applicable federal guidance, except as the Federal Government determines otherwise in writing. Therefore, unless a Recipient or a federal program, including the Tribal Transit Program or the Indian Tribe

Recipient, is specifically exempted from a civil rights statute, FTA requires compliance with that civil rights statute, including compliance with equity in service.

Nondiscrimination in Federal Public Transportation Programs. The Contractor agrees that it will:

- 1. Prohibit discrimination based on the basis of race, color, religion, national origin, sex, disability, or age.
- 2. Prohibit the:
 - a. Exclusion from participation in employment or a business opportunity for reasons identified in 49 U.S.C. § 5332,
 - b. Denial of program benefits in employment or a business opportunity identified in 49 U.S.C. § 5332, or
 - c. Discrimination, including discrimination in employment or a business opportunity identified in 49 U.S.C. § 5332.
- 3. Follow:
 - a. The most recent edition of FTA Circular 4702.1B, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable federal laws, regulations, requirements, and guidance, and other applicable federal guidance that may be issued, but
 - b. FTA does not require an Indian Tribe to comply with FTA program-specific guidelines for Title VI when administering its Underlying Agreement supported with federal assistance under the Tribal Transit Program.

Nondiscrimination – Title VI of the Civil Rights Act. The Contractor agrees that it will:

- 1. Prohibit discrimination based on race, color, or national origin,
- 2. Comply with:
 - a. Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d et seq.,
 - U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964," 49 C.F.R. part 21, and
 - c. Federal transit law, specifically 49 U.S.C. § 5332, and
- 3. Follow:
 - a. The most recent edition of FTA Circular 4702.1, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable federal laws, regulations, requirements, and guidance,
 - U.S. DOJ, "Guidelines for the enforcement of Title VI, Civil Rights Act of 1964," 28 C.F.R. § 50.3, and
 - c. All other applicable federal guidance that may be issued.

Equal Employment Opportunity.

- 1. <u>Federal Requirements and Guidance</u>. The Contractor agrees that it will prohibit discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin, and:
 - A. Comply with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e *et seq*.,
 - B. Facilitate compliance with Executive Order No. 11246, "Equal Employment Opportunity" September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it in part and is applicable to federal assistance programs,
 - C. Comply with federal transit law, specifically 49 U.S.C. § 5332

- D. FTA Circular 4704.1, "Equal Employment Opportunity Program Guidelines for Grant Recipients," July 26, 1988, and
- E. Follow other federal guidance pertaining to Equal Employment Opportunity laws, regulations, and requirements, and prohibitions against discrimination on the basis of disability,
- 2. <u>Specifics</u>. The Contractor Agrees that it will:
 - a. <u>Prohibited Discrimination</u>. As provided by Executive Order No. 11246, as amended by any later Executive Order that amends or supersedes it, and as specified by U.S. Department of Labor regulations, ensure that applicants for employment are employed and employees are treated during employment without discrimination on the basis of their race, color, religion, national origin, disability, age, sexual orientation, gender identity, or status as a parent,
 - b. <u>Affirmative Action</u>. Take affirmative action that includes, but is not limited to:
 - i. Recruitment advertising, recruitment, and employment,
 - ii. Rates of pay and other forms of compensation,
 - iii. Selection for training, including apprenticeship, and upgrading, and
 - iv. Transfers, demotions, layoffs, and terminations, but
 - c. <u>Indian Tribe</u>. Recognize that Title VII of the Civil Rights Act of 1964, as amended, exempts Indian Tribes under the definition of "Employer," and
- 3. <u>Equal Employment Opportunity Requirements for Construction Activities</u>. Comply, when undertaking "construction" as recognized by the U.S. Department of Labor (U.S. DOL), with:
 - a. U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. chapter 60, and
 - b. Executive Order No. 11246, "Equal Employment Opportunity in Federal Employment," September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note.

24. BREACHES AND DISPUTE RESOLUTION

2 C.F.R. § 200.326 FTA Circular 4220.1F

Applicable to: All contracts in excess of \$150,000.

Applies to: Contractors and subcontractors.

Disputes - Disputes arising in the performance of this Contract, which are not resolved by agreement of the parties, shall be decided in writing by the authorized representative of SAMTD's General Manager. This decision shall be final and conclusive unless within ten (10) days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the General Manager. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the General Manager shall be binding upon the Contractor and the Contractor shall abide be the decision.

- 1. **Performance During Dispute** Unless otherwise directed by SAMTD, Contractor shall continue performance under this Contract while matters in dispute are being resolved.
- 2. Claims for Damages Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents,

or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

- 3. **Remedies** Unless this contract provides otherwise, all claims, counterclaims, disputes, and other matters in question between SAMTD and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which SAMTD is located.
- 4. **Rights and Remedies** The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law. No action or failure to act by SAMTD, Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

25. PATENT AND RIGHTS IN DATA

35 U.S.C. §§ 200 – 212 37 C.F.R. Part 401

N/A

26. TRANSIT EMPLOYEE PROTECTIVE AGREEMENTS

49 U.S.C. § 5310, § 5311, and § 5333 29 C.F.R. Part 215

N/A

27. DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS

49 C.F.R. Part 26 Section 1101(b) of the FAST Act

Applicable to: All contracts.

Applies to: Contractors and subcontractors

- A. <u>Policy</u>. SAMTD has established a Disadvantaged Business Enterprise (DBE) Program in accordance with regulations of the U.S. Department of Transportation (DOT), Section 1101(b) of the FAST Act, 49 C.F.R. part 26. SAMTD has received Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, SAMTD has signed an assurance that it will comply with 49 C.F.R. part 26. It is the policy of SAMTD to ensure that DBEs, as defined in Part 26, have an equal opportunity to receive and participate in DOT-assisted contracts.
- B. Contractor and Subcontractor Obligation. Contractor and/or subcontractor shall not

discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 C.F.R. part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

C. The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

28. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

FTA Circular 4220.1F

Applicable to: All contracts.

Applies to: Contractors and Subcontractors

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, dated March 18, 2013, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any City Utilities requests which would cause City Utilities to be in violation of the FTA terms and conditions. The Contractor agrees to include a substantially similar provision in its contracts with subcontractors.

29. DRUG AND ALCOHOL TESTING

49 U.S.C. § 5331 49 C.F.R. Part 655 49 C.F.R. part 382 49 C.F.R. part 40

Applicable to: All contracts

Applies to: Contractors and Subcontractors

The contractor agrees to establish and implement a drug and alcohol testing program that complies with 49 CFR Part 655, produce any documentation necessary to establish its compliance with Part 655, and permit any authorized representative of the United States Department of Transportation or its operating administrations, the State Oversight Agency of Oregon, or Salem Area Mass Transit District, to inspect the facilities and records associated with the implementation of the drug and alcohol testing program as required under 49 CFR Part 655 and review the testing process. The contractor agrees further to certify annually its compliance with Part 655 and to submit the Management Information System (MIS) reports in a timely manner. To certify compliance the contractor shall use the "Substance Abuse Certifications" in the "Annual List of Certifications and Assurances for Federal Transit

Administration Grants and Cooperative Agreements," which is published annually in the Federal Register.

30. COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS

The Contractor must comply with all federal, state, and local regulations relative to wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, etc. Failure or neglect on the part of the Contractor to comply with any or all such regulations shall not relieve the Contractor of these obligations nor of the requirements of this contract.

Upon request of SAMTD or FTA, Contractor shall provide evidence of the steps it has taken to ensure its compliance with the FTA requirements, as well as evidence of the steps it has taken to ensure subcontractor performance, and/or submit evidence of subcontractor's compliance, at all tiers.

The Contractor also agrees to include a substantially similar provision in its contracts with subcontractors.

31. AMERICANS WITH DISABILITIES ACT (ADA)

Applicable to: All contracts.

Applies to: Contractors and subcontractors.

The Contractor agrees to comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. § 12101 et seq.; Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; 49 C.F.R. part 27; and any implementing requirements FTA may issue. These regulations provide that no handicapped individual, solely by reason of his or her handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity included in or resulting from this Agreement.

In accordance with Section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112 and Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Contractor agrees that it will comply with the requirements of U.S. Department of Transportation regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. part 37; and U.S. Department of Transportation regulations, "Americans with Disabilities Accessibility Specifications for Transportation Vehicles," 36 C.F.R. part 1192 and 49 C.F.R. part 38, pertaining to facilities and equipment to be used in public transportation. In addition, the Contractor agrees to comply with the requirements of 49 U.S.C. § 5301 (b)(6), which expresses the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation services and facilities to implement transportation accessibility rights for elderly persons and persons with disabilities. Contractor also agrees to comply with any implementing requirements FTA may issue.

In addition to the above, the Contractor agrees to comply with the following federal prohibitions against discrimination on the basis of disability:

- 1. Federal laws, including:
 - a. The Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 *et seq.*, which requires that buildings and public accommodations be accessible to individuals with disabilities,
 - b. Federal transit law, specifically 49 U.S.C. § 5332, which now includes disability as a prohibited basis for discrimination, and
 - c. Other applicable federal laws, regulations and requirements pertaining to access for seniors or individuals with disabilities.
- 2. Federal regulations, including:
 - a. U.S. DOT regulations, "Transportation for Individuals with Disabilities: Passenger Vessels," 49 C.F.R. part 39,
 - b. U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. part 35,
 - c. U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. part 36,
 - d. U.S. EEOC, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. part 1630,
 - e. U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for Persons with Disabilities," 47 C.F.R. part 64, subpart F,
 - f. U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. part 1194, and
 - g. FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 C.F.R. part 609, and
 - h. Other applicable federal civil rights and nondiscrimination guidance.

Contractor understands that it is required to include this article in all subcontracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Authority deems appropriate.

32. FTA Protest Requirements

Duty to Exhaust Local Procedures

Once the Contractor exhausts SAMTD's protest procedures, as described in applicable SAMTD Procurement Policy, the Contractor may request review from the FTA.

Protests shall only be accepted from participating bidders and must be submitted in writing and in a timely fashion, in accordance with SAMTD's formal protest procedures. SAMTD's formal protest procedures may be requested by contacting SAMTD Procurement by telephone at 541-682-6100.

33. PROMPT PAYMENT AND RETURN OF RETAINAGE

49 C.F.R. § 26.29

Applicable to: All contracts.

Applies to: Subcontractors, DBE and Non-DBE alike.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 15 calendar days from the receipt of each payment the prime contractor receives from SAMTD. The prime contractor agrees further to return retainage payments (if any) to each subcontractor within 15 calendar days after the subcontractor(s)' work is satisfactory completed. Any delay or postponement of payment from the above-referenced time frame may occur only for good cause following written approval from SAMTD. This clause applies to both DBE and non-DBE subcontractors.

The prime contractor and its subcontractors shall further comply with O.R.S. § 279C.570 of the Revised Statutes of the State of Oregon regarding prompt payment, to the extent applicable.

It is the responsibility of the subcontractors to notify SAMTD's DBE Liaison Officer of prime contractor noncompliance with the above prompt payment provisions. Upon receipt of such notification, SAMTD will investigate and take appropriate action.

34. VETERAN; DISABLED VETERAN; PREFERENCE ELIGIBLE

49 U.S.C § 5325 (k) 5 U.S. Code § 2108 4220.1F, IV, 2.c.(1)

Applicable to: Construction Contracts

Applies to: Contractors and Subcontractors

Recipients and subrecipients of Federal financial assistance under this chapter shall ensure that contractors working on a capital project funded using such assistance give a hiring preference, to the extent practicable, to veterans (as defined in section 2108 of title 5) who have the requisite skills and abilities to perform the construction work required under this contract. This subsection shall not be understood, construed or enforced in any manner that would require an employer to give preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with disability, or **a** former employee.

35. SAFE OPERATION OF MOTOR VEHICLES

23 U.S.C. part 402 Executive Order No. 13043 Executive Order No. 13513 U.S. DOT Order No. 3902.10

Seat Belt Use

The Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned

vehicles, company- rented vehicles, or personally operated vehicles. The terms "company-owned" and "company-leased" refer to vehicles owned or leased either by the Contractor or SAMTD.

Distracted Driving

The Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contactor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this agreement.

EXHIBIT E

STATE REQUIREMENTS

PREVAILING WAGE RATES (BOLI) – CONSTRUCTION CONTRACTS

The Oregon prevailing wage rate law, set forth by the Bureau of Labor and Industries (BOLI) and the Davis-Bacon Act (DBA), which is the federal prevailing wage law, applies to building and construction activity on public work construction contracts. These two laws require that workers are paid a minimum hourly rate set according to each government agency's assessment of an average wage rate or a predominant wage rate in the local area of the contract work.

The requirements that a contractor must follow are determined by the source of funding. Contracts funded solely by state funding require General Contractors and subcontractors to comply with the Oregon prevailing wage rate law (BOLI). However, when contracts are federally funded, general contractors and subcontractors must comply with both the federal Davis-Bacon Act and the BOLI Prevailing Wage Law.

The seven Requirements below are set forth by the Bureau of Labor and Industries (BOLI) in regards to all state-funded public works projects over \$50,000 and incorporate the Federal Davis-Bacon Act for public works projects over \$2,000.

- 1. BOLI prevailing wage rates apply to projects over \$50,000. The contractor and any and all subcontractors employing workers on a public works project must pay to such workers no less than the applicable prevailing rate of wage for each trade or occupation in which workers are employed in accordance with ORS 279C.840.
- 2. When a public works project is subject to both State Prevailing Wage Rate and the Federal Davis-Bacon Act (40 U.S.C. 3141 et seq.), the contractor and any and all subcontractors on the project must pay not less than the higher of the applicable state or federal rate in accordance with ORS 279C.830.
- 3. If the contractor and any and all subcontractors fail to pay for labor and services, Salem Area Mass Transit District can pay for the labor and services and withhold the amounts owed from payments due to the contractor in accordance with ORS 279C.515.
- 4. The contractor and any and all subcontractors must provide employees with a written schedule showing the number of hours per day and days per week the employee may be required to work in accordance with ORS 279C.520.
- 5. The contractor and any and all subcontractors are required to pay overtime, including daily, weekly, weekend, and holiday overtime in accordance with ORS 279C.540.
- 6. The Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employee of such Contractor, of all sums, which the Contractor agrees to pay, for such services and all monies and sums, which the Contractor collected or deducted from the wages of employees pursuant to any law, contract, or agreement for the purpose of providing or paying for such service in accordance with ORS 279C.530.

7. The contractor shall have a public works bond filed with the Construction Contractors Board unless exempt under ORS 279C.836(4), 279C.836(7), 279C.836(8), or 279C.836(9). The contractor shall also include in every subcontract a provision requiring the consultant or subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the Project unless exempt under ORS 279C.836(4), 279C.836(4), 279C.836(7), 279C.836(8), or 279C.836(9).

Salem Area Mass Transit District (SAMTD) will be responsible for paying the required fee to the Commissioner of the Bureau of Labor and Industries.

SAMTD requires certified payroll and invoices to be sent electronically in PDF format..

PREVAILING WAGE RATES:

(This section is blank, if no PWR's apply)

The rates may be obtained by going to all of the following:

https://www.oregon.gov/boli/WHD/PWR/Pages/July-1,-2018.aspx https://www.wdol.gov/wdol/scafiles/archive/davisbacon/2018/or1.r5

OVERTIME PROVISIONS:

- 1. **Overtime Requirements:** No Contractor or subcontractor contracting for any part of the contract work that may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he or she is employed on such work to work in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such work week, unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours work week.
- 2. Violation; Liability for Unpaid Wages; Liquidated Damages. In the event of any violation of the clause set forth in subparagraph (b) (1) of 29 CFR, Section 5.5, the Contractor or any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such district or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (b) (1) of 29 CFR, Section 5.5, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of eight (8) hours or in excess of the standard work week of forty (40) hours without payment of the overtime wages required by the clause set forth in subparagraph (b) (1) of 29 CFR, Section 5.5.

- 3. Withholding for Unpaid Wages and Liquidated Damages: The Department of Transportation (DOT) or SAMTD shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor under any such contract or any other federal contract with the same prime Contractor, or any other federally assisted contract subject to the Contract Work House and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) (2) of 29 CFR, Section 5.5.
- 4. **Non-construction Grants:** The Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, SAMTD shall require the Purchasing Manager to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of DOT and the Department of Labor, and the Contractor or subcontractor will permit such representatives to interview employees during working hours on the job.
- 5. **Subcontracts:** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph 1 through 5 of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower-tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the clauses set forth in subparagraphs 1 through 5 of this paragraph.

STATE TORT CLAIMS ACT

The Contractor is not an officer, employee, or agent of SAMTD or the State of Oregon as those terms used in ORS 30.265.

FOREIGN CONTRACTOR REPORT TO DEPARTMENT OF REVENUE (ORS 279A.120)

The following provision is applicable to all contracts with a contract price exceeding \$10,000 if the Contractor is not domiciled in or registered to do business in the state of Oregon:

Where a public contract is awarded to a foreign Contractor and the contract price exceeds \$10,000, the Contractor shall promptly report to the Department of Revenue, on forms provided by the Department of Revenue, the total contract price, terms of payment, length of contract, and such other information as the Department of Revenue may require. The Contractor shall provide SAMTD with copies of all forms provided to the Department of Revenue before final payment will be made on the contract.

CONDITIONS CONCERNING PAYMENT, CONTRIBUTIONS, LIENS, WITHHOLDING (ORS 279B.220)

Every public contract shall contain a condition that the 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.

EXTENSION AND COMPENSATION WHEN WORK SUSPENDED (ORS 279C.655)

If a public contract is not terminated but work under the contract is suspended by an order of a contracting agency for any reason considered to be in the public interest other than a labor dispute or any third-party judicial proceeding relating to the work other than a suit or action filed in regards to a labor dispute, the contractor is entitled to a reasonable extension of the contract time and reasonable compensation for all costs resulting from the suspension plus a reasonable allowance for overhead with respect to such costs.

PROMPT PAYMENT POLICY; PROGRESS PAYMENTS; RETAINAGE; INTEREST; EXCEPTION; SETTLEMENT OF COMPENSATION DISPUTES (ORS 279C.570)

It is the policy of the State of Oregon that all payments due on a public improvement contract and owed by a public contracting agency shall be paid promptly. No contracting agency is exempt from the provisions of this section.

Contracting agencies shall make progress payments on the contract monthly as work progresses on a public improvement contract. Payments shall be based upon estimates of work completed that are approved by the contracting agency. A progress payment is not considered acceptance or approval of any work or waiver of any defects therein. The contracting agency shall pay to the contractor interest on the progress payment, not including retainage, due the contractor. The interest shall commence thirty (30) days after receipt of the invoice from the contractor or fifteen (15) days after the payment is approved by the contracting agency, whichever is the earlier date. The rate of interest charged to the contracting agency on the amount due shall equal three times the discount rate on ninety (90)-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is thirty (30) days after receipt of the invoice from the contracting agency, whichever is the earlier date, but the rate of interest may not exceed 30 percent.

Interest shall be paid automatically when payments become overdue. The contracting agency shall document, calculate, and pay any interest due when payment is made on the principal. Interest payments shall accompany payment of net due on public improvement contracts. The contracting agency may not require the 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, the contracting agency shall so notify the contractor

within fifteen (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 the contractor within seven (7) days of being notified by the contracting agency, 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 first-tier subcontractor, the contractor, within ten (10) days after receiving the request, shall send to the first-tier subcontractor a copy of that portion of any invoice, request for payment submitted to the contracting agency or pay document provided by the contracting agency to the contractor specifically related to any labor or materials supplied by the first-tier subcontractor.

Payment of interest may be postponed when payment on the principal is delayed because of disagreement between the contracting agency and the contractor. Whenever a contractor brings formal administrative or judicial action to collect interest due under this section, the prevailing party is entitled to costs and reasonable attorney fees.

A contracting agency may reserve as retainage from any progress payment on a public improvement contract an amount not to exceed 5 percent of the payment. As work progresses, a contracting agency may reduce the amount of the retainage and the contracting agency may eliminate retainage on any remaining monthly contract payments after 50 percent of the work under the contract is completed if, in the contracting agency's opinion, such work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the contract, and the application shall include written approval of the contractor's surety. However, when the contract work is 97.5 percent completed the contracting agency may, at the contracting agency's discretion and without application by the contractor, reduce the retained amount to 100 percent of the value of the contract work remaining to be done. Upon receipt of a written application by the contractor, the contracting agency shall respond in writing within a reasonable time.

The retainage held by a contracting agency shall be included in and paid to the contractor as part of the final payment of the contract price. The contracting agency shall pay to the contractor interest at the rate of 1.5 percent per month on the final payment due the contractor, interest to commence thirty (30) days after the work under the contract has been completed and accepted and to run until the date when the final payment is tendered to the contractor. The contractor shall notify the contracting agency in writing when the contractor considers the work complete and the contracting agency shall, within fifteen (15) days after receiving the written notice, either accept the work or notify the contractor of work yet to be performed on the contract. If the contracting agency does not, within the time allowed, notify the contractor of work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run thirty (30) days after the end of the fifteen (15)-day period.

The contracting agency shall pay, upon settlement or judgment in favor of the contractor regarding any dispute as to the compensation due a contractor for work performed under the terms of a public improvement contract, the amount due plus interest at the rate of two times the discount rate, but not to exceed 30 percent, on ninety (90)-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date of the settlement or judgment, and accruing from the later of:

- 1. The due date of any progress payment received under the contract for the period in which such work was performed; or
- 2. Thirty (30) days after the date on which the claim for the payment under dispute was presented to the contracting agency by the contractor in writing or in accordance with applicable provisions

of the contract.

Interest shall be added to and not made a part of the settlement or judgment.

CONTRACTOR'S COMPLIANCE WITH TAX LAWS:

- 1. Contractor must, throughout the duration of this Contract and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. For the purposes of this section, "tax laws" includes all the provisions described in the required **Contractor's Representations and Warranties Certification**, included as part of this Contract.
- 2. Any violation of subsection 1 of this section shall constitute a material breach of this Contract. Further, any violation of the conditions specified in the **Contractor's Representations and Warranties Certification**, concerning the Contractor's compliance with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a material breach of this Contract. Any violation shall entitle SAMTD to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract, at law, or in equity, including but not limited to:
 - a. Termination of this Contract, in whole or in part;
 - b. Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to State's setoff right, without penalty; and
 - c. Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. SAMTD shall be entitled to recover any and all damages suffered as the result of Contractor's breach of this Contract, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing [replacement Services/replacement Goods/ a replacement contractor].

These remedies are cumulative to the extent the remedies are not inconsistent, and SAMTD may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

Demolition Project Recycling ORS 279C.510(1)

For demolition work, the Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective.

Complaints to Construction Contractors Board ORS 279C.515(3)

If the Contractor or a subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the Work, 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

END OF EXHIBIT E - STATE REQUIREMENTS