SUBDIVISION AND DEVELOPMENT



Regional District of Okanagan-Similkameen Bylaw No. 2900, 2024

SERVICING BYLAW

This Bylaw has been consolidated for Convenience only and includes all Amendments to the text up to:

August 7, 2025

District Falls

District of OK Falls

Regional District of Okanagan-Similkameen

Subdivision and Development Servicing Bylaw No. 2900, 2024

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REGIONAL DISTRICT OF OKANAGAN-SIMILKAMEEN

SUBDIVISION AND DEVELOPMENT SERVICING BYLAW NO. 2900, 2024

A bylaw to require the provision of works and services and to establish standards and regulations in respect of the subdivision and development of land in the Electoral Areas of the Regional District of Okanagan-Similkameen

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WHEREAS Section 506 of the *Local Government Act* states that the Board of the Regional District of Okanagan-Similkameen may, by bylaw, regulate and require the provision of works and services in respect of the subdivision of land or issuance of a building permit;

NOW THEREFORE the Regional Board of the Regional District of Okanagan-Similkameen in open meeting assembled HEREBY ENACTS AS FOLLOWS:

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1.0 INTRODUCTION

1.1 Title

This bylaw may be cited for all purposes as the "Regional District of Okanagan-Similkameen Subdivision and Development Servicing Bylaw No. 2900, 2024".

1.2 Schedules

This bylaw includes the following schedules:

Schedule 'A'	Design Guidelines - Water Distribution
Schedule 'B'	Design Guidelines – Sanitary Sewers
Schedule 'C'	Supplementary Specifications - Waterworks
Schedule 'D'	Standard Detail Drawings

1.3 Area of Application

This bylaw applies to all lands within Electoral Area "A", "B", "C", "D", "E", "F", "G", "H" and "I" of the Regional District of Okanagan-Similkameen, and as shown on Figure 1.

1.4 Transition

.1 The following bylaws, and all amendments thereto, are repealed:

a) Regional District of Okanagan-Similkameen Subdivision Servicing Bylaw No. 2000, 2002;

b) Regional District of Okanagan-Similkameen Manufactured Home Park Regulations Bylaw No. 2597, 2012; and

c) Regional District of Okanagan-Similkameen Campground Regulations Bylaw No. 2779, 2018.

READ A FIRST AND SECOND TIME this 8th day of February, 2024.

READ A THIRD TIME this 22nd day of February, 2024.

ADOPTED this 21st day of March, 2024.

_____ _____

Chair Corporate Officer

District of OK Falls

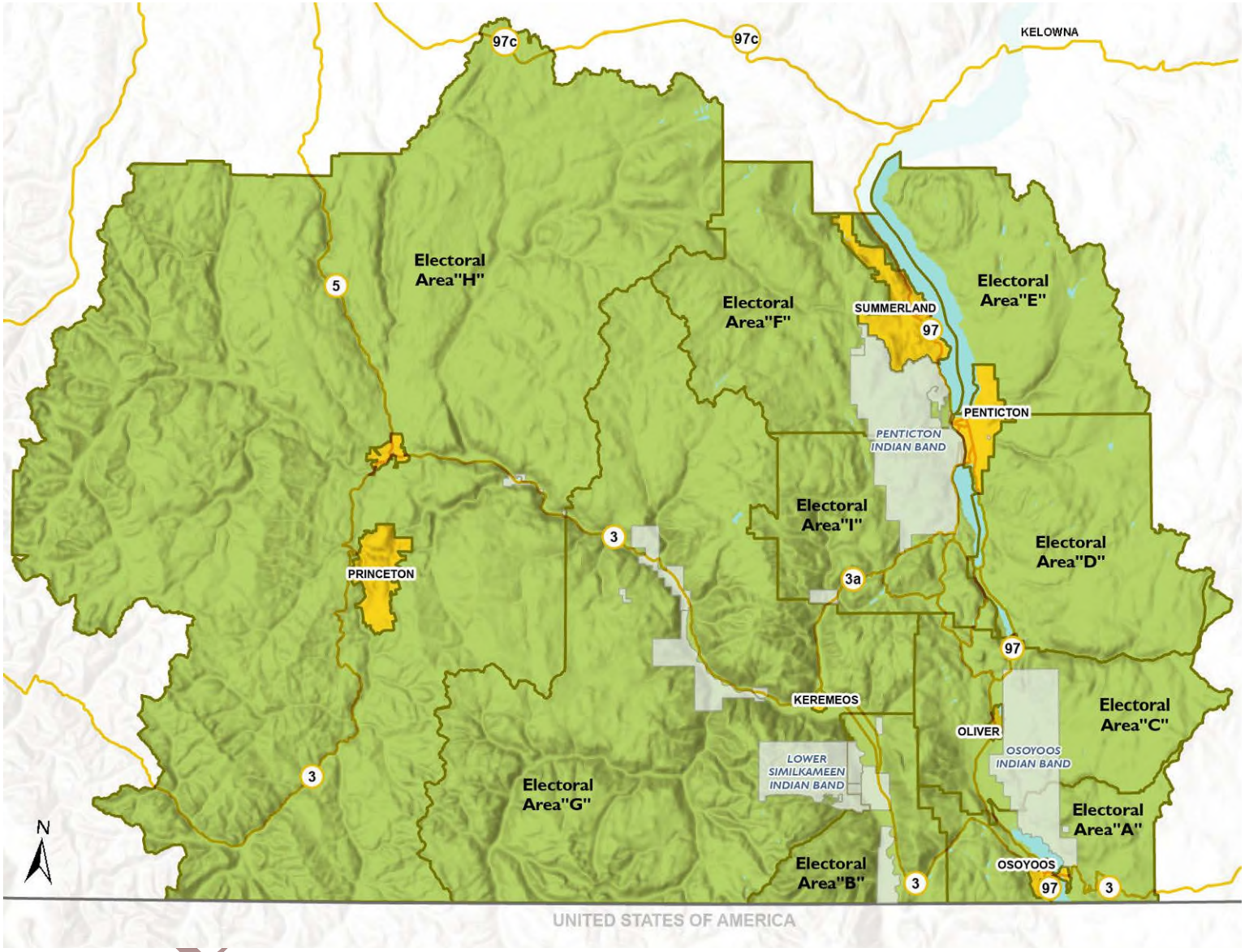


FIGURE 1 – Map of Regional District of Okanagan-Similkameen Electoral Areas

2.0 ADMINISTRATION

2.1 Compliance with this Bylaw

.1 No person may subdivide or develop land unless in conformance with the regulations, provisions, and requirements set out in this bylaw and other bylaws of the *Regional District*.

2.2 Works and Servicing Requirements

.1 As a condition of the approval of a subdivision a developer must provide, within the parcel being subdivided, Works and Services in accordance with the standards established in this bylaw.

.2 If the Regional District requires the Developer, as a condition of the approval of a subdivision or the issue of a building permit, to provide Works and Services on that portion of a highway immediately adjacent to the parcel being subdivided or developed, up to the centre line of the highway, the Developer must provide those Works and Services in accordance with the standards established in this bylaw.

.3 If *Regional District* requires the Developer, as a condition of the issue of a building permit, to provide Works and Services on the parcel being developed, the Developer must provide those Works and Services in accordance with the standards established in this bylaw.

.4 The *Regional District* may require the provision of excess or extended services in accordance with the requirements of the *Local Government Act*.

2.3 Exemptions

.1 Despite Section 2.1 and 2.2 of this bylaw, the following are exempt from the requirement to provide *Works and Services*:

a) Unattended Equipment

i) The *subdivision* of a *parcel* to accommodate unattended equipment necessary for:

.1 A civic utility such as a *community water system* or *community sewer system*;

.2 A telecommunication relay station;

.3 An air or marine navigational aid;

.4 Electrical substations or generating stations;

.5 Any other similar public service or quasi-public service facility or utility;

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.6 Any *parcel* owned by the *Regional District*;

and the *developer* agrees, in writing, to the registration of a statutory covenant pursuant to Section 219 of the *Land Title Act* in favour of the *Regional District* at the time the *subdivision* is registered, and provides legal assurance that the land shall not be used for the construction of buildings or structures and/or specified land uses.

b) Boundary Adjustments & Consolidations

i) *Subdivisions* that do not create any additional *parcels* and only result in:

.1 road or park dedications;

.2 an adjustment of boundaries between existing *parcels*; or

.3 the consolidation of existing *parcels* or the addition of closed streets to an existing *parcel*,

so long as the applicable *parcel* shall continue to be serviced with all pre-existing water and sewer services after the boundary adjustment or dedication.

c) Homesite Severance on ALR Lands

i) A *subdivision* approved by the Agricultural Land Commission under its "Homesite Severance on ALR Lands" (Policy #11), is not required to comply with minimum community water and sewer system requirements under Section 4.0 (Servicing Requirements).

d) Conservation of Natural Areas

i) The *subdivision* of a *parcel* to accommodate the following:

.1 a wildlife management area designated under the *Wildlife Act,* R.S.B.C. 1996, c. 488, and the regulations thereto, as amended;

.2 a park preserved in its natural state and having no buildings or structures; or

.3 natural area conservation, provided that the *parcel* is transferred to a government entity or a non-governmental organization and also charged by a covenant prohibiting the construction of buildings and structures of all types.

.2 Despite Section 3.0 (Definitions), in Electoral Areas "C", "E", "G" and "H" a community water system or community sewer system does not exclude a system owned and operated by a strata corporation, private water utility or business corporation.[i]

2.4 Severability

[i] Amendment Bylaw No. 2900.01, 2025 – adopted August 7, 2025.

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.1 If any section, subsection, sentence, clause or phrase of this bylaw is held to be invalid by a court of competent jurisdiction, that section, subsection, sentence, clause or phrase, as the case may be, shall be severed and the validity of the remaining portions of the bylaw shall not be affected.

2.5 Authorization for Inspection

.1 All officers, employees and agents of the *Regional District* are hereby authorized to enter at all reasonable time, and on any property subject to this bylaw, to inspect and determine whether all regulations, prohibitions and requirements are being met.

2.6 Prohibitions and Penalties

.1 A person shall not prevent or obstruct, or attempt to prevent or obstruct, a person authorised under Section 2.5 from entering on to a private property to ascertain whether regulations, prohibitions or requirements of this Bylaw are being met or observed.

.2 Each person who violates any of the provisions of this Bylaw commits an offence and is liable on summary conviction to a fine not exceeding $10,000.00 and the costs of prosecution.

.3 Each day of continuance of an offence under this Bylaw constitutes a new and distinct offence.

2.7 Compliance with Other Regulations

1. In cases where an improvement district provides a fire hydrant system or a water distribution, sewage collection, sewage disposal, drainage collection or drainage disposal service and has established requirements and standards under s. 700 of the *Local Government Act*, the standards and requirements of the improvement district apply in place of the standards in this bylaw.

2.8 Application to Strata Lots

.1 The design criteria, standards and procedures set out within this bylaw do not apply to a strata lot.

.2 For a bare land strata *development*, where the *Strata Property Act* exempts on-site services from the requirements of this bylaw, off-site services must still be constructed in accordance with the standards and procedures set out in this bylaw.

.3 While not applicable to *subdivisions* under the *Strata Property Act*, the standards set out in this bylaw in respect of the matters specified in subsections 506(1)(b) and (c) of the *Local Government Act* are recommended by the Board as appropriate standards for such works.

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2.9 Submission of Design Drawings

.1 A *developer* who has made an application for a *subdivision* or building permit in respect of land to which this bylaw applies shall provide to the *Regional District* prior to the issuance of a Letter of Compliance for the *subdivision*:

a) design drawings illustrating all of the *Works and Services* required by this bylaw for the *subdivision* or *development*, prepared in accordance with the requirements of this bylaw for such drawings; and

b) the design review and inspection fees as prescribed by the Regional District Fees and Charges Bylaw, as amended from time to time.

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3.0 DEFINITIONS

In this bylaw:

"community sewer system" means a system of works owned operated and maintained by the *Regional District*, a municipality, an Indigenous governing body or an improvement district and which is established and operated for the collection, treatment and disposal of sanitary sewage and which serves more than one *parcel*, and for certainty excludes such system of works owned and operated by a strata corporation, private sewer utility or business corporation;[ii]

"community water system" means a water supply system owned, operated and maintained by the *Regional District*, a municipality, an Indigenous governing body or an improvement district, and for certainty excludes a water supply system owned and operated by a strata corporation, private water utility or business corporation;[iii]

"developer" means the *owner* of land or the holder of a bona-fide interim agreement or option to purchase land, who has applied for, or is engaged in undertaking, the *development* or *subdivision* of such land, and shall include their duly authorized representative;

"development" means any construction, building, repair, installation, alteration, addition, improvement, enlargement, relocation, or demolition, on land for which a building permit is required under the applicable Building Bylaw enacted by the Regional District of Okanagan-Similkameen;

"Drinking Water Protection Act" means *Drinking Water Protection Act*, S.B.C. 2001, c. 9, as amended;

"Drinking Water Protection Regulation" means the Drinking Water Protected Regulation, B.C. Reg. 200/2003, under the *Drinking Water Protection Act*;

***"*Environmental Management Act"** *means Environmental Management Act*, S.B.C. 2003, c. 53, as amended;

"excess or extended services" means a portion of a *highway* system that will provide access to land other than the land being *subdivided* or developed, and a portion of a water, sewage or drainage system that will serve land other than the land being *subdivided* or developed;

"frontage" means that length of lot boundary which immediately adjoins a *highway* from which the *parcel* takes or would take its civic address. A *walkway*, trail, bridge, or statutory right-of-way granted to the *Regional District* would not be included as *frontage*;

[ii] Amendment Bylaw No. 2900.01, 2025 – adopted August 7, 2025.
[iii] Amendment Bylaw No. 2900.01, 2025 – adopted August 7, 2025.

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"groundwater" means groundwater as defined in the *Water Sustainability Act*;

"highway" includes a street, road, lane, bridge, walkway, viaduct or any other way open to public use, but does not include a private right-of-way on private property;

"hydrogeologist" means a person who is registered or duly licensed as such, and in good standing, under the provisions of the *Professional Governance Act*, S.B.C. 2018, c. 47, with specific expertise in *groundwater* geology;

"Land Title Act" means *Land Title Act*, R.S.B.C. 1996, c. 250, as amended;

"Local Government Act" means *Local Government Act*, R.S.B.C. 2015, c. 1, as amended;

"MMCD" means the applicable sections of the most recent versions of the standard documents of the Master Municipal Construction Documents published by the Master Municipal Construction Documents Association, as amended from time to time.

"owner" means an owner as defined in the *Land Title Act*;

"parcel" means any *parcel*, lot, block or other area in which land is held or into which it is subdivided whether under the *Land Title Act* or the *Bare Land Strata Regulations* under the *Strata Property Act* or a legally recorded lease of license of occupation issued by the Province of British Columbia;

"potable water" means water which is suitable for human consumption and exempt from adverse health risks as certified for drinking purposes in accordance with the Guidelines for Canadian Drinking Water Quality and with the provincial *Drinking Water Protection Regulation*, by an authority having professional experience in drinking water standards;

"Professional Engineer" means a person who is registered or duly licensed as such, and in good standing, under the provisions of the *Professional Governance Act*, S.B.C. 2018, c. 47.

"Public Health Act" means *Public Health Act*, S.B.C. 2008, c. 28, as amended;

"Regional District" means the Regional District of Okanagan-Similkameen;

"Senior Manager of Utilities" means the Regional District's Senior Manager of Utilities, and includes the Regional District's Acting Senior Manager of Utilities, any Deputy Senior Manager of Utilities, or any other person duly designated by the Senior Manager of Utilities or duly authorized by the Regional District Board to perform the functions of the Senior Manager of Utilities;

"subdivision" means a subdivision as defined in the *Land Title Act*;

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"Strata Property Act" means *Strata Property Act*, S.B.C. 1998, c. 43, as amended;

"Water Sustainability Act" means *Water Sustainability Act,* S.B.C. 2014, c. 15, as amended;

"Works and Services" means any public service, facility or utility which is required by this bylaw including, but not limited to the supply and distribution of water, collection and disposal of sewage, collection and disposal of drainage water, street lighting, access roadways, curbs, gutters, sidewalks and underground wiring.

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4.0 SERVICING REQUIREMENTS

4.1 Water Systems

4.1.1 General

.1 All new *parcels* to be created by *subdivision* must be provided with sufficient quantities of *potable water* by:

a) for *parcels* greater than 1.0 ha in area and less than 20.0 ha in area, proving availability of sufficient quantities of *potable water* from a private water source or from a *community water system*; or

b) connecting to a *community water system* for *parcels* less than 1.0 ha in area.

.2 All *subdivisions* and *developments* located within any water service areas established under the Regional District of Okanagan-Similkameen Water Use Regulation Bylaw No. 2824, 2019, shall connect to, and be served by, the water supply system within the applicable water service area.

.3 The *Regional District* will own and operate the totality of all water supply and distribution systems, including new *Works and Services* associated with a proposed *subdivision* or *development*, within any water service area established by bylaws of the *Regional District*, other than those *Works and Services* that are located in or on a strata lot.

.4 If a *subdivision* or *development* requires a connection to an existing *Regional District* water system, prior *approval* must be granted by the *Regional District* to confirm that all conditions for connection to the existing *Regional District* water system have been met.

4.1.2 **Private Water Sources** (Well or Surface Water)

.1 Where it is proposed to provide a private water source in the form of an onsite well, the well shall be designed in accordance with the following standards and specifications:

a) All wells must be designed, located, constructed, tested and disinfected at the cost of the *developer* and in accordance with the *Groundwater Protection Regulation,* B.C. Reg. 39/2016.

b) All wells must be capable of delivering *potable water*, in compliance with the standards set out in the *Drinking Water Protection Act*, the *Drinking Water Protection Regulation*, and the *Public Health Act*, from a source capable of:

i) providing at least 2,300 litres per day; and

ii) a flow capacity of at least 20.0 litres per minute for one (1) hour.

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c) All wells must be drilled to a depth of not less than 15.0 meters, be constructed in a way to prevent surface water from entering the well and meet the minimum construction standards contained in the provincial *Groundwater Protection Regulation,* B.C. Reg. 39/2016.

d) A well must be constructed on each *parcel* of a proposed *subdivision* that is dependent upon *groundwater* as a source of water.

e) A well is restricted to supplying water to the *parcel* on which it is to be located.

.2 Where it is proposed to provide a private water source in the form of surface water, the collection of surface water shall be in accordance with the following standards and specifications:

a) the water supply complies with the standards set out in the *Drinking Water Protection Act*, the *Drinking Water Protection Regulation*, and the *Public Health Act*, from a source capable of:

i) providing at least 2,300 litres per day; and

ii) a flow capacity of at least 20.0 litres per minute for one (1) hour.

b) the water supply for each *parcel* has its own intake and supply line and is completely independent from any other water supply.

.3 In accordance with Section 4.1.1.1, the developer must provide the following information to the *Regional District* in order to confirm "Proof of Water" for a private water source prior:

a) Reporting to the *Regional District* for each private water well must include:

i) complete well reports by a registered well driller, professional *hydrogeologist* or geotechnical engineer that includes well profile, log and pump test completed within the past 12 months;

ii) water quality testing reports with verification from an accredited laboratory that the water is potable for the *parcel*;

iii) site plans with GPS coordinates of each well; and

iv) professional assurance from a *Professional Engineer* as to whether the well meets the standards and specifications of this bylaw.

b) Reporting to the *Regional District* for each private surface water source must include:

i) site plan showing location of intake and supply line for each property;

ii) water quality testing results with verification from an accredited laboratory that the water is potable for the *parcel*, pursuant to the requirements in the *Drinking Water Protection Regulation* as well as the *Public Health Act*;

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iii) written confirmation from the authority having jurisdiction that a water licence will be issued pursuant to the *Water Sustainability Act* that authorizes the collection of surface water; and

iv) report certified by a qualified professional that the surface water source meets the standards and specifications of this bylaw.

.4 If the water is deemed not to be potable by a *Professional Engineer* approved by the *Regional District*, but can be treated in such a manner that it becomes potable as determined by the qualified professional, a Section 219 Covenant must be registered on title of the subject property as a priority above financial charges stating that the subject property shall not be occupied until a treatment system meeting the specifications of a qualified professional has been installed to ensure a *potable water* supply.

4.1.3 Community Water System

.1 A *community water system* shall be designed and constructed at the cost of the *developer* and in accordance with the requirements of this bylaw, including the requirements in Schedule 'A' (Design Guidelines - Water Distribution), Schedule 'C' (Supplementary Specifications – Waterworks) and Schedule 'C' (Standard Detail Drawings).

.2 In accordance with Section 4.1.1.1, the *developer* must provide the following information to the *Regional District* in order to confirm "Proof of Water" when connecting to an existing *community water system*:

a) a letter from the *owner* of the *community water system* confirming that all of the proposed *parcels* can be connected to the *community water system* and that all fees have been paid by the *developer* for connection(s) to the *community water system*; and

b) a current Certificate of Public Convenience and Necessity (CPCN) where the *community water system* is operated by a private utility, but excluding a strata.

4.2 Sewage Collection and Disposal Systems

4.2.1 General

.1 All new *parcels* to be created by *subdivision* must be provided with sufficient disposal of on-site sewage by:

a) an individual on-site sewage disposal system or connecting to a *community sewer system*, for *parcels* greater than 1.0 ha in area; or

b) connecting to a *community sewer system* for *parcels* less than 1.0 ha in area.

.2 All *subdivisions* and *developments* within any service area established by bylaws of the *Regional District* for the purpose of providing a sewage collection and disposal system shall connect to, and be served by that system.

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.3 The *Regional District* will own and operate the totality of all sewage collection and disposal systems including new *Works and Services* associated with a proposed *subdivision* or *development* within any service area established by bylaws of the Regional District.

.4 If a *subdivision* or *development* requires a connection to an existing *Regional District* sewage collection and disposal system that does not meet the design standards set out in this section, the existing *Regional District* water system will not be retrofitted to meet the design standards.

4.2.2 On-Site Sewage Disposal System

.1 Where it is proposed to provide an individual on-site sewage disposal system on a *parcel* less than 2.0 ha in area, written confirmation shall be submitted to the *Regional District* from the authority having jurisdiction stating that their requirements with regard to onsite sewage disposal have been satisfied.

.2 All on-site sewage disposal system(s) must be located on the *parcel* it will service.

.3 Holding tanks are not permitted as a method of on-site sewage disposal.

4.2.3 Community Sewer System

.1 A *community sewer system* shall be designed and constructed in accordance with the requirements of Schedule 'B' (Design Guidelines – Sanitary Sewers) of this bylaw.

.2 In accordance with Section 4.2.1.1, the following shall be submitted to the *Regional District* when connecting to an existing *community sewer system*:

a) a letter from the *owner* of the *community sewer system* confirming that:

i) all of the proposed *parcels* can be connected to the *community sewer system*; and

ii) all fees have been paid for connection(s) to the *community sewer system*.

.3 Where it is proposed to construct a new *community sewer system*:

a) Each *community sewer system* shall be designed and constructed to the standards prescribed by the *Environmental Management Act* and the *Public Health Act* and regulations pursuant to those Acts; or where standards are not provided, in accordance with standards generally accepted as good engineering practice;

b) Where a *community sewer system* is to be acquired by the *Regional District*, the design of such shall be submitted to the *Regional District* for *approval* prior to the commencement of construction as required by this Bylaw;

c) Where a *community sewer system* is to be installed, and before confirmation of compliance with the requirements of this section is provided by the *Regional*

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District to the provincial Approving Officer, the *community sewer system* shall be:

i) installed by the property *owner* or by the authority having jurisdiction at the property *owner*'s expense and be approved by the authority having jurisdiction; or

ii) the subject of a *Works and Services* agreement entered into by the property *owner* and the *Regional District* in which the required *Works and Services* will be installed by the property *owner* at their expense.

d) The *Regional District* may request of the provincial Approving Officer that part of a sewage collection system have greater capacity than is needed to serve the proposed *subdivision*. The cost of providing excess capacity shall be paid for pursuant to Section 508 (Latecomer charges and cost recovery for *excess or extended services*) of the *Local Government Act*.

4.3 Street Lighting

.1 All street lighting serving a *subdivision* must be constructed and installed in accordance with the standards of the authority having jurisdiction.

4.4 Underground Wiring Services

.1 All *subdivisions* creating a *parcel* less than 0.25 ha in area shall construct and install underground pre-ducting for electrical distribution and telecommunications wiring in accordance with the standards of the authority having jurisdiction.

.2 Where existing electrical distribution or telecommunications services are overhead, underground pre-ducting along the *frontage* of the *parcel* is required.

4.5 Fire Hydrants

.1 Fire hydrants shall be provided in all *subdivisions* where the *subdivision* is serviced with fire protection and a *community water system* in accordance with the standards of the fire department or *community water system* having jurisdiction.

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5.0 COMPLETION OF WORKS AND SERVICES

5.1 Authority of the Chief Administrative Officer

.1 The *Regional District*'s Chief Administrative Officer, or their delegate, may determine, in respect of any *subdivision* or *development* which of the services are required to comply with this bylaw and from time to time, prescribe the form of agreements, provided that each such agreement shall require the *developer* to:

a) provide and maintain in place security for the construction of the *Works and Services*, if the *Works and Services* are being constructed after the *approval* of the *subdivision* by the provincial approving officer as the case may be;

b) maintain the *Works and Services* for a period of at least one year following the completion of construction, and to repair and make good all defects and deficiencies appearing in the *Works and Services* during that period;

c) provide to the *Regional District* throughout the one-year period performance Security in the amount of 10% of the cost of the *Works and Services*;

d) carry third party liability insurance in an amount and form acceptable to the *Regional District*'s solicitor, in respect of claims arising out of death, personal injury or damage arising from the construction of the *Works and Services*; and

e) indemnify the *Regional District* and save it harmless in respect of all costs and expenses it may incur as a result of faulty workmanship or defective material in the *Works and Services* in respect of which the *Regional District* has provided notice to the *developer* prior to the *Regional District*'s final acceptance of the *Works and Services*.

.2 The Chief Administrative Officer, or their delegate, may direct that tests of materials, equipment, devices, construction methods, assemblies or soil conditions be made or sufficient evidence or proof be submitted, at the expense of the *developer*, to determine whether the materials, equipment, devices, construction methods, assemblies or soil conditions meet the requirements of this bylaw.

5.2 Performance Security

.1 Security required for *Works and Services* to be constructed or installed at the expense of a *developer* and that have not been constructed or installed prior to the *approval* of the *subdivision* plan or building permit application by the provincial approving officer shall be in for the form of a cash deposit or an irrevocable (and automatically renewable) letter of credit from a financial institution.

.2 The amount of the security may be calculated using:

a) such methodologies as the *Regional District* may prescribe from time to time; or

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b) an estimate of quote provided at the *developer*'s expense by a professional qualified to undertake of supervise the works for which the securities are required.

.3 Where a security is required by the *Regional District* in relation to *Works and Services* that have not been constructed or installed prior to the *approval* of the *subdivision* plan by the provincial approving officer the amount shall be 120% of the total estimated cost of all *Works and Services*, except that if the cost of the *Works and Services* is less than $25,000.00, no security under this section shall be required.

.4 Upon receipt of this payment the *Regional District* and the *developer* shall enter into a *Works and Services* agreement acknowledging that the *Works and Services* are constructed and installed by a specified date, or the *developer* forfeits to the *Regional District* the amount secured by the cash deposit or the irrevocable letter of credit.

.5 Should any person fail to construct or install any *Works and Services* required under this bylaw, the *Regional District* may undertake the required construction or installation at the expense of the *developer* in default and the expense may be recovered from the performance security held by the *Regional District*.

5.3 Easements for Works and Services

.1 Where services to an individual *parcel* are not proposed to be provided from a *highway* or through onsite servicing, the *developer* must grant or acquire statutory right-of-way and/or easement(s) for services for individual *parcels*, in favour of the benefiting *parcel* and in a form acceptable to the *Regional District*.

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SCHEDULE **A**

DESIGN GUIDELINES
WATER DISTRIBUTION

All Works and Services shall be designed, constructed, and installed in accordance with the Master Municipal Construction Documents Association (MMCD) Design Guidelines 2022 (the "MMCD Guidelines"), except as follows:

Per Capita Demand

1. Section 2.3 (Per Capita Demand) of the MMCD Guidelines shall be revised as follows:

   a) Revise the per capita demands as follows:

      i) Where new development is metered:

         .1 Average Annual Daily Demand (ADD): 900 L/d/c

         .2 Maximum Day Demand (MDD): 1,800 L/d/c

         .3 Peak Hour Demand (PHD): 4,000 L/d/c

      ii) Where new development is un-metered:

         .1 Average Annual Daily Demand (ADD): 900 L/d/c

         .2 Maximum Day Demand (MDD): 2,400 L/d/c

         .3 Peak Hour Demand (PHD): 4,000 L/d/c

   b) Delete the following from Section 2.4:

      Maximum day and peak hour demands increase significantly in dry climate areas due to irrigation. Criteria should be adjusted accordingly, based on local water consumption records.

Fire Flows

2. Section 2.5 (Fire Flows) of the MMCD Guidelines shall be revised by replacing Table 2.5 with the following:

Developments	Minimum Fire Flow
Low Density Residential (single detached dwellings, duplexes)	60 L/s
Medium & High Density Residential (apartments, townhouses)	150 L/s
Administrative & Institutional	150 L/s
Commercial	150 L/s
Industrial	225 L/s

Design Flows

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3. Section 2.6 (Design Flows) of the MMCD Guidelines shall be revised by adding the following:

   2.6.1 The Senior Manager of Utilities may direct, in their sole discretion, that demand requirements shall be based on the *Regional District*'s present water consumption records and the project trends (NOTE: demand may vary for different locations within the *Regional District*).

Minimum Pipe Diameter

4. Section 2.9 (Minimum Pipe Diameter) of the MMCD Guidelines shall be revised by replacing service connection sizes with the following:

   a) Service Connections:

      i) Single Family Use, min service size = 25 mm (without sprinklers) and 37 mm (with sprinklers)

      ii) Multi-Family and ICI uses, min service size = 50 mm

Dead Ends

5. Section 2.10 (Dead Ends) of the MMCD Guidelines shall be revised by adding the following:

   Where dead ends are required, the maximum desirable length of any permanent non-interconnected watermain shall be 150 m. All mains exceeding 150 m in length must be looped.

Minimum Depth of Cover

6. Section 2.11 (Minimum Depth of Cover) of the MMCD Guidelines shall be revised as follows:

   a) Minimum cover: 1.6 m

Grade

7. Section 2.12 (Grade) of the MMCD Guidelines shall be revised as follows:

   When the slope equals or exceeds 10%, provide anchorage, joint restraints, trench dams and trench drainage. The Senior Manager of Utilities, in their sole discretion, may require a geotechnical engineering report based on consideration of the proposed slopes, layout of the works or geotechnical site information.

Valves

8. Section 2.14 (Valves) of the MMCD Guidelines shall be replaced in its entirety with the following:

   .1 In general, valves should be located as follows:

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a) In intersections either in a cluster at the pipe intersection or at projected property lines to avoid conflicts with curbs and sidewalks:

i) 3-4 valves at "X" intersection, as directed by the Senior Manager of Utilities in their sole discretion;

ii) 2-3 valves at "T" intersection, as directed by the Senior Manager of Utilities in their sole discretion.

b) Not more than 200 m apart (except on feeder main where spacing can be increased to 600 m);

c) Not more than 1 hydrant isolated;

d) Not more than 20 service connections isolated.

.2 In order to permit the use of conventional pigging cleaning methods, the valve sizing and type selection should be as follows:

a) Gate valves must be used that are the same diameter as the watermain; and

b) Geared operators, with risers and extension rods and a valved by-pass for equalizing pressures shall be provided on main line gate valves 350 mm diameter and larger.

.3 despite sub-section .2, a butterfly valve may be substituted for a gate valve if, in the opinion of the Senior Manager of Utilities, the appropriate bypass piping is provided.

Test Points

9. Section 2.17 (Test Points) of the MMCD Guidelines shall be revised as follows:

All test points shall be installed on selected watermains, as directed by the Senior Manager of Utilities in their sole discretion, in order to provide for the ability to collect water samples in accordance with AWWA C651.

Air Valves

10. Section 2.18 (Air Valves) of the MMCD Guidelines shall be revised as follows:

The minimum pipe size requiring combination air valves at summits is 100 mm diameter.

Thrust Restraint

11. Section 2.19 (Thrust Restraint) of the MMCD Guidelines shall be revised by adding the following:

Precast thrust blocks are not permitted except in combination with joint restraints as approved by the Senior Manager of Utilities, in their sole discretion. A condition of approval will include the submission of calculations for the thrust block/joint restraint design to the Senior Manager of Utilities.

Chambers

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12. Section 2.20 (Chambers) of the MMCD Guidelines shall be replaced in its entirety with the following:

    Chambers or manholes containing valves, blow-offs, meters, or other appurtenances should be avoided and located in an above ground kiosks unless otherwise approved by the Senior Manager of Utilities, in their sole discretion, by writing and in advance. If a chamber or manhole is approved by the Senior Manager of Utilities in accordance with this section, the chambers or manhole must:

    2.20.1 Access and Isolation

    Provide adequate room for maintenance, including headroom and side room. Access openings must be suitable for removing valves and equipment. Appropriate means for isolation must be provided in accordance with Part 9 of the OHS Regulation (e.g., double block and bleed).

    2.20.2 Drainage

    Provide a drain to a storm sewer or ditch, complete with backflow prevention, to prevent flooding of the chamber. Rock pits may be considered subject to suitable soil and groundwater conditions. A pumping system may be required for drainage.

    2.20.3 Heating, Cooling, Ventilation and Insulation

    Provide adequate venting. The Senior Manager of Utilities, in their sole discretion, may require provision of forced ventilation, lighting, heating and dehumidification. Heating and ventilation details must comply with WorkSafeBC requirements. Insulation to prevent freezing shall be provided where necessary.

    2.20.4 Foundation

    Where potential for saturated soils exist, protect against buoyancy uplift of structure with concrete ballast.

Service Connections

13. Section 2.21 (Service Connections) of the MMCD Guidelines shall be revised by adding the following:

    Service connections to the watermain shall have a minimum spacing of 1.0 m.

Reservoirs

14. Section 2.23 (Reservoirs) of the MMCD Guidelines shall be revised by adding the following to be included with Preliminary Design Reports:

    a) Preliminary design drawing set including:

        i) Key plan showing service area for the reservoir;

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ii) A site plan with legal lot boundaries, structure locations, labelled contours, access provisions & yard piping;

iii) A minimum of two cross sections of the site;

iv) A plan and section view drawing of the valve kiosk or building;

v) Electrical single line diagram; and

vi) A process and instrumentation diagram (P&ID).

b) Water quality & reservoir mixing analysis;

c) Alarms, controls and monitoring provisions as detailed in a control narrative report;

d) Provision to connect to the *Regional District* SCADA system and verified through radio path study if needed; and

e) Life cycle costs and operations & maintenance costs.

15. Section 2.23 (Reservoirs) of the MMCD Guidelines shall be revised by adding the following to end of the second paragraph in Section 2.23.4 (Design Features):

    Hatches must have a minimum size of 900 mm wide by 1200 mm long and be rated for a minimum loading of 1,465 kg/m^2.

    A brass tag clearly indicating the geodetic elevation must be placed on the inside vertical concrete wall of each reservoir access hatch. The brass tag shall be visible and accessible from outside of the reservoir hatch with the hatch open.

16. Section 2.23 (Reservoirs) of the MMCD Guidelines shall be revised as follows:

    a) by revising Section 2.23.4 (Design Features) as follows:

        i) replacing the second sentence of the 3rd paragraph on page 12 in its entirety with the following:

            Include security considerations and screens to prevent rodent ingress. Screens should utilize a coarse mesh to reduce the risk of the vent freezing over in winter conditions.

        ii) replacing the 9th paragraph on page 12 in its entirety with the following:

            All pipework within the reservoir to be PVC or stainless steel.

        iii) replacing the 11th paragraph on page 12 in its entirety with the following:

            Ultrasonic transmitter will be provided for level control in each cell and be connected to PLC and the *Regional District* SCADA system. Back-up high and low level control for each cell shall be provided by float balls (not to contain any lead or mercury) also connected to PLC and SCADA system.

17. Section 2.23.5 (Valve Chambers) under Section 2.23 (Reservoirs) of the MMCD Guidelines shall be replaced in its entirety with the following:

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2.23.5 Valve Kiosk or Building

Reservoir piping is to incorporate a Valve Kiosk or Building with the following design features:

a) An above ground kiosk or small building must be constructed to house all valving associated with reservoir operations;

b) Provide structure details including access provisions:

   i) Design in accordance with seismic codes noted above;

   ii) Entrance to be large enough to permit safe removal of largest equipment;

   iii) Lifting beams and hoists where necessary to enable removal of equipment;

   iv) Space for safe and convenient operating and maintenance access to all valves, piping, equipment and instrumentation;

   v) Interior and exterior of all steel piping to be epoxy coated to AWWA standards, or use stainless steel. Steel pipe in contact with potable water to use products that are NSF 61 certified;

   vi) Floor drains and drainage system;

   vii) Located above 200-year flood level or 1.0 m above highest recorded flood elevation;

   viii) Heat, light and ventilation to local and WorkSafeBC standards;

   ix) Security alarm for door;

   x) Surge protection; and

   xi) Instrumentation, controls and connection to SCADA system.

c) Additional features, which may be required subject to system operations details, include the following:

   i) Sampling ports for inlet, outlet and reservoir water;

   ii) Flow measurement and recording;

   iii) PLC-controlled inlet valve and level monitoring and control system;

   iv) Uninterruptible power supply (UPS) for control system (minimum 60 minutes);

   v) Chlorine residual analyzer for reservoir inlet and outlet;

   vi) Provision for re-chlorination facilities; and

   vii) The designer is to provide electronic files and three (3) hard copies of a comprehensive Operations and Maintenance Manual and a commissioning plan.

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Pump Stations

18. Section 2.24.2 (Preliminary Design) under Section 2.24 (Pump Stations) of the MMCD Guidelines shall be revised by adding the following to Preliminary Design Reports:

    i) Life cycle costs and operations & maintenance costs;

    ii) Transient analysis that identifies if any water hammer mitigation measures are necessary to protect the station and if so, details on the measures proposed; and

    iii) Confined space avoidance and/or isolation methods included that comply with Part 9 of the OHS regulation.

19. Section 2.24.3 (Capacity) under Section 2.24 (Pump Stations) of the MMCD Guidelines shall be replaced with the following:

    i) Design capacity should consider that the largest pump is out of service.

    ii) IDPS: Capacity should meet the maximum day demand (MDD).

    iii) CDPS: Capacity should be the greater of:

        a) Peak hour demand (PHD); or

        b) Maximum day demand plus fire flow (MDD + FF)

20. Section 2.24.4 (Design Features) under Section 2.24 (Pump Stations) of the MMCD Guidelines shall be revised by replacing the third to last sentence on page 14 with the following:

    Air relief discharge and pilot lines to be piped to floor drains and terminate 150 mm above the finished floor elevation.

21. Section 2.24.4 (Design Features) under Section 2.24 (Pump Stations) of the MMCD Guidelines shall be revised by adding the following to the end of the 4th paragraph on page 15:

    Vacuum breakers, combination air release and air/vacuum valves, and hydro-pneumatic tanks (both air over water and bladder style) can be considered as additional measures to protect the station from water hammer. Transient analysis is required to verify appropriate protection measures.

22. Section 2.24.4 (Design Features) under Section 2.24 (Pump Stations) of the MMCD Guidelines shall be revised by adding the following to the end of the last paragraph on page 15:

    A digital manual that is indexed by the Divisions of the specifications and in a pdf format must be provided.

Pressure Reducing Valve (PRV) Stations

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23. Section 2.25.1 (Preliminary Design) under Section 2.25 (PRV Stations) of the MMCD Guidelines shall be revised by replacing the word “chamber” with “Valve Kiosk or Building” in the last bullet on page 16.

24. Section 2.25.2 (Design Features) under Section 2.25 (PRV Stations) of the MMCD Guidelines shall be revised by replacing the first bullet on page 16 with the following:

    Above ground Kiosk or Building to be utilized. Alternatively, a chamber may be considered if approved by the Senior Manager of Utilities, in their sole discretion.

25. Section 2.25.2 (Design Features) under Section 2.25 (PRV Stations) of the MMCD Guidelines shall be revised by adding the following:

    a) Kiosk to include as a minimum:

        i) Interior dimensions of 4.1 m length, 1.6 m wide and 2.3 m high

        ii) Two compartments for process and electrical equipment

        iii) Access doors on each side

        iv) Floor drain

        v) Minimum 30 amp, 120 VAC electrical service.

    b) PLC monitoring with connection to SCADA system will be required and will also include temperature sensor for the Kiosk.

Minimum Pipe Cover Depth for Frost Protection

26. The “Note” under Figure 2-1 (Minimum Pipe Cover Depth for Frost Protection) within Section 2.0 (Water Distribution) of the MMCD Guidelines is replaced in its entirety with the following:

    Note: Minimum cover of 1.6 metres is required in the Regional District of Okanagan-Similkameen.

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SCHEDULE **B**

DESIGN GUIDELINES SANITARY SEWERS

All Works and Services shall be designed, constructed, and installed in accordance with the Master Municipal Construction Documents Association (MMCD) Design Guidelines 2022 (the "MMCD Guidelines"), except as follows:

Flow Velocities

1. Section 3.8 (Flow Velocities) of the MMCD Guidelines shall be revised by adding that gravity sewers and force mains with velocities greater than 3.0 m/s will require approval in advance by the Senior Manager of Utilities, in their sole discretion.

Minimum Pipe Diameter

2. Section 3.10 (Minimum Pipe Diameter) of the MMCD Guidelines shall be revised as follows:

    a) Collector Sewers: 200 mm except for the upstream section of a residential sewer where the future extension is not possible and total length is less than 45 m, in which case 150 mm is acceptable.

    b) Service Connections:

        i) Single detached dwelling: 100 mm

        ii) Institutional/commercial/industrial: 150 mm

    c) Sewage Forcemains: 100 mm

Curved Sewers

3. Section 3.12 (Curved Sewers) of the MMCD Guidelines shall be revised by adding the following:

    Curved sewers shall not be installed unless approved in advance by the Senior Manager of Utilities, in their sole discretion. Requests for curved sewers must be sent to the Senior Manager of Utilities. Justification for the use of a curved sewer could include topographical constraints, space constraints, property boundaries, hydraulic considerations or ground settlement issues and must accompany the request. If a curved sewer is approved by the Senior Manager of Utilities under this section, manholes must be located at the beginning and end of the curve.

Depth

4. The fifth dot point under Section 3.13 (Depth) of the MMCD Guidelines shall be replaced in its entirety with the following:

    Minimum cover = 1.5 m within road right of ways and 1.2 m for mains located outside of road right of ways, such as in side yards or across lots providing adequate frost protection is achieved.

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Pump Stations

5. Section 3.18.1 (General) under Section 3.18 (Pump Stations) of the MMCD Guidelines shall be revised by replacing the second paragraph, delete the words “City Engineer” and replace with “Senior Manager of Utilities”.

6. Section 3.18.2 (Preliminary Design Requirements) under Section 3.18 (Pump Stations) of the MMCD Guidelines shall be revised by adding the following to the list of other basic criteria to be evaluated at the pre-design:

   a) Site plan showing legal lot location for the lift station that is outside of a road right-of-way.

7. The first dot point under Section 3.18.3 (Design Details and Features) at Section 3.18 (Pump Stations) of the MMCD Guidelines shall be replaced in its entirety with the following:

   Capable of passing solids up to 75 mm in size.

8. Section 3.18.3 (Design Details and Features) under Section 3.18 (Pump Stations) of the MMCD Guidelines shall be revised by adding the following:

   A valve kiosk is to be provided with each lift station where possible to avoid confined space requirements. The valve kiosk is intended to house pump check valves, isolation valves, air valves and flow meters (if applicable) in an above ground location and eliminate the need to enter the wet well under routine operations and maintenance

9. Section 3.18.3 (Design Details and Features) under Section 3.18 (Pump Stations) of the MMCD Guidelines shall be revised by replacing, on the seventh paragraph on page 11, the reference to “Class 1, Division 2” and with “Class 1, Division 1”.

Sewage Air Valves

10. The MMCD Guidelines shall be revised by adding the following:

3.20 Sewage Air Valves

.1 A minimum 50 mm Combination air release and air/vacuum valves are to be installed at local high points in the forcemain alignment where grade changes by more than 0.6 m.

.2 Effort should be made to create a forcemain profile that minimizes the need for air valves.

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SCHEDULE C
SUPPLEMENTARY SPECIFICATIONS - WATERWORKS

All Works and Services shall be designed, constructed, and installed in accordance with the Master Municipal Construction Documents Association (MMCD) Volume II – General Conditions, Specifications and Standard Detail Drawings, except as follows:

MMCD SECTION SS 33 11 01 - WATERWORKS

2.2 Mainline Pipe, Joints and Fittings

.1 Section 2.2 (Mainline Pipe, Joints and Fittings) under Section 33 11 01 (Waterworks) shall be revised by adding the following:

2.2.1(3) Wrap:

Ductile iron pipe to be installed with a polyethylene encasement conforming to AWWA C105.

2.3 Valves and Valve Boxes

.2 Section 2.3.6 (Valves and Valve Boxes) under Section 33 11 01 (Waterworks) shall be replaced in its entirety with the following:

2.3.6 Mainline valves are to come with a 150 mm PVC C900 Riser pipe and Nelson type valve box.

2.5 Service Connections, Pipe Joints and Fittings

.3 Section 2.5.1 (Service Connections, Pipe Joints and Fittings) under Section 33 11 01 (Waterworks) shall be replaced in its entirety with the following:

2.5.1 Pipe diameter 19 mm to 75 mm to be Polyethylene to AWWA C901, pressures Class 160 tubing certified to CSA B137.1 or Type K annealed copper.

2.6 Hydrants

.4 Section 2.6.3 (Hydrants) under Section 33 11 01 (Waterworks) shall be replaced in its entirety with the following:

2.6.3 Acceptable hydrants include the following:

.1 Terminal City Model C-71P.

3.6 Pipe Installation

.5 Section 3.6.1 (Pipe Installation) under Section 33 11 01 (Waterworks) shall be revised by adding the following:

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Unless approved in advance by the Regional District, all pipe to be delivered with weatherproof plugs or bagging to prevent contamination while being delivered and during storage. Pipe to remain this way until placed into trench and installed.

.6 Section 3.6.6 (Pipe Installation) under Section 33 11 01 (Waterworks) shall be replaced in its entirety with the following:

3.6.6 Do not exceed half of the maximum joint deflection recommended by the pipe manufacturer. Refer to AWWA C600 for ductile iron pipe: and AWWA C605 for PVC Pipe. For PVC pipe deflections that would exceed half of the maximum joint deflection of the manufacturer's recommendation, use:

(1) PVC High Deflection coupling rated at 1380 kPa (100 mm to 300 mm)

(2) PVC long radius 5 degree bend rated at 1620 kPa (100 mm to 750 mm)

.7 Section 3.6 (Pipe Installation) under Section 33 11 01 (Waterworks) is amended by adding the following:

3.6.15 All non-metallic pipe shall be installed with tracer wire.

3.20 Disinfection, General

.8 Section 3.20.2 (Disinfection, General) under Section 33 11 01 (Waterworks) shall be replaced in its entirety with the following:

3.20.2 Disinfect and flush pipe and appurtenances in accordance with 3.21 of this Section.

.9 Section 3.20 (Disinfection, General) under Section 33 11 01 (Waterworks) is amended by adding the following:

3.20.3 Disinfect and flush reservoirs in accordance with the latest version of AWWA C652.

.10 Section 3.20 (Disinfection, General) under Section 33 11 01 (Waterworks)is amended by adding the following:

3.20.4 Contractor is responsible to complete chlorine residual and bacteriological testing as needed to verify that disinfection was successful. Bacteriological testing to include a minimum of two sets of samples that are collected at least 16 hours apart following disinfection and flushing. Bacteriological testing to include Total Coliforms and *E.Coli*.

END OF MMCD SECTION SS 33 11 01 - WATERWORKS

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SCHEDULE **D**

STANDARD DETAIL DRAWINGS

All Works and Services in the *Regional District* shall be designed, constructed and installed in accordance with the Master Municipal Construction Documents (MMCD) standard drawings and the following are provided as supplemental drawings:

General Details

- None

Storm and Sanitary Sewers

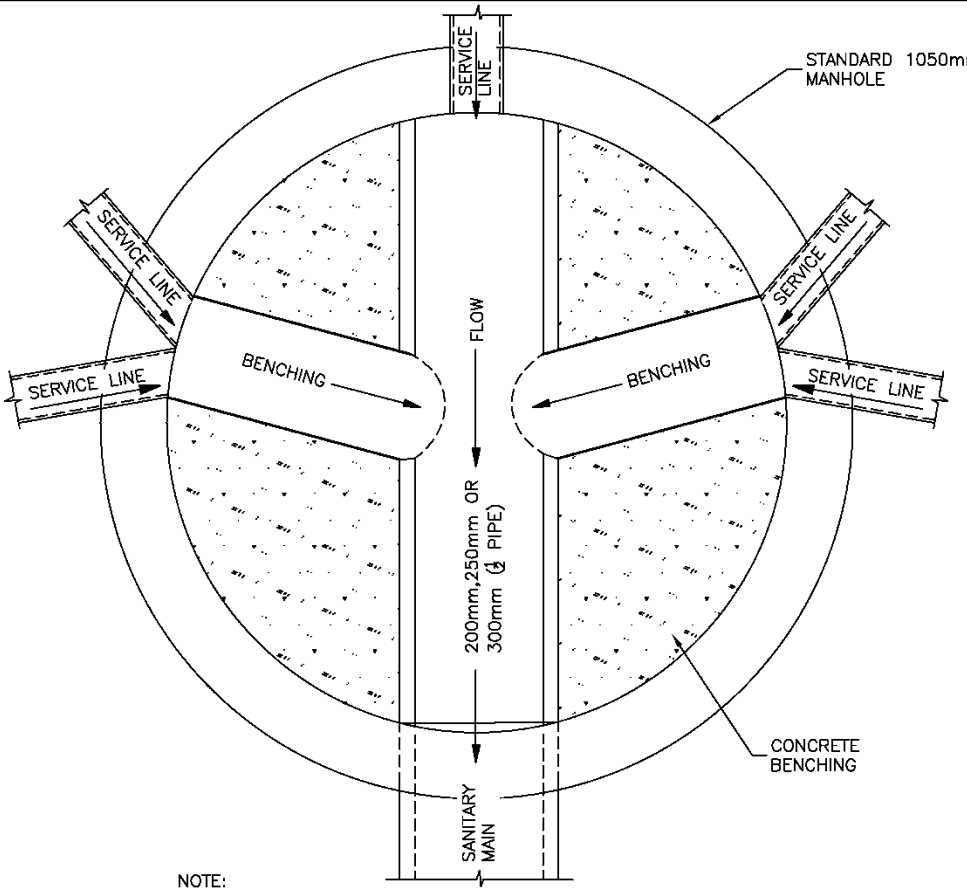
- Drawing S18 – Service Connection Detail for Sanitary Manhole in Cul-de-Sac

Waterworks

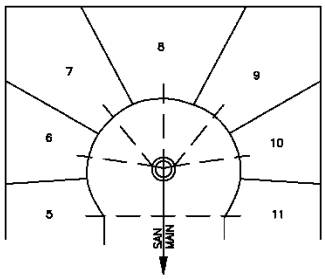
- Drawing W11 – A/C Watermain Crossings
- Drawing W12 – U-Bend Detail Pipe Crossing Conflict

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STANDARD DETAIL DRAWINGS



NOTE:
1. SANITARY MAIN TO GO STRAIGHT THROUGH MANHOLE WITH ½ PIPE TO OPPOSITE WALL.
–MAXIMUM HEIGHT OF INLET 300mm ABOVE INVERT OF OUTLET



TYPICAL SITE PLAN

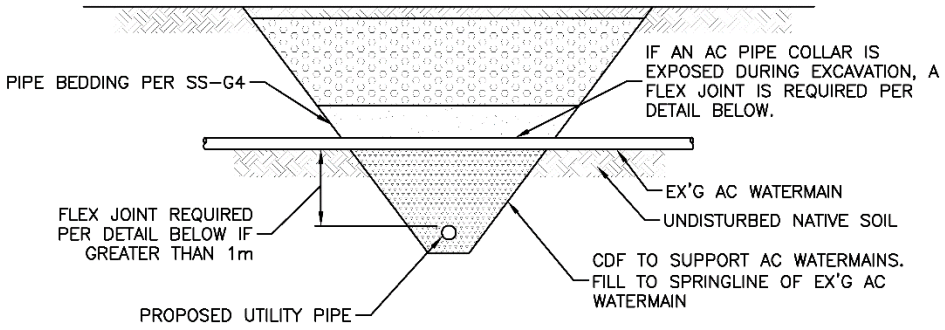
NOT TO SCALE

REGIONAL DISTRICT of OKANAGAN SIMILKAMEEN

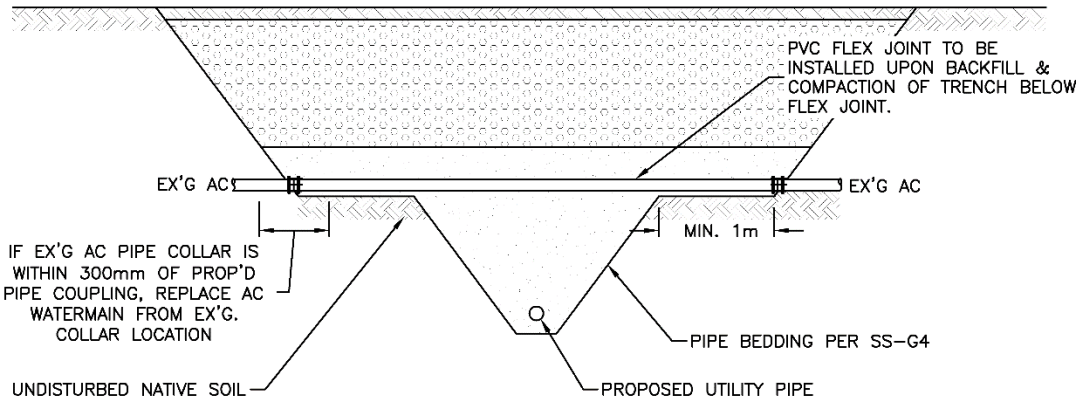
SERVICE CONNECTION DETAIL FOR SANITARY MANHOLE IN CUL–DE SAC

DRAWING NUMBER: S18

STANDARD DETAIL DRAWINGS



CFD SUPPORTED CROSSING



FLEX JOINT CROSSING

NOTE:
1. TRENCHING TO COMPLY WORKSAFE REGULATIONS.
2. PIPE BEDDING & TRENCH BACKFILL TO BE PER SS–G4.
3. SURFACE RESTORATION TO BE AS REQUIRED PER SS–G5.
4. FLEX JOINT REQUIRED IF EXISTING WATERMIAN IS CLASS 100 AC.
5. PROPOSED AND EXISTING MAINS WITHIN CDF TO BE WRAPPED WITH POLY.
6. BASE OF CDF AREA TO BE TWICE THE DIAMETER OF THE SUPPORTED MAIN.
7. PIPE & COUPLINGS TO BE PER APPROVED PRODUCTS LIST.

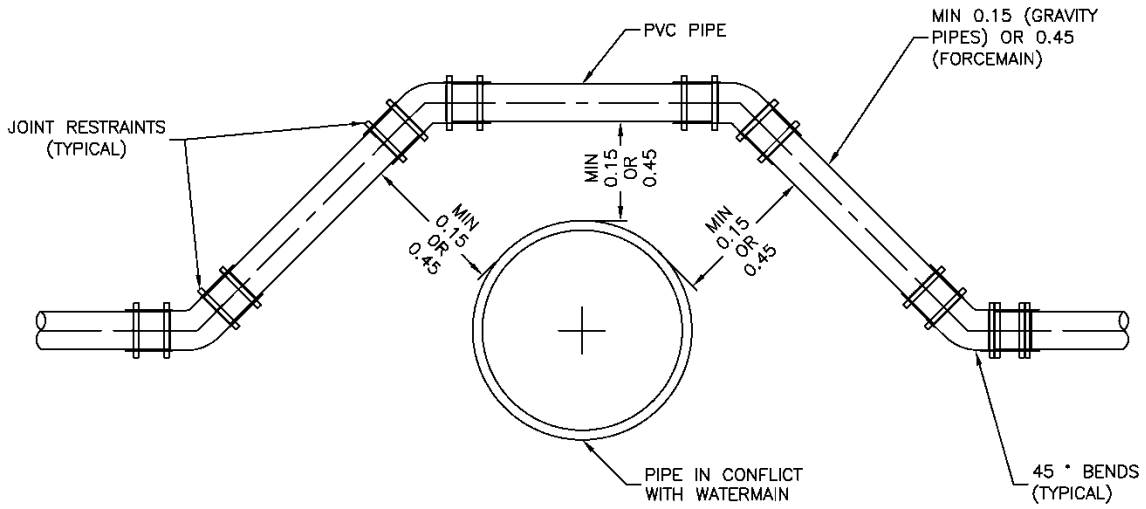
NOT TO SCALE

REGIONAL DISTRICT of OKANAGAN SIMILKAMEEN

AC WATERMAIN CROSSINGS

DRAWING NUMBER: W11

STANDARD DETAIL DRAWINGS



TYPICAL SECTION

NOTE:
1. ALL JOINTS TO BE RESTRAINED IN ACCORDANCE WITH THE MMCD SECTION 33 11 01, 2.2.4.12 OR AS SPECIFIED IN THE CONTRACT DOCUMENTS.
2. ALL UNITS ARE IN METERS UNLESS OTHERWISE STATED.
3. WATERMAIN SHOULD CROSS ABOVE SEWER PIPES WHENEVER POSSIBLE.
4. 150mm MIN SEPARATION REQUIRED BETWEEN A WATERMAIN AND GRAVITY SEWER OR STORM PIPE.
5. FORCEMAINS ARE TO CROSS AT LEAST 450mm BENEATH WATERMAINS.
6. PROVIDE RIGID INSULATION AS REQUIRED FOR WATERMAIN WITH LESS THAN 1.6m OF COVER.

NOT TO SCALE

REGIONAL DISTRICT of OKANAGAN SIMILKAMEEN

U–BEND DETAIL
PIPE CROSSING CONFLICT

DRAWING NUMBER:
W12