

WATER BYLAW 2196-1990

THE FOLLOWING DOCUMENT HAS BEEN REPRODUCED FOR CONVENIENCE ONLY and is a consolidation of District of Mission Water Bylaw No. 2196-1990 with the following amending bylaws:

Amending Bylaw	Date Adopted	Section Amended	
2388-1991	November 4, 1991	Schedule A	
2441-1992	March 16, 1992	Schedule A	
2503-1992	August 17, 1002	Section 3	
2526-1992	November 16, 1992	Schedule A	
2543-1992	January 18, 1993	Schedule A	
2699-1993	December 13, 1993	Schedule A	
2823-1994	December 5, 1994	Schedule A	
2890-1995-2196(8)	June 19, 1995	Sections 2, 3, 4, 5, Schedules C and 1	
2928-1995-2196(9)	November 20, 1995	Schedule A	
2987-1996-2196(10)	October 7, 1996	Section 3, Schedule B	
3012-1996-2196(11)	December 16, 1996	Schedule A	
3603-2003-2196(12)	July 7, 2003	Schedule B	
3966-2007-2196(13)	April 2, 2007	Schedules A and B	
4030-2007 (a general fees & charges amending bylaw)	December 17, 2007	Schedules A and B	
4044-2008-2196(14)	May 20, 2008	Section 5.1	
4077-2008-2196(15)	September 2, 2008	Section 3.5(a)	
5027-2009-2196(16)	May 4, 2009	Sections 3, 4, Schedules A and D	
5049-2009-2196(17)	July 20, 2009	Sections 3, 4, Schedules A and D	
5059-2009-2196(18)	August 17, 2009	Section 5.1	
5070-2009 (a general fees & charges amending bylaw)	December 13, 2009	Schedule A, Schedule B	
5128-2010-2196(19)	March 22, 2010	Schedule A	
5135-2010-2196(20)	May 3, 2010	Section 5.1, Schedule A	
5188-2010 (a general fees & charges amending bylaw)	December 20, 2010	Schedule A	
5211-2011-2196(21)	April 18, 2011	Section 5.1, Schedule A	
5257-2011 (a general fees & charges amending bylaw)	December 12, 2011	Schedules A and B	
5318-2012 (a general fees & charges amending bylaw)	November 5, 2012	Schedule A	
5361-2013-2196(22)	May 21, 2013	Section 5.1, Schedules A, E and F	
5419-2014-2196(23)	March 3, 2014	Section 4.1, Table 2	
5440-2014-2196(24)	June 16, 2014	Schedule A, Schedule E	

Amending Bylaw	Date Adopted	Section Amended	
5487-2015-4029(11) (a general fees & charges amending bylaw)	March 16, 2015	Schedules A and B	
5502-2015-2196(25)	May 4, 2015	Schedule E	
5519-2015-2196(26)	September 8, 2015	Sections 2, 3, 4, 5 Schedules A, D, E Drawings "CS-W-21", "CS-W-21A" Forms "Sprinkling Restriction", "Sprinkler Permit Application Form"	
5531-2015 (a general fees & charges amending bylaw)	December 7, 2015	Schedules A and B	
5565-2016-2196(27)	May 2, 2016	Section 5.1 Schedules A, E	
5578-2016-2196(28)	June 20, 2016	Schedule D	
5666-2017-2196(29)	September 5, 2017	Sections 2.1, 3.14 "Water Leak Adjustment", 3.2 (b), 3.5, Schedule A and B, Schedule D Section 2 Table 1, Schedule D Section 4.1 and Table 2, Schedule D Section 5.1 Table 3	
5800-2018 (a general fees & charges amending bylaw)	December 17, 2018	Schedules A and B	
5889-2019 (a general fees & charges amending bylaw)	December 16, 2019	Schedule B	
5896-2019-2196(30)	January 6, 2020	Section 9	
5928-2020-2196(31)	April 20, 2020	Replace Schedules A & B	
5988-2020 (a general fees & charges amending bylaw)	December 7, 2020	Replace Schedule B	
6023-2021-2196(32)	March 15, 2021	Replace Schedule B	
6070-2021 (a general fees & charges amending bylaw)	December 20, 2021	Replaces Schedules A & B	
6157-2022 (a general fees & charges amending bylaw)	December 19, 2022	Replaces Schedules A & B	

Individual copies of any of the above bylaws are available from the administration department of the City of Mission. For legal purposes, copies of the original bylaws should be obtained.

DISTRICT OF MISSION

BYLAW 2196-1990

A Bylaw for the regulation of the waterworks system and the supply of water.

WHEREAS the District of Mission has established a waterworks system to supply water for the inhabitants of the Municipality.

AND WHEREAS the Council may by bylaw regulate the use of the waterworks system by setting terms;

NOW THEREFORE, the Council of the District of Mission in open meeting assembled, ENACTS AS FOLLOWS:

1. This bylaw may be cited as "District of Mission Water Bylaw 2196-1990".

2. <u>INTERPRETATION</u>

- 2.1 In this Bylaw, unless the context otherwise requires:
 - "Connection" means the connecting of a Private Service Pipe to a Service Pipe.
 - "Consumer" includes any person, including an Owner, to whom water or to whose premises water is supplied or made available by the District and also includes any person who is the occupier of any such premises or any person who is actually a user of water supplied to any premises.
 - "Curb Stop" means the District-owned valve on a Service Pipe intended to supply a consumer with water.
 - "District" means the District of Mission.
 - "*Dwelling Unit*" has the same meaning as defined by the District of Mission Zoning Bylaw 5050-2009.
 - "*Engineer*" means the Director of Engineering & Public Works of the *District*, and includes any person duly authorized to act on their behalf, or their authorized representative.
 - "Metered Service" means a Private Service Pipe connected to a District-approved water meter that determines the quantity of water supplied from the Works by the Service Pipe attached on the opposite side of the meter.
 - "Owner" means the owner of real property, as defined in the Community Charter.

- "**Private Service Pipe**" means the water pipe and appurtenant fittings intended to distribute water within a parcel of real property and connected or capable of being connected to the **Service Pipe**.
- "Service Pipe" means the District-owned pipe and appurtenant fittings intended to carry water from the Works to property line.
- "Water Hauler" means a person who supplies water to others by means of a motor vehicle equipped for that purpose.
- "Works" means the waterworks distribution system of the *District* and additions or extensions to the same.

3. ESTABLISHMENT AND DISCONTINUANCE OF WATER SERVICES

3.1 Mandatory Connection

- (a) The Owner of every parcel of real property capable of being served by a Service Pipe and for which a Service Pipe can be, or has been installed; and upon which a building(s) or structure(s) whether permanent or mobile is situated, shall, subject to subsections (b) and (c), connect such Private Service Pipe for the parcel to the Service Pipe.
- (b) Once authorized by the Engineer to make the Connection, the Owner shall make the Connection within the time specified by the Engineer or provide proof acceptable to the Engineer that Section 3.1(c) applies or a planned building or structure will not be constructed or existing building will not be occupied or used.
- (c) Notwithstanding the foregoing; a parcel upon which there is a *Dwelling Unit* which would otherwise be required to connect, shall not be required to connect where the *Dwelling Unit* is supplied by an existing lawful water system.
- (d) In the event that any Owner fails to make the required application for Connection and/or Connections, the Engineer may give a written notice that if the required Connection has not been applied for or a Connection made (as the case may be) within sixty (60) days from the date of notice, the District, by their staff or others, may install a Private Service Pipe, a Service Pipe and Connection at the expense of the Owner and the costs and fees described in Schedule A for doing so, if unpaid on December 31 in any year, shall be added to and form part of the taxes payable on that parcel of real property as taxes in arrears.

3.2 Application Procedure

(a) All applications for a *Connection*, the installing of a *Service Pipe*, or the turning on or shutting off of water to or from a parcel of real property shall be made in writing, signed by the *Owner* or their duly authorized agent, and shall be in the appropriate form as supplied by the *District*.

- (b) For *Connections* or the installation of a *Service Pipe*, at the time of application, the *Applicant* shall pay to the *District*:
 - (i) a Water Service Connection Fee described in Schedule A.
 - (ii) the Water Service Connection Administration Fees described in Schedule A.
 - (iii) the Deposit for Water Meter Installation described in Schedule A.
- (c) Notwithstanding the foregoing, payment of a *Connection* fee shall not be required if:
 - (i) The amount has been included in a Local Improvement Tax.
 - (ii) The fee has been paid previously.

3.3 Authorization

No person shall cause or permit the *Connection* of a *Private Service Pipe* to a *Service Pipe* until authorized by the Engineer.

3.4 Size of Service Pipe

The *Engineer* will, based on the building size, use and estimated water use, establish the size and location of the *Service Pipe* and meters to be used in supplying any parcel of real property. The minimum diameter shall be 19 mm.

3.5 Metered Services

- (a) All new service connections for one and two family residential developments shall incorporate a meter box, meter setter, and meter with a radio head at property line in accordance with the standards and specifications in attached Schedule D. Fees and charges for installation of the service connection and water meter are set out in attached Schedule A.
- (b) All new service connections for triplex, fourplex and other multi-family residential developments shall incorporate a meter chamber and a bulk water meter with radio head at property line supplied and installed by the property Owner in accordance with the standards and specifications in attached Schedule D.

Where *Owners* of an existing strata, bare land strata, townhouse, or multifamily residential complex with an existing bulk meter (at the property line) wish to have each unit individually metered, an application must be submitted to the Engineer. If, in the opinion of the Engineer, it is feasible to install individual meters, all costs associated with the installation will be the responsibility of the Owners. All individual meters must be installed in a meter pit at a location that is readily accessible to *District* staff. The Owner shall hire a contractor to install the meter pit and setter, and purchase a *District*-approved meter. Purchase of the meter includes installation and programming of the meter and its radio head, once the contractor has

- completed installation of the pit and meter setter to the satisfaction of the *District* staff. The meter and the radio head are property of the *District*.
- (c) All industrial, commercial and institutional developments shall incorporate water meter(s) with radio head(s) supplied and installed by the property *Owner* in a building in accordance with the standards and specifications in attached Schedule D.

3.6 Remote Radio Heads

Every *Consumer* shall, when ordered to do so by the Engineer, install at their sole cost a remote radio head for their water meter.

3.7 <u>Metering of Industrial-Commercial Strata Developments</u>

Every Consumer requiring water service to an industrial or commercial strata development shall install a water meter inside each strata unit or common property and shall install a remote reader for each strata unit outside the strata unit at a location approved by the Engineer.

3.8 Size and Location of Service Pipe

The Engineer may, upon payment of the applicable Connection fee and all costs associated with the removal or relocation of any existing Service Pipe, install a larger Service Pipe or relocate a Service Pipe to the new location requested by the Owner.

3.9 Turn On and Shut Off

No one shall cause or permit the operation of a shut off, unless authorized by the Engineer.

Upon receiving a request for turn on or shut off, the *District* may turn on or shut off the water supply based on available resources. Only emergency service calls will be carried out after normal working hours, to shut off a *Private Service Pipe* that is leaking and causing or threatening to cause damage to the property.

No Consumer shall be charged a fee for a water shut off or a water turn on.

3.10 Terms of Pressure, Supply and Quality

The *District* does not guarantee pressure or continuous supply of water, nor does it accept responsibility at any time for the maintenance of pressure in its *Works* or for increases or decreases in pressure. The *District* reserves the right at any time, without notice to the *Consumer*, to shut off the supply of water for the purposes of making repairs, extensions, alterations or improvements or for any other reason; and to increase or reduce pressure at any time. Neither the *District*, its officers, employees, or agents shall incur any liability of any kind whatever by reason of the stoppage in whole or in part of water pressure or water supply, or changes in operating pressures, or by reason of the water containing sediments, deposits or other foreign matter of any nature or kind whatsoever.

3.11 Right to Substitute a Meter Service

The Engineer may, where they suspect for any reason the water use is not normal, install a Meter Service in lieu of an ordinary service to any existing residential unit; and when this is done, meter rates will be payable from the time such meter is installed notwithstanding that the Consumer may have paid in advance for the current year which has not expired, but a rebate of part of such advance payment proportionate to the unexpired part of the current year shall be credited and allowed to the Consumer on their meter rate account for such Meter Service.

3.12 Meter Irregularity

The *Engineer* shall be notified immediately if any suspected inaccurate measure by the meter or other irregularity in a meter is observed in the last water bill received by a customer. Where, upon inspection, the *Engineer* determines that, as a result of circumstances beyond the control of the customer receiving service, the meter is not functioning properly resulting in higher than actual volume readings greater than 5% in favour of the *District*, the customer shall pay for water for the current billing period according to the customer's average consumption, or the average consumption at the premises, as the case may be, as determined by averaging the customer's preceding two similar billing periods, and the *District* shall repair or replace the meter.

If the *Consumer* has paid in advance for the current year which has not expired, a rebate of part of such advance payment proportionate to the unexpired part of the current year shall be credited and allowed to the *Consumer* on their meter rate account for such *Meter Service*.

3.13 Testing of Meters

- (a) If a customer questions the accuracy of the record of a water meter, and in the opinion of the Engineer the reading may be abnormal, the District may have the meter re-read and the service inspected for leaks. If, in the opinion of the Engineer, the reading is not abnormal, or leaks or reading errors are not found, and the customer insists upon further investigation, the customer shall pay the Fee for Additional Water Consumption Complaint Investigation as prescribed in Schedule B for each subsequent visit to the site. If any reading errors are found, the aforementioned Fee will be refunded and adjustments made to the customer's water utility bill.
- (b) If no reading errors are found, and the customer requests that the meter be tested, the *Engineer* shall cause the meter to be tested, in the presence of the customer if requested, and the customer shall deposit with the *District* an additional Deposit for Water Meter Testing charge as prescribed in Schedule B.
- (c) If the meter test discloses an error in registering the quantity of water passing through the meter greater than 5% in favour of the *District*, the Fee for Additional Water Consumption Complaint Investigation charge and Deposit for Water Meter Testing shall be refunded to the customer, a properly operating meter installed, and the customer's account for service adjusted accordingly.
- (d) If the test shows an accurate measurement of water, or shows an error in favour of the customer, the Fee for Additional Water Consumption

Complaint Investigation, and Deposit for Testing Water Meters shall be retained by the *District*. Where the actual cost of the test exceeds the water consumption complaint investigation charge deposited with the *District*, the customer shall pay the difference between the actual cost of the test and the amount of the aforementioned charge.

3.14 Water Leak Adjustment

Where a *Consumer* with a *Metered Service* suspects, finds, or is notified that their water usage has been greater than usual, likely or definitely due to a leak, they can apply for a Water Leak Adjustment. The Water Leak Adjustment is a credit applied to an accepted applicant's water utility bill to refund against increased charges due to a leak. Water Leak Adjustment values are based on Subsections (n), (o), and (p), and application acceptance is subject to meeting the criteria of this Section:

- (a) All properties in the *District* with water meters are eligible for a one-time Water Leak Adjustment for their metered water usage only, provided that they meet the criteria set out in this Section.
- (b) Where there is a change in property ownership, the new *Owner* qualifies for a new one-time water leak adjustment, regardless of any past leak adjustments granted or considered for past *Owners*.
- (c) Properties that are not eligible for water leak adjustments include:
 - (i) those without water meters; and
 - (ii) those with a utility account that is not in good standing and/or has fees or penalties owing.
- (d) Eligible leak adjustments will only be considered where the leak is:
 - (i) due to malfunctioning internal plumbing fixtures, including but not limited to toilets, taps, and hot water tanks; or
 - (ii) in the *Private Service Pipe* between the water meter and the building or mechanical room.
- (e) Water leak adjustments will only be considered if a completed Water Leak Adjustment Application form is submitted to the *District* including the following items:
 - (i) Proof, description, and details of the nature/cause of the leak as well as its repair/remediation; including
 - (ii) Photographs of the leak area before and after repair; and
 - (iii) Copies of receipts for repair of the leak.
 - a. For minor repairs, including but not limited to a toilet flapper, the Owner can perform the repair themselves and provide a receipt for the replacement parts; or
 - b. For major repairs, including but not limited to repair or replacement of the *Private Service Pipe*, invoices for parts and labour must be provided.
- (f) The *Engineer* may require an inspection of the leak by *District* staff before considering a leak adjustment.

- (g) If the leak cause or location is not able to be determined by the *Consumer*, they may request an inspection by *District* staff to determine it.
 - (i) The first inspection requested by the *Consumer* shall be free of charge, and any additional inspections will require the Fee for Additional Leak Inspections, as set out in Schedule B, to be paid in advance.
- (h) To verify a leak, existing water meter readings will be used, however:
 - (i) the *Consumer* is entitled to one free of charge water meter reading to verify a leak, in addition to the existing readings;
 - (ii) the *District* may require additional water meter readings, which shall be free of charge to the *Consumer*;
 - (iii) if the *Consumer* requests subsequent water meter readings to verify a leak, in addition to what the *District* requires, the Fee for Additional Meter Readings, as set out in Schedule B, must be paid in advance.
- (i) Leak adjustments will only be granted after the leak has been permanently stopped, by way of repair or replacement per the requirements of this Bylaw.
- (j) All leak repairs, including replacement of parts and installation of new fixtures or *Private Service Pipes*, must be in accordance with the latest edition of the BC Plumbing Code.
- (k) The *Engineer* may require that works completed to stop the leak be inspected by *District* staff before granting a leak adjustment.
- (I) Where the leak is due to malfunctioning internal plumbing fixtures, the Engineer may require that works completed to stop the leak be done by a qualified tradesperson before granting a leak adjustment.
- (m) Where the leak is in the *Private Service Pipe* between the water meter and the building or mechanical room, a leak adjustment will only be considered under the following conditions:
 - (i) Where a water leak is due to material type, age, or poor condition of the *Private Service Pipe*, and/or where future leaks are deemed likely, the *Engineer* may require the *Owner* to have the entire *Private Service Pipe* replaced.
 - (ii) All repairs of major leaks and installations of new *Private Service Pipe* must be completed by a qualified tradesperson.
- (n) Water leak adjustments will only be considered if the increase in water consumption due to the leak is, in the opinion of the *Engineer*, substantially greater than the consumption of similar past period(s) where no leak was present, and can clearly be identified by *District* staff.
- (o) The adjustment period for the leak is limited to the billing periods over only:
 - (i) the current year (the year when the Water Leak Adjustment Application was received); and
 - (ii) the previous year, if the leak is proven to have started in the year before the current year.
- (p) Consumption during the adjustment period will be adjusted based on the average consumption of similar billing periods before the leak started.

3.15 Fire Line

- (a) A *Private Service Pipe* which is to provide onsite fire protection by hydrants or sprinkler systems, in addition to normal requirements, shall branch adjacent to the property line into a metered line and an unmetered fire protection line.
- (b) Except as hereinafter specifically provided, no onsite fire protection lines shall be used for any purpose other than fire protection.
- 3.16 The *Engineer* may permit a *Water Hauler* to be supplied water from the municipal waterworks system provided that the *Water Hauler* enter into a contract in the form set out in Schedule C attached hereto and forming part of this bylaw. Should the contract entered into by the *Water Hauler* be terminated, or upon the *Water Hauler* failing to observe any of the terms or conditions of the contract, the *Engineer* may revoke such permission.
- 3.17 The *Engineer* is authorized to sign Schedule C contracts on behalf of the District of Mission.

4. RESPONSIBILITIES OF THE CONSUMER AND OTHERS

4.1 Works to be Supervised

No person shall do any work connected with the *Service Pipe*, including the laying of new services and the repair of old services, upon or under any street, lane or Statutory Right-of-Way without the consent and supervision of the appropriate officers and employees of the *District*.

4.2 <u>Services to be Metered</u>

Where a meter has been installed on a *Service Pipe* and *Private Service Pipe* in accordance with the standards and specifications of Schedule D, no person shall obtain water from the *Works* other than from the *Metered Service*, except for fire protection purposes.

4.3 Right of Inspection

Every *Consumer* under this Bylaw shall at all reasonable times allow the *Engineer* or any person authorized by them for such purpose (either generally or in any particular instance), to enter on real property in respect of which water is supplied for the purpose of inspecting the same, and the water pipes, *Connections*, fixtures, taps, meters, fire hydrants, and any other apparatus used in *Connection* with such water supply.

4.4 Pressure Regulating Valves

A *Consumer* shall, at their own expense, install an approved pressure regulating valve on a *Private Service Pipe* when ordered to do so by the Engineer.

4.5 Correction of Defects

- (a) No Consumer shall allow water to run to waste, whether willfully or by allowing leaky pipes to remain unrepaired. No Consumer shall connect or allow to remain connected an apparatus, fitting, or fixture which will cause noises, pressure surges, or other disturbances which may result in annoyance to other Consumers, damage to their water system, or damage to the District's Works.
- (b) The *Engineer* may, if any such conditions exist described in Subsection (a), give notice to the *Consumer* to correct the fault within 96 hours or such lesser period as may be specified in the notice.
- (c) The *Engineer* may, if the *Consumer* fails to comply with such notice within the time specified:
 - (i) Have the service shut off until the fault has been corrected; or
 - (ii) take such other action, either on or off the Consumer's real property location as they deem appropriate to correct the fault or to reduce the possibility or severity of annoyance or damage; or
 - (iii) any work done, and any cost incurred for work done under this section may be recovered in the same manner as described in Section 3.1(d) herein.

4.6 Service Replacement

If a building or structure to be demolished includes a service that was installed 15 or more years prior to the date on which the *District* receives the demolition permit, then the property *Owner* shall apply to the *District* either:

- to have the Service permanently disconnected and removed at the time of demolition; or
- (b) the *Engineer* shall inspect the existing service and determine whether the service, or any of its components, shall be:
 - (i) temporarily disconnected; or
 - (ii) permanently disconnected, removed and replaced; and the person shall pay the applicable fees prescribed in Schedule A and B.
- (c) the fees payable under Subsection (b) shall not exceed the charge payable for a permanent disconnection plus any connection charges.

4.7 <u>Prevention of Cross Connection Contamination</u>

(a) No Consumer or person shall connect, cause to be connected, or allow to remain connected any piping, fixture, fitting, container, appliance, or any other apparatus in a manner which, under any circumstances, may allow water, wastewater, or any harmful liquid or substance to enter the District's

- water *Works*. It is the responsibility of the *Consumer* to advise the *District* if such a condition exists and to take appropriate action to discontinue this connection or contact the *Engineer* to take the necessary action as described in Subsection (b).
- (b) If a condition is found to exist which could result in water, wastewater, or any harmful liquid or substance entering the *District*'s water supply system, which in the opinion of the *Engineer* is contrary to the provisions of Subsection (a), the *Engineer* may either:
 - (i) shut off the Service Pipe or services; or
 - (ii) give notice to the *Consumer* to correct the fault to the satisfaction of the *Engineer* within 96 hours of such notice, or a specified shorter period, and if the *Consumer* fails to comply with such notice, the *Engineer* may proceed in accordance with Subsection (i).
- (c) For the purpose of remedying a condition under Subsection (b), the Engineer may allow a Backflow Prevention Assembly to be installed on the water piping at the source of potential contamination or on the pipe used in providing service to the customer, either on private or *District* property. The Backflow Prevention Assembly and installation shall be approved by the Engineer and installed at the sole cost of the Consumer.
- (d) Where in the opinion of the *Engineer*, there is a risk that water, wastewater or any harmful liquid or substance could enter the *District*'s water supply system, the *Engineer* may, as a condition of providing service to any customer, require the installation of a Backflow Prevention Assembly both on the pipe used in serving the property and on the water piping at the source of the potential contamination, either on private or *District* property.
- (e) Every Backflow Prevention Assembly installed on a Service shall be tested by a Certified Backflow Prevention Assembly Tester upon installation and annually, or more often if required by the Engineer, and, within 30 days of such test, the *Consumer* shall deliver to the *Engineer* a report prepared by the Certified Backflow Prevention Assembly Tester in a form acceptable to the Engineer, describing the condition of the Backflow Prevention Assembly.
- (f) Where a *Consumer* fails to deliver the report referred to in Subsection (e) or where a report referred to in Subsection (e) indicates that a Backflow Prevention Assembly is not in proper working condition, upon notice from the Engineer the *Consumer* shall, as the circumstances require:
 - (i) deliver the missing or omitted report to the *Engineer* no later than seven (7) days after the date of the Engineer's notice; or
 - (ii) cause the Backflow Prevention Assembly to be repaired or replaced within 96 hours, or such lesser period as may be specified by the Engineer, and deliver to the *Engineer* a report prepared by a Certified Backflow Prevention Assembly Tester in a form acceptable to the Engineer, certifying that the Backflow Prevention Assembly has been

repaired or replaced and is now in proper working condition;

- (iii) the Service Pipe shall not be turned on at the shut off for occupancy use until the Private Service Pipe and the building plumbing system have been inspected and approved by the District's Building and Public Works staff.
- (g) If a customer fails to comply with the requirements of either Subsection (f) (i) or (ii), as the case may be, the *Engineer* may, without further notice, cause the service to the customer to be shut off.
- (h) The *Engineer* may authorize the use of a water service for construction purposes for a limited time.

4.8 Vending of Water

- (a) No *Consumer* except a *Water Hauler* shall, or allow any other person to, resell any water supplied by the *District*, or give or dispose of such water, to any person other than the occupants, guests, or *Consumers* of their premises.
- (b) No *Consumer* shall practice any deception upon the *District*, or its agent to obtain a water supply greater than they should reasonably be expected to have according to the terms of their application.

5. OPERATION AND INSPECTION

5.1 Water Restrictions

- (a) The *Engineer* may, for the purpose of reducing water demands, issue an order to stop, suspend, or regulate the hours/days for outdoor discretionary water use, in the form of Stage 1, Stage 2, Stage 3 or Stage 4 restrictions, as set out in Schedule E, and will publish a notice of such restrictions.
- (b) Pursuant to Subsection (a), where the *Engineer* issues an order under Stage 3 or Stage 4:
 - (i) notice of the *Engineer's* order must be provided to Council at its next scheduled meeting; and
 - (ii) Council may, by resolution, confirm, vary, or rescind the order.
- (c) No person may allow water to run to waste, whether willfully or by permitting pipes, taps, toilets, irrigation systems or other means of distributing or storing water to run or leak and remain unrepaired.
- (d) Every person who:
 - (i) uses water in contravention of the water restrictions, as set out in Schedule E, or an order, issued by the *Engineer* for Stages 1, 2, 3 or 4; or
 - (ii) allows water to run to waste, as set out in Subsection (c);

commits an offence under this Bylaw; and, in addition to any other penalties which may be imposed, the *District* may cause Service to the person's property to be shut off, until such time as the contravention is remedied and the person has, where applicable, paid the Reconnection Fee, as prescribed in Schedule A.

(e) Sprinkling Permits

- (i) A person who has installed a new lawn, either by seeding or placing turf, or who has installed new landscaping on a substantial part of the outdoor portion of a premises, may apply to the *Engineer* for a Sprinkling Permit authorizing the person to water the new lawn and new landscaping on a daily basis, mornings only (between the hours of 6:00 am and 8:00 am), when Stage 1 and 2 restrictions are in force, at times set out in Schedule E, at the premises described in the permit, and during the period of the permit. A Sprinkling Permit does not exempt the holder from Stage 3 or Stage 4 restrictions, as set out in Schedule E.
- (ii) The Engineer, upon being satisfied that an *Applicant* qualifies, may issue a Sprinkling Permit to the *Applicant* upon payment of the Sprinkling Permit Fee, as set out in Schedule A.
- (iii) All sprinkling Permits issued must be affixed to a post facing the street affronting the premises, beside the principal driveway so that it is visible from the street. All Sprinkling Permits issued will expire, and be of no force or effect, 14 days after the date of issue."

5.2 Operation of Municipal Works

No person except an authorized agent of the *District* shall:

- (a) obstruct or interfere in any way with any hydrant valve, *Curb Stop*, pipe or other waterworks appurtenances;
- (b) interfere in any way with any meter or pipe leading to such meter, whether on public or private property;
- (c) make any addition or alteration to the Works;
- (d) make any Connection with the Works; or
- (e) shut off or turn on any service.

5.3 <u>Use of Municipal Fire Hydrants</u>

- (a) The *Engineer* may, upon application, permit the use of a fire hydrant as a temporary source of water.
- (b) The *Engineer* may require a water meter to be attached to any fire hydrant being used as a temporary source of water, as well as attach conditions

- they consider appropriate depending on the purpose of the application and the use to which the water will be put.
- (c) An *Applicant* who is required to have a water meter attached to the fire hydrant they have applied to temporarily use shall pay:
 - (i) a refundable deposit in an amount of 25 times the quarterly meter rental rate for the applicable service size; and
 - (ii) the applicable metered water rates,

as set out in the District of Mission Water Rates Bylaw.

(d) The *Engineer* may, where a contract set out in Schedule C has been entered into, permit the use of a fire hydrant as a source of supply for a *Water Hauler*.

5.4 Work Done "At Cost"

- (a) Any person or *Consumer* having work done by the *District* at cost shall make an advance payment prior to commencement of the work, in an amount estimated by the *Engineer* as the cost to perform the work plus any associated costs.
- (b) The *Engineer* shall, in calculating the costs, include but not be limited to include the amount expended by the *District* for gross wages and salaries, employee fringe benefits, materials, equipment rentals at rates paid by the *District* or set by the *District* for its own equipment, or any other expenditure incurred in doing the work, plus administration charges.
- (c) The *District* shall refund to the *Consumer* an amount equal to the amount the estimated cost prepayment exceeds the actual cost.
- (d) The *Consumer* shall be liable for an amount by which the actual cost exceeds the estimated cost prepayment.
 - (i) Failure of the *Consumer* to pay the excess amount within 30 days of demand shall be reason for the *District* to proceed as if the *Consumer* had failed to comply with a notice under Section 4.5 (c).

6. WATERWORKS EXTENSION

- No person shall carry out a waterworks extension until he or his duly authorized agent has, in writing, requested permission and such written request has been approved by the *Engineer*.
- 6.2 All waterworks extensions shall be designed and constructed to the specifications and standards prescribed by the "District of Mission Development and Subdivision Control Bylaw 5650-2017, as amended.
- 6.3 All administration and inspection fees, security deposits, insurance requirements, requirements for Certificate of Completion and Acceptance

of the *Works* shall be as prescribed by the aforementioned Development and Subdivision Control Bylaw.

7. ONCE-THROUGH COOLING SYSTEMS

- 7.1 No person shall install or allow the installation of any Once-Through Cooling Systems or equipment connected to the *Works* in any residential, industrial, commercial or institutional construction, development, retrofitting or restoration project; and
- 7.2 Air conditioners that use water as a cooling agent and then discharge the water to waste shall not be connected to or obtain water from the Works. Only air conditioners that recirculate water and maintain it in a closed system may use District-supplied water for their operation.

8. CAR WASHES AND FOUNTAINS

- 8.1 No person shall conduct an outdoor carwash or other similar events for any fundraising or charity purposes using *District*-supplied water, unless approved by the Engineer.
- 8.2 No person may operate or cause the operation of a commercial car wash on or from any properties unless the wash and rinse water used in that operation is recycled on site and not discharged into the *District* sewer system.
- 8.3 No fountains on or from any properties may operate unless the water in that operation is recycled on site and not discharged into the *District* sewer system.

9. PENALTY

- 9.1 Any person designated as a Bylaw Enforcement Officer pursuant to the "Bylaw Notice Enforcement Bylaw 5700-2018" is hereby authorized and empowered to enforce the provisions of this Bylaw by Bylaw Notice or as otherwise provided by this Bylaw.
- 9.2 a violation of any of the provisions identified in this Bylaw will be subject to the procedures, restrictions, limits, obligations and rights established in the Bylaw Notice Enforcement Bylaw 5700-2018, in accordance with the Local Government Bylaw Notice Enforcement Act, SBC 2003, c. 60;

9.3 a person who:

- (a) contravenes, violates or fails to comply with any provision of this Bylaw;
- (b) permits or allows any act or thing to be done in contravention or violation of this Bylaw; or
- (c) fails or neglects to do anything required to be done under this Bylaw, has committed an infraction of, or an offence against, this Bylaw; and is liable on summary conviction to a fine of not more than Ten Thousand Dollars (\$10,000.00); and

9.4 each day such infraction is caused, or allowed to continue, constitutes a separate offence.

10. REPEAL PREVIOUS BYLAWS

"District of Mission Waterworks Rates and Regulation Bylaw 43-1970" and all amendments thereto, is hereby repealed.

"District of Mission Water and Sewer Extension Policy Bylaw 214-1972" and all amendments thereto, is hereby repealed.

READ A FIRST TIME this 7th day of Aug	ust,1990.
READ A SECOND TIME this 7th day of A	ugust, 1990.
READ A THIRD TIME this 7th day of Aug	ust, 1990.
RECONSIDERED AND FINALLY ADOPT	ED this 20th day of August, 1990.
MAYOR (ACTING)	CLERK (ACTING)

SCHEDULE A

	Effective January 1, 2023
Water Service Connection Installation Fee	-
19 mm diameter up to 1 metre in length	\$2,050.00
19 mm diameter beyond 1 metre, per metre charge	\$115.00
25 mm diameter up to 1 metre in length	\$2,750.00
25 mm diameter beyond 1 metre, per metre charge	\$125.00
38 mm diameter up to 1 metre in length	\$5,050.00
38 mm diameter beyond 1 metre, per metre charge	\$225.00
All diameters Exceeding 38 mm	Time and Materials
Fee for Raising Water Meters	
Where a water meter assembly exists but the meter box and setter have not been installed to final grade, a rate shall apply to adjust the elevation	\$85.00
Water Service Connection Administration Fees	
(i) The administration fee for a quote to connect, irrespective or diameter, shall be:	\$55.00
(ii) In addition to (i), the administration fee to complete the service connection, irrespective of diameter, shall be:	\$235.00
Water Connection Inspection Fee	\$91.00
Water Connection Inspection Fee - After hours Charges for inspections performed outside regular working hours	Time and Materials
Reconnection Fee	
To turn water back on after a temporary disconnection	\$85.00
Surface Restoration Fee (per linear meter)	\$1,300.00
Deposit for Water Meter Retrofit of Existing Service	
Where a water service exists to a residential lot and does not have a meter installed, a deposit is required for the City to supply and install a water meter assembly (meter box, setter and meter with radio head).	\$2,800.00
Fee for Non-Scheduled Water Meter Readings	
For each water meter reading, outside regular billing cycle, for the purpose of the sale of a property, a rate shall apply:	\$68.00

Sprinkling Permit Fee

May, June, and September: Daily sprinkling permitted from 6:00 am to 8:00 am for a one week period during Stage 1 and Stage 2 only	\$55.00
July and August: Daily sprinkling permitted from 6:00 am to 8:00 am for a two week period during Stage 1 and Stage 2 only	\$115.00

SCHEDULE B

	Effective January 1, 2023	
Miscellaneous Charges		
Water Disconnection Fee		
Disconnection of the service at the main by municipal crews	\$1,755.00	
Capping of the service at property line by municipal crews	\$1,235.00	
Capping of the water service at property line by municipal crews in conjunction with capping of either a storm or sanitary service capped	\$1,625.00	
Capping of water service at property line by municipal crews in conjunction with capping of both of sanitary and storm sewer services	\$1,625.00	
Capping of the service at property line by Owner under direct municipal inspection - per service charge	\$105.00	
Water Pre-Service Connection Fee		
Where a water service was installed to a property in the past but the Owner did not choose to connect, a fee shall be paid by the Owner who eventually chooses to connect		
* Fee for additional water consumption compliant investigations, or		
* Fee for additional water leak inspections, or	_	
* Fee for additional meter readings	- #440.00	
For subsequent site visits requested by a Consumer to investigate consumption complaints, inspect for possible leaks, or read a meter, after the City's first site visit requested by the Consumer is completed, per visit charge	- \$110.00	
Deposit for Testing Water Meters		
(a) up to 25 mm in diameter	\$120.00	
(b) over 25 mm and up to 50 mm in diameter	\$175.00	
(c) over 50 mm in diameter	\$290.00	

SCHEDULE C

CONTRACT BETWEEN THE DISTRICT AND THE WATER HAULER

THIS AGRE	EMENT made as of the day of _	,
BETWEEN:		
	THE DISTRICT OF MISSION, a municipal Municipal Act and having its office at 864 Box 20, Mission, BC V2V 4L9	•
	(hereinafter called "the District")	
		OF THE FIRST PART
AND:		
	(hereinafter called "the Water Hauler"	
		OF THE SECOND PART

WHEREAS:

- 1. The Water Hauler has applied to the District's Director of Engineering and Public Works (the "Engineer") to purchase water in bulk from the District for distribution to others by means of a motor vehicle which is equipped for that purpose;
- 2. District of Mission Water Bylaw 2196-1990 (as amended) provides that the *Engineer* may permit the *Water Hauler* to be supplied water from the Municipal waterworks system via a meter installed on a fire hydrant provided that the *Water Hauler* enters into this Agreement with the *District*.

NOW THEREFORE in consideration of the mutual covenants contained hereinafter, the parties agree as follows:

- 1. The *Engineer* hereby permits the *Water Hauler* to be supplied water from the Municipal waterworks system via a meter installed on a fire hydrant.
- 2. The *Water Hauler* hereby agrees to pay for the water so supplied in accordance with the rates set out from time to time in the "District of Mission Water Rates Bylaw 2197-1990", as amended.
- 3. The Water Hauler shall comply with Schedule 1 hereto, which is part of this Contract.
- 4. The *Engineer* or their designate may inspect at any time any motor vehicle or equipment employed by the *Water Hauler* to ensure that it is adequate, and may test or question any

- equipment driver employed by the *Water Hauler* to ensure that the equipment driver is conversant with Schedule 1.
- 5. The *Engineer* shall determine the time, place, and manner in which water to be supplied to the *Water Hauler* shall be made available.
- 6. The *Water Hauler* agrees to save harmless and indemnify the *District* and its servants, agents, successors and assigns from all actions, proceedings, costs, damages, expenses, claims and demands whatsoever and by whomsoever brought by reason of the supply of water to the *Water Hauler* pursuant to this Agreement.
- 7. The *District* has no obligation to inspect the equipment used by the *Water Hauler* in loading or transporting the water supplied pursuant to this Agreement.
- 8. The *Owner* shall maintain comprehensive general liability insurance in the sum of \$2,000,000 per occurrence, in force for the term of this Agreement. The *District* shall be named as insured on the policy. The *Owner* shall provide proof of insurance to the *District* prior to commencement of this Agreement.
- All notices required or permitted to be given hereunder shall be in writing and delivered to the address of the intended recipient set forth on the first page hereof or at such other address as may from time to time be notified by any of the parties hereto in the manner herein provided.
- 10. The *Water Hauler* hereby releases and forever discharges the *District* and its servants, agents, successors and assigns from all manner of actions, causes of actions, suits, debts, bonds, covenants, contracts, claims, and demands whatsoever against the *District* which the *Water Hauler* ever had, now has, or hereafter may have by reason of the supply of water to the *Water Hauler* pursuant to this Agreement.
- 11. This Agreement may be terminated by the *Engineer* on behalf of the *District* upon 30 days' notice, or immediately, should any of the following events occur:
 - (a) The *Engineer* in their absolute discretion is not satisfied with the condition of any of the equipment or vehicles employed by the *Water Hauler*;
 - (b) The *Engineer* is not satisfied with the knowledge of any equipment driver employed by the *Water Hauler* with respect to Schedule 1;
 - (c) The Water Hauler fails to observe any of the requirements of Schedule 1 hereto;
 - (d) The *Water Hauler* fails to pay the water rates prescribed under "District of Mission Water Rates Bylaw 2196-1990";
 - (e) The water supply available to the *District* is reduced for any reason.
- 12. The *District* has made no representation, covenants, warranties, guarantees, promises or agreements with the *Water Hauler* other than those contained in this Agreement.
- 13. This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators and assigns.

IN WITNESS WHEREOF the parties have exe	ecuted this Agreement.
THE DISTRICT OF MISSION	
Authorized Signatory - Director of Engineering and Public Works	Authorized Signatory for Water Hauler
	Print Name:

WATER BYLAW 2196-1990

SCHEDULE D

WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS

1. INTRODUCTION

These specifications detail the *District*'s requirements for the installation of cold-water meters on municipal water services.

1.1 Definitions

"Applicant" Refers to a property owner, developer, or

authorized agent who makes an application for

Connection to a water service.

"Applicant's Engineer" Refers to a professional engineer hired by the

Applicant to design the installation of the meter.

"ASTM" Refers to the American Society for Testing and

Materials.

"AWWA" Refers to the American Water Works Association.

"CSA" Means the Canadian Standards Association.

"Developer" Means the person(s) or organization(s) developing

property as per District guidelines.

2. METERING REQUIREMENTS

The District of Mission Water Bylaw 2196-1990 (as amended) identifies that all new service connections require water meters. For new *Connections*, the installation of a meter with a radio head is triggered by an application for a building or plumbing permit. This requirement for a meter applies to:

- connection to a new or existing service;
- · temporary service connections; and
- connections that include an underground irrigation system.

For all new *Connections* regulated under this bylaw, the *Applicant* must pay for the supply and installation of all piping and fittings to install the service connection, plus the following:

- For one and two family residential service connections: pay for the *District* to supply and install a meter chamber complete with a meter and a radio head at the property line.
- For multifamily residential service connections: supply and install at their own cost a meter chamber complete with a meter and a radio head at the property line.
- For industrial, commercial, institutional, and mixed land uses' service connections: supply and install at their own cost a meter, a radio head, and fittings within the building.

Table 1 – Supply and Installation of Meters, Chamber, and Accessories, a
--

Type of Connection / Land Use	Type of House / Building	Size of Meter	Supply & Installation of Meter	Supply & Installation of Chamber & Accessories	Location
Residential	Single Family or Two Family	50 mm & below	District at Owner's cost	District at Owner's cost	At property line
, recorded made	Triplex, Fourplex, Multi-family	All Sizes	Owner at Owner's cost	Owner at Owner's cost	At property line
Industrial, Commercial, Institutional (ICI)		All Sizes	Owner at Owner's cost	Owner at Owner's cost	Within building
Mixed ¹	See Note 1	All Sizes	Owner at Owner's cost	Owner at Owner's cost	Within building
Temporary Connection		All Sizes	District at Owner's cost	Owner at Owner's cost	As approved by the Engineer

Note 1: Sites with mixed land use -- residential plus industrial, residential plus commercial, or residential plus institutional -- shall have a meter in the building.

3. METER SELECTION

In cases where the *Applicant* is expected to supply and install the meter, the *Applicant's Engineer* must determine the *Connection* size and select the appropriate meter type, size, and radio head for the intended use according to this Bylaw. Plans submitted as part of the plumbing permit application must indicate the type and size of the meter and radio head, as well as the chamber/vault location. The plans for the proposed installation must indicate the expected range of flows (high and low consumptions), average expected flow, and the peak flow. The submission should also include the pressure loss through the meter assembly.

For non-typical meter installations and meters 50 mm in diameter or larger, the Applicant's engineer must provide detailed drawings of the installation, as well as relevant calculations, to demonstrate the appropriateness of the sizing of the meter and its radio head.

In cases where there is a requirement of a submission, installation of the meter should not begin prior to the approval of the submission.

The *District* will inspect the meter installation to ensure conformance to this Bylaw, the approved plan (if any), and the *B.C. Plumbing Code*.

3.1 Domestic Service

The type or combination of types of meters selected for recording water consumption from a *Service Pipe* must accurately record consumption for the expected range of flow. The size selection should consider longer meter life, should not compromise the operating range of the meter, and must ensure pressure losses are within acceptable limits based on the *District*'s existing pressure zones. The *Applicant's engineer* must ensure that the meter selection and installation requirements are appropriate for the designed application.

A meter may be smaller than the *Connection* size but should meet the size selection criteria stated above.

3.2 Fire Services

Fire services must be metered to detect unauthorized use of water in accordance with *AWWA* C703, and the *B.C. Plumbing Code*. Unless installed with a CSA-approved double check detector valve assembly, all fire services must be installed with an appropriately sized remote digital read displacement type meter (typically a regular 19 mm meter) on a bypass (refer drawing CS-WM-6) to check on any unauthorized water usage.

The wiring of the detector meter in the bypass should be installed as per Sections 4.3 and 5.2. The receptacle must clearly be marked "TATTLE-TALE" with a weather resistant tag/label. The location where the receptacle is mounted should be freely accessible by the meter reader / District staff.

Double check detector valve assemblies shall be installed as a complete unit. Refer to Section 4.5.1 for details.

4. ACCEPTABLE WATER METERS AND COMPONENTS

4.1. Water Meters

The *District* will only accept positive displacement or compound meters, unless a variation is justified and has been approved by the *Engineer*. **All meters must be new. Used or reconditioned meters are not acceptable.**

Positive Displacement meters must be nutating disk, oscillating piston, or magnetic field technology (iPERL) type, conforming to *AWWA* C700. Meters 38 mm in diameter must have bolt-flanged ends.

Compound meters must conform to *AWWA* C702. All compound meters must have bolt-flanged ends.

Table	2 –	Acce	ptable	Meters
--------------	-----	------	--------	---------------

Positive Displacement Meters 38 mm and smaller	Sensus SR II, Sensus iPERL, or Sensus R ²
Compound Meters 50 mm and larger	Sensus OMNI

NOTE:

Alternate meters may be accepted but must be approved by the Engineer. The use of a turbine meter may be considered if supported by detailed calculations to justify its use. Meters for one and two family residences shall have a straight reading register conforming to the latest version of *AWWA* C700.

4.2. Registers

Meters for land uses other than one and two family residential must have encoder-type remote-registration conforming to the latest version of *AWWA* C707. Registers using generator pulses or low voltage conversions are **not** permitted. Power requirement for data transmission must be supplied by an interrogation device. Registers must be compatible with various brands of interrogation equipment.

The register must provide at least six-digit visual registration at the meter. The units must be registered in **cubic metres** (m³). The units, the month and year of manufacture, and other identification information must clearly be printed on the face of the register. The register must also have a full test sweep hand or dial.

The register must, in a digital format, simultaneously encode at least six significant digits of the meter reading for transmission through the remotely located receptacle. A meter identification number must also be provided with each reading. For the purposes of billing, electronic registration must return registration (meter read) to the nearest cubic meter (m³).

Contractors/developers shall install either the Sensus 520M (pit) or 510M (wall mount) MXU Transceivers when installing water meters.

Materials used in construction of the register must be compatible with the normal water meter environment. The unit must be sealed to prevent tampering. All registers must be provided with moisture protection for internal components when operating in flooded or humid pit/chamber conditions. The register and mounting base must be integral components preventing disassembly.

The register must be attached to the meter case by a bayonet attachment. A tamper-proof plastic seal pin or other means must be used to secure the register to the main case. The register must be removable from the meter without disassembling the meter body, and must permit field installation or removal without taking the meter out of service. Terminal screws (three screws) must be available on the register for transmission wire *Connection* to the remote receptacle.

The materials used for contacts and the connectors must inhibit corrosion and prevent/protect against any other adverse effects arising from environmental conditions to which they may be exposed. The number wheels used in the register assembly must be provided with spring-type or magnetic sensing type contacts to ensure a high probability of

data transmission. A port cover must be provided to cover the terminals after they have been wired.

4.3. Remote Receptacles

Remote receptacles must either be wall or pit mount style. No identity number storage is permitted at the remote receptacle. There must be no data storage or power source in the remote receptacle.

Color coded wire terminals (red, green and black) must be provided.

The materials employed must be corrosion resistant, resistant to ultraviolet degradation, unaffected by rain or condensation, and compatible with rugged service and expected life.

Wall mounted receptacles must be designed for terminal screw connection after being fastened to the wall.

The receptacle construction must incorporate the function of a cable clamp or strain relief coupling.

Design of the unit must be such that it provides for mechanical and electrical connection between the receptacle and interrogation equipment. Interrogation must be achieved by inductive coupling, without physical connection of the reading device.

4.4. Pipes and Fittings

Connections greater than 50 mm in diameter should be restrained to the *District* watermain.

For installation of meters larger than 75 mm in diameter, all pipes, pipe fittings, and jointing methods should comply with the *District*'s Development and Subdivision Control Bylaw, as amended.

For installation of meters 75 mm in diameter and below, all pipes, pipe fittings, and jointing methods should comply with the latest requirements of the *B.C. Plumbing Code* and *AWWA* Standards.

4.5. Valves

Valves up to 50 mm in diameter must meet AWWA C800, and must have a bronze case with National Pipe Thread (NPT) soldered compression, or flange type connections. Valves may be ball or cylinder type using rubber O-ring seals. Actuation is to be by a curb-stop-style operating nut. All bypass valves must have a lock wing on the operating nut and the case.

Valves over 50 mm in diameter must be ductile iron, resilient seat, non-rising stem (NRS) gate valves with flanged ends, and must meet *AWWA* C509. The stem seal must be O-ring type. Actuation of valves, accessible by a valve key from the surface, must be by a standard 50 mm square operating nut. Valves inaccessible from the surface and within chambers must be operated by a hand wheel, to be supplied by the installer. In all possible and appropriate instances, a Dobney Foundry MR style valve box must be installed over buried valves.

4.5.1. <u>Double Check Valve Assembly and Double Check Detector Valve Assembly</u>

Double check valves and double check detector valves must comply with *AWWA* C510. They must consist of two internally loaded and independently operating check valves located between two tightly closing resilient-seated shut off valves, with four properly placed resilient-seated test cocks. They must have ductile iron cases with flange ends.

Double check valves or double check detector valves must be installed in drainable chambers/vaults. Vaults must be *District*-approved. In case of variations, a design must be submitted for *District* approval. Lids of vaults should be large enough to service and remove the valve assembly. Minimum distances of 600 mm on the test ports' side and 300 mm on the opposite side must be available between the valve assembly and the inside wall of the vault (refer to Drawing CS-WM-4).

4.5.2. Flange Adapters

Flange adapters for diameters 38 mm to 200 mm must conform to AWWA C219.

4.5.3. Bolts and Nuts

Bolts and nuts must be stainless steel. Bolts must conform to ASTM F-599 or F-731, and heavy hex nuts must conform to ASTM F-574 or F-836. Threads, fit, and dimensions must conform to AWWA C111.

4.5.4. Meter Chambers

Meter boxes and vaults must be pre-cast concrete, with their dimensions close to those provided in Table 3. Variations are permitted where the dimensions are impractical due to site conditions, but will be subject to the approval of the Engineer. Above ground heated stainless steel or fiberglass enclosures on concrete pads may be approved at the discretion of the Engineer.

Lids/covers must be capable of withstanding H-20 loading and must be to the size indicated in Table 3, where practical. Lids/covers must have one pre-drilled 45 mm hole for mounting the remote receptacles as specified in Section 5.2. The hole must be plugged until the installation of receptacles.

The exterior of all vaults must be damp proofed by applying grout and an asphalt emulsion coating to all exterior surfaces. Construction joints must be made water tight with an appropriate sealant. All pipe entrances on the vault must be sealed.

Access lids, latches and ladders must comply with the most current requirements of WorkSafeBC.

5. <u>INSTALLATION STANDARDS</u>

5.1. Meter Installation

Location

- 1 For one and two family residential service connections, the meter chamber will be installed by *District* Staff within the road allowance or municipal right-of-way, approximately 0 mm from the property line, unless approved otherwise by the Engineer.
- 2 For residential strata, bare land strata, townhouses, and other multifamily residential service connections, the meter chamber and meter will be installed by the Developer within the property approximately 300 mm from the road allowance or municipal right-of-way, unless approved otherwise by the Engineer. Individual water meters with radio heads for each unit within these developments shall also be installed outdoors in meter pits, unless directed otherwise by the Engineer.
 - If a meter is installed at another location under special approval, either within the property or inside a building, the location must be accessible to *District* staff for inspections and servicing of the meter. An area of at least 300 mm distance around the meter vault shall be free of major landscaping or other objects, including trees, shrubs, walls, etc., to allow access for future inspections and servicing of the meter. The meter vault installation should be out of driveway and parking areas.
- 3 For Industrial, Commercial, and Institutional (ICI) land use service connections, or a mix of ICI with residential land use, the meter, chamber, fittings, and radio head shall be installed by the Developer inside a building. Unless otherwise directed by the Engineer, individual water meters with radio heads for units within ICI strata developments shall also be installed inside buildings. Only under the Engineer's special approval can the meter be installed in a chamber elsewhere on the property. The meter must be accessible to *District* staff for inspection and servicing.

Unless directed otherwise by the Engineer, all the existing and new ICI strata shall install individual water meters with radio heads for each unit within ICI strata developments.

Installation requirements are summarized in Table 3 and illustrated on the attached Standard Drawings.

Table 3 - Meter Installation Details

Meter Diameter (mm)	Meter Type	Bypass Required?	Strainer Required?	Chamber Type	Chamber Size ³ (mm)	Chamber Lid Material	Chamber Lid Size ³ (mm)
16X19	Positive Displacement	No	No	Meter Box	300 x 500	Steel	Standard ⁴
19	Positive Displacement	No	No	Meter Box	300 x 500	Steel	Standard ⁴
25	Positive Displacement	No	No	Meter Box	425 x 750	Steel	Standard ⁴
38	Positive Displacement	Yes ¹	Yes	Meter Box	600 x 900	Steel	Standard ⁴
50	Compound	Yes ¹	Yes	Vault ²	1200 x 2000	Galvanized Steel	1200 x 1200
75	Compound	Yes ¹	Yes	Vault ²	1200 x 2500	Galvanized Steel	1200 x 1200
100	Compound	Yes ¹	Yes	Vault ²	1500 x 3000	Galvanized Steel	1200 x 1200
150	Compound	Yes ¹	Yes	Vault ²	2200 x 3400	Galvanized Steel	1500 x 1500
200	Compound	Yes ¹	Yes	Vault ²	2500 x 4700	Galvanized Steel	2000 x 1500

- Note 1: Bypass diameters must be the same diameter as the incoming line.
- Note 2: Vaults must be per the applicable *District* Standard Drawing: CS-WM-2, CS-WM-3, or CS-WM-4.
- Note 3: Chamber sizes are for indication only and actual sizes should be to fit the distance requirement specified for the installation of required components. Similarly the lids/covers/hatch openings should be sized sufficient enough to move materials and equipment in and out of the vault and should also meet the WCB requirements.
- Note 4: 'Standard' refers to the standard lid sizes manufactured by A.E. Concrete to suit its pre-cast meter boxes. However, 'approved equal' lids can be used.
- Note 5: The *District* may require meters 38 mm in diameter to be Compound type (instead of Positive Displacement) based on the building type and expected flow ranges.

When a meter is installed in a utility room or elsewhere inside a building, the installation should be within reasonable distance of a floor drain. **Under no circumstances is a meter to be installed in a bathroom or a bedroom**. An area of at least 600 mm distance in front of the meter shall be free of obstruction to allow for convenient reading, inspection, and servicing of the meter. The where the meter is installed should have a minimum headroom clearance of 2 metres. No electronic, electrical, mechanical, or water-sensitive equipment/machinery should be placed or installed under the meter installation, or in an area where splash or flow from the meter settings or pipes could occur during servicing.

Meters should be installed horizontally with register casings plumb and facing upward. When a meter is installed in a chamber at the property line, the meter should be centered as much as possible in the chamber. Unless otherwise specified by the manufacturer, for meters greater than 50 mm in diameter (including 50 mm diameter compound meters), a straight run of pipe with a minimum length equivalent to ten pipe diameters (10Ø) should be installed upstream of the meter to any full open components (tees, bends, and concentric

reducers) with up to one nominal reduction only. Where possible, the minimum distance between the meter and the upstream gate valve should be equivalent to eight pipe diameters (8Ø). Similarly, a straight run of pipe with an equivalent length equal of five pipe diameters (5Ø) is required downstream of the meter. The distance between the meter and the downstream check valve should not be less than five pipe diameters (5Ø). Plumbed-in meter test ports (if any) should not be closer than three pipe diameters (3Ø) from the meter.

For meters 50 mm in diameter and larger (except for 50 mm positive displacement meters, which will be on a meter setter), a flanged coupling must be provided on the downstream side of the meter for flexibility in the case of meter removal.

Meters, valves, and bypasses should be supported with appropriate steel pipe stands. Meter installations must be checked for leakage at completion of the installation. The assembly should be flushed and air must be eliminated from the system. By running water through the meter and performing a visual check of the low flow indicator, the proper operation of the meter should be established.

For all temporary connections, meters must be installed at the upstream end of the *Connection*.

Strainers

Where required (as noted in Table 3), strainers should be installed immediately upstream of the meter using a flanged connection. Manufacturer's specifications can be adopted in terms of distance between the meter and the strainer. Strainers must be straight type and of the same diameter as the meter. Strainer mesh material should be corrosion-resistant, such as stainless steel. Strainers should have an effective straining area of at least twice the bore diameter of the meter.

Isolation Valves (Inlet and Outlet Valves)

Isolation valves must be provided, at specified distances, upstream and downstream of the meter assembly to facilitate the removal of meter and strainer cases without the wasteful flow of water. Valves should comply with the requirements stated in Section 4.5.

Bypasses

Bypasses should be of the same size and material as the meter setter or main line. A gate valve should be installed on the bypass. A lock wing should be available on the operating nut of the bypass valve. After testing the installation, the bypass valve must be closed and sealed by the installer.

Test Ports

A test port (point) must be provided for all meters 50 mm and larger in diameter. In the absence of a test port in the meter case, a test tee or plug must be installed with a 50 mm threaded lateral and plug on the meter piping, at a minimum distance of three pipe diameters (3Ø) downstream of the meter.

5.2. Receptacle Installation

Wall-mounted remote receptacles must be located near the gas or electrical meter approximately 1.2 metres above the ground/floor surface, and must be easily accessible for reading. The communication cable (wire) from the meter to the receptacle must be installed in accordance with the manufacturer's instructions/specifications and must not exceed 30 metres in length. Cable must be run neatly in horizontal or vertical directions only, in an approved casing or duct. Buried casings/ducts should be at least 600 mm deep. A drilled 10 mm diameter hole sealed with compound at the external face of the receptacle must be provided.

For meters installed at the property line, remote register receptacles must be mounted in the meter box or chamber lid according to the manufacturer's instructions/specifications. Pit/chamber-mounted receptacles must be mounted to the meter box lid in a single 45 mm hole. Compound meters with two registers will require two holes in the meter lid. The pit-mounted receptacle(s) must be provided with 22-gauge three-color (red, green, black) wire with a minimum length of 1800 mm, connected and sealed at the receptacle without terminal exposure. Remote wiring connections must either be factory or field-sealed to ensure waterproof connections.

Applicable Standard Drawings

CS-WM-1

CS-WM-2

CS-WM-3

CS-WM-4

CS-WM-5

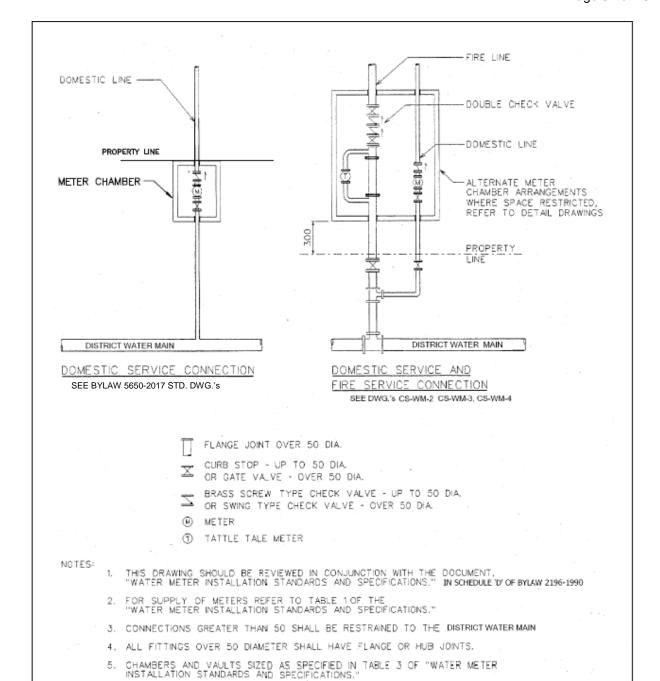
CS-WM-6

CS-WM-7

CS-WM-8

CS-WM-9

Refer to the District of Mission Development and Subdivision Control Bylaw (as amended) for additional drawings related to water meters and water supply.



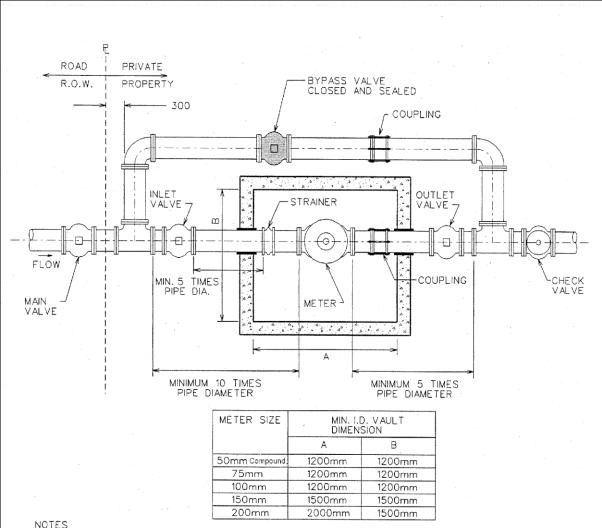
6. FOR INSTALLATIONS INSIDE BUILDING, SEE DWG.'s CS-WM-5, CS-WM-6, AND CS-WM-7

GENERAL LAYOUT WATER METER INSTALLATION AT PROPERTY LINE

7. 75mm SERVICE LINES ARE NOT ALLOWED.



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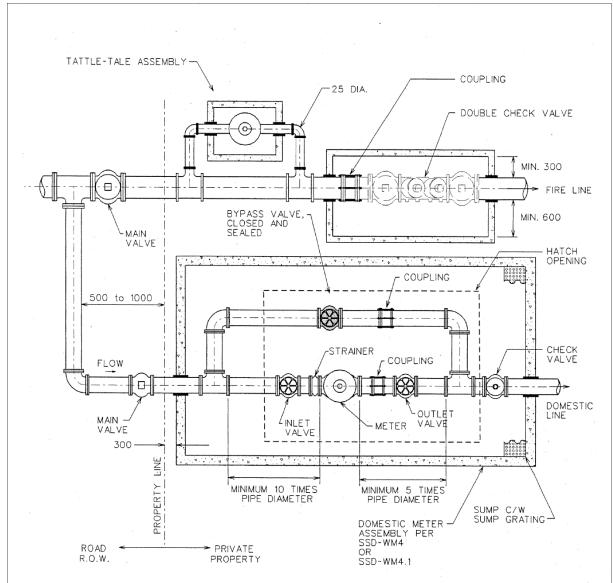
NOTES

- 1. THIS DRAWING SHOULD BE REVIEWED IN CONJUNCTION WITH THE DOCUMENT, "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS." IN SCHEDULE D' OF BYLAW 2196-1990
- 2. THIS DRAWING SHOULD ONLY BE ADOPTED IN CASE OF SPACE CONSTRAINTS AND MUST BE APPROVED BY THE GENERAL MANAGER OF ENGINEERING.
- 3. FOR SUPPLY OF METERS REFER TO TABLE 1 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 4. ANCHOR PIPE TO WALL (TO BE DESIGNED AND CERTIFIED BY A PROFESSIONAL ENGINEER)
- 5. PROVIDE 10 DIAMETER LENGTHS OF STRAIGHT PIPE UPSTREAM OF METER. REFER TO SECTION 5.1 OF THE DOCUMENT " WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 6. FLOOR TO CENTER LINE OF PIPE DIMENSION TO BE MINIMUM 300mm.
- 7. THE BY-PASS PIPING SHALL BE THE SAME SIZE AND MATERIAL AS THE MAIN LINE.
- 8. THE LID/HATCH OPENING SHOULD BE POSITIONED OVER THE METER. REFER TO TABLE 3 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS"

INSTALLATION OF 50mm DIA. COMPOUND METER AND METERS LARGER THAN 50mm DIA. DOMESTIC SERVICE ONLY



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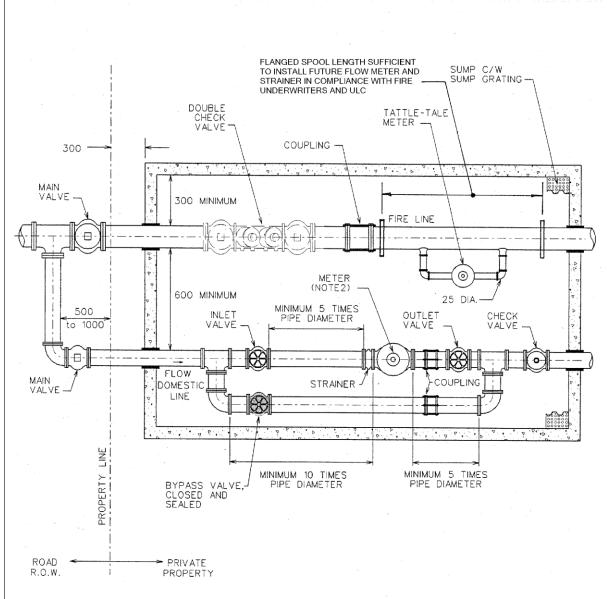
NOTES

- 1. THIS DRAWING SHOULD BE REVIEWED IN CONJUNCTION WITH THE DOCUMENT, "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS." IN SCHEDULE D' OF BYLAW 2196-1990
- 2. THIS DRAWING SHOULD ONLY BE ADOPTED IN CASE OF SPACE CONSTRAINTS
- 3. FOR SUPPLY OF METERS REFER TO TABLE 1 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 4. THE HATCH OPENING SHOULD BE APPROPRIATELY SIZED AND POSITIONED ABOVE THE METER. REFER TO TABLE 3 OF THE DOCUMENT, "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 5. TOUCH READ SENSOR(S) SHALL BE LOCATED AT THE TOP (HATCH OPENING). THE 45mm DIAMETER OPENING SHALL BE PLUGGED UNTIL METER IS INSTALLED.
- 6. THE RECEPTACLE OF THE TATTLE-TALE METER SHOULD BE CLEARLY LABELLED AS "TATTLE-TALE."

INSTALLATION OF 50mm DIA.
COMPOUND METER AND METERS
LARGER THAN 50mm DIA.
FIRE & DOMESTIC SERVICE
ALTERNATE TO CS-WM-4



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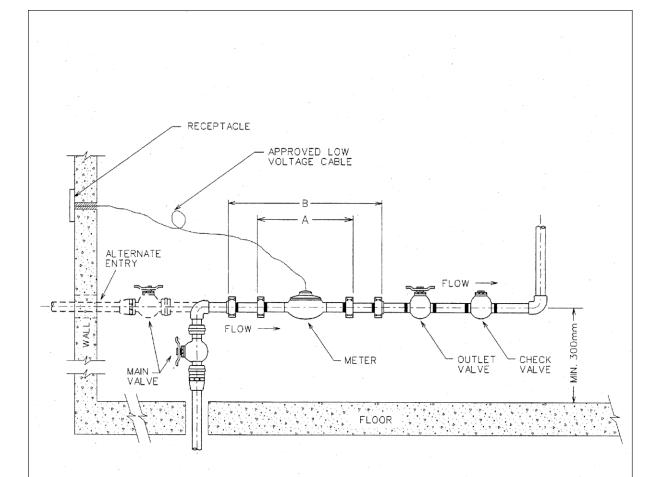
NOTES

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- 2. FOR SUPPLY OF METERS REFER TO TABLE 1 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 3. THE HATCH OPENING SHOULD BE APPROPRIATELY SIZED AND POSITIONED ABOVE THE METER. REFER TO TABLE 3 OF THE DOCUMENT, "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 4. TOUCH READ SENSOR(S) SHALL BE LOCATED AT THE TOP (HATCH OPENING). THE 45mm DIAMETER OPENING SHALL BE PLUGGED UNTIL METER IS INSTALLED.

INSTALLATION OF 50mm DIA.
COMPOUND METER AND METERS
LARGER THAN 50mm DIA.
FIRE & DOMESTIC SERVICE



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TYPICAL METER SETTING

METER SIZE	'A' mm	'B' mm
16mmx19mm	191	325
19mm	229	363
25mm	273	. 413

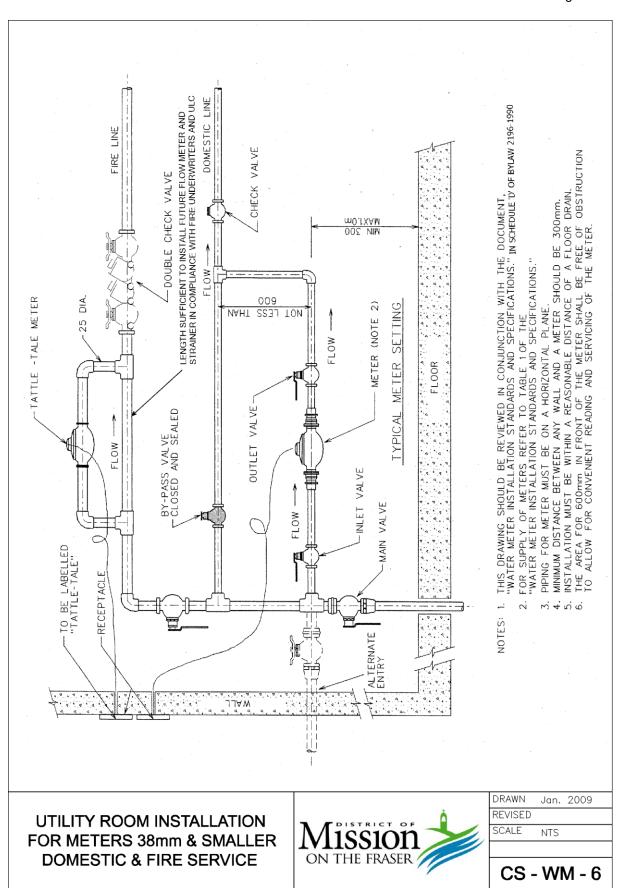
NOTES:

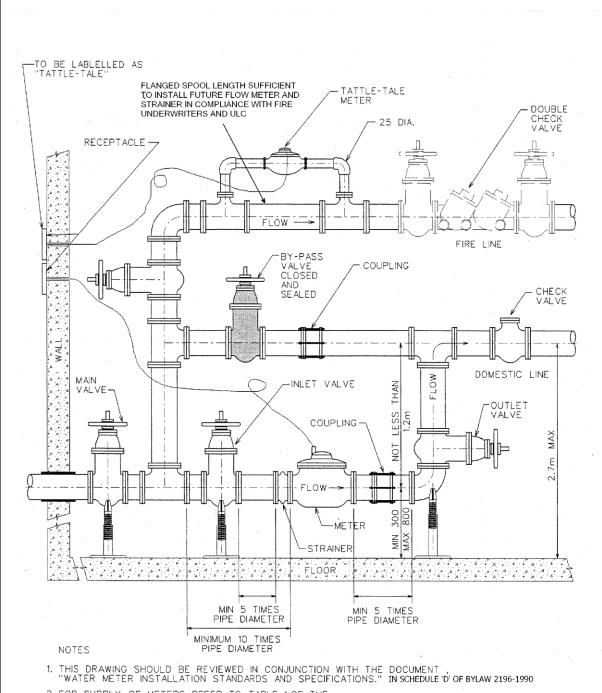
- 1. THIS DRAWING SHOULD BE REVIEWED IN CONJUNCTION WITH THE DOCUMENT, "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS." IN SCHEDULE D' OF BYLAW 2196-1990
- 2. FOR SUPPLY OF METERS REFER TO TABLE 1 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 3. PIPING FOR METER MUST BE ON A HORIZONTAL PLANE.
- 4. MINIMUM DISTANCE BETWEEN ANY WALL AND A METER SHOULD BE 300mm.
- 5. METER INSTALLATION MUST BE WITHIN REASONABLE DISTANCE OF A FLOOR DRAIN.
- 6. THE AREA FOR 600mm in front of the meter shall be free of obstruction, to allow for convenient reading and servicing of the meter.

UTILITY ROOM INSTALLATION FOR METERS 38mm & SMALLER DOMESTIC SERVICE ONLY



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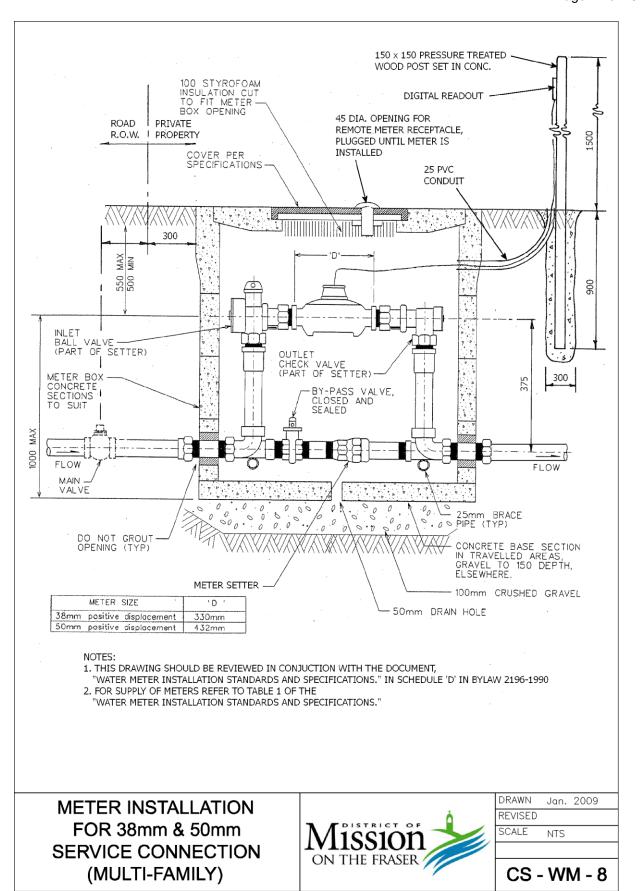


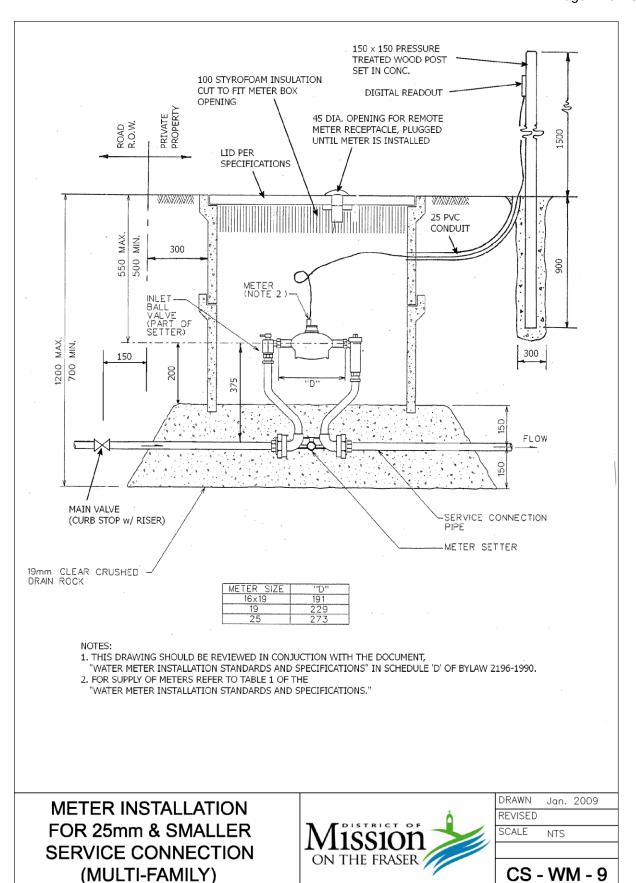
- 2. FOR SUPPLY OF METERS REFER TO TABLE 1 OF THE "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS."
- 3. THE BY-PASS PIPE SHALL BE THE SAME SIZE AS THE MAIN PIPE.

UTILITY ROOM INSTALLATION FOR METERS 50mm AND GREATER



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WATER BYLAW 2196-1990

SCHEDULE E

STAGES OF WATER RESTRICTIONS

1. **Stage 1:**

- (1) No person may carry out sprinkling of lawns using hose-connected sprinklers, soaker hoses, or automatic in-ground sprinklers/irrigation between May 1 and September 30 each year, except in accordance with the following restrictions:
 - (a) properties with even-numbered *District* street addresses may only carry out sprinkling on Wednesdays and Saturdays, between the hours of 6:00 am and 8:00 am; and
 - (b) properties with odd-numbered *District* street addresses may only carry out sprinkling on Thursdays and Sundays, between the hours of 6:00 am and 8:00 am.
- (2) Despite Subsection (1), but subject to an Engineer's order under Sections 3 or 4:
 - (a) irrigation/watering of gardens, vegetables, flowers, shrubs, and trees may be carried out using a hand-held wand, a hose equipped with a spring-loaded shut off device, micro/drip irrigation, a soaker hose, or a sprinkler;
 - (b) vehicle or boat washing, preferably on grass or gravel areas, may be carried out using a hand-held wand or a hose equipped with a spring-loaded shut off device;
 - (c) where a lawn has been newly installed or improved, whether by seed or turf, a person may obtain a Sprinkling Permit from the Engineering and Public Works Department to carry out sprinkling of the new lawn between the hours of 6:00 am and 8:00 am daily for a two (2) week period, upon payment of the Sprinkling Permit Fees as prescribed in Schedule A; and
 - (d) all hoses must be equipped with spring-loaded shut-off devices.

2. Stage 2:

- (1) No person may carry out sprinkling of lawns using hose-connected sprinklers, soaker hoses, or automatic in-ground sprinklers/irrigation between May 1 and September 30 each year, except in accordance with the following restrictions:
 - (a) properties with even-numbered *District* street addresses may only carry out sprinkling on Saturdays, between the hours of 6:00 am and 8:00 am; and
 - (b) properties with odd-numbered *District* street addresses may only carry out sprinkling on Sundays, between the hours of 6:00 am and 8:00 am.
- (2) Despite Subsection (1), but subject to an Engineer's order under Sections 3 or 4:

- (a) irrigation/watering of gardens, vegetables, flowers, shrubs, and trees may be carried out using a hand-held wand, a hose equipped with a spring-loaded shut off device, micro/drip irrigation, a soaker hose, or a sprinkler;
- (b) vehicle or boat washing, preferably on grass or gravel areas, may be carried out using a hand-held wand or a hose equipped with a spring-loaded shut off device;
- (c) where a lawn has been newly installed or improved, whether by seed or turf, a person may obtain a Sprinkling Permit from the Engineering and Public Works Department to carry out sprinkling of the new lawn between the hours of 6:00 am and 8:00 am daily for a two (2) week period, upon payment of the Sprinkling Permit Fees as prescribed in Schedule A;
- (d) all hoses must be equipped with spring-loaded shut-off devices;
- (e) golf courses using *District* water for irrigation must reduce fairway watering to two (2) days per week;
- (f) washing or watering down artificial turf and tracks is prohibited, except for health and safety reasons; and
- (g) at water play parks, only appurtenances with user-activated switches are permitted to use water.

3. Stage 3:

- (1) The *Engineer* is authorized to issue an order prohibiting all lawn sprinkling and imposing other restrictions on water use when:
 - (a) the Dickson Lake Drought Management Plan Criteria is not met; or
 - (b) the Maclure Reservoir (in the City of Abbotsford) recharge fails to achieve a level of 3.75 metres by 5:00 am on two (2) consecutive days.
- (2) Where the *Engineer* issues an order under Subsection 1, every person must comply with all water use restrictions specified in the Engineer's order for the time period specified in the order and, without limiting the generality of the order, the following water use restrictions will apply:
 - (a) lawn sprinkling of any kind is prohibited;
 - (b) Sprinkling Permits for newly installed/improved lawns will not be issued;
 - (c) all hoses must be equipped with spring loaded shut-off devices;
 - (d) use of fountains and water features is prohibited;
 - (e) irrigation/watering of gardens, vegetables, flowers, shrubs, and trees may be carried out using a hand-held wand, a hose equipped with a spring-loaded shut off device, micro/drip irrigation, or a soaker hose;
 - (f) vehicle or boat washing is prohibited, except mirrors, windows, lights, and license plates;

- (g) all car washes that do not have recirculation systems are prohibited;
- (h) commercial flower & vegetable farms must limit water use to minimal levels;
- (i) golf courses are prohibited to use *District* water for watering fairways;
- (j) hydrant flushing is prohibited, except for health and safety;
- (k) washing or watering down artificial turf and tracks is prohibited, except for health and safety reasons; and
- (I) at water play parks, only appurtenances with user-activated switches are permitted to use water.
- (3) The *Engineer* is further authorized to issue an order imposing such water use restrictions as the *Engineer* considers necessary where, because of special circumstances or conditions, such restrictions are necessary to ensure that adequate service will be maintained throughout the *District*.

4. Stage 4:

The *Engineer* is authorized to issue an order imposing such water use restrictions as the *Engineer* considers necessary where, because of special circumstances or conditions, such restrictions are necessary to ensure that adequate service will be maintained throughout the *District*.

5. School and Community Use Sports Fields:

- (1) School and community use sports fields may be watered only between the hours of 11:00 pm and 8:00 am, and in accordance with the following schedule:
 - (a) during time periods described in Sections 1 and 2, sand-based fields may be watered daily, while soil-based fields may be watered on alternate days; and
 - (b) for the duration of an order described in Section 3, sand-based fields may be watered on alternate days, while soil-based fields may be watered twice per week.
- (2) Despite Subsection (1), but subject to an order of the Engineer described in Section 4, school and community use sports fields may be watered at any time, if any of the following conditions apply:
 - (a) the field has been constructed or installed within the past 12 months;
 - (b) the field is undergoing renovation or repair at the time of watering, but only in the areas that are being renovated or repaired;
 - (c) the community sports fields are located at Albert McMahon Elementary School, Hatzic Park, Heritage Park Senior Secondary School, Windebank Elementary School, Hatzic Senior Secondary School, Mission Senior Secondary School, Mission Sports Park, and the Mission Leisure Centre; or
 - (d) the field is irrigated with water that is not from the *District* water system.