

CHAPTER 100
GENERAL SPECIFICATIONS

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100 TITLE

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 apply to all City owned public works facilities and Public Utility construction proposed 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 person or firm making application for a permit from the City.

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.

Controlled Low Strength Material (CLSM) – A highly flowable lean concrete mix with a 28-day compressive strength of 100 psi - 200 psi.; a mixture of fly ash, cement, fine aggregates, water and admixtures, if necessary.

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.

Erosion Control Permit –The permit required for all construction projects that will cause, or are likely to cause a temporary or permanent increase in the rate of soil erosion from a site, including but not limited to grading, excavating, filling, working of land, or stripping of soil or vegetation from land.

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.

Pavement Coring – Pavement coring is an exploratory vacuum excavation not more than 12 inches in diameter to uncover an existing utility for the purpose of determining its precise location and elevation.

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 - A permit issued by the City Engineer. May refer to a Public Works Construction Permit, Water Quality Permit, Erosion Control Permit, Public Utility Permit, or other.

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

Permittee - The person or firm that has received a permit from the City Engineer.

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 Utility – Any corporation, company, individual, association of individuals, or its lessees, trustees or receivers, that owns, operates, manages or controls all or a part of any line, facility, or system for producing, transmitting, or distributing communications, power, electricity, heat, gas, oil, water, steam, waste, stormwater, or any other similar commodity which directly or indirectly serves the public. The term may also mean the utility company, district, or cooperative owning and operating such facilities, including any wholly owned or controlled subsidiary.

Public Utility also includes any corporation, company, individual or association of individuals, which is party to an oral or written agreement for the payment by a public utility, for service, managerial construction, engineering or financing fees, and having an affiliated interest with the public utility.

Public Utility Permit – The permit required for Public Utilities to perform work within a Right-of-Way or public easement. Public Utilities must have a current Franchise agreement or Rights-of-Way License with the City of Tualatin to apply for a Public Utility Permit.

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.

Sidewalk/Driveway Approach Permit - The Permit issued by the City Engineer for reconstruction or modification of an existing sidewalk or driveway fronting residential or commercial properties within the public Right-of-Way, or public easements. This permit covers work not involving a public utility and shall be submitted in the name of the property owner or contractor for the property owner.

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 - Any physical component of a system, including but not limited to poles, pipes, mains, conduits, ducts, junction boxes, vaults, structures, cables, wires, transmitters, equipment, and other facilities, located within, under, or above rights-of-way, any portion of which is used or designed to be used to deliver, transmit, or otherwise provide utility service.

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
ADA	Americans with Disabilities Act
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
PROWAG	2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
PWCC	City of Tualatin Public Works Construction Code
TDC	Tualatin Development Code
UBC	Uniform Building Code
UL	Underwriter's Laboratories, Inc.
WWPA	Western Wood Products Association

102 PERMIT REQUIREMENTS

102.1.00 Construction Permits Required

Property owners, developers, and others proposing construction within public Rights-of-Way, easements, tracts, streams, creeks, or natural drainage ways, or construction of a Water Quality Facility on private land, are required to obtain all applicable permits and land-use approvals as appropriate, pay all applicable fees, and secure applicable performance assurances before commencing any work.

102.1.1 Public Works Construction Permit

A Public Works Construction Permit is required to construct public works facilities within the public Right-of-Way, public easements, or land to be dedicated to the public.

Obtain a Public Works Construction Permit using the application form provided by the City Engineer. With the application, include a permit fee deposit as set forth in subsection 102.3.1, Permit Fees and Deposits, complete plans and specifications as set forth in subsection 102.4.1, Plans and Specification Requirements, and a preliminary engineer's estimate.

Prior to submitting an application for a Public Works Construction Permit, attend a pre-application meeting with the Engineering Division. Required attendees include the owner, the design engineer, and the contractor if known.

102.1.2 Water Quality Permit

A Water Quality Permit is required to construct or modify a public or private water quality facility.

Obtain a Water Quality Permit using the application form provided by the City Engineer. With the application, include a permit fee deposit as set forth in subsection 102.3.1, Permit Fees and Deposits, complete plans and specifications as set forth in subsection 102.4.1, Plans and Specification Requirements, and a preliminary engineer's estimate.

Prior to submitting an application for a Water Quality Permit, attend a pre-application meeting with the Engineering Division. Required attendees include the owner, the design engineer, and the contractor if known.

102.1.3 Public Utility Permit

A Public Utility Permit is required to perform work on any public utility within

Rights-of-Way and easements.

Obtain a Public Utility Permit from the City Engineer using the application forms provided. Complete plans and specifications as set forth in Section 207, Public Utility Design.

102.1.4 Erosion Control Permit

An Erosion Control Permit is required if changes to improved or unimproved real property cause, will cause, or are likely to cause a temporary or permanent increase in the rate of soil erosion from the site, as described in Clean Water Services Design and Construction Standards Section 2.03.4, Erosion Control Permits. Obtain Erosion Control Permits in conjunction with other permits as applicable.

There are four categories of Erosion Control Permits issued by the City for construction outside the building footprint. Obtain the applicable Erosion Control Permit using the process outlined below and in Section 102.4.5, Erosion Control Plan Review Procedure. With the application, include a permit fee as set forth in the current version of the City of Tualatin Fee Schedule located on the City of Tualatin website and pay all required DEQ fees.

102.1.4A Single-Family Residence

A single-family residence Erosion Control Permit is required for modifications to a single family residence lot for work that has ground disturbing activities.

If a Site Assessment is required in accordance with Clean Water Services Chapter 3, Sensitive Areas and Vegetated Corridors, obtain an Erosion Control Permit following the requirements of Section 102.1.4B, Erosion Control (Disturbing Under One Acre).

If a water quantity or quality approach is required in accordance with Clean Water Services Chapter 4, Runoff Treatment and Control, obtain an Erosion Control Permit following the requirements of Section 102.1.4B, Erosion Control (Disturbing Under One Acre).

102.1.4B Erosion Control (Disturbing Under One Acre)

If the proposed construction activities will cause or are likely to cause physical disturbance to the surface of the land less than one acre but more than 500 square feet, obtain an Erosion Control Permit from the City Engineer.

102.1.4C **1200-CN (Disturbing Between 1 and 5 Acres)**

A NPDES 1200-CN Construction Stormwater (Erosion Control) Permit is required for construction activities on sites that disturb between one acre and five acres to control stormwater runoff during construction.

102.1.4D **1200-C (Disturbing Five Acres and Greater)**

A NPDES 1200-C Construction Stormwater (Erosion Control) Permit is required for construction activities on sites that disturb five acres and larger to control stormwater runoff during construction.

102.1.4E **Erosion Control (Disturbing less than 500 SF)**

If the proposed construction activities will cause or are likely to cause physical disturbance to the surface of the land less than 500 SF, no Erosion Control Permit from the City is required provided all the following criteria are met:

1. No land development activity or disturbance of land surface occurs within 100 feet of a Sensitive Area, and
2. The work on the site involves the disturbance of less than 500 square feet of land surface where the slope is less than 20 percent or less than 50 square feet where the slope is 20 percent or greater, and
3. The excavation, fill, or combination thereof involves less than 20 cubic yards of material.

Erosion control measures must still be in place during construction, even if a permit is not required.

Exception from the Erosion Control permit requirement does not exempt the Property Owner from the responsibilities of CWS Design and Construction Standards Section 6.02.1, Erosion Prohibited.

For projects that disturb less than 500 square feet that do not meet all criteria in this section, an Erosion Control Permit is required. Obtain an Erosion Control Permit following the requirements of Sections 102.1.4B and 102.4.5B, Erosion Control (Disturbing Under One Acre).

102.1.5 Sidewalk/Driveway Approach Permit

A Sidewalk/Driveway Approach Permit is required to reconstruct or modify an existing sidewalk or driveway fronting residential or commercial properties within the public Right-of-Way, or public easements. This permit applies when there is no other development work, land-use actions, or other work in the right of way such as a water or sewer service. In those cases, a Public Works Permit will be required per Section 102.1.1.

Obtain a Sidewalk/Driveway Approach Permit using the application form provided by the City Engineer. With the application, include a permit fee as set forth in subsection 102.3.1, Permit Fees and Deposits.

102.3.1 Permit Fees and Deposits

This section applies to Public Works Construction Permits, Water Quality Permits, Erosion Control Permits, and Sidewalk/Driveway Approach Permits.

102.3.2 Public Works Construction Permit Deposit

Public Works Construction Permit deposits are paid by the applicant as follows:

1. At the time construction plans are submitted for approval by the City Engineer, pay the deposit shown in the current version of the City of Tualatin Fee Schedule located on the City of Tualatin website.
2. As the work progresses, the City's actual costs may exceed the amount deposited. If this occurs, the Permittee will receive an invoice 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, deposit the amount with the City within 15 days of the date requested. If the deposit is not made, stop all work on the project until the deposit is made.
4. Before acceptance of work by the City, pay all outstanding amounts due to the City 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 costs incurred by the City in providing technical or inspection services related to any public works or water quality facility 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 ensure 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, 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 applicant.
11. Other necessary expenses related to permit work.

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

102.3.3 Erosion Control Fees

For all projects requiring an erosion control permit, pay the fees shown in the current version of the City of Tualatin Fee Schedule located on the City of Tualatin website. If applicable, pay all required DEQ fees as well.

102.3.4 Water Quality Permit Deposit

Water Quality Permit deposits are paid by the applicant as follows:

1. At the time construction plans are submitted for approval by the City Engineer, pay the deposit shown in the current version of the City of Tualatin Fee Schedule located on the City of Tualatin website.
2. As the work progresses, the City's actual costs may exceed the amount deposited. If this occurs, the Permittee will receive an invoice 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, deposit the amount with the City within 15 days of the date requested. If the deposit is not made, stop all work on the project until the deposit is made.
4. Before acceptance of work by the City, pay all outstanding amounts due to the City 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 costs incurred by the City in providing technical or inspection services related to any public works or water quality facility 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 may 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 ensure 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. 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, 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 applicant.
10. Other necessary expenses related to permit work.

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

102.3.5 Sidewalk/Driveway Approach Permit Fees

For Sidewalk/Driveway Approach Permits pay the fees shown on the application and in the current version of the City of Tualatin Fee Schedule located on the City of Tualatin website.

102.4.1 Plans and Specifications

102.4.2 Plan and Specification Requirements

For Public Works Construction Permits, Water Quality Permits, and Erosion Control Permits, the required plans and specifications must be prepared by the Design Engineer who must be a registered engineer licensed to practice engineering in the State of Oregon. Prepare the plans and specifications to be used in conjunction with the Standard Specifications and Standard Drawings, and provide sufficient detail to ensure full disclosure of the proposed work. Conform to the design requirements of Chapter 200 of this Code.

For Erosion Control Permit plans and specifications, conform to CWS Design and Construction Standards, Chapter 6, Erosion Prevention and Sediment Control.

For Public Utility Permit plans, conform to the design requirements of Section 207, Public Utility Design, of this Code.

102.4.2 Public Works Plan Review Procedure

Submit complete plans and required calculations to the City Engineer for review. The City Engineer may request up to six sets of plans.

The City will verify required information was provided and conforms to this Code, applicable portions of CWS Design and Construction Standards, and the development approval conditions.

If the submittal does not meet the requirements, the City will prepare a correction list or "red line" set of construction plans for the design engineer specifying what is needed and return the plans to design engineer.

After the design engineer has completed all revisions, submit five revised plans and the original "red line" plans to the City for approval. If approved by the City, and if the plans include storm drain or sanitary sewer design, the City will forward one set of plans to CWS for approval. The City may require the design engineer to incorporate CWS' comments into final approval of construction plans.

The City will issue a Public Works Construction Permit once the following have been completed:

1. The plans and specifications have been approved for construction.
2. The necessary deposits are paid.
3. The necessary insurance certificates are submitted and approved.
4. Copies of other agency permits are submitted.
5. All other requirements made by the City Engineer have been met.

Once approved, up to three sets will be stamped approved by the City Engineer and returned at time of issuance of the Public Works Construction Permit. Approval does not relieve the design engineer from liability for errors and omissions.

102.4.4 Water Quality Plan Review Procedure

Submit plans and calculations for review. The City Engineer may request up to four sets of plans and calculations.

The City will verify required information was provided and conforms to this Code, CWS Design and Construction Standards, and the land-use conditions of approval.

If the submittal does not meet requirements, the City will prepare a correction list or "red line" set of construction plans for the design engineer specifying what is needed.

After the design engineer has completed all revisions, submit three revised plans and the original "red line" plans to the City for approval. If the City approves the submittal, the City will forward one set of plans to CWS approval. The City may require the design engineer to incorporate CWS' comments into final approval of construction plans.

The City will issue a Water Quality Permit once the following have been completed:

1. The plans and specifications have been approved for construction.
2. The necessary deposits are paid.
3. The maintenance plans and agreement are submitted and approved.
4. All other requirements made by the City Engineer have been met.

Once approved, up to four sets will be stamped approved by the City Engineer and returned at time of issuance of the Water Quality Permit. Approval does not relieve the design engineer from liability for errors and omissions.

102.4.5 Erosion Control Plan Review Procedure

Submit the required plans and all additional documents as described in the subsections below.

The City will verify required information was provided and conforms to this Code and CWS Design and Construction Standards.

If the submittal does not meet the requirements, the City will prepare a correction list or “redline” set of erosion control plans specifying what is needed.

After all revisions have been completed, submit revised plans and documents and the original “redline” plans to the City for approval. The City will forward plans to CWS for approval. The City may require the design engineer to incorporate CWS’ comments into final approval of construction plans.

Once the requirements for the applicable erosion control category have been approved and the necessary fees paid, the City will issue an Erosion Control Permit. Approval does not relieve the design engineer from liability for errors and omissions.

102.4.5A Single-Family Residence

No plans are required. Submit a single-family residence Erosion Control Permit to the City Building Department using the application forms provided.

Construction must conform to the requirements of Standard Drawing 001, Example Single Family Erosion & Sediment Control Site Plan

Once the application has been approved and the necessary fees paid, the City will issue an Erosion Control Permit.

102.4.5B **Erosion Control (Disturbing Under One Acre)**

Submit two sets of plans that meet the requirements of Clean Water Services Design and Construction Standards, Chapter 6, Erosion Prevention and Sediment Control for the City Engineer to review.

102.4.5C **1200-CN (Disturbing Between 1-5 Acres)**

Submit two sets of plans for the City to review that meet the requirements of the most current 1200-CN template. With the plans submit a signed DEQ 1200-CN ESC Plan Checklist. The plan template and checklist are available on Clean Water Services website.

The City will issue a 1200-CN Construction Stormwater (Erosion Control) Permit once the following have been completed:

1. The plans and specifications have been approved.
2. The signed DEQ 1200-CN ESC Plan Checklist has been submitted.
3. The necessary fees paid.

102.4.5D **1200-C (Disturbing Five Acres and Greater)**

Submit three sets of plans for the City to review that meet the requirements of the most current 1200-C template. With the plans submit a signed DEQ 1200-C ESC Plan Checklist and the DEQ 1200-C Construction Stormwater (Erosion Control) Permit Application. For more information regarding the plan template, checklist, and DEQ application refer to Clean Water Services website.

Upon City approval two sets of plans will be forwarded to CWS for approval. Upon CWS approval one set of plans will be forwarded to DEQ for a 14-day public review period.

Clean Water Services and the City act as permit agents for DEQ. At the conclusion of the required 14-day public comment period, DEQ will authorize issuance of the 1200-C Permit.

The City will issue a 1200-C Construction Stormwater (Erosion Control) Permit once the following have been completed:

1. The plans and specifications have been approved.
2. The signed DEQ 1200-C ESC Plan Checklist has been submitted.

3. The DEQ 1200-C Construction Stormwater (Erosion Control) Permit Application has been submitted.
4. The necessary fees paid.
5. The 14-day public review period has been observed.

102.4.6 Public Utility Plan Review Procedure

Submit one set of plans in compliance with Section 207, Public Utility Design, for review with the permit application.

The City will verify required information conforms to this Code and City of Tualatin Municipal Code Chapter 03-06, Utility Facilities in the Rights-of-Way. Submit all required permits, agreements or documents from other jurisdictions or persons as required.

If the submittal does not meet the standards, the applicant will be informed of needed changes and additional requirements. A new review period will begin once the applicant resubmits the required information or documents.

102.5.00 Prequalification of Contractor

All Contractors 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.

Public Utilities are exempt from the requirements of this section.

102.6.1 Insurance and Indemnification

102.6.2 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 102.6.3 shall be primary with regard to the additional insureds and any coverage the additional insureds may carry will be secondary.

102.6.3

Insurance Coverage Requirements

Contractor must provide City with evidence of the following insurance coverage's prior to permit issuance. A copy of each insurance policy, issued by a company currently licensed in the State of Oregon and certified as a true copy by an authorized representative of the issuing company or a certificate in a form satisfactory to City certifying to the issuance of such insurance, must be furnished to City. All policies must be written on an "occurrence basis," and maintained in full force for the duration of the permitted work. All policies must provide for not less than 30 days' written notice to City before they may be revised, non-renewed, canceled, or coverage reduced. Excepting professional liability and worker's compensation coverage, all policies must provide an endorsement naming the City, its officers, employees, and agents as additional insureds.

A. Automobile. Comprehensive automobile and vehicle liability insurance covering claims for injuries to members of the public and/or damages to property of others arising from the use of motor vehicles, including on-site and off-site operations, and owned, non-owned, or hired vehicles, with \$2,000,000 combined single limits. For Driveway Approach and Sidewalk Permits the comprehensive automobile and vehicle liability insurance requirement is \$1,000,000.

B. General Liability. Commercial general liability insurance covering claims for injuries to members of the public or damage to property of others arising out of any act or omission of Contractor or of any of its employers, agents, or subcontractors. The general liability policy must include, without deductible, coverage for premises operations, explosion and collapse hazard, underground hazard, products completed operations, contractual insurance, and independent contractors. The policy must also provide for a cross-liability endorsement and must guarantee to the City the amount of coverage, notwithstanding the naming of additional insureds. The policy amounts must, or not less than the following:

1. For bodily injury including death: \$1,000,000 for one claimant and \$2,000,000 for each occurrence. Driveway Approach and Sidewalk Permits require \$1,000,000 for each occurrence.

2. For property damage: \$2,000,000 for each occurrence. Driveway Approach and Sidewalk Permits require \$1,000,000 for each occurrence.

3. In lieu of 1 and 2 above: A combined single limit policy of \$2,000,000 per occurrence and in the aggregate.

C. Policy Coverage. Coverage provided by this policy(ies) must be primary and any other insurance carried by City is excess. Contractor will be responsible for any deductible amounts payable under all policies of insurance.

D. Workers Compensation. Contractor, its subcontractors, if any, and all employers are subject employers under the Oregon Worker's Compensation Law and must comply with ORS 656.017.

Notwithstanding the naming of additional insureds, the policy(ies) must protect each insured in the same manner as though a separate policy had been issued to each; but nothing will 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 must 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.

Proof of compliance and evidence of insurance, together with the proper endorsement, must be filed with the City Engineer and is subject to the approval by the City Attorney as to the adequacy of protection.

Any violation of this provision can result in suspension of the permit and enforcement action by the City.

102.6.4 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.

102.6.5 (Deleted)

102.6.6 Exemption for Public Utilities

For Public Utility insurance and indemnification requirements, comply with City of Tualatin Municipal Code Chapter 03-06, Utility Facilities in the Right-of-Way.

102.7.1

Easements and Tracts

102.7.2

Easements and Tracts Granted to the City

All required easements and tracts are to be granted to, and accepted by, the City prior to the issuance of Water Quality and Public Works Construction Permits. Provide the City with the documents necessary to grant such easements and tracts free and clear of encumbrances and all taxes paid.

The City Engineer determines 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, grant an easement or tract to the City. Facilities include, but are 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.

Center public water systems, sanitary sewers or storm systems 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, provide a minimum easement width of 20 feet. The City may require a larger easement when either the sanitary or the storm sewers are larger than 24-inches. Do not install a pipe within 5-feet of an easement line.

Slope easement widths for roadway slopes extending beyond the dedicated public Right-of-Way will be as determined by the City Engineer.

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

Tracts deeded to the City are required for access to all easements 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 will be as determined by the City Engineer.

102.7.3

Temporary Construction Easements

Prior to the issuance of a construction permit, provide to the City Engineer, for review and documentation, all temporary construction easements necessary to perform the work.

102.10.00

Contributed Equity Information

As part of the Public Works Construction Permit and Water Quality Permit, provide to the City Engineer, for review and documentation, the costs of all public works improvements that will become the property of the City. Prior to issuance of a construction permit, provide

the following information:

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 a permit for work within the public Right-of-Way or easements requiring confined spaces construction, submit written documentation to the City Engineer regarding confined space program(s), that the Contractor will follow. Confined Space Entry within the public Right-of-Way or easements will only be allowed through compliance with a confined space program meeting the requirements of OAR Chapter 437, Oregon Occupational Safety and Health Division.

102.12.00

Other Agency Permits

If the construction includes work within Clackamas County, Washington County, or State of Oregon rights-of-way or easements, 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. Provide copies of these permits, and all other agency-required permits, to the City Engineer for review and documentation prior to issuance of the City 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 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 works 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 will be clearly described in the permit.

When the City Engineer issues the permit, the City Engineer will endorse in writing or stamp the plans and specifications "APPROVED." Do not change, modify, or alter approved plans and specifications without authorization from the City Engineer. Complete all work regulated by this code in accordance with the approved plans.

Keep one set of approved plans and specifications 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 will 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 will not be valid.

The issuance of a permit based upon plans, specifications and other data does 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 expires by limitation and becomes 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, reinstate the permit.

To reinstate the permit, 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. A permit will not 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, Appeal of Disputed Work or Rulings, of this Code.

Changes to the approved plans and special specifications will only be allowed when requested by Permittee and approved by the City Engineer. Incorporate authorized changes 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 works facilities, enter into a Public Improvement Agreement for work proposed on an existing public works facility. Public works facilities include any public transportation, sanitary sewer, storm drainage, water, or park facility.

If the scope of work necessitates a Public Improvement Agreement, the permit for the project will not be issued until the Contract is executed and filed with the City. The contract is 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. For Sidewalk/Driveway Approach Permits only, the bond amount shall be equal to twice the cost of construction as approved by the City Engineer. This assurance is to ensure that the applicant constructs and completes all required improvements to the public facilities.

Fulfill the conditions of the agreement 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 has the authority to deny a 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 permit and a determination that such a decision would encourage compliance or is necessary to protect the public from future noncompliance.

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103 SCOPE OF WORK

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. Oregon Standard Specifications for Construction (Current Version)
5. Public Right-of-Way Accessibility Guidelines (PROWAG)
6. 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.

103.4.1**Changes in the Work****103.4.2****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.

103.4.3**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 CONTROL OF WORK

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

Obtain prior approval from the City Engineer before working in the Right-of-Way or easements, and before closing or partially closing any road, street, alley, sidewalk, bike lane, or other public thoroughfare. Provide notice not less than two working days in advance of all construction in Rights-of-Way and easements. Notify the City and all agencies providing public services including, but not limited to, the sheriff, police, fire, ambulance services, Tri-Met, and the school district transportation services.

Notify all public utilities at least two working days before beginning work.

Verify location of all public utilities and public works facilities prior to construction and meet requirements of Oregon Administrative Rule (OAR) 952 Division 1. In accordance with OAR 952 Division 1, notify the Oregon Utility Notification Center of the date and location of the proposed excavation at least two working days and not more than ten working days before commencing work.

Notify all agencies and public utilities affected by the operations in order to coordinate and expedite the work in order to cause the least amount of conflict and interference between the operations and those of other agencies.

Include in the notification the time that work will begin and end, names of streets or location of alleys to be closed or impacted, schedule of operations, routes of possible detours, and additional information requested by the City Engineer.

The Permittee is responsible for all damages or claims resulting from improper or insufficient notification of the affected agencies.

104.8.00

Utilities and Existing Improvements

Do not block, obstruct or interfere with any portion of the City's public works facilities, including roads, bike lanes, and sidewalks.

Provide for the flow of sewers, drains, and watercourses interrupted during the progress of the work and restore all drains and watercourses as approved by the City Engineer.

Make excavations and pavement coring ahead of work as necessary to determine the exact location of existing utilities. If the Contractor is unable to determine the exact location of public storm and sanitary sewer utilities, provide a TV inspection after construction, if approved by the City Engineer.

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**

Erect and maintain all barricades, guards, standard construction signs, warning signs, and detour signs as necessary to warn and protect the public at all times from injury, inconvenience, or damage as a result of the work operations on highways, roads, or streets affected by such operations. Install and maintain all detours/signs, traffic control devices and markings per the requirements of the MUTCD and Oregon Supplement, or the Oregon Temporary Traffic Control Handbook. Submit a plan and schedule for detours/signs, traffic control devices and markings to be 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 issue a stop work order or at its discretion provide appropriate traffic control necessary to protect the public and assess all of the costs to the Permittee. Nothing contained in this section will require the City to do so or relieve the Permittee and Contractor of their responsibilities to provide traffic control for public safety.

At the end of each day, in locations where vehicular or pedestrian traffic will pass over trenches before they are paved, repair the pavement in accordance with Section 313.3.03G, Temporary Surfacing. Maintain a smooth driving surface to the satisfaction of the City Engineer for as long as the temporary surface is in place. If the Contractor or Permittee fails to maintain a smooth driving surface, the City may at its discretion repair the surface and assess all of the costs to the Permittee.

Provide access driveways where needed and maintain pedestrian access around the construction zone as directed. Commence cleanup operations immediately following backfilling and maintain the work site in an orderly condition at all times.

See Section 302, Temporary Traffic Control, 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 LEGAL RELATIONS AND RESPONSIBILITIES

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

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.

106.16.2 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

commence on the date of the resolution accepting the work.

107.9.3 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.