City of Coos Bay

Coos County, Oregon

CONTRACT DOCUMENTS

VOLUME 2 – Technical Specifications

FOR THE CONSTRUCTION OF

Coos River Highway Culvert Replacement

April 2016

Project No. 1201.059

Prepared By:

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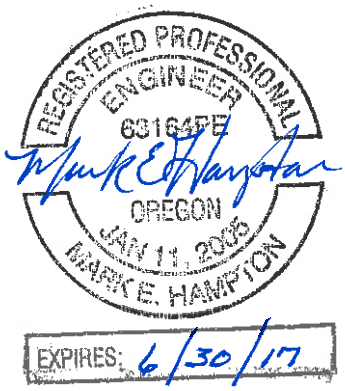

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DIVISION 1 – GENERAL REQUIREMENTS
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SECTION 01010 – SUMMARY OF THE WORK

PART 1 GENERAL

1.01 WORK SUMMARY

A. The Contractor shall furnish all labor, equipment, and materials necessary to complete all work in accordance with the Contract Documents.

B. The work shall be performed within the City limits of the City of Coos Bay, Coos County, Oregon. The City of Coos Bay is located on Oregon Coast Highway 101 and is approximately 27 miles south of Reedsport, Oregon and is located along the Oregon Coast.

C. A brief description of the summary of the work to be completed is described below:

Coos River Highway Culvert Replacement Project – Basic Bid

Furnishing all labor, equipment and materials as required for the Coos River Highway Culvert replacement project consisting of the excavation, construction and placement of approximately 85 lineal feet of new 18-inch storm drain piping, connection to the existing outfall piping and inlet catch basin, testing of new system and other miscellaneous items together with landscape restoration all as required for a complete installation of the Coos River Highway Culvert replacement project.

D. Work shall not begin until Engineer or Owner has issued the *Notice to Proceed* to the Contractor(s). All pipeline and subsurface work must be complete prior to paving.

1.02 WORK PROGRESS

A. It is the intent of these Contract Documents that the Work proceed in a systematic manner so that a minimum of inconvenience to the public results in the progression of the work. Suitable equipment will be required to properly execute the work with the least amount of disruption to services and access through the work area. Contractor shall contain operations to within the designated public properties, rights-of-way and within any construction easements obtained for this project.

B. Order and schedule delivery of materials in ample time to avoid delays in construction. If any item is found to be unavailable, notify the Engineer immediately to permit the Engineer's selection of suitable substitute. Timely delivery of all materials and equipment is Contractor's responsibility. No extensions in Contract Time will be allowed due to delays caused by late delivery of items. Availability of items should be determined during bidding.

C. The Contractor shall protect the work and materials from damage due to the nature of the work, the elements, carelessness of others, or from any other cause until the completion and final acceptance of the work. All loss or damage arising out of the nature of the work to be done under these Contract Documents, or from any unseen obstruction or defects which may be encountered in the execution of the work, or from the action of the elements, shall be sustained by the Contractor.

D. The Contractor shall remove completely all materials designated for removal, to the extent specified and/or indicated in the drawings. For such materials, removal, hauling, disposal (including providing disposal location), and applicable precautions are entirely the Contractor's responsibility. Allow no excess accumulation of non-reusable material at job site(s).

E. Contractor is responsible for the protection of all existing improvements that are to remain in place. This includes, but is not necessarily limited to: existing utilities, roads, driveways, drainage ditches, culverts, manholes, piping, fencing, shrubbery, and all landscaping structures and vegetation. Temporary enclosures, walls, covers, or other protection shall be provided and maintained by the Contractor as required. Contractor shall cooperate with the owners of such improvements, and shall restore and/or replace all damaged items as directed, without any additional expense to the Owner or payments to the Contractor.

1. The location and depth shown on the drawings for the existing underground utilities are approximate only and are based on as-built drawings, valve locations and other information..

F. Road demolition and resurfacing must be conducted in a manner which provides businesses and residences continued access and entry to driveways to the greatest extent practical. Contractor shall coordinate with residents and business's notifying them in advance of and driveway access or lane closure.

END OF SECTION

SECTION 01025 – MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 GENERAL

A. Wherever in these Specifications an article, device or piece of equipment is referred to in the singular, such reference shall include as many such items as are shown on the Drawings or are required to complete the installation.

B. Miscellaneous items required in the project that do not have a corresponding Section in the Bid Form are to be considered incidental costs to the project. Compensation for such items and/or work shall be incorporated into other related bid items or total costs. No separate measurement and payment will occur for such incidental costs.

C. Monthly progress payments and final payment will be made in accordance with the Contract, the General Conditions, and the Supplementary General Conditions. A portion of all progress payments will be withheld as “retainage” in accordance with the General and Supplementary General Conditions.

D. Additional detail on measurement and payment may be found in other Sections detailing specific items.

1.02 UNIT PRICES

A. Payment will be made on a unit price basis according to the prices provided by the Contractor in the accepted Bid Form. Payment will be made for the actual quantity of individual items (units) incorporated and installed in the project.

1.03 LUMP SUMS

A. Payments on lump sum bid items will be made based on the percentage of work complete at the end of the particular payment period.

B. Percentage of work complete will be recorded and submitted by the Contractor and estimated by the Engineer based on inspection. Payment will be based on the Contractor’s approved schedule of values.

1.04 PROGRESS PAYMENTS

A. Monthly progress payments will be made as set forth in the Agreement, in accordance with the General Conditions and Supplementary General Conditions.

B. At the stated day of the month, submit a monthly payment request in accordance with the General Conditions and Supplementary General Conditions. Base request on actual quantities installed and completed, and/or approved schedule of values with percent complete of each item. Show payment requested for each item, and total payment requested.

C. Engineer will review payment requests and compare with inspection records to verify quantities and completed items. Engineer will recommend payment amounts for Owner approval and payment.

END OF SECTION

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SECTION 01028 – CHANGE ORDER PROCEDURE

PART 1 GENERAL

1.01 SUMMARY

A. Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as described by Change Orders signed by the Owner, Engineer, and the Contractor.

B. See also applicable sections of the General Conditions and applicable portions of the Supplementary General Conditions.

1.02 PROCESSING CHANGE ORDERS

A. Change Orders will be numbered in sequence and dated. The Change Order will describe the changes and will be signed by the Owner, Engineer and the Contractor. Request for estimates for possible changes are not to be considered Change Orders or direction to proceed with the proposed changes.

B. Change Orders will be prepared by the Engineer.

C. Contractor may request that the Owner consider a Change Order by sending a written Change Order Request to both Owner and Engineer.

END OF SECTION

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SECTION 01040 – COORDINATION

PART 1 GENERAL

1.01 SUMMARY

A. Restrict work to within public rights-of-way and easements obtained for this project.

B. The Contractor(s) shall coordinate his work with the following:

1. City of Coos Bay Public Works Department

2. Frontier Telephone & Charter Communications or other affected communications

3. Pacific Power & Light

4. Other affected utilities and agencies

5. Private Property Owners and general public

C. Restrict work to within public rights-of-ways. Staging and/ or storage of materials or equipment may be conducted on private property. Prior to start of construction and placement of stored materials Contractor must provide to Engineer evidence of:

1. Written consent from affected property owner allowing Contractor utilize and place stored materials.

2. Approval for use of site for stored materials by Owner and Engineer.

D. Permit and maintain access for the Owner and/or residents to any adjacent facilities that are not part of work included within the project.

E. Coordinate with Owner to determine the locations of underground piping, vaults, valves and other items that could be damaged during construction.

F. Coordination between projects and Contractors for timing of construction, paving etc.

G. Restoration and cleanup work shall be completed with each phase of the construction project. Parking lots and properties shall be maintained and kept clean and clear of excess excavation, debris, dirt and other materials.

END OF SECTION

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SECTION 01046 – PROTECTION OF EXISTING IMPROVEMENTS

PART 1 GENERAL

1.01 GENERAL

A. Where Contractor's operations are near utility systems, structures, or are adjacent to other property, no work shall be started until Contractor has made all arrangements necessary for protection thereof have been made. Contractor shall exercise all possible precautions to prevent damage to existing structures, improvements, and underground utilities which are to remain.

B. Approximate locations of known underground utilities are shown on the Plans. Exact location or extent of such utilities is not guaranteed, and utilities may exist which are not shown on the Plans. Contractor shall call for utility locates prior to any digging. Contractor shall also pothole as required ahead of the work to verify the location and depths of affected utilities. No additional compensation will be given for such work or for utilities being different than shown on the plans.

1. All trench excavations and structure excavations within two (2) feet of any existing underground utility shall be performed by hand methods in accordance with state laws.

C. The Contractor shall be solely and directly responsible to the owner's and operator's of such properties and services for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the carrying out of the work to be done under this Contract.

D. Restoration of Existing Improvements. Except as shown on the Plans or as provided elsewhere in these specifications, the Contractor shall, at their own expense, repair and/or replace all utilities, services, landscaping, structures, substructures and other improvements damaged by the operations associated with this project, as directed. These repairs and replacements shall all be suitable and proper for intended use and in every respect acceptable to the Owner, Engineer and appropriate governing body or owner of such improvement. At minimum, restoration will be required to match the existing adjacent structure/improvement in thickness, finish, quality, quantity, and aesthetics.

E. In the event of interruption of domestic water, electric, telephone, sewer, or other utility services, the Contractor shall promptly notify the proper authority and the Owner. The Contractor shall cooperate with the proper authority in restoration of service as promptly as possible and shall bear all costs of repair.

F. The Contractor shall pothole existing waterlines or other utilities ahead of his work so that potential conflicts can be minimized or that minor relocation of the new waterline routes can be made. Potholing is defined as exploratory excavation of existing waterlines or other utilities to verify their depth and location.

1.02 INTERFERING STRUCTURES, IMPROVEMENTS AND LANDSCAPING

A. It shall be entirely the responsibility of the Contractor to locate and protect all existing structures, landscaping, and other improvements in advance of the work. Neither the Owner, Engineer, nor any of their officers or agents shall be responsible to the Contractor for damages as a result of any structures or improvements being located differently than indicated in the drawings, nor which exist and are not indicated on the drawings.

B. If interfering power poles, telephone poles, guy wires, or anchors are encountered, the Contractor shall notify the affected utility and the Engineer at least seven (7) days in advance of construction to permit arrangements for protection or relocation of the structure. However, failure of utility to respond shall create no obligation on Owner, and Contractor shall protect all utilities against damage, or shall stand all costs involved thereof.

C. Landscaping, Tree and Plant Protection. Provide adequate protection of existing landscaping against damage from construction operations, including all structures and vegetation. Protect roots, trunk and foliage of existing and new shrubs and trees from all damage including that possible from compaction and dust. Contractor shall be entirely responsible to remove and replace all property which is damaged by work related to the project. Contractor shall bear all costs associated with replacement of existing landscaping, and shall cooperate with the owner of such improvements, the Owner, and the Engineer in all protection and restoration/replacement that is required. In specific circumstances, Contractor may make special arrangements with property owners for removal of landscaping without replacement. Copies of written agreements for all such arrangements shall be furnished to the Engineer.

D. When construction operations will affect the property of a private citizen (such as driveways, landscaping, etc.), even when such improvements are in the road right-of-way, the Contractor shall notify the owner of such property and the Owner, at least seven (7) days in advance of any affecting Work, so that any desired preparations can be made.

1.03 ROADS AND ACCESS

A. All work shall be conducted to minimize damage to existing roadways, easements and parking lots, including limiting wheel loads to acceptable levels. At all times keep roadways, shoulders, and ditches free from excess materials and debris.

B. Spillage of soil, dust, rock, mud, etc. on all roads used by the Contractor (and any working for Contractor) during construction, shall be prevented as much as possible. If spillage cannot be prevented, an hourly patrol shall be provided by the Contractor to police and sweep clean all spillage. At the conclusion of each workday, such traveled areas shall be left completely clean and free from all extraneous materials. Contractor is entirely responsible to prevent such spills and follow all related laws and regulations. If spillage of hazardous material occurs, Contractor shall immediately notify the proper authorities and remove the spill in the proper manner. Owner will not be liable for any additional costs due to spillage of any kind.

C. All damaged gravel, concrete and/or asphaltic concrete surfaces shall be repaired as required to conditions acceptable to the governing body and Engineer. No cleated or crawl-type equipment shall be operated on paved surfaces, except to cross a road when adequate protection of the surface is provided.

D. During construction the Contractor shall take necessary measures to avoid and abate excessive dust. Sprinkling of roadways and sites may be necessary and shall be conducted carefully to avoid over wetting while keeping dust to a minimum.

E. Contractor is responsible for constructing, maintaining, and removing any additional access that Contractor deems necessary for the Work. Contractor must notify Owner and Engineer, and must obtain written consent from the governing body, prior to construction of additional access not shown on the drawings. All applicable regulations shall be followed in such access construction, including obtaining any required permits.

END OF SECTION

SECTION 01050 – FIELD ENGINEERING

PART 1 GENERAL

1.01 SUMMARY

A. Construction stakeout – The Engineer will provide assistance to the Contractor in the form of line and grade control for the following:

Coos River Highway Culvert Replacement

Specific placement of stakeout and controls is not anticipated for this project. The Engineer and Owner will assist the Contractor in marking and identifying dig-out areas and limits of construction and removal of existing asphalt prior to the start of construction.

Engineer will run vertical levels and provide a Temporary Bench Mark as required to assist Contractor in maintaining vertical grade throughout the project as needed.

B. The Contractor shall be solely responsible for laying out the work.

C. It shall be the responsibility of the Contractor to maintain and preserve the construction stakeout if provided. The Contractor will not be allowed time extensions or damages caused by the loss of control stakes. If control is lost and/or disturbed and in the judgment of the Engineer requires replacement, such replacement will be at the expense of the Contractor.

D. It is expected that minor revisions of the stakeout along the individual project may be required during the course of construction. These revisions and relocations shall be made only as directed by the Engineer. The Contractor shall not be entitled to any additional compensation for minor revisions or relocations.

END OF SECTION

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SECTION 01060 – REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. The Contractor shall at all times observe and comply with all federal and state laws and lawful regulations issued and local laws, ordinances and regulations which in any manner affect the activities of the Contractor under this contract and further shall observe and comply with all orders or decrees as exist as present and those which may be enacted later by bodies or tribunals having any jurisdiction or authority over such activities of the Contractor.

B. The contractor shall be responsible and liable for all accidents, damage or injury to any person or property resulting from any activity, duty and obligation of the Contractor under this Contract for which the Contractor may be legally liable. The contractor shall hold blameless and harmless and shall indemnify the Owner and its officers, employees and against the any and all claims, demands, loss injury, damage, actions and cost of actions whatsoever which they or any may sustain by reason of any act, omission or neglect of the Contractor or employees, agents, representatives or assignees of the Contractor in connection with the activities, duties and obligations of the Contractor under this Contract.

END OF SECTION

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SECTION 01100 – REFERENCE STANDARDS

PART 1 GENERAL

1.01 GENERAL

A. Abbreviations and Acronyms. Whenever the following abbreviations are used in these specifications or in the drawings, the following definitions apply. Unless otherwise designated, all reference to the following standards, specifications and methods shall imply the latest adopted revision in effect at the time of bid opening. Such standard, except as modified herein, shall have full force and effect as though printed in the specifications.

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Association
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASTM	ASTM International, formerly known as the American Society for Testing Materials
AWWA	American Water Works Association
EPA	United States Environmental Protection Agency
DEQ	Department of Environmental Quality (both Federal and State)
DWP	Oregon Dept. of Human Services, Drinking Water Program
FM	Factory Mutual
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Act (both Federal and State)
OSS	Oregon Standard Specifications – ODOT/APWA
UL	Underwriters' Laboratories
USDA	United States Department of Agriculture
SSPC	Steel Structures Painting Council or, The Society for Protective Coatings

B. The abbreviation of "N.I.C." if shown on the plans or specifications represents work that is "Not in Contract". This work may be completed at a later date by Owner or others and for which the Contractor will not be responsible for unless otherwise directed to do so.

END OF SECTION

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SECTION 01300 - SUBMITTALS

PART 1 GENERAL

1.01 GENERAL

A. This section outlines in general the items the Contractor must prepare or assemble during the progress of the work, including technical submittals, O&M data, record drawings, and substitution requests. Submittals are required for each piece of equipment or material even when the item being proposed for use is the same as specified.

1.02 SUBSTITUTION REQUESTS

A. Where the specifications state “or-equal”, “or approved equal”, or similar statement, the Engineer alone will determine if the proposed substitute item is allowed.

B. Requests for substitution for items specified by manufacturer or manufacturer's model number as specified throughout the Contract Documents shall be in writing and be accompanied with sufficient information to allow the Engineer to identify the nature and scope of the request. Information to be provided shall include.

1. Reason the substitution request is being made.

2. All submittal information required for the specified item or equipment, including all deviations from the specified requirements necessitated by the proposed substitution.

3. Reproducible contract drawings, marked up to illustrate the alterations to all structural, architectural, mechanical and electrical systems required to accommodate the proposed substitution.

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

5. No additional costs of any kind will be incurred by the Owner or Engineer by approval or rejection of any substitution request.

1.03 SUBMITTALS

A. Technical submittals

1. Technical submittals covered by these specifications include manufacturer's information, shop drawings, test procedures, test results, samples, request for substitutions and miscellaneous work related submittals. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, reinforcing steel, fabricated items, piping and conduit details, and lead time required for delivery to job site.

1.04 ENGINEER’S REVIEW

A. Review shall not extend to means, methods techniques, sequences or procedures of construction, or to verify quantities, dimensions, weights or gages, or to fabrication processes, except when specifically indicated or required by the contract documents, or to safety precautions or programs.

B. The Contractor shall submit four (4) copies of all submittal material to Engineer. Two (2) copies will be returned upon final approval. If the submittal is rejected all four (4) copies will be returned.

1. Contractor may submit a single electronic PDF copy of the submittals to the Engineer or Owner if approved.

C. Unless otherwise specified, within 14 calendar days after receipt of submittal, the Engineer will return the marked-up copies. The Contractor shall take appropriate action if the submittal needs to be resubmitted. If specified submittal material is to be used for O&M data, all corrections shall be made and new clean copies shall be submitted with the O&M data.

D. Review of contract documents, method of work or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibilities for errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or Owner. The Contractor shall have no claim under the Contract on account of failure or partial failure of the method of work, material or equipment so reviewed.

END OF SECTION

SECTION 01310 – CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.01 SUMMARY

A. Time is of the essence for completion of this project. The Contractor shall anticipate start of Construction immediately following receipt of a Notice to Proceed.

1.02 PROGRESS OF THE WORK

A. The Contractor shall execute work with such progress as necessary to prevent delay to the overall completion of the project and with such forces, materials and equipment to assure completion in the time established by the Contract.

B. The Contractor may find it necessary to work overtime, double shifts, weekends and/or holidays if such a schedule is required to complete the project within the time allowed.

END OF SECTION

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SECTION 01500 – TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 GENERAL

A. This section includes mobilization, temporary utilities, temporary construction, safety requirements, temporary environmental controls, and other temporary controls.

B. Submittals

1. Traffic control plan (see Section 01570).

2. Staging area plan and notification of any obstructions encountered during mobilization.

3. Plans for disposal of waste materials and excavated material not required for fill, including permits as required.

C. Permits. Contractor shall secure and pay for all permits and fees required pertaining to temporary facilities and all other work.

D. Mobilization shall include de-mobilization and consist of preparatory work and operations, including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site; for the establishment of offices, buildings and other facilities necessary for work on the project; for premiums on bond and insurance for the project, and for other work and operations which the Contractor must perform or costs he must incur before beginning work on the project and after completion of the project.

E. Access of Government Officials. Authorized representatives of the Federal, State and Local Governments shall at all times have safe access to the Work, whenever in preparation or in progress, and Contractor shall provide proper facilities for such access and inspections.

PART 2 PRODUCTS

2.01 MATERIALS

A. Contractor shall provide all materials necessary for all work under this Section.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. During all construction operations, the Contractor shall construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to their place of business or residence, unless the Contractor has made special arrangements with the affected persons and has notified Engineer and Owner. All temporary facilities shall be removed by the Contractor upon completion of the Work.

B. Temporary Utilities

1. Electric Power and Telephone

a. Electrical power. Power requirements should be confirmed by the Contractor for any special power needs. Arrangements for power shall be the responsibility of the Contractor.

b. Phone service shall be the responsibility of the Contractor.

2. Sanitary Facilities

a. The Contractor shall provide chemical toilets of suitable types and maintain them in a sanitary condition at all times, conforming to code requirements and acceptable to the health authorities. They shall be of watertight construction so that no contamination of the area can result from their use. Arrangements shall be made for frequent emptying of the toilets. Upon completion of the work, toilets shall be removed and the area restored to its original condition.

b. Portable toilet facilities shall be located only at locations approved by the Owner.

C. Safety Requirements

1. Proper traffic control shall be provided in accordance with Section 01570.

2. Access for Police, Fire, and School Bus Service

a. Notify the fire department, police department and, when applicable, the School District before closing any street or portion thereof, and no closing shall be made without the Engineer's approval. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to any area, such as consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, unless the Contractor obtains special written permission from the chief of the fire department. Conduct operations so as to cause the least interference with any fire station access and at no time prevent such access.

b. The Contractor shall furnish a list of emergency telephone numbers to both the Engineer and the Owner so that contact may be made easily at all times in cases of emergencies.

3. Fire Prevention. Contractor shall perform all work in a fire-safe manner. Contractor shall supply and maintain on site all fire-fighting equipment, supplies, and capable personnel for extinguishing incipient fires as required by all Federal, State and local laws and regulations.

D. Temporary Environmental Controls

1. The Contractor shall maintain affected areas from his construction free from environmental pollution that would be in violation of federal, state or local regulations.

2. Air Pollution Control

a. Minimize air pollution likely to occur from construction operations by wetting down bare soils to control dust and requiring proper combustion emission control devices on construction vehicles.

b. Give unpaved streets, roads, and detours or haul roads in the construction area a dust preventative treatment or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.

3. Water Pollution Control and Erosion Control

a. Discharge from dewatering, or flushing operations shall not directly impact existing water courses.

b. Turbidity shall not exceed 10 percent above natural stream turbidities as a result of the project. The turbidity standard may be exceeded for a limited duration, provided all practicable erosion control measures have been implemented, including, but not limited to:

1. Use of filter bags, sediment fences, silt curtains, leave strips or berms, placing mulch and hay bale silt fences, or other measures sufficient to prevent offsite movement of soil.
2. Use of an impervious material to cover stockpiles when unattended or during a rain event.
3. Graveled construction accesses to prevent movement of material offsite via construction vehicles.
4. Sediment traps or catch basins to settle out solids prior to water entering ditches or waterways.
5. Spreading mulch on exposed embankments greater than 3 feet in height.
6. Place hay bale silt fence at any locations where soil erosion potential is evident and as directed by the Engineer.
7. Constructing sediment basins where surface runoff is causing soil erosion or as directed by the Engineer.

c. Erosion control measures shall be maintained as necessary to ensure their continued effectiveness.

d. Petroleum products, chemicals, or other deleterious materials shall not be allowed to enter the water.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Mobilization, Bonding, and Insurance - Payment for this item shall be included within the lump sum cost for the overall project and shall include all activities related to mobilization and demobilization on the project, preparatory work, insurance and bonding costs, project closeout, building permits (as required) and other agency fees and other facilities and equipment necessary for work on the project.

B. Construction Facilities and Temporary Controls - Payment for work in this item shall be included within the lump sum cost for the overall project and shall include all temporary construction facilities, traffic control, project offices, miscellaneous equipment, costs related to scheduling, coordination, submittals, and all other Division 1 activities within the scope of work not designated with individual payment items shall be included within this item.

END OF SECTION

SECTION 01570 – TRAFFIC REGULATION

PART 1 GENERAL

1.01 GENERAL

A. This section includes traffic control related safety requirements as may be required for the project.

B. To Assist Contractor in Placement of New 18-Inch Storm Drain Culvert the City will Close Coos River hwy to Through Traffic for Construction Work to Be Completed During the Typical Work Hours - Contractor to Provide Steel Plating as Req'd During None Work Hours

C. Contractor shall comply with all rules and regulations of County, State, City, and Federal authorities regarding the closing, detouring, and loading of all public streets or highways.

D. No road (public or private) shall be closed or detoured by the Contractor to the public, except by express written permission of the Engineer and entity governing such roadways. Traffic must be kept open on all roads and streets where no detour is possible. The Contractor shall, at all times, conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. The convenience of the general public and residents, safety, and the protection of property is of prime importance and shall be provided for by the Contractor in an adequate and satisfactory manner.

E. Submittals

1. If road closures, lane closures, or detours are required, Contractor shall prepare, and submit for approval a Traffic Control Plan to the appropriate governing body of such road.

2. If road closures, lane closures, or detours are required, Contractor shall notify Owner a minimum of 48-hours prior to the road closure

PART 2 PRODUCTS

2.01 MATERIALS

A. Contractor shall furnish all flaggers, barricades, lead cars, warning signs, lights, signals, etc. as required to comply with regulations and provide safety.

B. All signs, lights, flags and other warning and safety devices shall meet the current ODOT safety manual affecting the location of construction, or to applicable City/County standards.

C. Barricades shall conform to the Standard Specifications for Highway Construction of the State Highway Department affecting the location of construction, or to City or County Standards where applicable.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Contractor shall, at their own expense, and without further or other order, provide, erect and maintain at all times during the progress or temporary suspension of the work,

suitable barricades, fences, signs or other adequate warnings or protection and shall provide, keep and maintain such danger lights, signals, and flaggers as may be necessary or as may be ordered by the Engineer to insure the safety of the public as well as those engaged in connection with the work.

B. Failure of the Engineer to notify the Contractor to maintain barricades, barriers, lights, flares, danger signals, or watchmen, shall not relieve the Contractor from this responsibility. All barricades and obstructions shall be protected at night by signal lights which shall be suitably distributed and kept burning from sunset to sunrise. Barricades shall be of substantial construction and shall be suitably painted to increase their visibility at night.

C. Whenever the Contractor's operations create a hazardous condition, Contractor shall furnish flagmen and guards as necessary, or as directed, to give adequate warning to the public of any dangerous conditions to be encountered. Contractor shall furnish, erect, and maintain approved fences, barricades, lights, signs, and any other devices that may be necessary to prevent accidents and to avoid damage and injury to the public. Flaggers and guards, while on duty and assigned to give warning to the public, shall be equipped with approved red wearing apparel and a red flag which shall be kept clean and in good repair.

D. Contractor shall provide access to private properties at all times, except during urgent stages of construction when it is impractical to carry on the construction and maintain traffic simultaneously. Coordinate all construction activities with the affected property owners.

E. Contractor shall patrol the traffic-control area and reset all disturbed signs and traffic-control devices immediately, and will remove or cover all non-applicable signs during periods not needed.

F. At the end of each day, the Contractor shall leave work in such condition that it can be traveled without damage to the work and without danger to the public.

G. If, in the opinion of the Engineer or other governing traffic authority, traffic control is lacking or otherwise unsafe or deficient, the Engineer may require that all work be halted until the traffic control measures can be improved to an acceptable level.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for this item shall be included within the lump sum price for the overall project and shall include all activities related to traffic and safety control on the project, preparatory work for work on the project.

END OF SECTION

SECTION 01700 – CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 WORK INCLUDED

A. Section includes procedures and requirements for finalizing and closing out the Project(s).

B. Final clean-ups and restorations shall be done prior to requesting final inspections.

PART 2 PRODUCTS – NOT USED

PART 3 WORKMANSHIP

3.01 RESTORATION AND CLEAN-UP

A. Upon completion of any portion of the work, promptly remove temporary facilities generated by that portion of the work, including surplus materials, equipment and machinery unless directed otherwise by the Engineer or the Owner. All construction work by the Contractor shall be clean and free of rubbish, dirt, overspray, and extraneous materials to the satisfaction of the Engineer before acceptance of the work.

B. Street/Road Cleanup. All roadways affected during construction shall be cleaned and restored. All ditches and culverts shall be cleaned and re-graded for proper drainage. Culverts broken or damaged by construction activities shall be restored to their original condition and location. Immediately following construction, remove all dirt, mud, rock, gravel, and other foreign material at the completion of the day or as otherwise required by the Engineer.

C. Site Restoration and Cleanup. Restore or replace any ground covering (e.g., bark chips, cinders, gravel, river rock, etc.) to the original condition or better. Replace topsoiled areas, rake and grade to conform to their original contours. Replace any damaged landscaping or plantings to prior conditions in manner acceptable to Owner. Reseed grass areas as approved. Seed and protect any disturbed slopes.
.

END OF SECTION

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SECTION 01740 – WARRANTIES

PART 1 GENERAL

1.01 INSTALLED MATERIALS WARRANTIES

A. Installed Materials Warranties. Prior to 100% completion and release of Final payment for work under this Contract, the Contractor shall furnish the Owner through the Engineer, all warranty and/or guarantee forms normally furnished by the manufacturer of equipment. Warranty form shall include the specific equipment installed, the duration of the warranty, details of the warranty, and the installer's name, address and phone number. Installation date will be filled in by the Owner and will coincide with date of substantial completion of the work under this contract. All such warranties shall name the Owner as the warranted party.

a. Attention is directed to various other sections of the Contract Documents where specific material or installation warranties may be required for items specified.

1.02 CERTIFICATIONS

A. Contractor to prepare on Contractor's letterhead with project title and number clearly identified. Submit to Engineer with application for Final Payment.

1. A written certification that Contractor has fully completed the Work in strict compliance with the Contract Documents, and requesting final inspections.

2. Written certification that all subcontractors and suppliers who have furnished work or materials as part of this project have been paid in full.

3. Written certification that Contractor will replace all materials and workmanship that prove defective within one-year after the date of Final Acceptance. Date Engineer signs Final Payment Certificate is date of Final Acceptance and starts the Contractor's one-year guarantee period.

4. Submission of a signed State or Federal approved Wage Certification Form certifying that Contractor has paid not less than the Prevailing Wage Rate as required by law, and that Contractor has timely submitted the required payroll certificates to the appropriate state or federal wage division.

B. One-Year Warranty Inspection. On the 11th month following final project completion and acceptance, Contractor shall be available to be present during the on-site warranty inspection by Owner. Any defects identified in materials or workmanship shall be corrected within 30 days by the Contractor at his own expense.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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DIVISION 2- SITE WORK
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SECTION 02230 – CLEARING & GRUBBING

PART 1 GENERAL

1.01 WORK INCLUDED

A. The work to be performed under this section shall include all labor, equipment, and materials necessary for the removal of vegetation and organic matter including, trees, logs, stumps, roots, shrubs, brush, grass and other organic materials as specified herein and as necessary to complete the proposed improvements. This work shall also include the preservation and protection from injury or defacement of all vegetation and objects designated to remain, hauling and disposal of all resulting materials, backfilling of all voids resulting from clearing and grubbing operations, and grading of areas along the project alignment which are not included elsewhere in grading.

B. Clearing and grubbing work shall be performed in strict compliance with all City, County, State and Federal laws and requirements pertaining to clearing, disposal, erosion control, and other related operations.

C. Extra care shall be taken when construction occurs on private property. For areas within easements the Contractor shall coordinate with the Owner and private property owners prior to removal or trimming of any vegetation.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 CLEARING

A. Clearing shall consist of the felling, trimming or cutting of trees, stumps, shrubs, brush and branches, and the clearing of downed timber, vines, grass and other vegetation to the limits specified herein, with the exception of items designated either on the Plans or within these Specifications to remain. The ground surface shall be cleared completely of all growth and organic matter as specified.

B. Merchantable timber, shrubs and other vegetation of value occurring within areas designated for clearing or resulting from the clearing work shall become the property of the Contractor unless otherwise specified.

C. Trees of which less than one-half (1/2) of the lower portion of the trunk is within the area to be cleared may be left in place unless they are so situated that they interfere with other work to be completed under this contract, in which case they shall be removed.

D. Trimming

1. Tree branches hanging within the zone extending from the ground surface to 13-feet above the finished roadway grade, or 9-feet above other areas, shall be cut off to the boles in a workmanlike manner in conformance with tree surgeon practice, as directed.

2. The Contractor shall remove additional tree branches as directed by the Engineer in such a manner that the tree presents a balanced appearance.

3. Scars resulting from trimming of branches shall be treated with an approved tree sealant.

E. Clearing Limits

1. Clearing shall be performed within designated rights-of-way or easements as shown on the plans or as directed by Engineer and Owner.

3.02 GRUBBING

A. Grubbing shall consist of the removal of all embedded wood and other organic matter. Materials to be removed include stumps, trunks, buried logs, roots one-inch (1") in diameter and larger and other objectionable material.

B. Grubbing Limits

1. Grubbing shall be performed within all clearing area limits, as specified above, to a depth of six-inches (6") below the ground surface, or subgrade, whichever is deeper.

2. At all trenches and other excavations, grubbing shall be conducted to six-inches (6") outside the exposed sides of the excavation. All stumps shall be completely removed to firm undisturbed soils.

3.03 DISPOSAL

A. All materials and debris resulting from clearing and grubbing operations shall become property of the Contractor at the place of origin, and shall be hauled away and disposed of by the Contractor.

B. Materials resulting from clearing and grubbing operations shall not be disposed of on lands owned or controlled by the Owner except by written permission. If so permitted, the Contractor shall place materials only at locations and in such manner as directed by the Owner.

C. The Contractor shall obtain written permission from the owner of any property upon which clearing and grubbing materials are to be disposed. Copies of the agreement between the property owner and the Contractor shall be furnished to the Owner and Engineer.

D. No burning of materials shall be allowed at the project site unless approved by the Owner in writing. No excess accumulation of materials shall be allowed at the project site.

3.04 PRESERVATION OF EXISTING VEGETATION

A. The Contractor shall protect from injury all trees, shrubs, vines, plants, grasses and other vegetation outside of areas to be cleared and grubbed, or which are designated by the Engineer to be preserved. Operations which may damage such vegetation to remain shall be conducted in areas where damage will not result.

B. All items designated to remain which are damaged by the Contractor's operations shall be restored or replaced by the Contractor to as nearly as possible original condition and location at no cost to the Owner.

3.05 COMPLIANCE WITH LAWS AND REGULATIONS

A. The clearing and grubbing work shall be performed in strict compliance with all City, County, State and Federal laws and requirements pertaining to clearing, hauling, disposal, erosion control, and related operations.

3.06 BACKFILLING AND GRADING

A. Stump holes and other excavations which result from clearing and grubbing operations shall be backfilled with suitable material and compacted in accordance with Section 02315.

B. Holes in areas to be excavated or trenched at a later time may be temporarily backfilled or covered as approved to provide for public safety until completion of final backfill.

C. Areas subject to Clearing and Grubbing shall be smoothed and reshaped to blend to surrounding grades.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Clearing & Grubbing shall be included within the lump sum cost for the overall project and shall include compensation for the removal and disposal of all cleared debris and materials and labor required to complete the work described herein.

END OF SECTION

SECTION 02250 – DEMOLITION & SITE PREPARATION

PART 1 GENERAL

1.01 SUMMARY

A. This work in this section includes the furnishing of all labor, equipment, materials, incidentals, and performing all work required for the removal and disposal of concrete sidewalks, curbs & gutters, catch basins, manholes, asphalt, miscellaneous structures, piping designated for removal and abandonment, debris, and other items or improvements of manmade origin, in accordance with the Plans and these Specifications.

B. The removal work described herein does not include the removal or disposal of items or improvements designated to remain.

C. The area in which removal work, under these Specifications, is to be performed shall be confined to the minimum dimensions, within the public right-of-way or easements, which will permit proper construction of the proposed improvements, or as otherwise indicated.

PART 2 PRODUCTS

2.01 MATERIALS

A. Trench Excavation and Backfill shall comply with Section 02315.

C. Asphalt concrete pavements shall comply with Section 02740

D. Landscape restoration and reseeding shall be as specified in Section 02900.

E. Concrete, for Curbs, Gutters, Walks and Driveway Approaches shall be 3500 psi mix unless otherwise specified in Section 03300.

1. Expansion joint filler shall be ½-inch thick preformed asphalt fiberboard conforming to ASTM D994.

F. Minor Catch Basin Frame Adjustment

1. Pre-cast catch basin risers shall be placed to match final grade.

a. Risers shall be used for final adjustment

2. Metal risers shall be cast iron. Contractor to field verify and confirm sizes prior to ordering & delivery.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Remove and dispose of existing ac pavements, curbs and gutters, concretes sidewalks, access ramps, driveway approaches (as required) portions of storm drain piping, trees, shrubs, soil not being replaced, catch basins and other miscellaneous structures being replaced or eliminated.

B. Saw cuts

1. Several saw cuts of the existing concrete sidewalks and pavements are shown on the Demolition plans. These cuts shall be sequenced to correspond to the various stages of construction.

3. Depth of the saw cut shall extend the full depth of the item being removed such as ac pavement, concrete sidewalks or curbs and gutters being removed.

4. The Contractor shall be responsible for protecting and maintaining the saw cut edges during the course of construction. in addition, the Contractor shall anticipate performing additional saw cuts along existing pavement edges or other locations where vehicular or construction equipment will have an impact on these edges. No additional compensation will be made to the Contractor for these additional saw cuts.

C. Contractor shall dig out existing pavements where specified on the Plans and Detail drawings to firm aggregate base materials or subgrade soils. Exposed subgrade soils or base materials shall be shaped and graded as necessary to result in a finished surface which conforms to the cross section and profile indicated on the plans. If unstable subgrade areas are observed at the subgrade level, materials shall be over excavated to firm undisturbed ground as directed by the Engineer.

1. Provide warning signs as required where abrupt edges or sloped drop-offs occur at the edge of the existing or new surfaces until placement of the final course asphalt concrete pavement.

D. Curbs, Walks and Driveways

1. Where construction operations require the partial removal of pavements and other concrete flatwork or structures, bituminous pavements or portions thereof, the area to be removed shall be neatly sawcut. Just prior to placement of hot asphalt pavement, final sawcuts shall be made 6-inches outside the limits of the trench on each side to a depth of 1½-inches, or deeper as required, to permit the removal of material without damage to adjoining portions of structures to be left in place. All cuts shall be clean, vertical cuts made true to lines designated or approved by the Engineer. See Detail drawings for further clarification.

2. The Contractor shall remove and dispose of all pavement and structures, or portions thereof, which lie within the limits of excavation.

3. Pavements and/or structures designated to remain but damaged as a result of the Contractor's operations shall be sawcut and removed as described above, and replaced or restored at the sole expense of the Contractor.

4. Concrete shall be deposited in forms without segregation and tamped spaded or mechanically vibrated for thorough consolidation.

a. Finishing shall produce a smooth finish matching surrounding finish or a non-slip broom finish as applicable unless otherwise specified in Section 3300.

b. Sidewalks shall be 4-inches thick and shall match existing sidewalks at limits of replacement.

c. Commercial driveway approaches shall be a minimum of 8-inches thick reinforced concrete.

d. Provide expansion joint filler around poles, fire hydrants, limits of driveways and other fixtures that protrude through or against the structures and at points of curvature. Scored joints shall be required at 5-foot centers.

e. Protect and keep moist during curing.

E. Existing storm drain piping and structures scheduled for abandonment shall be drained in their entirety and plugged with a watertight seal. Abandoned pipes shall be plugged with concrete/ grout plugs. Where abandoned pipe connects to storm drain manholes plugs shall be installed on the interior of the manhole. Reshape channel as required to direct flows.

1. Pipes 12 inches in diameter or greater shall be filled with a sand slurry or other approved Controlled Low Strength Material (CLSM).

F. Valves and valve covers shall be adjusted to match final grades during placement of the final lift or overlay of asphalt concrete pavement is placed. Sequencing of work will be required.

G. All items and materials designated to remain shall be protected against damage as required. Damage to items or materials not intended for removal shall be repaired promptly by the Contractor to the satisfaction of the affected property owner. If the Engineer determines it necessary, repairs shall consist of complete replacement of the affected items or materials. All such repairs and replacements shall be made by the Contractor without compensation.

H. Contractor shall remove and relocate, where shown on the plans or as required all existing signs, sign posts, reflectors, guard posts and mailboxes that are affected by the placement of the new waterlines. Final locations shall be coordinated with the Engineer or Owner.

I. Minor Catch Basin Frame Adjustment

1. Catch basin frame shall be adjusted to final grade during the final lift or overlay of asphalt concrete pavement is placed. Sequencing of work will be required.

J. Disposal of Materials

1. Salvaged valves, fittings, hydrants and other such fixtures or fittings removed and determined by the Engineer to be reusable, shall be delivered to City shops as directed.

2. All materials, except those determined by the Engineer or Owner to be reusable, shall become property of the Contractor at the place of origin and shall be disposed of by the Contractor in conformance with all laws, regulations and rules legally imposed on such activities.

a. Contractor shall make every effort to salvage or recycle construction demolition items and debris as is feasible.

3. Materials shall not be disposed of on City owned or City controlled lands except by written permission of the City, and if so permitted, the materials shall be placed only at such locations and in such manner as the City may direct.

a. Materials may be disposed of on private properties only with written permission of the property owner(s) involved, and with copies of the agreement furnished to the City and Engineer.

K. Excavations resulting from the removal of structures and/or obstructions shall be backfilled and compacted in accordance with the requirements of Section 02315. Backfill materials shall consist of the type and class designated on the Plans and specified in Section 02315.

L. All existing ditches damaged by the Contractor by his operations and incidental ditching shall be re-constructed as required as to maintain existing drainages and ditches. The Contractor shall maintain channel width and side slopes of existing conditions.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Demolition & Site Preparation shall be included within the lump sum cost for the overall project and shall include compensation for all work necessary to remove, haul, and dispose of existing pavements, curbs and gutters, concrete sidewalks, catch basins and base materials and other miscellaneous structures or items being relocated, abandoned and/ or demolished all as specified and shown on the Plans or as otherwise directed by the Engineer.

END OF SECTION

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SECTION 02315 – TRENCH EXCAVATION, BEDDING, & BACKFILL

PART 1 GENERAL

1.01 SUMMARY

A. This work consists of furnishing all labor, materials, incidentals and equipment, as well as performing all work required for excavation, foundation stabilization, pipe bedding, pipe zone material, trench backfill, compaction, final grading, hauling and disposal of material resulting from the construction of utility piping, and all related appurtenances. Included also is the locating and protecting of existing utilities and other improvements (see Division 1), shoring, and bracing, excepting only such work as is covered and included under other sections of this Division, or other Divisions of these Contract Documents.

B. Excavation must be in accordance with ORS 757.541 to 757.571 and all other applicable laws and regulations.

1.02 REFERENCES

A. Oregon Standard Specifications (OSS) – The 2015 Oregon Department of Transportation/APWA Oregon Chapter Standard Specifications for Construction.

1.03 DEFINITIONS

A. Trench Excavation – Trench excavation consists of the removal of all material encountered in the trench to the limits shown on the Plans or as directed. Trench excavation shall be classified as either common excavation or rock excavation.

1. Common excavation is defined as the removal of all material as required to complete the planned improvements, regardless of type, nature or condition of materials encountered, except that which is designated as rock excavation.

2. Rock excavation is defined as the removal of boulders composed of igneous, sedimentary or metamorphic stone material which have a least dimension of 36-inches or more, or a displacement of one cubic yard or more; or the removal of solid ledge rock which, in the opinion of the Engineer, requires for its removal drilling and blasting, wedging, sledging, barring or breaking with power operated tools.

a. No soft or disintegrated rock; hard-pan or cemented gravel that can be removed with a hand pick or power operated excavator or shovel; no loose, shaken, or previously blasted rock or broken stone in rock fillings or elsewhere; and no rock outside of the minimum limits of measurement allowed, which may fall into the excavation, will be measured or allowed.

b. When solid rock layers have an overburden of non-rock material (common material) which cannot practically be stripped and handled separately, and/or when solid rock is interspersed with non-rock material, the entire mass will be classified as solid rock if the actual solid rock fraction exceeds 85% of the entire volume.

B. Trench Foundation – Trench foundation is defined as the bottom of the trench on which the pipe bedding is to lay and which provides support for the pipe.

C. Foundation Stabilization – Foundation stabilization is defined as the furnishing, placing and compacting of specified materials for any unsuitable material removed from the bottom of an excavation, as directed by the Engineer, to provide a firm trench foundation.

D. Rip-Rap Slope Protection – Rip-rap slope protection is defined as the furnishing and placement of the specified material as an embankment or channel slope protection on exposed sloes or channels for slope protection and erosion control applications.

E. Pipe Bedding – Pipe bedding is defined as the furnishing, placing and compacting of specified materials on the trench foundation so as to uniformly support the barrel of the pipe. The total bedding depth shall be as shown on the Contract Drawings.

F. Pipe Zone – Pipe zone is defined as the furnishing, placing and compacting of specified materials for the full width of the trench and extending from the top of the bedding to a level above the top outside surface of the barrel of the pipe as shown on the Contract Drawings.

G. Trench Backfill – Trench backfill is defined as the furnishing, placing and compacting of material in the trench extending from the top of the pipe zone to the bottom of pavement base, ground surface or surface material. Plans generally show locations for each type of backfill class.

H. Drain Rock – Drain rock is defined as the furnishing, placing and compacting of specified free draining material for the full width of the drain trench (perforated pipe drains) and extending to a level as specified above the top outside surface of the pipe barrel.

1.04 SUBMITTALS

A. Certifications, test results, source, and samples for all imported material proposed to be used in the work. Samples of materials to be used shall be submitted 2 weeks in advance of use. Samples shall consist of 0.5 cubic feet of each type of material. Samples of Class E material are not required.

B. Drawings, tabular product data, and method of installation and removal of all sheeting, sheet piling, shoring, and bracing.

PART 2 PRODUCTS

2.01 MATERIALS

A. Trench Foundation – The trench foundation shall be undisturbed native material when suitable. Where ground water or other unstable conditions exist and the native material cannot properly support the pipe, additional excavation may be required. The trench shall be stabilized with foundation stabilization material when such conditions are present in the opinion of the Engineer.

B. Foundation Stabilization – Foundation Stabilization: 1½”-0 or 2”-0 aggregate base rock meeting OSS Sections 00641 and 02630. Required when native trench foundation material contains groundwater, or is unsuitable to provide a firm foundation in the opinion of the Engineer.

C. Rip Rap Slope Protection – Material for Rip Rap Slop Protection shall be 15”-0 stone embankment material meeting the requirements of OSS 00330.16 and shall be an unweathered, hard, angular, durable free draining material, visibly well graded from course to fine.

D. Pipe Bedding – Material for pipe bedding shall be clean, hard, sound, durable, well-graded, ¾"-0 crushed rock, free from organic matter. Engineer must approve material prior to use.

E. Pipe Zone – Material for pipe zone shall be the same material used for bedding.

F. Trench Backfill

1. Class “A” Backfill: Native or common excavated material, free from organic or other deleterious material, free from rock larger than 3-inches, and which meets the characteristics required for the specific surface loading or other criteria of the backfill zone in the opinion of the Engineer. If stockpiled material becomes saturated or unsuitable, Class B, C or D Backfill shall be substituted. Engineer must approve material prior to use.

2. Class “B” Backfill: ¾”-0 dense-graded aggregate, uniformly graded from coarse to fine and meeting OSS Section 02630.10.

3. Class “C” Backfill: Clean sand with no particles larger than ¼-inch.

4. Class “D” Backfill: Pit run or bar run material, well graded from coarse to fine, with maximum aggregate size of 3 inches.

5. Class “E” Backfill (CLSM or CDF): Controlled Low-Strength Material (cement slurry) conforming to OSS Section 00442.

a. Slurry shall consist of a highly flowable lean concrete mix; mixture of Portland cement, fly ash, fine aggregates, water and admixtures as required for a mixture that results in a hardened, dense, non-settling, hand excavatable fill.

PART 3 EXECUTION

3.01 GENERAL

A. Remove, haul, and dispose of all formations and materials, natural or man-made, irrespective of nature or conditions encountered, within lines and grades shown on the Plans or defined herein, and as necessary for completion of the proposed improvements. The method of excavation shall be as determined by the Contractor, and as required for special protection of existing improvements. Special care shall be taken to avoid overexcavation below subgrades. Store and protect materials suitable for use as backfill where applicable. Clearing & Grubbing and Removal of Structures and Obstructions to be completed prior to excavation.

B. Coordinate and provide all utility locates prior to any excavation as required by local state and federal laws and regulations. When the precise location of subsurface structures and/or utilities is unknown, locate such items by hand excavation prior to utilizing mechanical excavation equipment. Use hand excavation when mechanical equipment might damage existing improvements which are to remain undisturbed. See Division 1 for other requirements.

C. Incidental to excavation shall be the furnishing, installing and removal of all shoring, sheeting, bracing as required to support adjacent earth banks and structures, keep excavations free from water, and to provide for the safety of the public and all personnel working in excavations.

3.02 EXCAVATION

A. Excavate to the lines and grades shown on the project Plans, allowing for forms, shoring, working space and gravel base. Provide a minimum clearance around pipe barrel in all directions or greater in accordance with the standard trench detail drawing.

B. Shoring and Bracing

1. Sheet and brace excavation as necessary to prevent caving and to protect adjacent structures, property, workers and the public.

2. The design, planning, installation and removal of all sheeting, shoring, sheet piling, lagging and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of the soil below and adjacent to the excavation.

3. Horizontal strutting below the barrel of a pipe and the use of pipe as support are not acceptable.

4. All sheeting, shoring and bracing shall conform to safety requirements of OSHA and other Federal, State and local agencies.

C. Dewatering

1. Furnish, install and operate all necessary machinery, appliances and equipment to keep excavations free from water during digging and initial backfilling. Dispose of water in such a manner as to prevent damage to public or private property, or nuisance or menace to the public.

2. At all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies, including power outage. Have available, at all times, competent workers for operation of the equipment.

3. Control surface runoff to prevent entry or collection of water within excavations. All excavations shall be kept free of water during placement of backfill and/or concrete placement.

4. Comply with all laws regarding stormwater runoff, protection of natural resources, and other applicable laws and regulations.

3.03 FOUNDATION STABILIZATION

A. The contractor shall overexcavate the trench to firm undisturbed soils or rock when, in the opinion of the Engineer, the trench foundation materials are not suitable for the support of the pipe. Foundation Stabilization materials, as specified, shall be placed and compacted in lifts not exceeding 6-inches in compacted thickness to the required grade. Each lift shall be compacted to at least 95% of the maximum dry density in accordance with ASTM D698.

3.04 RIP RAP

A. Remove any brush, trees, stumps, and other organic material from slopes to be protected by rip rap and dress to a smooth surface. Remove all unsuitable material to the depth as shown or as directed and replace with approved material.

3.05 DISPOSAL OF EXCESS MATERIALS

A. Excavated materials not suitable or required for backfill shall be hauled away and disposed of on approved sites arranged by the Contractor. No site shall be used for disposal of materials without written approval of the property owner. All costs associated with the hauling and disposal of materials shall be borne by the Contractor. The Contractor shall be entitled to any proceeds received from the sale of excess materials.

3.06 TEMPORARY STOCKPILING

A. Place excavated materials suitable for use as backfill (and not excess material) only within construction easements, right-of-way, or approved work area. Stockpiles shall be placed in such manner as to provide the minimum inconvenience to the public.

B. The Contractor shall obtain written permission from any property owners prior to placement of stockpiles on private property. Provide copies to the Owner and Engineer. Remove stockpiles as soon as possible and restore sites to affected property owners' satisfaction.

C. Access to all fire hydrants, water valves and meters shall be maintained. Stockpiles shall not be permitted to block any stormwater drainage ditches, gutters, drain inlets, culverts or natural water courses.

D. Protect stockpiled material which is to be later incorporated into the work so that excessive wetting or drying of the material does not occur. Material shall be brought to near optimum moisture content prior to placement and compaction. Depending on the moisture content of stockpiled materials, necessary processing may include aeration, mixing and/or wetting. No additional payment will be allowed for protecting or preparing native backfill materials.

E. If approved native materials become unsuitable (too wet or mixed with unsuitable materials) due to negligence by the Contractor, then imported granular materials may be required for backfilling at the subject location at no additional cost to the Owner.

F. Comply with all requirements of the 1200-C Construction Stormwater Permit. Provide necessary protection for stockpiled materials so that silt-laden runoff does not occur during rain events and to prevent wind-blown dust from stockpiles.

3.07 PIPE ZONE AND TRENCH BACKFILL

A. Place and compact pipe bedding material before placing pipe in the trench. Dig depression for pipe bells to provide uniform bearing along the entire pipe length. Thoroughly compact bedding material to at least 95% of the maximum dry density in accordance with ASTM D698.

B. Place materials in the pipe zone in layers not greater than 6 inches thick and in a manner that equalizes the pressure on the pipe and minimizes stress. As required under the haunches of pipe and areas not accessible to mechanical tampers or to testing, compact with hand methods to ensure thorough contact between the material and the pipe. Before placing the pipe zone material, condition, aerate, or wet the material so that the moisture content of each layer is within minus 4% to plus 2% of optimum moisture content.

C. Contractor shall backfill the trench above the pipe zone in successive lifts not exceeding 12-inches in loose thickness. Do not allow the backfill to free-fall into the trench until at least 3 feet of cover is provided over the top of the pipe. Each lift shall be compacted,

using suitable mechanical or pneumatic equipment, to a minimum of 95% of the maximum dry density as determined by ASTM D698. If the specified compaction is not obtained, the Contractor may be required to use a modified compaction procedure and/or reduce the thickness of lifts. If approved materials meeting the specifications cannot be compacted to the required density regardless of compactive effort or method, the Engineer may reduce the required density or direct that alternate materials be used. In no case shall excavation and pipe laying operations proceed until the Contractor is able to compact the backfill to the satisfaction of the Engineer.

D. CLSM. When CLSM Backfill is required, backfill above pipe zone with CLSM material. If the CLSM is to be used as a temporary surfacing, backfill to top of the trench and strike off to provide a smooth surface. If CLSM is not to be used as a temporary surface, backfill to bottom of the proposed resurfacing. Use steel plates to protect the CLSM from traffic a minimum of 24 hours.

E. When backfilling is complete, the Contractor shall finish the surface area as specified. In paved or graveled areas the Contractor shall maintain the surface of the trench backfill level with existing adjacent grades with ¾”-0 crushed rock until pavement replacement is completed and accepted by Owner.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Trench Excavation, Shoring, and hauling excavated material, Bedding, Pipe Zone, Trench Dewatering and Backfill shall be included within the lump sum cost for the overall project and shall include all such work and materials required for each backfill class and size and type of pipe as shown in the Plans and on the Bid Form. A separate payment will not be made for these items.

B. Where granular backfill material is used within gravel shoulders and gravel driveways, the backfill shall be brought to the finish grade of the existing shoulder and/or gravel roadway.

END OF SECTION

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SECTION 02321 – COMPACTION TESTING

PART 1 GENERAL

1.01 SUMMARY

A. The Contractor shall retain and pay for the service of an approved, recognized independent testing laboratory to conduct laboratory tests on materials and field testing to determine the relative compaction of trench backfill, subgrades, embankments, gravel surfacing, aggregate base and asphalt concrete pavement, as indicated. The approved Testing Agency shall recommend methods of compaction to Contractor and issue final report to the Owner, through the Engineer, regarding compaction testing results and material compliance with the specifications.

B. These specifications call for field compaction efforts to achieve a specified relative compaction for each of the indicated classes of backfill. Determination of in-place density shall be made by means of non-destructive nuclear probe method testing in accordance with ASTM D2922-01 and ASTM D3017-01 test methods.

1.02 DEFINITIONS

Relative Compaction -- The ratio, expressed as a percentage, of the in-place density of the Engineered fill material to the maximum density of the same material as determined by the ASTM D698 Standard Test Method.

PART 2 PRODUCTS

2.01 APPROVED TESTING AGENCIES

A. Foundation Engineering; 820 N.W. Cornell Ave; Corvallis, OR 97330; (541) 757-7645

B. Professional Service Industries (PSI); 1040-A Shelly Street, Springfield, Oregon 97477; (541)746-9649.

C. Carlson Testing, Inc.; 4060 Hudson Ave. NE; Salem, Oregon 97301 (503)589-1252

D. Other certified private testing laboratory(s) as approved by Engineer.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Field Testing

1. Testing to determine the relative compaction of materials placed and compacted by the Contractor shall be performed a short distance behind construction. Tests shall be taken on each lift of the material prior to placement of the succeeding lift to ensure proper compaction is obtained. The Testing Agency shall perform testing at such locations and elevations as to be representative of the entire material and area being compacted. The Engineer shall have authority to require testing at times and locations he deems necessary.

2. A sufficient number of density tests shall be taken on the first section of subgrade and trench backfill placed by the Contractor to establish the effectiveness of the Contractor’s compactive efforts. If tests indicate that the specified relative

compaction for a given material is not being achieved, the Contractor shall modify compaction methods in order to obtain the specified results.

3. A minimum of four (4) tests will be required to be taken at each site visit. It is estimated that the following number of site visits will be required:

   a. A minimum of two (2) site visits shall be required along storm water piping routes.

   Additional site visits or tests may be required to prove Contractor is meeting compaction requirements or as requested by the Owner, Engineer, and other affected utilities.

B. Failing Tests – For areas failing to meet the specified compaction, the Contractor shall be responsible to perform all additional work necessary to achieve specified compaction at no additional cost to the Owner. Additional work may include further compactive effort, moisture treatment, other compaction methods, removal and replacement of failing materials, or other processes required to obtain the specified results.

C. Any subsequent settlement of backfilled areas during the one-year warranty period shall be considered to be the result of insufficient compaction, and shall be promptly repaired by the Contractor at no additional cost to the Owner.

D. The Contractor shall not be allowed any additional compensation for down time incurred as a result of compaction testing or waiting for test results.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Compaction Tests shall be included within the lump sum cost for the overall project shall include compensation for all costs associated with compaction testing, including sampling, laboratory testing, field testing, administration, and all other work required to obtain certification of backfills placed under this Contract for each type of pipe as shown in the Bid Form.

1. Only Compaction Tests with results meeting the requirements of these Specifications will be accepted. All costs associated with or arising from additional work required due to failing compaction test results, including removal and replacement of material, shall be borne by the Contractor.

2. Contractor must submit invoice from Testing Agency clearly identifying Project, location and date of testing, material tested, test method, test results, specified compaction, maximum dry density of material tested, and number of tests taken. Only tests directed by the Engineer and which obtain passing results will be paid for.

END OF SECTION

SECTION 02630 – STORM DRAIN PIPING & FITTINGS

PART 1 GENERAL

1.01 SUMMARY

A. This item shall include furnishing and installing of the storm drain piping and fittings as required for the replacement of the existing storm drain piping all as identified on the Plans.

B. The Contractor shall provide manufacturer's certifications, including test results for all piping, fittings and appurtenances supplied. All submittals shall be in conformance with the requirements of Section 01300.

C. All work shall conform to the latest version of the Oregon Standard Specifications (OSS) Part 00400, except as specified herein and shown on the Plans.

PART 2 PRODUCTS

2.01 MATERIALS

A. All pipe, fittings and appurtenances shall be new and unused.

B. PVC Pipe and fittings for storm drain piping shall conform to Class 12454-B, as defined in ASTM D1784. Pipe and fittings shall meet the requirements of ASTM D-3034 for 4” – 15” pipe SDR 35 and ASTM F679 for 18” – 36” pipe SDR 18. Neoprene gaskets with push on joints shall conform to ASTM F477.

1. All fittings and accessories shall be as manufactured and furnished by the pipe supplier or an approved equal and shall have bell and spigot configurations compatible with that of the pipe. Fittings and accessories shall have the same requirements as the pipe.

2. ADS High Performance Sanitie polypropylene pipe is an accepted equal/ approved pipe.

C. HDPE Storm Drain Pipe 12” through 48” diameter

1. Black PE materials used for the manufacture of polyethylene pipe and fittings shall be PE 4710 high density polyethylene meeting ASTM D 3350 cell classification 445574C (formerly PE 3408 meeting 345464C per ASTM D3350-02) and shall be Listed in the name of the pipe and fitting Manufacturer in PPI (Plastics Pipe Institute) TR-4 with a standard grade HDB rating of 1600 psi at 73°F. Color material, when used, shall be the same except for meeting ASTM D 3350 cell classification 445574E.

2. Pipe shall be DR11, Pressure Class 200 minimum, IPS Size, and shall be manufactured to the requirements of ASTM F714 and AWWA C906-99 (IPS) and shall be of standard pipe lengths (40 or 50 foot).

3. HDPE pipe shall be DriscoPlex 4100 IPS HDPE pipe; ISCO industries or approved equal.

4. Pipe shall be provided with a continuous mark made of durable printing containing the following:

a. Name and/or trademark of pipe manufacture, nominal pipe size and dimension ratio.

b. The manufacturing standard reference ASTM F714 and polyethylene grade per ASTM D3350.

D. Concrete shall conform to Oregon Standard Specifications Section 00440, Commercial Grade Concrete. Compressive field strength shall not be less than 3,000 psi at 28 days. Maximum aggregate size shall be 1½-inches. Slump shall be between 2 and 4 inches.

E. Non-Shrink Grout. Grout shall be Sika 212, Euco N-S, Five Star, or approved equal nonmetallic cementitious commercial grout exhibiting zero shrinkage per ASTM C827. Grout shall not be amended with cement or sand and shall not be reconditioned with water after initial mixing. Nonshrink grout shall be placed and packed only with the use of an approved commercial bonding agent. Unused grout shall be discarded after 20 minutes.

PART 3 EXECUTION

3.01 PIPE INSTALLATION

A. All pipe and fittings shall be installed in accordance with the manufacturer's recommendations and APWA standards.

B. Remove from job site material, which in the judgment of the Engineer is damaged, not as specified, or otherwise rejected. Payment will not be made for damaged or rejected materials, their removal, or for repairs to such materials.

C. Preparation of Trench – Excavate and prepare trench for pipe laying to the lines and grades as specified and shown on the Plans. Place any required foundation stabilization and compact pipe bedding prior to laying pipe. Stabilize trench as required and comply with OSHA safety provisions.

D. Place and compact pipe bedding material before placing pipe in the trench. When applicable, dig depression for pipe bells to provide uniform bearing along the entire pipe length. Thoroughly compact bedding material to prevent future bellies.

E. Install to lines and grades shown on the Plans. Maximum deviation shall not exceed 0.05 feet vertically.

F. Prior to lowering pipe into the trench, the Engineer or City representative will check for damage to the pipe. The Contractor shall repair or replace, as directed, all damaged or flawed pipe prior to installation.

G. Thoroughly clean inside the pipe before laying. Prevent foreign material from entering the pipe while it is being placed in the trench. Remove all foreign material from the inside of the pipe and joint before the next pipe is placed. Keep debris, tools, rags or other materials out of the pipes at all times.

H. Lay pipe with bell ends facing the direction of laying. For lines on an appreciable slope, face bells up-grade unless otherwise directed by the Engineer. Thoroughly clean the ends of the pipe to remove all foreign matter from the pipe joint. Lubricate the bell and spigot ends with approved pipe lubricant, as recommended by the manufacturer.

I. Care must be taken to ensure the pipe is not moved and the side support fill is not disturbed when moving sheeting or trench boxes.

J. Place materials in the pipe zone in layers not greater than 6 inches thick and in a manner that equalizes the pressure on the pipe and minimizes stress. As required under the haunches of pipe and areas not accessible to mechanical tampers or to testing, compact with hand methods to ensure thorough contact between the material and the pipe. Before placing the pipe zone material, condition, aerate, or wet the material so that the moisture content of each layer is within minus 4% to plus 2% of optimum moisture content

K. Provide proper Backfill Class material as required. Backfill the trench above the pipe zone in successive lifts. Do not allow the backfill to free-fall into the trench until at least 3 feet of cover is provided over the top of the pipe. Modify the compaction as necessary to protect the pipe. Compact each lift to not less than 95% of the maximum dry density.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Storm Drain Piping and appurtenances shall be included within the lump sum cost for the overall project.

B. Payment for connection to existing catch basins and other structures or pipes shall be included within the lump sum cost for the overall project and shall include compensation for all materials, equipment and labor for a complete water-tight connection including, but not limited to; coring or jack hammering, flexible rubber boot or water stop ring, transition coupling and appurtenances for a complete installation and connections.

END OF SECTION

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SECTION 02740 – HOT MIX ASPHALT CONCRETE PAVEMENT

PART 1 GENERAL

1.01 SUMMARY

A. This section includes furnishing all materials, labor and equipment necessary to construct asphalt concrete pavement to the lines, grades and cross sections shown or established, including one or more courses through trench section. Work shall be performed in conformance with any applicable State, County or City Standards.

PART 2 PRODUCTS

2.01 DEFINITIONS

A. Hot Mixed Asphalt Concrete (HMAC) – Asphalt concrete is a hot mix of asphaltic cement; well graded, high quality aggregate; mineral filler and additives, as required; plant mixed into a uniformly coated mass, hot laid in on a prepared foundation, and compacted to a specified density.

B. Oregon Standard Specifications (OSS) – The 2008 Oregon Department of Transportation/APWA Oregon Chapter Standard Specifications for Construction.

2.02 MATERIALS

A. Unless otherwise specified herein, types, grades, quality and proportions of materials shall conform to specified and/or applicable sections of the current Oregon Standard Specifications.

B. HMAC shall be Level 3 HMAC, ½-inch Dense Graded Mix in accordance with OSS Section 00745.

C. Asphalt Tack Coat shall consist of CSS-1 or CSS-1h emulsified asphalt (EA) tack coat conforming to OSS 00730.

D. Base Aggregate shall be as specified in Section 02720 of these specifications.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Unless otherwise specified herein, HMAC shall be mixed, processed, hauled, laid, compacted and finished in accordance with OSS Section 00745.

B. Notify the Engineer at least 48-hours prior to placement of base aggregate and asphalt concrete pavement to permit inspection.

C. When, in the judgment of the Engineer, the weather is such that satisfactory results cannot be achieved asphalt concrete paving operations shall be suspended. Owner shall not be liable for damages or claims of any kind or description due to the suspension of operations by the Engineer. HMAC shall not be placed when the ambient temperature is below 35º F.

D. Adhere to all applicable State and/or OSHA regulations pertaining to road closure, traffic control, and other related safety precautions.

E. To provide for the convenience and safety of the traveling public, pavement replacement shall be performed immediately following the completion of backfilling operations. In the event that pavement replacement cannot be performed as such, the Contractor shall maintain the trench backfill on a daily basis, as directed, until pavement replacement has been completed.

F. Subgrade and aggregate base shall be prepared, compacted and finished in accordance with Section 02720.

G. Pavement Sawcutting

1. Utility trenches in existing pavement areas shall be sawcut immediately prior to repaving. Sawcuts shall be made a minimum of 6-inches outside the limits of the trench, or to the outer extents of pavement damaged as a result of the Contractor's operations, whichever is greater.

H. Tack Coat Asphalt

1. Contact surfaces of manholes, catch basins, gutters and existing pavements shall be treated with a layer of tack coat asphalt. Do not place on wet surfaces.

2. Joints between existing and new AC pavement shall be filled with tack coat asphalt.

3. Apply tack coat asphalt with a pressure distributor capable of uniformly applying the emulsified asphalt at even heat on variable surface widths up to 16-feet, at readily determined and controlled rates from 0.05 to 0.20 gallons per square yard, and with uniform pressure. Pressure distributor shall include a tachometer, pressure gages, accurate volume measuring devices and a thermometer for measuring temperature of tank contents. Pressure distributor shall be equipped with a positive power asphalt pump and full circulation spray bars adjustable both laterally and vertically. Set bar height for triple lap coverage.

4. Minimum surface temperature at the time of placement of tack coat asphalt shall not be less than 50º F.

5. Tack coat shall only be applied to clean dry surfaces. All loose material should be removed by sweeping, flushing with water or other approved methods.

6. Apply tack coat asphalt at the following rates for the indicated surfaces.

Surface	**Application Rate (gallons / yd^2)**	
	Undiluted	**Diluted 1:1 with Water**
New HMAC	0.05 – 0.07	0.10 – 0.13
Oxidized HMAC	0.07 – 0.10	0.13 – 0.20
Milled HMAC	0.10 – 0.13	0.20+

7. Tack coat asphalt shall be at a temperature between 140º F and 185º F as recommended by the manufacturer at the time of application.

8. Do not place HMAC on the tack coat until the asphalt separates from the water, but before it loses its tackiness.

I. Asphalt Concrete Pavement

1. HMAC shall be a minimum of 250º F at the time of placement.

2. Storage of HMAC in silos shall not be permitted.

3. Control of line and grade shall be manual.

4. HMAC shall be covered during hauling if rain or cold air temperatures are encountered any time between loading and placement. HMAC will be rejected if any of the following is observed: mix falls below minimum specified temperature; slumping or separating; solidifying or crusting; absorbing moisture. Rejected loads shall be disposed of at the Contractor's expense.

5. Deposit HMAC from the hauling vehicles so segregation is prevented. HMAC shall not be windrowed.

6. Placement

   a. HMAC should be placed using a self-contained, self-propelled paver supported on tracks or wheels that do not contact the mix being placed.

   b. When leveling irregular surfaces and raising low areas, do not exceed 2-inches actual compacted thickness on any one lift.

   c. Place the mix in the number of lifts and courses, and to the compacted thickness for each lift and course as shown on the Plans. Limit the minimum lift thickness to twice the maximum aggregate size in the mix.

7. The compacted depth of new asphalt concrete pavement on public streets shall be 2-inches, minimum. Asphalt concrete paving for utility trench patches shall be 4-inches, minimum sat in two (2) 2-inch lifts, or shall match the existing paving, whichever is greater. Asphalt concrete overlays on public streets shall have a minimum thickness of 2-inches. On non-public roads or driveways, match existing thickness, with a minimum thickness of 2-inches. Asphalt concrete pavement in excess of 2-inches thick shall be constructed in multiple lifts of approximately equal thickness. The maximum compacted thickness of any individual lift shall not exceed 2-inches unless approved otherwise.

8. Pavement shall be placed, shaped, compacted and finished to the grades and cross sections shown on the Plans or established. Taper new overlays at limits to match existing asphalt pavement.

9. HMAC shall be compacted using self-propelled steel wheeled static rollers, vibratory rollers, or pneumatic tired rollers capable of achieving the minimum compaction specified. If vibratory rollers are used, they should be specifically designed for compaction of HMAC, have adjustable amplitude and frequency, and be capable of at least 2000 vibrations per minute. Finish rolling should be performed by a static roller or a vibratory roller in the static mode.

10. Asphalt concrete pavement shall be compacted to a minimum of 92% relative compaction with the theoretical maximum density determined by AASHTO T-209. Testing shall be performed at random locations using a nuclear gauge operated in the back-scatter mode. At least one density test shall be performed every 1000 lineal feet on each spread or a minimum of one test each day of production.

J. No traffic shall come in contact with any newly paved surface until surface has cooled and set sufficiently to prevent marking. The Contractor is responsible for traffic control.

K. Warranty

1. Contractor shall maintain all asphalt concrete paved areas and shall furnish all required materials and workmanship at no additional cost to the Owner for a period of one year following the Owner's acceptance of the complete project.

2. If any newly paved asphalt concrete surfaces settles, cracks, breaks, or becomes otherwise defective within the warranty period as described herein, then the deficiencies or damages in surfacing shall be immediately repaired by the Contractor upon request and in a manner approved by the Engineer.

3. All costs incurred in the repair of deficiencies or damages shall be borne by the Contractor, with no additional compensation allowed.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Measurement and payment for the excavation, disposal, backfill, and other preparation of trenches shall be included within the lump sum cost for the overall project.

B. Utility Trenches – Class "B" backfill or CLSM backfill shall be brought to the surface and used as Aggregate Base. No separate measurement and payment will be made for Aggregate Base.

C. Sawcutting – The cost for sawcutting existing pavement adjacent to new utility trenches and roadway improvements shall be considered incidental to the work. No additional compensation will be allowed for sawcutting.

D. Asphalt Concrete Pavement

1. Measurement and payment for Asphalt Concrete Pavement for Storm Drain trenches shall be included within the lump sum cost for the overall project and shall include full compensation for all work necessary to prepare and construct the asphalt concrete pavement. There will be no separate measurement of bituminous cements or additives contained in the mixture or used otherwise in the work. Payment will be made only for material incorporated into the specified limits.

a. The limits of the trench patching shall be as established herein, including sawcuts. Additional costs for repair of pavement damaged by the Contractor outside the trench and sawcut limits as described herein shall be borne by the Contractor.

END OF SECTION

SECTION 02900 – LANDSCAPE RESTORATION & CLEANUP

PART 1 GENERAL

1.01 SUMMARY

A. This section covers the work necessary to reseed, restore and cleanup the site(s). Work shall include the removal of all construction equipment, rubbish, construction debris, and unused materials of any kind resulting from the project activities.

B. Site cleanup shall include the placement of asphalt trench patching and cleanup of all pavement surfaces, whether new or existing within the limits of the project and shall include the replacement of any disturbed pavement markings, unless directed otherwise.

PART 2 PRODUCTS

2.01 RESEEDING MATERIALS

A. Grass seed shall be from blue tag stock and from the latest crop available. Deliver each variety in standard containers labeled in accordance with Oregon State laws and U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Provide with label showing seed variety, percentage of purity, germination, maximum weed content, date of test within nine months of date of delivery, and as set forth in the General Seed Certification Standard by the Oregon State University Certification Board. Mold or other evidence of container having been wet or otherwise damaged will be cause for rejection of each lot of seed. Grass seed may be delivered to the project as a mixture provided each variety of grass seed in the mixture is identified and labeled as specified.

B. Where imported topsoil is required, provide natural, fertile, friable topsoil, representative of local productive soil, and 90% free of clay lumps or other foreign matter larger than 2-inches in diameter, not frozen or muddy, with pH 5.0 to 7.0, and not less than 3% humus as determined by loss of ignition of moisture-free samples dried at 100º C. Gravel portion (particles larger than 2 mm) shall not exceed 15% of total volume. Topsoil shall be free of quack grass, horsetail and other noxious vegetation and seed. Should such regenerative material be present in the soil, all resultant growth, both surface and root, shall be removed by the Contractor within 1-year of acceptance of the work at no expense to the Owner.

C. Provide a lime compound of ground dolomitic limestone not less than 85% total carbonates and magnesium, ground so that 50% passes a number 100 sieve and 90% passes a number 20 sieve. Coarser material will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the number 100 sieve.

D. Furnish fertilizer in moisture-proof bags marked with weight and the manufacturer's certified analysis of the contents showing the percentage for each ingredient. Furnish fertilizer in a dry condition free from lumps and caking, in granular or palletized form, of standard commercial grade conforming to all State and Federal regulations and to the standards of the Association of Official Agricultural Chemists.

E. Provide all other materials required to accomplish the work specified.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Surface Dressing

1. Slopes, sidewalk areas, planting areas, easements and roadways shall be smoothed and dressed to the required cross section and grade by means of a grading machine insofar as it is possible to do without damaging the work or existing improvements, trees and shrubs. Supplement machine dressing by hand work as directed.

2. Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. Grade all areas true to line and grade as shown or as approved. Where the existing planting is below sidewalk and curb, fill and dress the area to the walk regardless of limits shown. Wherever fill material is required in the planting area, make finished surface high enough to allow for final settlement.

B. Remove and dispose of all excavated or construction materials, equipment, and rubbish of all kinds resulting from the work. Where brush and trees beyond the limits of the project have been disturbed or damaged, remove and dispose of or restore same, as directed, at no expense to the Owner.

C. Clean all drainage facilities such as inlets, catch basins, culverts and open ditches of all excess material or debris resulting from the work, to the satisfaction of the Owner.

D. Clean all pavement surfaces, whether new or existing within the limits of the project. Clean existing improvements such as curbs, gutters, walls, sidewalks, castings for manholes, monuments, water gates, lamp poles, vaults, signs, and other similar installations as approved. Flush the roadway with a pressure type flusher as approved. Hand sweep or flush all sidewalks as directed.

E. Restoring Planted Areas

1. Hand rake and drag all formerly grassed and/or planted areas leaving disturbed areas free from rocks, gravel, clay, or any other foreign material and ready, in all respects, for seeding. The finished surface shall conform to the original surface, be free draining and free from holes, rough spots, or other surface features detrimental to a seeded area.

2. Plant grass seed only at times when local weather and other conditions are favorable to the preparation of the soil and to the germination and growth of grass. Sow grassed areas evenly with a mechanical spreader at a rate of one pound per 300 square feet, roll with packer to cover seed, and water with fine spray. Method of seeding may be varied as approved, however, responsibility to establish a smooth, uniformly grassed area will not be waived.

PART 4 SPECIAL PROVISIONS

4.01 MEASUREMENT AND PAYMENT

A. Payment for Landscape Restoration will be made on a lump sum basis as stated on the Bid Form, and shall include asphalt trench patching, topsoil, seed, landscape shrubs/trees, site cleanup and all other materials and work required to complete the work.

END OF SECTION