



PUBLIC WORKS CONSTRUCTION CODE

CITY OF TUALATIN

COMMUNITY DEVELOPMENT DEPARTMENT

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TUALATIN, OR 97062-7092

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ENGINEERING MANAGER

CHAPTER 100
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This Code may be cited as the City of Tualatin Public Works Construction Code.

100.1.00 Application of Provisions

The provisions of the Code shall apply to all City owned public works and franchise agreement construction proposed after the effective date of Resolution No. 3904-01, amended by Resolution No. 4766, March 24, 2008, by any private party, quasi-public body, partnership, firm, association, corporation, or public agency.

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101 DEFINITIONS AND ABBREVIATIONS

The following definitions and abbreviations shall apply wherever used.

The words directed, required, permitted, ordered, requested, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory, or words of like import, refer to actions, expressions and prerogative of the City Engineer.

Command type sentences are used throughout the Code. In all cases the command expressed or implied is directed to the Permittee.

101.1.00 Definitions

Accessway - A non-vehicular, paved, pathway designed for pedestrian and bicycle use and providing convenient linkages between a development and adjacent residential and commercial properties and areas intended for public use such as schools, parks, and adjacent collector and arterial streets where transit stops or bike lanes are provided or designated. An accessway is not a sidewalk.

Acts of God - An act of God is to be construed to mean an earthquake, flood, cloudburst, tornado, hurricane or other phenomenon of nature of catastrophic proportions or intensity.

Applicant - The applicant is the person, firm, partnership, association, agency of corporation making application for a Public Works Construction Permit.

Approved Equal - A product, component or process whose use in or on a particular project is specified as a standard for comparison purposes only. The "equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality and general configuration. Determination of equality in reference to the project design requirements will be made by the City Engineer.

As Approved - Whenever the phrases "as approved by the City" or the like is used in these standards, it shall be interpreted to allow the City through their authorized representatives, to interpret the provisions in question in a manner to protect the public health and safety, consistent with other applicable laws and other standards of the City, and to preserve the safe and reliable operation of the public works facilities.

As Built Drawings - The drawings made or revised by the Contractor and design engineer during progress of construction and approved by the City Engineer, illustrating how various elements of the work were constructed.

Attorney - The City Attorney of the City of Tualatin, Oregon.

Bike (Bicycle) Facilities - On and off street improvements and facilities designed to accommodate bicycles.

Bike (Bicycle) Lane - A portion of roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bike (Bicycle) Path - A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way or easement.

Bikeway - Any street, road, path or way open to bicycle travel regardless of whether such facilities are designated for the preferential use of bicycles or are to be shared with other transportation modes.

City - The City of Tualatin, Oregon, a municipal corporation organized and operating pursuant to the City of Tualatin Charter of 1967, as amended, the Oregon Constitution, Article XI, Section 2 and its municipal ordinances and resolutions.

City Engineer - The person appointed by the City Manager to fulfill the responsibilities of City Engineer as set forth in this Code, or the person authorized by the City Engineer to fulfill such responsibilities.

Code - The City of Tualatin Public Works Construction Code as defined by Resolution No. 4766-08, and any amendments thereto.

Confined Space - As defined by Oregon Administrative Rules (OAR) Chapter 437, a confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example: tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
- (3) Is not designed for continuous employee occupancy.

Constructed Wetlands - Those wetlands developed as a water quality or quantity facility, subject to change and maintenance as such. These areas must be clearly defined and/or separated from existing or created wetlands. This separation shall preclude a free and open connection to such other wetlands.

Contractor - The person, company, or corporation duly licensed or approved by the State of Oregon and designated by the Permittee to do the work in question. The Contractor shall be registered and in good standing with the Contractor's Board of the State of Oregon.

Created Wetlands - Those wetlands developed in an area previously identified as a non-wetland to replace or mitigate wetland destruction or displacement. A created wetland shall be regulated and managed the same as an existing wetland.

Design Engineer - The Design Engineer is the Permittee's representative and shall be responsible for preparation of the Plans, Special Specifications, and As-built Drawings for proposed public works facilities. The design engineer shall be registered in the State of Oregon.

Easement - The right to use or occupy a defined area of property for a specific purpose or purposes as set forth in a document which has been approved and accepted by the City.

Existing Wetlands - Those areas identified and delineated as set forth in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, January 1989, by a qualified wetland specialist.

Extra Work - An item of work not provided for in the Permit as issued, but determined by the City Engineer as essential to the proper completion of the Permit within its intended scope.

Field Order - An order issued by the City Engineer to the Permittee to carry out minor revisions in the work.

Final Completion - The completion of all of the work called for under the Permit including but not limited to satisfactory operation of all equipment, by means of acceptance tests, correction of all punch list items to the satisfaction of the City Engineer, settlement of all claims, if any, delivery of all guarantees and maintenance warranties, equipment operation and maintenance manuals, as-built drawings, building certificate required prior to occupancy, electrical certificates, mechanical certificates, plumbing certificates, all other required approvals and acceptances by city, county and state governments, or other authority having jurisdiction, and removal of all debris, tools, scaffolding, equipment, and surplus materials and equipment from job site.

Highway - The whole area within the boundaries of a public right-of-way which is reserved for and secured for public use in constructing and maintaining a roadway and its appurtenances.

Holiday - Those days designated by the President or the Congress of the United States or by the Governor or Legislature of the State of Oregon or by the City Council of Tualatin as a holiday.

Improvement - General term encompassing all phases of the work to be performed under the Permit and is synonymous to the term Project.

Inspector - The authorized representative of the City Engineer entrusted with making detailed inspections of the work or materials.

Land Development - Land development shall have the meaning of Oregon Administrative Rules, Section 340-41-006(22), adopted December 14, 1989.

Notice - A written communication delivered to the authorized individual, member of the firm or officer of the corporation for which it is intended. If delivered or sent by mail, it shall be addressed to the business address of the individual, firm or corporation as specified on the Permit Application. In the case of a Permit with two (2) or more persons, firms or corporations, notice to one shall be deemed notice to all.

Outdoor Recreation Access Route - A pedestrian path that provides access to a recreation trail. These routes are on City-owned property, exclusive rights-of-way or easements, but are not necessarily located in a designated greenway. They are typically 1/4 mile or less in length.

Outdoor Recreation Trail - A pedestrian path that provides access to and through recreational elements and open spaces. These trails are generally located within the City's designated greenways. Typically they are 1/4 mile or more in length and serve as part of the recreation experience, but can also function as routes for commuter or destination-oriented trips.

Pedestrian Facilities - Facilities such as sidewalks, walkways, pedestrian paths, outdoor recreation trails, outdoor recreation access routes, accessways, and other amenities designed to accommodate pedestrians.

Pedestrian Paths - Pedestrian paths are generally located within the City's designated greenways, but may be located elsewhere to provide access between residential, commercial, public, and semi-public uses. The paths serve as routes for recreational, commuter, and destination-oriented trips.

Permit - Permit means Public Works Construction Permit.

Permit Documents - The Permit, Plans, Standard Drawings and Specifications, and the Code.

Permittee - The person or firm which has made application to the City to construct public works facilities with the intention that such facilities will become the property of the general public.

Plans - The official plans, profiles, cross sections, elevations, details and other working, supplementary and detail drawings, or reproductions, signed by the Design Engineer, which show the location, character, dimensions and details of the work to be performed.

Prequalification - See definition and provisions, subsection 102.5.00.

Project - General term encompassing all phases of the work to be performed under the Permit and is synonymous with "improvement".

Provide - When related to an item of work, provide shall be understood to mean furnish and install the work complete in place, so that the work is functional.

Public Works Construction - Any construction or improvement carried on in the public right-of-way or easements, natural drainage ways, creeks, streams, rivers, or tracts to be dedicated to the City. Domestic wells, septic tanks and any type of construction regulated by the State Building Code shall not be included in the definition of Public Works Construction.

Public Works Construction Permit - The Permit issued by the City Engineer for public works construction performed by any private party, quasi-public body, public agency or governmental agency, excepting construction performed by City agents or employees.

Public Works Facilities - Any and all on-site and off-site improvements and related accessories to be accepted for ownership, maintenance and operation by the City, including but not limited to sanitary sewers, pump stations, water lines and hydrants, storm drain systems, streets, alleys, street lights, street name signs, greenways, bikepaths, traffic control systems and devices.

Punch List - A list of the Contractor's incomplete work or work items requiring correction or modification, prepared by the City Engineer.

Reference Specifications - Bulletins, standards, rules, methods of analysis or testing, codes and specifications of other agencies, engineering societies, or industrial associations referred to in the Code. All such references refer to the latest edition, including amendments which are in effect and published at the time issuing the Permit for the project.

Right-of-Way - A general term denoting land, property, or interest property acquired for or devoted to public use.

Road - Every road or roadway, thoroughfare, and place including bridges, viaducts and other structures used or intended for use of vehicles.

Sensitive Area -

A. Includes:

1. Existing and created wetlands;
2. Rivers, streams, and springs, whether flow is perennial or intermittent;
3. Natural lakes, ponds, and in-stream impoundments.

B. Does not include:

1. Stormwater infrastructure;
2. A Vegetated corridor (a buffer) adjacent to the Sensitive Area;
3. An off-stream recreational lake, wastewater treatment lagoon, fire pond, or reservoir; or
4. Drainage ditches.

Shop Drawings - Supplementary plans or data which the Permit or Specifications requires the Contractor to submit to the Engineer including, but not limited to, steel bending details, erection plans, and catalog data explaining equipment proposed for use.

Shown - Work shown on the plans.

Special Specifications or (Special Provisions) - Requirements peculiar to the project and changes and modifications of the standard specifications. Special specifications are used interchangeably with special provisions.

Specified - Means as required by the Public Works Construction Code.

Standard Plans or Drawings - Details of structures, devices, or instructions adopted by the City as a standard and referred to in this Code by title or number.

Standard Specifications - The terms, directions, provisions and requirements set forth in this Code.

Station - A distance of 100 feet measured horizontally along a surveyed centerline.

Stop Work Order - A written notice delivered by hand and/or by mail to the Permittee or Contractor, directing the work performed under a Permit to be stopped because deficiencies in materials or workmanship or for lack of compliance with the approved Plans and this Code. A Stop Work Order shall be signed by the City Engineer or his designated representative.

Street - Any road, highway, parkway, freeway, avenue, alley, walk, or way, including sidewalks, bike lanes, parking strips and all other structures including utilities above and below the surface, land and improvements within the public right-of-way between property lines.

Substantially Complete – The water quality facility can be deemed substantially complete once active green growth has occurred to an average growth of 3-inches and plant density is an average of approximately 6 plants per square foot.

Ton - The short ton of 2,000 pounds avoirdupois.

Use of Pronoun - The singular shall include the plural, and the plural the singular; any masculine pronoun shall include the feminine or neuter gender; and the term "person," includes natural person or persons, firm, co-partnership, corporation or association or combination thereof.

Utility - Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, owned, operated, or maintained in or across a public right-of-way or public easement.

Water Quality Facility - Water quality facility is a used to temporarily store, route or filter runoff for the purpose of improving water quality.

Water Quality Permit – The permit issued by the City Engineer for construction of a water quality facility.

Work - That which is proposed to be constructed or performed under the Permit, including the furnishing of all material, labor, tools, machinery and appurtenances necessary to complete the requirements of the Permit, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated as required by good practice to provide a complete and satisfactory system or structure.

Working Days - Working days shall be Monday through Friday, excluding holidays. The Contractor shall provide the City Engineer at least one (1) working day's notice prior to performing work on holidays, Saturdays, or Sundays.

Working Drawings - Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the Contractor is required to submit to the City Engineer for approval.

101.2.00 Abbreviations

AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BLI	Oregon Bureau of Labor and Industries
CRSI	Concrete Reinforcing Steel Institute
CWS	Clean Water Services
DEQ	Department of Environmental Quality
DFPA	Division for Product Approval of American Plywood Association
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
ITE	Institute of Traffic Engineers
JIC	Joint Industry Conferences of Hydraulic Manufacturers
MUTCD	Manual of Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NPDES	National Pollution Discharge Elimination System
NLMA	National Lumber Manufacturer's Association
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
TDC	Tualatin Development Code
UBC	Uniform Building Code
UL	Underwriter's Laboratories, Inc.
WWPA	Western Wood Products Association

102 PERMIT REQUIREMENTS

102.1.00 Permits Required

No person shall perform construction within the City of Tualatin's right-of-way, easements, tracts, stream, creeks, or natural drainage ways without first obtaining a Public Works Construction Permit from the City Engineer.

When a Water Quality Facility is required to be constructed, a Water Quality Permit will need to be obtained. This applies to public and private facilities

102.2.00 Public Works Construction Permit Application Procedure

102.2.01 Public Works Construction Permit

A person desiring a Public Works Construction Permit shall make application to the City Engineer on the forms provided. The application shall be accompanied by a Permit fee deposit as set forth in subsection 102.3.00 and complete plans and specifications as set forth in subsection 102.4.01.

Any public utility company operating under a franchise agreement with the City shall be exempt from the Permit fees provisions of this Code.

Prior to submittal of a Public Works Construction Permit application, the applicant shall attend a preapplication meeting with the Engineering Division. Required attendees include the owner, the design engineer, and the contractor (if known).

102.2.02 Water Quality Permit

A person desiring a Water Quality Permit shall make application to the City Engineer on the forms provided. The application shall be accompanied by a permit fee deposit as set forth in subsection 102.3.00 and complete plans and specifications as set forth in subsection 102.04.03.

102.3.00 Permit Fees and Deposits

102.3.01 Public Works Construction Permit Deposit

The applicant for a Permit shall pay a Permit deposit as follows:

1. At the time construction plans are submitted for approval by the City Engineer, the applicant shall pay a fee deposit equal to 5% of the estimated value of the work, but not less than \$500.

2. As the work progresses and as the City's actual costs exceed the amount deposited, the Permittee shall be invoiced for the full actual cost incurred by the City, less previous payments.

3. If the City's actual costs exceed the amount deposited, the City Engineer may require an additional amount to be deposited. If an additional deposit is requested, it shall be deposited with the City within fifteen (15) days of the date requested. If the deposit is not made, all work shall be stopped on the project until the deposit is made.

4. Before acceptance of the work by the City, all outstanding amounts due the City shall be paid in full.

5. Upon completion and acceptance of the work by the City, should the amount deposited exceed the actual cost, the difference will be refunded to the Permittee. No interest will be paid on refunded amounts.

The Permit deposit is intended to defray all costs incurred by the City in providing technical services related to any Public Works and Water Quality Construction. Costs incurred by the City may be through services provided by the City staff or through a private engineer and Contractor at the applicant's expense. Services provided by the City include, but are not limited to, the following:

1. Meeting with the applicant, the design engineer or agent, to review City standards, specifications, ordinances, and procedures.

2. Providing the applicant's design engineer with information on existing conditions and facilities.

3. Provide information and data for State or County approvals that are required.

4. Reviewing all construction drawings, engineering calculations, and specifications.

5. Making inspections necessary to assure compliance with City standards and specifications.

6. Keeping notes and records for inclusion in the as-built drawings.

7. Updating City maps, files, and records by incorporating as-built information.

8. Meeting with the various utility companies to review all utility construction and installations.

9. Soils testing, asphalt testing, re-televising sanitary and storm sewer during 1-year maintenance period, and other material tests specified in this Code or deemed necessary by the City Engineer.

10. In cases in which an emergency exists that threatens the health, safety, and welfare of residents of the City of Tualatin as a result of actions taken by the applicant or the applicant's representative on the public works permit project, the City may take such measures as it deems necessary to correct such hazardous situations and bill all costs incurred by the City to the Public Works Permit.

11. Other necessary expenses related to the Permit work.

The City's actual cost of technical services shall include consultant costs, direct payroll costs and expenses plus a percentage for insurance, fringe benefits, and overhead as determined by the City Engineer.

102.3.02 Erosion Control Fees

For all projects involving activities requiring an erosion control permit, and which are not covered by a building permit, the applicant shall pay the following fees:

Erosion Control Inspection Fee

<u>Area</u>	<u>Fee</u>
0 to 1 acre	\$ 250.00
1/2 acre and up	250.00 plus \$ 250.00 per acre, or fraction thereof, over 1/2 acre

Erosion Control Plan Check Fee

The erosion control inspection fee is \$750.00.

102.3.03 Water Quality Fees

See Section 102.3.01

102.4.00

Plans and Specifications

102.4.01

Plan and Specification Requirements

The required plans and specifications shall be prepared by the Design Engineer who must be a registered engineer licensed to practice engineering in the State of Oregon. The Plans and Specifications provided shall be used in conjunction with the Standard Specifications and Standard Drawings, and shall be of sufficient detail to insure full disclosure of the work contemplated. The plans shall conform with the design requirements of Chapter 200 of this Code.

102.04.02

Public Works Plan Review Procedure

Six (6) sets of complete plans and required calculations shall be submitted for a review.

This review is to check that all the required information conforms to this Code and the development approval conditions. The required information includes drainage calculations. If the submittal is adequate, a detailed review will begin based on a first-in, first-out approach. If the submittal is not in compliance, the City shall prepare a correction list or "red line" set of construction plans for the design engineer specifying what is needed.

The applicant shall also submit plans to any other jurisdiction from whom a permit is necessary.

After the design engineer has completed all revisions, five (5) revised plans and the original "red line" plans shall be returned to the City for "approval". The City will forward one set of plans to CWS for approval. The City may incorporate CWS's comments into final approval of construction plans.

If approved, three (3) sets will be stamped approved by the City Engineer and returned at time of issuance of the Public Works Permit.

Plan review priority will be given to plans submitted for final review.

Once the plans and specifications have been approved for construction, the necessary deposits paid, the necessary insurance certificates submitted and approved, the required easements submitted and approved, copies of other agency permits submitted, and any other requirements made by the City Engineer have been met, the City will issue a Public Works Construction Permit.

102.04.03**Water Quality Plan Review Procedure**

Three sets of plans and calculations shall be submitted for review.

This review is to check that all of the required information conforms to this Code, CWS Design and Construction Standards June 2007, and the development approval conditions. If the submittal is not in compliance, the City shall prepare a correction list or “redline” set of construction plans for the design engineer specifying what is needed.

After the design engineer has completed all revisions, three (3) revised plans and original “redline” plans shall be returned to the City for approval. The City will forward one set of plans to CWS approval.

Once plans and specifications have been approved for construction, the necessary deposits paid, the maintenance plans and agreement submitted and approved, the City will issue a Water Quality Permit.

102.5.00 Prequalification of Contractor

Any Contractor engaged by the Permittee to perform public works construction must be prequalified with the City in compliance with Chapter 279 of the Oregon Revised Statutes, City Ordinance No. 327-76 as amended and Resolution No. 1789-86 and any special prequalification standards approved by the City.

This provision may be waived by the City Engineer for work having an estimated value of less than \$10,000, if in the opinion of the City Engineer the Contractor has sufficient experience, personnel, and equipment for the type and scope of work contemplated.

102.6.00 Insurance and Indemnification**102.6.01****Contractor's and Subcontractor's Insurance**

The Contractor shall not commence work until the Contractor has obtained all the insurance required hereunder and such insurance has been approved by the City Engineer, nor shall the Contractor allow any subcontractor to commence work on the subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Approval of the insurance by the City Engineer shall not relieve or decrease the liability of the Contractor. All insurance required under sections 102.6.02 shall be primary with regard to the additional insureds and any coverage the additional insureds may carry will be secondary.

102.6.02

General Liability

The Contractor shall provide and continuously maintain a general liability policy or policies that provide coverage for bodily injury including personal injury and property damage insurance, including automobile, as well as protect the Contractor and City from all things or damage which may arise from operations under the Permit or in connection therewith, including all operations of subcontractors.

Such insurance shall provide coverage for not less than the amounts set forth below:

For bodily injury including death and personal injury	\$ 550,000 for one claimant \$2,000,000 for one occurrence
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For property damage	\$2,000,000 for one occurrence
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In lieu of the foregoing, submit a single limit policy in the sum of \$2,000,000.

The insurance shall be written on a comprehensive form with extended coverage endorsement which includes broad form property damage on an occurrence basis. Unless excluded by special specification, the general liability policy shall include, without deductible, coverage for premises operations, explosion and collapse hazard, underground hazard, products completed operations, contractual insurance, independent contractors. Motor vehicle liability insurance in the amount of \$2,000,000 for each occurrence shall also be maintained. Such insurance shall be maintained until final acceptance of the work by the City and the products liability and completed operations coverage shall continue in force until the expiration of the guarantee period required by the code.

Such insurance shall be without prejudice to coverage otherwise existing, and shall name as additional insureds the City, its officers, agents and employees, and shall further provide that this policy shall not be terminated, modified, canceled or coverage reduced prior to the completion of the Permit work without 30 days prior written notice by certified mail to the City which notice shall be subject to the approval of the attorney, the notice to commence to run from the date notice is actually received at the office of the City Engineer.

The policy shall also provide for a cross-liability endorsement and shall guarantee to the City the amount of coverage for which public bodies are responsible as set forth in ORS Chapter 30, notwithstanding the naming of additional insureds.

If specified by the City Engineer, additional insureds may be the City's Consultant Engineer and other governmental bodies with jurisdiction in the area involved in the project, their officers and employees and such agents as may be specified.

Notwithstanding the naming of additional insureds, the said policy shall protect each insured in the same manner as though a separate policy had been issued to each; but nothing shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured. Any annual policy aggregate of insurance coverage shall be fully maintained and, if necessary, replenished in the required amounts regardless of claims that are paid or reserved against the policy and whether or not arising out of work performed under this Permit.

The policy shall contain an endorsement, which requires notification to the named insureds and certificate holders of any diminution in available insurance coverage.

A certificate evidencing such insurance together with the proper endorsement shall be filed with the City Engineer and shall be subject to the approval of the attorney as to the adequacy of protection.

102.6.03 Indemnification

Contractor shall defend, indemnify and save the City, as well as its officers, employees and agents, harmless from liability and loss because of injury including death to any person, or damage to any property that may occur or may be alleged to have arisen out of, connected with, or related to performance of the work, as a result, directly or indirectly, of contractor's or its subcontractors' or suppliers' acts or omissions, or of their servants, agents, and employees, and whether or not such injury or damage is jointly attributable to the City's fault or negligence. This section shall survive acceptance of the work and completion of the Permit, including any applicable warranty period.

In any and all claims against the City or its agents or employees these indemnification obligations shall not be limited in any way by any limitation in the amount or type of damages, the amount or type of insurance, compensation or benefits payable by or for Contractor's worker's compensation acts, disability acts or other employee benefits.

102.6.04 Certificates of Insurance

The Permit will not be issued until all insurance required has been obtained nor until such insurance has been approved by the City Engineer, nor shall any Contractor commence work until he also has first obtained insurance applicable to such work. The Contractor shall maintain insurance throughout the life of the Permit which will hold the City harmless and shall indemnify the City for all losses to third persons or to the City arising out of the operations, including any contingent liability.

102.7.00

Easements and Tracts

102.7.01

Easements and Tracts Granted to the City

All required easements and tracts shall be granted to, and accepted by, the City prior to the issuance of the Public Works Construction Permit. The Permittee shall provide the City with the documents necessary to grant such easements and tracts free and clear of encumbrances and all taxes shall be paid.

The City Engineer shall determine what facilities need to be part of the publicly owned system. When it is not possible or practical to install these facilities within dedicated public right-of-way, an easement or tract shall be granted to the City. Facilities shall include, but not be limited to, water works, sanitary sewers, storm systems, slopes for public streets, sensitive areas, created and constructed wetlands, greenways, pedestrian pathways or bikeways, and water quality or quantity facilities.

Public water systems, sanitary sewers or storm systems shall be centered within a permanent easement that has a minimum width of 15-feet along its entire length unless otherwise approved by the City Engineer. When a sanitary and storm sewer are within the same easement, the easement width shall be a minimum of 20-feet. The City may require a larger easement when either the sanitary or storm sewers are larger than 24-inches. No pipe shall be installed within 5-feet of an easement line.

Slope easements for roadway slopes extending beyond the dedicated public right-of-way shall be granted to the City with widths as determined by the City Engineer.

Widths of easements for sensitive areas, wetlands, greenways, pedestrian pathways or bikeways, or accessways, shall be as determined by the City Engineer.

Tracts deeded to the City are required for access to all and including the public water quality and quantity facilities that include outlet control structures and to manholes where required by the City. Widths of such tracts shall be as determined by the City Engineer.

102.7.02

Temporary Construction Easements

Prior to the issuance of the Public Works Construction Permit, the Permittee shall provide to the City Engineer, for review and documentation, all temporary construction easements necessary to perform the work.

102.8.00**Erosion Control Permit**

Prior to the issuance of the Public Works Construction Permit, the Permittee shall provide to the City Engineer, for review and approval, a completed Erosion Control Permit and associated fees, as outlined in Section 102.3.02. A copy of this Permit is included in the Public Works Permit application packet.

102.9.00**Erosion Control Joint Permit**

For projects one (1) acre or larger in size, prior to issuance of the Public Works Construction Permit, the Permittee shall provide to the City Engineer, for review and documentation, a completed copy and permit number of the 1200-C Permit submitted to DEQ through CWS. A copy of this Permit is included in the Public Works Permit application packet.

102.10.00**Contributed Equity Information**

As part of the Public Works Permit process, the Permittee shall provide to the City Engineer, for review and documentation, the costs of any public works improvements which will become the property of the City. Prior to issuance of the Public Works Construction Permit, the following information shall be provided:

1. The diameter, length, and value of all storm, domestic water, and sanitary lines within the proposed project.
2. The area, in acres, of any streets being dedicated to the City.
3. The area, in acres, of any open space being dedicated to the City.
4. The area, in acres, of any tracts being dedicated to the City.
5. The value of any street improvements along with the appropriate lineal footage.
6. The quantity and value of any sidewalk improvements other than those constructed as part of residential development.
7. The number of and value of any street lights installed.
8. The area of any easements dedicated to the City other than those within the subdivision lots.

102.11.00**Confined Space Entry Information**

Prior to the issuance of the Public Works Permit for work within the public right-of-way or easements requiring confined spaces construction, including, but not limited to: sanitary or storm manholes, curb inlets, vaults, and trenches, submit written documentation, to the City Engineer, regarding confined space program(s), meeting the requirements of OAR Chapter 437, that the Contractor(s) will follow. Confined Space Entry within the public right-of-way or easements will only be allowed through compliance with a confined space program.

102.12.00**Other Agency Permits**

If the construction includes work within Clackamas County, Washington County, or State of Oregon right-of-way or includes Clean Water Services (CWS) sensitive areas, a permit to perform such work is required from the respective agency prior to the start of construction. Copies of these permits, or any other agency required permits, shall be provided to the City Engineer, for review and documentation, prior to the issuance of the Public Works Construction Permit.

102.13.00 Issuance, Expiration, Reinstatement and Amendments

Once the plans and specifications have been approved for construction, the necessary fees paid, the Contractor's prequalification accepted, the necessary certificates of insurance submitted and approved, the required easements submitted and approved, copies of other agency permits submitted, the grading/erosion control information worksheet submitted, the erosion control joint permit submitted, the contributed equity information and written documentation of confined space entry information submitted, the City Engineer will issue a Public Works Construction Permit for the proposed work. The City Engineer may impose any additional conditions, including but not limited to imposing time constraints and limits on work to be performed in existing public right-of-way and on existing public facilities, which the City Engineer deems necessary to the Permit. The date of issuance and the conditions under which the construction is authorized by the City shall be clearly described in the Permit.

When the City Engineer issues the Permit, the City Engineer shall endorse in writing or stamp the plans and specifications "APPROVED." Such approved plans and specifications shall not be changed, modified or altered without authorizations from the City Engineer, and all work regulated by this code shall be done in accordance with the approved plans.

One set of approved plans and specifications shall be kept on the site of the work at all times during which the work authorized thereby is in progress.

The issuance or granting of a Permit or approval of plans, specifications and computations shall not be construed to be a Permit for, or an approval of, any violation of this code or of any other ordinance of the City. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the City shall not be valid.

The issuance of a Permit based upon plans, specifications and other data shall not prevent the City Engineer from requiring the correction of errors in the plans, specifications and other data, or from preventing operations being carried on when in violation of this code or of any other ordinances of the City.

Every Permit issued by the City Engineer under this code shall expire by limitation and become null and void if the work authorized by such Permit has not commenced within 180 days from the date of such Permit, or if the work authorized by such Permit is suspended or abandoned at any time after the work has commenced for a period of 180 days. Before such work can be resumed, the Permit shall first be reinstated.

To reinstate the Permit, the applicant shall submit a written request for reinstatement to the City Engineer giving the reasons for failure to begin construction and a date when construction will be commenced. In reinstating the Permit, the City Engineer may impose any additional conditions deemed necessary or require amendment to the Permit.

Any Permittee holding an unexpired Permit may apply for an extension of the time within which to may commence work under that Permit when the Permittee is unable to commence work within the time required by this section for good and satisfactory reasons. The City Engineer may extend the time for action by the Permittee for a period not exceeding 180 days upon written request by the Permittee showing that circumstances beyond the control of the Permittee have prevented action from being taken. No Permit shall be extended more than once.

The City Engineer may, in writing, suspend or revoke a Permit issued under this code whenever the Permit is issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation or this Code. The Permittee may appeal the suspension or revocation of the Permit as set forth in Section 104.6.00 of this Code.

Changes to the approved Plans and Special Specifications shall only be allowed when requested by Permittee and approved by the City Engineer. Authorized changes shall be incorporated by amendment to the Permit and approved Plans.

102.14.00

Performance of the Work

In order to protect the safety of the public and the integrity of the City's public facilities, the Contractor shall enter into a Public Improvement Agreement for work proposed on an existing public facility. Public facilities include any public transportation, sanitary sewer, storm drainage, water, or park facility.

If the scope of work necessitates a Public Improvement Agreement, the Public Works Permit for the project will not be issued until the Contract is executed and filed with the City. The contract shall be enforceable by and against the parties, their heirs, successors and assigns.

As a condition of the agreement, a bond, cash deposit, or other security acceptable to the City will be required from the applicant in an amount equal to the value of the improvements to the existing public facilities, but not less than \$25,000. This assurance is to ensure that the applicant constructs and completes all required improvements to the public facilities.

The conditions of the agreement shall be fulfilled within the time limitations specified. Failure to fulfill a condition within the time may result in the City collecting the assurance and completing the improvements.

Further, notwithstanding any other provision, the City shall have the authority to deny a Public Works Construction Permit upon a determination that the applicant, or any officer, or

principal of the applicant, willfully has failed to fulfill conditions of approval imposed in any previous Public Works Construction Permit and a determination that such a decision would encourage compliance or is necessary to protect the public from future noncompliance.

103.1.00**Plans and Specifications**

This code, plans, specifications, and other standard drawings will govern the work to be done. Anything mentioned in the specifications and not shown on the standard drawings, or shown on the plans and standard drawings and not mentioned in the specifications, shall be of like effect as though shown or mentioned in both. Specifications and plans referred to shall be considered as being included in the document in which such reference is made. A reference to a particular specification or standard drawings shall exclude any modification thereof. When a particular standard or specification is referred to, such reference shall be to the standard or specification including officially adopted revisions or amendments thereto which is in force at the time of Permit issuance or reinstatement.

103.2.00**Precedence of Permit Documents**

In case of conflict, the order of precedence of the following documents in controlling the work shall be:

1. Public Works Construction Code/Permit
2. Permits from outside agencies required by law
3. Standard Drawings
4. Standard Specifications
5. Plans

Approved changes in the work will take precedence over the documents listed above.

103.3.00**Shop Drawings**

Plans furnished and included with specifications show details necessary to comprehensively indicate the work proposed and the results that are intended to be accomplished. Supply any shop drawings required in connection with the prosecution or construction of any part of such work.

Furnish the specified number of copies of all layout, detail, shop, and working drawings requested by the City Engineer. Shop drawings shall be of sufficient size and scale to clearly show details. After review and approval by the City Engineer, three copies will be returned to the Permittee.

The approval by the City Engineer of the Contractor's drawings is a general approval relating only to compliance with the intent of the plans and specifications, and shall not constitute a waiver of errors, discrepancies, or omissions.

No materials shall be furnished or work done on items requiring shop drawings prior to approval.

103.4.00**Changes in the Work****103.4.01****By the City**

The City Engineer may make changes in the plans or in standards contained in this code to protect the public interest or the normal operations of the City. Such changes shall be made at the sole discretion of the City Engineer and may include, but not limited to, the allowance of new or different materials or products which are equivalent to or better than the product specified herein.

103.4.02**By the Permittee**

Changes in the work may be authorized by the City Engineer by amendment to the approved plans and Permit. Requested changes shall be submitted in writing by the design engineer of the project.

103.5.00**Salvage**

The Contractor shall carefully salvage and furnish to the City, as directed, all castings, pipe or other materials shown or specified as salvageable by the City Engineer.

104.1.00**Authority of the City Engineer**

The City Engineer shall be the City's representative during the design and construction phase of the project.

The City Engineer will decide all questions as to the design requirements and as to the quantity, quality, and acceptability of materials furnished and work performed, and shall have authority to reject all work and material that are not in accordance with the intent and requirements of the plans and specifications. In addition, the City Engineer may stop the work or revoke the Permit, if necessary, to insure compliance with this code and the plans and specifications. The City Engineer shall have the authority to vary the requirements of this Code when he/she determines it is in the best interest of the City, or necessary to protect the City, its citizens and/or infrastructure.

Approval by the City Engineer signifies favorable opinion and qualified consent; it does not carry with it certification, nor assurance of completeness, nor assurance of quality, nor assurance of accuracy concerning details, dimensions and quantities. Such approval will not relieve the Contractor from responsibility for errors, for improper fabrication, for nonconformance to requirements or for deficiencies within the Contractor's control.

It is not incumbent upon City Engineer to notify Contractor when to begin, cease or resume work, nor to give early notice of rejection of faulty work, nor in any way to superintend so as to relieve Contractor of any responsibility or of any consequences for neglect or carelessness by Contractor or Contractor's subordinates.

104.2.00**Authority and Duties of Inspectors**

The City Engineer may appoint inspectors to inspect all materials used and all work done. These inspectors may be employees of the City or private consultants appointed by the City. Such inspection may extend to all parts of the work and to the preparation or manufacture of the materials to be used. The inspectors may not revoke, alter, enlarge or relax the provisions of this Code. An inspector is placed on the work to check the necessary lines and grades, to keep the City Engineer informed as to the progress of the work and the manner in which it is being done, and to call to the Contractor's attention to any infringements upon plans or specifications. However, failure of the inspector or the City Engineer to call the Contractor's attention to faulty work or infringements upon the plans or specifications shall not constitute acceptance of said work. Visits, observations and inspections by the City Engineer or inspector shall not relieve the Contractor's obligation to conduct comprehensive inspections of the work, and to furnish materials and perform acceptable work and to provide acceptable safety precautions, in conformance with the intent of the contract.

An inspector may not approve or accept any portion of the work or issue instructions

contrary to the plans and specifications. The inspector may reject defective material and suspend any work that is being improperly done, subject to the final decision of the City Engineer. The inspector may exercise such additional authority as may be specifically delegated to him from time to time by the City Engineer.

104.3.00

Responsibility of Design Engineer

The design engineer shall be the Permittee's representative during the design and construction phase of the project. He or she shall be responsible for completeness and accuracy of the plans and special specifications, for all surveys, construction staking, and matters pertaining to the measurement and payment provisions affecting the Permittee and Contractor. The design engineer shall make sufficient on-site inspections to assure himself or herself of the completeness and accuracy of as-built drawings.

104.4.00

Responsibility of Contractor

The Contractor shall do all work and furnish all labor, materials, equipment, tools, and machines necessary for the performance and completion of the project in accordance with this code, the Permit, plans and specifications.

Contractor shall employ only competent, skillful persons to do the work. Contractor shall keep on the work, during its progress, competent, supervisory personnel. Contractor shall give efficient supervision to the work using the highest level of skill and attention.

104.5.00

Quality of Work

The Permittee shall furnish high quality equipment, supplies, and materials, and perform the work in accordance with this code. Any failure or omission by the City inspector to reject any defective equipment, supplies, materials, or work shall not be construed as acceptance nor release the Permittee from Permittee's obligations hereunder. Upon notification of deficiency by City Engineer, the Permittee shall properly reconstruct or replace defective equipment, supplies, materials, or work at Permittee's own cost at any time upon discovery of the defect during the period of construction and for the full guarantee period following acceptance of the work and indemnify City from any resulting claims.

104.6.00

Appeal of Disputed Work or Rulings

If the Contractor considers any work demanded by the City Engineer to be outside the scope of the Permit or considers a ruling of the City Engineer to be unfair, upon such demand or ruling, the Contractor shall proceed without delay to perform the work or to conform to the ruling. The Contractor shall within ten (10) days after date of receipt of the instructions or ruling, file a written protest with the City Engineer, stating clearly and in detail the basis of objection, and include an itemized statement of any extra costs which may have resulted.

Except for such protests or objections as are made of record in the manner specified and within the time limit stated, the records, rulings, instructions or decisions of the City Engineer shall be final and conclusive. Contractor expressly waives any protest or objection for which written protest is not filed within ten (10) days after date of receipt of the City Engineer's instructions or ruling.

104.7.00

Notifications Relative to Contractor's Activities

The Contractor shall obtain prior approval from the City Engineer for the closing or partial closing of any road, street, alley or other public thoroughfare. The Contractor shall give advance notice of such closure to all agencies providing public services including, but not limited to, the sheriff, police, fire, ambulance services, Tri-Met and the school district transportation services.

The Contractor shall notify all utilities before commencing work including, but not limited to, gas, communications, cable, power, traffic signals, water, sanitary and storm sewers.

Utilities may not be located as shown or marked as the location may have been established from records and not from on-site inspection. The Contractor shall notify utilities at least two (2) working days prior to commencing work of the date on which work will commence, in order to give the utilities a reasonable opportunity to establish the location of utilities by on-site examination prior to commencing the work. The Contractor shall adhere to the above notification requirements during the progress of the work where the work is such that location of utilities is necessary as the work progresses.

The Contractor shall notify all agencies affected by the operations so as to properly coordinate and expedite the work in such a manner as to cause the least amount of conflict and interference between such operations and those of other agencies.

Notification shall include, but not be limited to, the time of commencement and completion of work, names of streets or location of alleys to be closed, schedule of operations and routes of detours where possible.

Damages or claims resulting from improper or insufficient notification of the affected agencies shall be the responsibility of the Contractor.

104.8.00

Utilities and Existing Improvements

No person shall block, obstruct or interfere with any portion of the City's public works facilities.

The Contractor shall provide for the flow of sewers, drains and water courses interrupted during the progress of the work, and shall restore such drains and water courses as approved by the City Engineer. The Contractor shall make excavations and borings

ahead of work as necessary, to determine the exact location of interfering utilities or underground structures.

Ordinarily, utility companies responsible for facilities located within the right of way will be required to complete any installation, relocation, repair, or replacement prior to the commencement of work by the Contractor. However, when this is not feasible or practicable or the need for such work was not foreseen, the utility owners or the City shall have the right to enter upon the right-of-way and upon any structure in the right-of-way for the purpose of making new installations, changes or repairs. The Contractor shall conduct operations so as to provide the time needed for such work to be accomplished during the progress of the improvement.

The Contractor shall be responsible for all costs for the repair of damage to the Permit work or to a utility, previously known or disclosed during the work, as may be caused by operations. The Contractor shall maintain in place utilities not shown on the drawing to be relocated or altered by others and shall maintain utilities which are relocated by others in their relocated positions in order to avoid interference with structures which cross the project work.

Where it is necessary to connect to existing facilities, Contractor shall not interrupt City's operations to make such connections. The Contractor shall first obtain approval from the City Engineer, then schedule the work to be done on a time basis convenient to the City.

104.9.00

Protection of Survey Markers

The Contractor shall not disturb permanent survey monuments, stakes, or bench marks without the consent of the City Engineer, and shall notify the City Engineer and bear the expense of replacing any that may be disturbed without permission. Replacement shall be done by a registered land surveyor, in compliance with the provisions of ORS 209.150 and ORS 209.160, at no expense to the City.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the monument and cover shall be adjusted to the new grade.

104.10.00

Protection of Property

The Contractor shall protect all public and private property insofar as it may be endangered by operations and take every reasonable precaution to avoid damage to such property.

Site-parked mobile equipment and operable machinery, and hazardous parts on the new construction site, subject to vandalism, shall be kept locked or otherwise made inoperable whenever left unattended.

Wastes shall not be buried or burned on the site or disposed of into storm drains,

sanitary sewers, streams or waterways. All wastes shall be removed from the site and disposed in a manner complying with local ordinances, state and federal anti-pollution laws.

The Contractor shall restore and bear the cost of any public or private improvement, facility or structure which is damaged or injured directly or indirectly by or on account of any act, omission or neglect in the execution of the work and which is not designated for removal. Contractor shall be responsible for any injury, loss, or damage to any presently existing improvements on the premises caused by Contractor or Contractor's employees, agents or subcontractors, and in the event of such injury, loss or damage shall promptly make such repairs or replacements as required by the City Engineer without cost to the City.

The Contractor shall give reasonable notice to occupants of buildings on property adjacent to the work to Permit the occupants to remove vehicles, trailers and other possessions as well as salvage or relocate plants, trees, fences, sprinkler systems or other improvements in the right-of-way which are designated for removal or which might be destroyed or damaged by work operations.

The Contractor shall protect all designated trees and planted areas within the right-of-way or easements, and shall exercise care and conduct operations so as to minimize damages to other planted areas.

The Contractor shall review with the City Engineer the location, limits and methods to be used prior to clearing work. Clearing and grubbing shall be performed in strict compliance with all local, state and federal laws.

The completed work shall include all necessary permanent safety devices such as machinery guards and similar ordinary safety items, required by the State and Federal (OSHA) industrial authorities and applicable local and national code. Any such features of the work subject to safety regulations shall be fabricated, furnished and installed in compliance with these requirements.

104.11.00

Protection of Work

Until acceptance of the project, the Contractor shall at all times protect from damage all public property and private property which may be affected by the work and preserve all materials, supplies, and equipment, and all work already performed, from the nature of the work, the action of the elements, and damage by any person or persons or from any other cause. Any work or materials lost, removed or damaged by any cause or for any reason shall be the responsibility of Contractor until such time as the City has indicated acceptance and approval of same, according to the provisions of this Code.

104.12.00**Use of Work During Construction**

Upon request and with approval of the City Engineer, Contractor will be relieved of the duty of maintaining and protecting certain portions of work which are approved to be placed in service and which have been completed in accordance with the plans and specifications, including cleanup. Such use shall not be considered as final acceptance of the improvement, and nothing in this section shall be construed as relieving Contractor from full responsibility for making good, work or materials found to be defective. Such action by the City Engineer will not relieve the Contractor of responsibility for injury or damage to said completed portions of the work resulting from use by public traffic or from the action of the elements or from any other cause.

104.13.00**Traffic Maintenance**

The Contractor shall erect and maintain all barricades, guards, standard construction signs, warning signs, and detour signs, as are necessary to warn and protect the public at all times from injury or damage as a result of the work operations on highways, roads, or streets affected by such operations. All detours/signs, traffic control devices and markings shall be installed and maintained per the requirements of MUTCD and Oregon Supplement. A plan for detours/signs, traffic control devices and markings shall be submitted by the Contractor and approved by the City Engineer prior to installation and before construction starts.

Upon failure to immediately provide the necessary flaggers or to provide, erect, maintain and remove barricades, detours, lights and standard signs when so ordered, the City may without further notice to the Contractor or Permittee, do so and assess all of the costs to the Public Works Construction Permit fee. Nothing contained in this section, however, shall require the City to do so nor relieve the Permittee and Contractor of their responsibilities to provide traffic control for public safety.

When traffic will pass over backfilled trenches before they are paved, the top of the trench shall be cold patched prior to the end of each work day and maintained in a condition that will allow normal vehicular movement to continue. Access driveways shall be provided where needed. Cleanup operations shall follow immediately behind backfilling and the work site shall be kept in an orderly condition at all times.

See Section 302 for additional traffic control requirements.

104.14.00**Dust Control, Water and Air Pollution**

During all phases of the construction work, and when directed, the Contractor shall take precautions to abate dust nuisance by cleaning up, sweeping, sprinkling with water, or other means as necessary to accomplish the suppression of dust.

Contractor's operations shall conform to applicable laws and regulations of the Oregon

Department of Environmental Quality, Clean Water Services, and other agencies of the State and Federal Government, as well as local ordinances designed to prevent, control and abate water and air pollution. Such agencies are referred to in subsection 106.2.00.

104.15.00

Removal of Defective or Unauthorized Work

All work which does not conform to the requirements of this code shall be considered as unacceptable.

The Permittee shall immediately remove unacceptable and defective work found to exist prior to acceptance of the work. Replace by work and materials which conform to the plans and specifications, or remedy otherwise in an approved manner.

104.16.00

Restoration and Clean-up

The Contractor shall periodically, or as directed by the City Engineer, as the work progresses, and immediately after completion of the work, clean up and remove all refuse, debris, equipment and unused materials resulting from the work. Upon failure to do so within 24-hours after directed, the work may be done by the City or third party and the cost assessed to the Permittee.

As a condition precedent to final acceptance of the project, the Contractor shall remove all equipment and temporary structures, and all rubbish, waste and generally clean up the right-of-way, easements, and project area to conform substantially to conditions as they existed before the commencement of work.

104.17.00

Final Inspection

When all construction work on the project is complete, the Contractor shall notify the City Engineer in writing. City Engineer will make an inspection of the project and project records within fifteen (15) days of receiving said notice. If, at such inspection, all construction is found completed and satisfactory, such inspection shall constitute final inspection.

If work is found unsatisfactory, the City Engineer will so notify the Contractor. After corrections are made, the Permittee or Contractor shall notify the City Engineer in writing. City Engineer will make another inspection within fifteen (15) days after such notice, and if all work is satisfactory, then this inspection shall constitute the final inspection.

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105 CONTROL OF MATERIALS

105.1.00 Quality of Materials

The Contractor shall use only new materials, parts, products, and equipment in the work which conform to specified requirements. Materials and products which after approval are found to be unsuitable or unacceptable for use, regardless of cause, will be rejected by the City Engineer and shall be removed from the site by the Contractor.

105.2.00 Sampling and Testing

Tests of materials will be made by Permittee in accordance with methods described or designated in the applicable specifications, and at any time during the production, fabrication, preparation and use of the materials.

City reserves the right to require samples and to test products for compliance with pertinent specifications irrespective of prior certification of the products by the manufacturer as set forth in Section 105.3.00.

When tests of materials are necessary, as determined by the City Engineer, such tests will be made by and at the expense of the Permittee unless otherwise specified.

In the absence of reference specifications, such materials shall meet the most recent specifications and requirements of the American Society for Testing and Materials (ASTM), American Water Works Association (AWWA), or the American Association of State Highway and Transportation Officials (AASHTO), as directed by the City Engineer. When there is no pertinent coverage under ASTM, AWWA, or AASHTO, the material concerned shall meet specifications and requirements of applicable Commercial Standards of the Commodity Standards Division of the US Department of Commerce. Lacking such coverage, materials shall meet requirements established by reputable industry for a high quality product of the kind involved.

All testing shall be performed as directed by the City Engineer.

105.3.00 Certification

For commercial products inclusive of industry standardized products, in lieu of normal sampling and testing procedures by the Contractor and the City, the City Engineer may accept from Contractor two (2) copies of the manufacturer's certification with respect to the product involved, under conditions set forth as follows:

- 1) Certification shall state that the named product conforms to the City's requirements and that representative samples thereof have been sampled and tested as specified.

2) Certification shall either be accompanied with a certified copy of test results, or certify that such test results are on file with the manufacturer and will be furnished to the City Engineer upon request.

3) Certification shall give the name and address of the manufacturer and the testing agency and the date of tests; and shall set forth the means of identification which will permit field determination of the product delivered to the project as being the product covered by the certification.

4) The City shall not be responsible for costs of certification or for costs of sampling and testing products.

105.4.00 Inspection Requirements

The Contractor shall allow access to the City Engineer or the City Engineer's representatives to all parts of the work. Furnish all samples required for testing purposes at no expense to City.

No work shall be covered until inspected and approved by the City Engineer or inspector. This provision shall apply to street subgrade, base rock, and all buried conduits. Inspector shall be notified 24-hours in advance of any required inspection. If any work should be covered up without approval or consent of the City Engineer, it shall, if required by the City Engineer, be uncovered for examination at Contractor's expense.

105.5.00 Inspection by Others

Inspection of work by persons other than representatives of the City Engineer will not constitute inspection by the City Engineer, except as set forth in Section 105.3.00.

105.6.00 Storage and Protection of Materials

Contractor shall store materials to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Portions of the right-of-way may be used for storage purposes, including Contractor's equipment, upon issuance of a Permit therefore by the City Engineer. Contractor shall not use private property for storage purposes without written permission of the property owner or lessee. When requested, the Contractor shall furnish copies of such written permission to the City Engineer.

105.7.00**Trade Names, Approved Equals or Substitutions**

In order to establish a basis of quality, certain processes, types of machinery or equipment or kinds of materials may be specified either by description of process or by designating a manufacturer by name and referring to his brand or product designation or by specifying a kind of material. It is not the intent of these specifications to exclude other processes, equipment or materials of equal value, quality, utility, or merit.

Unless otherwise clearly indicated, whenever a process is designated or a manufacturer's name, brand or item specification is called for on the plans is given or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

105.8.00**Failure to Reject Defective Work**

Failure of City Engineer to discover or reject defective work during the progress of the work or work not in accordance with the drawings, details, or specifications shall not be deemed as acceptance. No partial or final occupancy or use of the project facility by City shall be construed to be an acceptance of work or materials which are not strictly in accordance with this Code, nor a waiver of City's rights to reject the work in part or in whole.

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106.1.00**Laws and Regulations**

The Contractor shall keep fully informed of all federal, state and local laws, ordinances and regulations and all orders and decrees by governing jurisdiction or authority, which affects the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders and decrees. The Contractor shall protect and indemnify the City, its agents and employees against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor, subcontractors, suppliers of materials or services, or others engaged by the Contractor or the employee of any of them.

106.2.00**Environmental and Natural Resources Laws and Rules**

The following is a list of federal, state, and local agencies of which the City has knowledge that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of the work:

Federal Agencies

Department of Agriculture
Forest Service, Soil Conservation Service
Department of Defense
Army Corps of Engineers
Environmental Protection Agency
Department of Interior
Bureaus: Sport Fisheries and Wildlife, Outdoor Recreation, Land Management,
Indian Affairs, Reclamation
Department of Labor
Occupational Safety and Health Administration
Department of Transportation
Coast Guard
Federal Highway Administration
Federal Emergency Management Agency
National Marine Fisheries Services

State Agencies

Department of Agriculture
Department of Environmental Quality
Department of Fish and Wildlife
Department of Forestry
Department of Geology and Mineral Industries
Department of Human Resources

(State Agencies cont.)

Department of Land Conservation and Development
Department of Transportation
Division of State Lands
State Engineer
Water Resources Board

Local Agencies

City Council
Board of County Commissioners / Clackamas and Washington
Port of Portland
Metropolitan Service District (Metro)
Water Districts
Tualatin Valley Fire & Rescue
Clean Water Services

106.3.00

Contractor and Subcontractors

The Contractor and any subcontractors will be considered by the City as authorized agents of the Permittee, unless otherwise provided for in the Permit. Any instructions or orders given to the Contractor or subcontractors will be treated as if given directly to the Permittee.

The Permittee shall inform the Contractor and any subcontractors of the provisions of the code and their application to the work.

106.4.00

Right of Entry of Work

Work for which a Permit is issued will normally be performed within dedicated public rights-of-way or easement. However, when the work involves proposed streets and easements, such as within new subdivisions, the Permittee must provide the City and City Engineer with permission to enter upon the affected property, with continuous access to the work.

By accepting the Permit, the Permittee grants the City or its agents access to the project site at all times.

106.5.00

Responsibility of Permittee

In accepting the Permit, the Permittee agrees to comply with all provisions of this code and related laws and regulations. Failure to comply may result in revocation of the Permit.

106.6.00**Permits, Licenses and Taxes**

The Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the work except those listed in the special conditions.

106.7.00**Public Safety and Convenience**

The Contractor shall conduct the project with proper regard for the safety and convenience of the public. When the project involves use of public rights-of-way, the Contractor shall provide flaggers when directed, and install and maintain means of free access to all fire hydrants, service stations, warehouses, stores, houses, garages and other property. Private residential driveways shall be closed only with approval of the City Engineer or specific permission of the property owner. The Contractor shall not obstruct or interfere with travel over any public street or sidewalk without approval. The Contractor shall provide adequate barricades for open trenches and excavation. At night, the Contractor shall mark all open work and obstructions by lights. The Contractor shall install and maintain all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges and facilities.

Emergency traffic such as police, fire, and disaster units shall be provided reasonable access to the work area at all times.

The Contractor shall comply with all requirements of the US Postal Service with regard to the location of mail boxes which must be disturbed during construction. Mail boxes may be moved to temporary locations as designated by the US Postal Service. At the completion of the work in each area, the Contractor shall replace them in their original location and in a condition satisfactory to the US Postal Service.

The Contractor shall be liable for any damages which may result from failure to provide such reasonable access or failure to notify the appropriate authority.

106.8.00**Personal Safety**

The Contractor shall be responsible for conditions of the job site, including safety of all persons and property during performance of the work. Contractor shall protect the project and materials from damage due to the nature of the work, the elements, carelessness of other contractors or from any cause whatever until the completion and acceptance of the project. Contractor shall be responsible for all loss or damages arising out of the nature of the work. This requirement will apply continuously and not be limited to normal work hours. Safety provisions shall conform to the applicable federal, state, county and local laws, ordinances and codes. Where any of these are in conflict, the more stringent requirement shall apply.

The duty of the City Engineer to conduct construction reviews of the Contractor's performance is not intended to include a review of the adequacy of the Contractor's safety measures in, on or near the construction site. If obvious safety conditions are not being addressed, OSHA may be contracted to review on-site conditions.

106.9.00 Detours

The Contractor shall construct and maintain detours needed by work operations. The Contractor shall submit plans for such detours to City Engineer for approval.

The Contractor shall construct and maintain temporary detours to provide safe passage of public traffic and protection of the work at all times.

The Contractor assumes full responsibility for detours within the limits of the project such as side street crossings, temporary bridges over freshly placed concrete, or utilization of one or more lanes of the construction area for maintenance of traffic.

The Contractor shall install, maintain, and/or remove detours or detour bridges when directed to do so by City Engineer. City may without notice to Contractor or Contractor's surety, provide, maintain, or remove the detour with the expense to be assessed to the permit fee.

106.10.00 Labor

Upon notification in writing from the City Engineer, the Contractor shall remove immediately from the job any laborer, worker, mechanic, foreperson, superintendent, or other person employed who is found to be incompetent, intemperate, troublesome, disorderly, or otherwise objectionable, or who fails or refuses to perform work properly and acceptably.

106.11.00 Use of Explosives

Blasting or use of explosives requires a Public Works Permit and is subject to all the laws, orders, provisions, and regulations of the City and any other governmental authority in whose jurisdiction such work may be done.

106.12.00 Railroad Crossings or Right-of-Way

The Contractor shall submit a program of proposed operations whenever the project or work involves the crossing of a railroad or the encroachment on any railroad right-of-way. This program of proposed operations shall be approved by the appropriate railroad officials, ODOT Rail, and the City Engineer before the work is started within such area. The Contractor shall provide for services of flaggers and/or watchpersons required by the railroad company and shall provide and install piling, cribbing, bridges, tunnels, pipe casing, and do

all other work required by the railroad company for safety or maintenance of railroad traffic. The Contractor shall furnish any bond or insurance required of the Permittee by the railroad company or ODOT Rail as a result of such intended construction and indemnify City for any and all expenses incurred by Permittee, and assume any and all liability or claims thereof imposed by the railroad as a result of operations in railroad right-of-way area.

106.13.00

Rights-of-Way, Easements, and Premises

The Contractor shall confine construction activities within property lines, limits of easements and limits of construction permits as shown or specified in the plans, unless arrangements are made with owner of adjacent private property. Prior to the use of private property outside these specified boundaries, the Contractor shall file with the City Engineer a written permission of the property owner(s) and upon terminating such usage, the Contractor shall file with the City Engineer a release from all damages, signed by the property owner

106.14.00

Waste Sites

Excavated materials not suitable or not required for backfill or embankment shall be deposited on one or both of the following waste sites:

- (1) predesignated waste sites contained in the plans or special specifications, and/or
- (2) waste sites selected by the Contractor.

The Contractor shall operate either type of waste site in such a manner as to meet all safety and health requirements of State and local agencies. Sites, operations, or the result of such operations, which create a nuisance problem, or which result in damage to public or private properties will not be permitted.

106.15.00

Vermin Control

At the time of occupancy by the owner, any structure or structures entirely constructed under the Permit shall be free of rodents, insects, vermin and pests. The Contractor shall arrange and pay for extermination work as may be necessary as part of the work. Work shall be performed by a licensed agency in accordance with the requirements of governing authorities. The Contractor shall assume responsibility for any injury to persons or property resulting from extermination work and for the elimination of any offensive odors.

106.16.00

Warranty and Maintenance

Upon completion of the construction and just prior to the acceptance of the improvements, the Permittee shall submit to the City Engineer a maintenance assurance. The maintenance assurance may be in the form of a maintenance bond or cash deposit. The amount of the maintenance assurance shall be fifteen (15) percent of the total cost of the

improvements. The maintenance assurance shall guarantee the correction of faulty workmanship and replacement of faulty materials and equipment for a period of not less than one year from the date of acceptance by the City by resolution.

The Permittee shall make all necessary repairs and replacements to remedy, in a manner satisfactory to the City Engineer and at no cost to the City, all defects, breaks, or failures of the work occurring within one (1) year following the date of final acceptance of the work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Permit due to faulty or inadequate materials or workmanship, and for damage or disturbances to other improvements under, within, or adjacent to the work, whether or not caused by settling, washing or slipping when such damage or disturbance is caused, in whole or in part, from activities of the Permittee in performing the duties and obligations under the Permit.

When such defects or damage occur, within the time period described, in any part of the surface or subsurface work performed under the Permit, or in any adjacent surface of subsurface improvements not included in the work under the Permit, the Permittee shall promptly repair the defect or damage and the one year maintenance period required shall, with relation to such required repair, be extended one year from the date of acceptance of the repair. Permittee agrees to hold the City Engineer harmless from liability arising from damage due to faulty or inadequate materials or workmanship. If Permittee fails to make repairs and replacements promptly, the City may do the work, and the Permittee and his or her surety shall be liable for the cost thereof.

106.16.01 Landscaping Warranty and Maintenance

For all water quality and/or quantity facilities, the maintenance assurance amount shall be ten percent of the cost of construction of the facilities, or 50 percent of the cost to replant the landscaping plus 100 percent of the cost to maintain the landscaping for a two year period, whichever is greater. The maintenance assurance shall be for a two year period from the date of acceptance of the improvements by the City Council

At the end of the two year maintenance period, 80 percent of each type of vegetation must be established and healthy. If at any time during the maintenance period, the landscaping falls below the 80 percent level, the Permittee shall immediately reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting. If the Permittee fails to make replanting promptly, the City may do the work and the Permittee and surety shall be responsible for the cost thereof.

For water quality facilities, the permittee is responsible for the maintenance of this facility for a minimum of two years following construction and acceptance per the approved maintenance plan agreement.

Irrigation is to be provided per separate irrigation plan as approved. The engineer or owner's representative is to visit and evaluate the site a minimum of twice annually. The facility shall be re-excavated and planted if siltration is greater than 3-inches in depth occurs within the two year maintenance period.

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107 PROSECUTION AND PROGRESS OF WORK

107.1.00 Preconstruction Conference

The Contractor shall, when requested or specified, meet with the City Engineer for a preconstruction conference at a time mutually agreed upon to discuss the construction schedule set forth in Section 107.2.00 and items of work which require special coordination between the Contractor and City.

107.2.00 Contractor's Construction Schedule

Before starting work, the Contractor shall submit a proposed construction schedule to the City Engineer.

107.3.00 Authorization to Proceed

Issuance of the Permit shall serve as authorization for the Contractor to proceed. Accordingly, the Permit will not be issued until all required provisions for fees, insurance, permits, easements, and rights-of-way have been satisfied by the applicant.

Authorization to proceed for street projects may be delayed by City until required utility relocation, construction, or reconstruction has been completed or has progressed to a satisfactory degree of conformance which will allow initial construction work to commence.

The Contractor shall notify the City Engineer at least two working days in advance of the time and place work will be started.

107.4.00 Suspension of Work

The Contractor shall immediately suspend work on the project wholly, or in part, as directed by the City Engineer pursuant to Sections 104.1.00 and 104.2.00 due to: (1) failure to correct unsafe conditions for working personnel, the general public or City's employees, (2) failure to carry out provisions of the plans and specifications, and (3) failure to carry out orders or directives for such periods as the City Engineer deems necessary due to conditions considered unsuitable for the performance of the work or for public health, safety, and welfare.

When the Contractor voluntarily suspends operations because of seasonal conditions or other unsuitable conditions, an order to suspend the work may not be required or issued by the City Engineer.

Voluntary or involuntary suspension or slowdown of the work, with or without the

approval of the City Engineer, and suspension of work ordered by the City Engineer, will not be grounds for claims for damages, idle equipment, or labor by the Contractor.

The Contractor shall be responsible for the care of work performed and take every precaution to prevent damage or deterioration of the work. The Contractor shall be responsible for work, including temporary protection devised to warn, safeguard, protect, guide and inform traffic during suspension, the same as though its performance had been continuous and without interferences.

In cases of involuntary suspension, work will be resumed only upon written order of the City Engineer.

107.5.00 Revocation of Permit

Should the Permittee or Contractor fail to comply with an order to suspend work or otherwise continue operating in violation of this code, the City Engineer may revoke the Permit, as provided in Section 104.1.00.

The Permittee may appeal the suspension or revocation of the Permit as set forth in Section 104.6.00 of this Code.

107.6.00 Contractor's Representative

The Contractor shall designate in writing, before starting work, an authorized representative who shall have complete authority to represent and to act for Contractor, in Contractor's absence from the work site, in all directions given by the City Engineer. Contractor or Contractor's authorized representative, shall supervise the work, and shall be present on-site continually during its progress. The Contractor shall maintain an office on or adjacent to the project site. The Contractor shall keep a complete copy of the stamped, approved plans and specifications on or near the site at all times. If Contractor and Contractor's authorized representative are not present on any part of the work where it may be necessary to give instructions, directions may be given by the City Engineer to the superintendent or foreman who may have charge of that particular part of the project, and such directive shall be received and followed. Such directions shall not change the status of Contractor or subcontractor, nor make the City an employer, or give City direct responsibility for the methods of construction or scheduling of the work. Such directions of major importance will be confirmed in writing. Minor directives will be confirmed in each case in writing upon request from the Contractor.

107.7.00 Conflicts, Errors, Omissions, and Additional Drawings

The Contractor shall check and compare all plans prior to construction and notify City Engineer of any discrepancies or omissions to permit correction in a timely manner. Coordination of plans and specifications is intended. The intent of the plans and

specifications intend to show and describe a complete project within the project limits. Dimensions shown on plans shall be followed, rather than scale measurements. Whenever the plans are not sufficiently detailed or explicit, the Engineer may furnish additional detail drawings or written instructions and Contractor shall perform the work in accordance with the additional details or instructions. In case of conflict between requirements set forth in the Permit, the provisions for order of precedence in Section 103.2.00 shall apply.

107.8.00 As-Built Plans

107.8.01 Public Works Permit

Prior to final inspection, one (1) set of as-built drawings shall be submitted for preliminary review. Depth of sanitary and storm sewer laterals to be shown and laterals to be "tied" to nearest property corner. Drawings shall describe all revisions to the previously approved construction plans. If this submittal is acceptable, the Design Engineer shall submit the as-built drawings on 3 mil minimum thickness mylar (maximum size: 24" x 36") suitable for reproducing and microfilming. If the first submittal was not acceptable, the City Engineer will give the design engineer notice of what is required for resubmittal.

107.8.02 Water Quality Permit

Prior to final inspection, one set of as-built drawings shall be submitted for preliminary review. Drawings shall describe all revisions to the previously approved construction plan. If this submittal is acceptable, the Design Engineer shall submit stamped as-built drawings (maximum size 24" x 36") suitable for reproducing. If the first submittal was not acceptable, the City Engineer will give the design engineer notice of what is required for resubmittal.

107.9.00 Completion and Acceptance

107.9.01 Public Works Permit

Upon completion, the Contractor shall notify the City Engineer (in writing) that the work is completed and request a final inspection, as provided in Section 104.17.00.

When the City Engineer is satisfied the completed work complies with the approved plans and specifications, the Permittee has furnished as-built drawings, the maintenance assurance has been submitted and accepted as required in Section 106.16.00, and all fees have been paid in accordance with Section 102.3.01, the City Engineer shall recommend acceptance of the work by the City. Final acceptance will be by resolution of the City Council. The maintenance and warranty period shall

commence on the date of the resolution accepting the work.

107.9.02 Water Quality Permit

Upon completion, the Contractor shall notify the City Engineer in writing that the work is completed and request a final inspection as provided in Section 104.17.00.

When the City Engineer is satisfied that the completed work complies with the approved plans, the Permittee has furnished as-built drawings, the maintenance assurance has been submitted and accepted as required in Section 106.16.01, and all fees have been paid in accordance with Section 102.3.01, the City Engineer can recommend approval of a Certificate of Occupancy. This approval does not remove the need to complete all other work required through the land use approval or other permits.