

## **BULK WATER SUPPLY AGREEMENT**

Dated for reference the 22<sup>nd</sup> day April,

2026. BETWEEN:

**CITY OF PENTICTON**  
171 Main Street  
Penticton, British Columbia, V2A 5A9

(“Penticton”)

AND:

**PENTICTON INDIAN BAND**  
RR#2, Site 80, Comp. 19  
Penticton, British Columbia, V2A 6J7

(the “the PIB”)

### **BACKGROUND**

- A. Penticton and the PIB are governments providing services to their residents, and have agreed to cooperate where possible in the delivery of those services for the respective advantage of each party, and for the benefit of the residents of the region generally;
- B. His Majesty the King in Right of Canada holds legal title to Penticton Indian Reserve No. 1 lands, and the reserve lands have been set apart for the use and benefit of the PIB, pursuant to the *Indian Act*;
- C. Pursuant to the *Community Charter*, Penticton may enter into agreements under which it agrees to provide water to the PIB; and
- D. The PIB wishes to enter into this Agreement so that it can provide water to the Supply Area (hereinafter defined).

NOW THEREFORE in consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties hereto, the parties agree as follows:

### **DEFINITIONS**

1. In this Agreement, the following terms have the following meanings:
  - a. “**Agreement**” means this agreement, titled “Bulk Water Supply Agreement”, including the recitals and schedules hereto, as may be amended and supplemented from time to time in writing.

- b. **“Bulk Meter”** means an apparatus to be located at the Connection Point for measuring and recording the quantity of bulk water passing from Penticton’s Waterworks System to the PIB’s Waterworks System for supply of water to End Users.
- c. **“Capital Service Fee”** means a portion of the annual capital depreciation costs of Penticton’s water treatment plant over the plant’s life allocated to the PIB based on its’ contribution to the demand on the plant.
- d. **“Certificate of Completion”** means a certificate or certificates from a Professional Engineer, prepared under seal, certifying that Total Performance has been achieved.
- e. **“Connection Point”** means the location of the Connection Works as described in Schedule 3 hereto.
- f. **“Connection Works”** means the works necessary to connect Penticton’s Waterworks System to the PIB’s Waterworks System, including the Bulk Water Meter, in accordance with this Agreement and as described in Schedule 3 hereto.
- g. **“Connection Works Licence Area”** means the area shown the aerial photo and labelled “Connection Works License Area” in Schedule 3 hereto.
- h. **“Connection Works Plans”** has the meaning assigned to it in section 17.
- i. **“Construction Security”** has the meaning assigned to it in section 23.
- j. **“Defects or Deficiencies”** means any defects and deficiencies in the Water System Upgrades, including:
  - (i) defects in design or construction that requires repair or replacement due to the negligence of the PIB, a general contractor or other builder, or person for whom any of them is responsible at law;
  - (ii) construction that is not in accordance with the Design; and
  - (iii) defects that result in the failure of the Water System Upgrades to perform their function unless the defects are caused, in whole or in part, by Penticton, its consultants, contractors or Personnel.
- k. **“Effective Date”** means April 22, 2026.
- l. **“End User”** means a property owner or occupier located within the Supply Area ultimately utilizing water supplied by Penticton to the PIB.
- m. **“Environmental Laws”** means any laws, statutes, regulations, orders, bylaws, permits or lawful requirements of any government authority with respect to environmental protection, including in relation to human health, or regulating, controlling, licensing, or prohibiting Environmental Contaminants, and which, for greater certainty, includes the Environmental Management Act, S.B.C. 2003, c. 53.

- n. **“Environmental Contaminants”** means any contaminants, pollutants, hazardous, corrosive or toxic substances, flammable materials, explosive materials, radioactive materials, dangerous goods, microwaves, hazardous waste, urea formaldehyde, asbestos, noxious substances, compounds known as chlorobiphenyls, mould, and any other substance or material the storage, manufacture, disposal, treatment, generation, use, transport, remediation, or release of which into the environment is prohibited, regulated, controlled, or licensed under Environmental Laws.
- o. **“Force Majeure Event”** has the meaning assigned to it in section 48.
- p. **“L/s”** means litres per second.
- q. **“Licence Area Utilities”** has the meaning assigned to it in section 6(e) of Schedule 6.
- r. **“Licence Term”** has the meaning assigned to it in section 3(a) of Schedule 6.
- s. **“Losses”** means liabilities, actions, judgments, claims, losses, damages, orders, fines, penalties, expenses, including related professional and other fees and disbursements, and costs.
- t. **“Municipal Road”** means the public road located in the City of Penticton and known as “Green Avenue West”.
- u. **“Operating Service Fee”** means the Operating Service Fee outlined in Schedule 4, as adjusted by Penticton in accordance with Schedule 4.
- v. **“Party”** means a party to this Agreement and “Parties” means both parties.
- w. **“Personnel”** of a party means the elected officials and directors, officers, employees, servants and agents of that party, as applicable.
- x. **“Permitted Uses”** has the meaning assigned to it in section 2(b) of Schedule 6.
- y. **“Supply Area”** means the area generally known as Penticton IR#1 having an area of 19,277 hectares.
- z. **“Supply Area Connection”** means a water connection between the PIB’s Waterworks System and an End User.
- aa. **“Total Performance”** means when the Water Distribution System Upgrades and Connection Works, including all deficiencies but excluding any correction that appears during the Warranty LOC Period, have been constructed in accordance with Water System Upgrade Plans, and as required by this Agreement.
- bb. **“Term”** shall have the meaning ascribed to it in section 5;
- cc. **“Volume Limit”** means volume limits of water supplied under this Agreement on the maximum daily volume and maximum daily flow as set out in sections 7(a) and 7(b);

- dd. **“Warranty Items”** means any Defects or Deficiencies in the Water System Upgrades and any damage to Penticton’s Waterworks System or property attributable to such Defects or Deficiencies.
- ee. **“Warranty LOC”** has the meaning assigned to it in section 25.
- ff. **“Warranty LOC Period”** means a period of 2 years beginning on the latter of the following dates:
  - (i) Penticton receiving the Water System Upgrade Certificate of Completion, or
  - (ii) Penticton completing the Water System Upgrade Works utilizing the Construction Security
- gg. **“Water Bylaw”** means Penticton’s *Irrigation, Sewer and Water Bylaw No. 2005-02*, as amended, revised, consolidated, or replaced from time to time.
- hh. **“Water Meter”** means an apparatus to be located within the Supply Area that measures and records the quantity of water passing from the PIB’s Waterworks System to an End User;
- ii. **“Water Servicing Review”** means the Water Servicing Review prepared by Clive Leung and Ana Kovacevic of WSP Global Inc., dated April 6, 2023, and attached hereto as Schedule 1.
- jj. **“Waterworks System”** means the system of water mains and pipes, pumps, and other facilities and equipment used to supply potable water, up to and including the Connection Point and the Connection Works.
- kk. **“Water Distribution System Upgrades”** means the upgrades to Penticton’s Waterworks Distribution System recommended on page 10 the Water Servicing Review, which are currently as follows:
  - i. W-03: Replace 483 m of the existing 200 mm watermain along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent. North of De Renzy Place the main would be replaced with a 300 mm main, and south of the midpoint it would be replaced by a 250 mm main; and
  - ii. W-04: Replace 492 m of the existing 250 mm watermain along Skaha Lake Road from Waterford Ave to Yorkton Ave with a 300 mm main.

In accordance with section 18, Penticton may, in its sole discretion, change the nature of the Water Distribution System Upgrades, including by changing the specifications of the details outlined above or adding or removing upgrades, and any such changes will be incorporated into this definition.

- ll. **“Water System Upgrades”** means, collectively, the Water Distribution System Upgrades and Connection Works.

- mm. **“Water System Upgrade Plans”** has the meaning assigned to it in section 17.
- nn. **“Water Treatment Plant Capacity Assessment”** means the memorandum prepared by Brett de Wynter of AECOM Canada Ltd. attached hereto as Schedule 2.

## **INTERPRETATION**

- 2. The following are the Schedules attached to and incorporated in this Agreement by reference and deemed to be a part hereof:
  - (a) Schedule 1 – Water Servicing Review: Distribution Works
  - (b) Schedule 2 – Water Treatment Plant Capacity Assessment
  - (c) Schedule 3 – Connection Point Works
  - (d) Schedule 4 – Fee Structure
  - (e) Schedule 5 – Draft Construction Licence
  - (f) Schedule 6 – Connection Works Terms
- 3. Any act or enactment referred to herein is a reference to an enactment of the Province of British Columbia and regulations thereto, as amended, revised, consolidated or replaced from time to time, and any bylaw referred to herein (as may be cited by short title or otherwise) is a reference to an enactment of the municipal council of Penticton (as the case may require), as amended, revised, consolidated or replaced from time to time.

## **EFFECTIVE DATE / TERM OF AGREEMENT**

- 4. This Agreement shall take force and be of effect as of the Effective Date.
- 5. This Agreement shall have a term of 20 years from the Effective Date (the **“Term”**) unless terminated in accordance with this Agreement.

## **WATER SUPPLY**

- 6. During the Term, Penticton shall supply water to the PIB for distribution to and use within the Supply Area, subject to the terms and conditions of this Agreement.
- 7. The maximum daily volume and flow rate limitations of water supplied by Penticton under this Agreement, as measured at the Bulk Meter, shall be as follows:
  - (a) maximum flow rate: 50L/s.
  - (b) maximum daily volume: 4.3 Megaliters per day.

8. Penticton will use reasonable commercial efforts to provide water to the PIB to meet demands up to and including 50L/s, in a similar fashion as is provided to Penticton water users.
9. Penticton will use reasonable commercial efforts to provide water to the PIB to the same standard and quality as water is ordinarily provided by Penticton to its customers.
10. the PIB acknowledges and agrees that there may be from time-to-time interruptions or reductions in the volume of water Penticton provides pursuant to this Agreement, and that Penticton will not be held liable for any losses, costs, damages, claims or expenses arising from or connected with a temporary interruption or reduction in the volume of water provided under this Agreement unless it has been negligent or in breach of its statutory duties.
11. Where the water supply is to be shut off by Penticton or restricted for reason of shortage of water supply, Penticton will give at least seven days' notice to the PIB of such shut off, but no notice or shorter notice may be given where safety of life or property is at risk.
12. Where the water supply is to be temporarily shut off for maintenance, renovation, replacement, disinfection or other operation of Penticton's Waterworks System for greater than 2 hours, Penticton will use its best efforts to give at least two weeks' notice to the PIB for scheduled work, but no notice or shorter notice may be given where safety of life or property is at risk. Penticton and the PIB will work together to mitigate any potential adverse effects to the PIB resulting from planned water supply disruptions greater than 2 hours.

#### **RATES AND COLLECTION OF FEES**

13. the PIB shall pay Penticton the Operating Service Fee, as measured using the Bulk Meter, and the Capital Service Fee established outlined in Schedule 4 hereto for the water supplied by this Agreement. These rates will be updated from time to time by Penticton, at the sole discretion of Penticton, using the general methodology as outlined in Schedule 4. For clarity, the Operating Service Fee and Capital Service Fee will become payable only after PIB has connected the Connection Works to Penticton's Water Works system.
14. The PIB shall be responsible for the collection of all water rates, fees and other charges required to be paid by End Users pursuant to this Agreement.
15. Penticton will invoice the PIB on a monthly basis for the Operating Service Fee and the Capital Service Fee with payment required within 30 days of invoicing. Should payment not be received within 30 days, the Penticton may terminate this agreement in accordance with section 45.
16. If the PIB exceeds the maximum daily volume outlined in section 7(b), the applicable rate for such water in excess of the 4.3 Megalitres shall be subject to a surcharge of 50% of the price per m<sup>3</sup> then in effect at the time of delivery.

## DESIGN AND CONSTRUCTION OF CITY WATER SYSTEM UPGRADES

17. Within 180 days of the Effective Date, the PIB will submit plans, drawings and specifications prepared by a Professional Engineer under seal for the Water Distribution System Upgrades and Connection Works with such upgrades and works generally meeting the design criteria for water distribution system design outlined in Schedule G of Penticton Subdivision & Development Bylaw 2004-81, to the General Manager of Infrastructure for their review and approval. Concurrently, the PIB will also provide a Class C cost estimate for the construction of the Water Distribution System Upgrades and Connection Works. Once approved, the plans, drawings and specifications will be the **"Water System Upgrade Plans"** and the **"Connection Works Plans"**.
18. Prior to the PIB commencing construction of the Water Distribution System Upgrades, Penticton may, in its' sole discretion, make changes to the Water Distribution System Upgrades if such changes do not result in an increase in the PIB's cost to design, tender, and construct the Water Distribution System Upgrades, and such changes will be effective upon Penticton providing written notice of the same to the PIB. Once effective, the definitions of Water Distribution System Upgrades will be read to include such changes, and the PIB will revise the Water System Upgrade Plans and the Connection Works Plans accordingly.
19. Prior to constructing the Water Distribution System Upgrades and Connection Works, the PIB will obtain any permits and licences required in respect thereto pursuant to the applicable City bylaws and any other applicable laws and shall pay any inspection, licence and permit fees required therefor.
20. Prior to constructing the Water Distribution System Upgrades and Connection Works:
  - (a) the PIB will enter into a licence agreement with Penticton in substantially the same form as the draft licence agreement attached hereto as Schedule 5;
  - (b) Penticton will obtain a surface water licence pursuant to the *Water Sustainability Act* that authorizes Penticton to use quantities of water sufficient to provide the PIB with the flow rate and daily volume Penticton has agreed to provide under this Agreement. The PIB and Penticton will work cooperatively to apply for such licence and will each provide all authorizations and documentation reasonably required for such licence to be issued.
21. Within 730 days of the General Manager of Infrastructure providing written approval of the Water Distribution System Upgrade Plans and Connection Works Plans, the PIB will complete construction of the Water Distribution System Upgrades and Connection Works strictly in accordance with the Water System Upgrade Plans and Connection Works Plans.
22. Upon completion of the Water Distribution System Upgrades and Connection Works, the PIB will provide to the General Manager of Infrastructure a Certificate of Completion from a Professional Engineer, prepared under seal, certifying that the Water Distribution System Upgrades and Connection Works are complete (the **"Certificate(s) of Completion"**).

## SECURITY AND WARRANTY FOR WATER SYSTEM UPGRADES

23. Concurrently with the PIB's execution of this Agreement, the PIB shall provide to Penticton an irrevocable and unconditional letter of credit, in a form acceptable to Penticton, issued by a Canadian Chartered Bank or BC Credit Union and presentable at a location acceptable to Penticton, in the amount of \$400,000.00 (the "**Construction Security**").

24. If:

- (a) Penticton terminates this Agreement pursuant to section 45; or
- (b) the PIB defaults in its obligations under sections 17 – 22 and such default is not waived in writing by Penticton,

Penticton may, without notice to the PIB, draw down the Construction Security and retain the drawn down amount as a genuine pre-estimate of Penticton's damages and may use such drawn down amount to, at its sole election:

- (c) complete the Water Distribution System Upgrades; or
- (d) perform any work necessary to repair or mitigate any potential or actual negative impacts or damage to Penticton's Waterworks System resulting from work completed by the PIB pursuant to this Agreement and restore it to good work order.

If the Construction Security is insufficient to pay Penticton's cost of completing (a) or (b) above, the PIB shall pay any such shortfall to Penticton within 21 days following receipt of an invoice for the outstanding amount.

For clarity, Penticton is not obligated to complete the Water System Upgrades if it draws down the Construction Security.

25. Within 30 days of:

- (a) Penticton receiving the Certificate of Completion from the PIB, or
- (b) Penticton completing the Water Distribution System Upgrade Works and Connection Works utilizing the Construction Security

Penticton will return any unused portion of the Construction Security to the PIB except for 10% of the original amount of the Construction Security, and such amount will be retained by Penticton as the "**Warranty LOC**".

26. During the Warranty LOC Period:

- (a) the PIB will remedy any Warranty Items that arise during such period;
- (b) Penticton may use the Warranty LOC to:

- (i) correct the Warranty Items that the PIB has not repaired in accordance with this Agreement, and
- (ii) make good or pay for any damage to Penticton's Waterworks System or property attributable to such defects resulting from any Warranty Items that the PIB has not repaired in accordance with this Agreement.

27. Within 30 days of the later of:

- (a) the expiration of the Warranty LOC Period;
- (b) the completion, to the satisfaction of Penticton, acting reasonably, of the correction of all Warranty Items appearing during the Warranty LOC Period in accordance with this Agreement,

Penticton will return the Warranty LOC to the PIB.

#### **CONNECTION TO PENTICTON WATER WORKS SYSTEM**

- 28. PIB will not connect the Connection Works to Penticton's Water Works system until Penticton is satisfied that the Water Distribution System Upgrades and Connection Works are suitable for connection and Penticton has provided authorization to connect.
- 29. PIB will have the right to use the Connection Works Licence Area in accordance with the terms outlined in Schedule 6 hereto.

#### **OWNERSHIP OF WATER SYSTEM UPGRADES AND CONNECTION WORKS**

- 30. The Water Distribution System Upgrades shall be owned by Penticton and, after the Warranty Period ends, Penticton shall be responsible for the associated costs of maintenance, repair and replacement of the Water Distribution System Upgrades as may be necessary.
- 31. The Connection Works located to the east of the bold red line running roughly north to south as denoted on the plan excerpt in Schedule 3 shall be owned, operated, repaired and maintained by Penticton at its cost, and PIB shall be responsible for the associated costs of maintenance, repair, and replacement of all other Connection Works, including Connection Works located within Penticton's municipal boundaries.
- 32. Penticton and the PIB acknowledge and agree that:
  - (a) all Waterworks Systems or portions thereof owned or installed by Penticton and the PIB and located outside the Supply Area and within Penticton's municipal boundaries, excluding the portion of the Connection Works within Penticton's municipal boundaries that are identified in section 30 as being the responsibility of the PIB, are and will remain the property of Penticton, and no interest, right or title to such water works shall be conveyed to the PIB under this Agreement; and

- (b) all Waterworks Systems or portions thereof owned or installed by the PIB within the Supply Area, including the portion of the Connection Work within Penticton's municipal boundaries that are identified in section 30 as being the responsibility of the PIB, are and will remain the property of the PIB, and no interest, right or title to such Waterworks Systems shall be conveyed to Penticton under this Agreement.
33. Representatives of Penticton may, upon giving at least seven days written notice to the PIB enter upon the PIB property for the purpose of ensuring compliance with the terms of this Agreement. Notwithstanding the foregoing, where Penticton determines that it requires immediate access to the PIB property to prevent or address an emergency situation, it will not be required to give advance notice to the PIB.

### **WATER CONSERVATION**

34. The PIB will:
- (a) within 1095 days of the Effective Date, ensure a Water Meter is installed at each End User Connection in the Supply Area;
  - (b) after the Effective Date, ensure that each new Supply Area Connection is monitored by a Water Meter prior to connecting an End User to the PIB Waterworks System;
  - (c) use reasonable efforts to ensure that all Water Meters within the Supply Area are at all times functional and in good working order and condition and monitoring the relevant Supply Area Connection;
  - (d) prohibit the installation of new Supply Area Connections without the permission of the PIB;
  - (e) not provide or allow water supplied by Penticton under this Agreement to be distributed for any use beyond the Supply Area;
  - (f) not use or allow to be used any water supplied by Penticton under this Agreement to be sold or distributed by the PIB outside of the Supply Area; and
  - (g) not use or allow to be used any water supplied by Penticton under this Agreement to be sold or distributed by End Users to third parties.
35. The PIB agrees that it will, prior to the Effective Date, implement a robust water conservation program for the Supply Area and establish water restriction criteria through bylaw, policy or other regulation equal to or more stringent than Penticton's programs and requirements to prepare for periods of drought or other water shortage with a provision therein requiring that in the event that Penticton implements measures to increase water conservation, the same measures shall automatically apply to the PIB.
36. The PIB will use all reasonable efforts to impose and enforce such programs and criteria contemplated in section 34 on End Users throughout the term of this Agreement.

37. The PIB will ensure that any restrictions on water use imposed on Penticton by provincial or federal authorities with respect to the types of water used as exist in the Service Area will be equally and immediately applicable to water use within the Service Area under this Agreement.

## **INSURANCE**

38. The PIB will effect and keep in force commercial general liability insurance with limits of not less than \$10,000,000.00, or such other amount as Penticton may require from time to time, acting reasonably, per occurrence, against public liability claims for bodily injury, death and property damage (including loss of use) arising from the PIB's supply of water within the Supply Area. Such insurance will be written on an occurrence basis and will provide for blanket contractual liability, including liability assumed by the PIB under this Agreement. The policy will also contain a cross liability or severability of interests clause and will name Penticton and their respective Personnel as additional insureds with respect to third party claims arising out of the PIB's operations pursuant to this Agreement.
39. The following provisions will apply to all policies of insurance which are referred to in section 37:
- (a) the policies will be primary and non-contributing with respect to any policy or self-insured fund otherwise held or established on behalf of Penticton;
  - (b) the policy will be written on a form acceptable to Penticton and with insurers licenced to do business in the Province of British Columbia and acceptable to Penticton;
  - (c) any deductible amounts applying to a claim against a policy will be of an amount approved by Penticton;
  - (d) each policy will contain a clause requiring that the insurers provide to Penticton a minimum of thirty (30) days prior written notice of any cancellation (except for cancellation resulting from non-payment of premiums, in which case applicable statutory provisions will apply);
  - (e) all premiums and deductibles required under said policies will be paid by the PIB to the insurers and proof of such payment will be submitted to Penticton; and
  - (f) the PIB will provide Penticton with a new Certificate of Liability insurance annually upon policy renewal.

In addition to the notification obligations of the insurers required by section 38(c) above, the PIB will provide to Penticton a minimum of 60 days prior written notice of any cancellation, lapse or material change resulting in reduction of coverage, either in whole or in part, in respect of the policy of insurance required under section 38.

40. To the extent permitted by law, PIB hereby waives any and all rights of recovery or subrogation against Penticton and their respective Personnel for any damage or loss that is insured under any policy of insurance to be obtained or maintained by the PIB pursuant

to this Agreement. The PIB shall obtain the necessary endorsements to effectuate this waiver.

#### **EXCLUSION OF LIABILITY**

41. Neither Penticton nor their respective Personnel or contractors will be liable for, and the PIB hereby releases Penticton and their respective Personnel and contractors from all Losses, including without limitation, Losses as a result of any bodily injury or death caused, suffered or sustained as a result of the PIB's supply of water to End Users unless resulting from the respective negligence or wilful acts of Penticton or their respective Personnel or contractors, as the case may be.
42. The PIB acknowledges and agrees that, under Section 744 of the *Local Government Act*, Penticton shall not be held liable in any action based on nuisance or on the rule in *Rylands v Fletcher* if the damages arise, directly or indirectly, out of the breakdown or malfunction of a water system.

#### **INDEMNIFICATION**

43. The PIB will indemnify and save harmless Penticton and their respective Personnel and contractors from and against all Losses which Penticton or their respective Personnel or contractors may suffer or incur arising out of this Agreement, including, without limitation, all Losses suffered or incurred by Penticton or their respective Personnel and contractors that arise, whether directly or indirectly, from any breach by the PIB, its Personnel, contractors or any other person for whom the PIB is responsible in law, of any of its covenants and obligations under this Agreement, and except where such Losses result from the respective negligence or wilful acts of Penticton or their Personnel or contractors, as the case may be.
44. Penticton will indemnify and save harmless the PIB and their respective Personnel and contractors from and against all Losses which the PIB or their respective Personnel or contractors may suffer or incur arising out of this Agreement, including, without limitation, all Losses suffered or incurred by the PIB or their respective Personnel and contractors that arise, whether directly or indirectly, from any breach by Penticton, its Personnel, contractors or any other person for whom the Penticton is responsible in law, of any of its covenants and obligations under this Agreement, and except where such Losses result from the respective negligence or wilful acts of the PIB or their respective Personnel or contractors, as the case may be.

#### **DISPUTE RESOLUTION**

45. The Parties' designated representatives will make reasonable efforts to resolve a dispute or disagreement concerning this Agreement. If a dispute or disagreement cannot be resolved by the Parties' representatives after three meetings, the City Manager on behalf of Penticton and the Chief of the PIB will meet to discuss the dispute or disagreement and attempt to resolve it in a timely manner.

45. Should the Parties be unable to resolve a dispute or disagreement in the manner set forth in section 44, the Parties will utilize the procedures set forth in sections 46 and 47 as a condition precedent to either Party pursuing other available remedies.
- 46.
- (a) Either Party may notify the other by written notice ("Dispute Notice") of an outstanding dispute and a desire to resolve the dispute by mediation.
  - (b) After delivery of a Dispute Notice, a meeting will be held promptly between the Parties, attended by representatives of the Council of the PIB and Penticton's City Manager and General Manager of Infrastructure, to attempt in good faith to negotiate a resolution of the dispute (the "Dispute Meeting").
  - (c) If, within 14 days after the date of the Dispute Meeting or such further period as is agreeable to the Parties, the Parties have not resolved the dispute, they agree that the dispute will be submitted to mediation.
  - (d) The Parties will jointly appoint a mutually acceptable mediator, seeking assistance from the Vancouver International Arbitration Centre if they have been unable to agree upon such appointment, within 20 days of the date of the Dispute Meeting.
  - (e) The Parties agree to participate in good faith in the mediation and negotiations related thereto for a period of 30 days from the date the mediator is appointed, or for such longer period as the Parties may agree.
  - (f) The costs of mediation will be shared equally between the Parties. Costs incurred by a Party for representation by legal counsel during the mediation shall be the responsibility of the Party who retained legal counsel.
47. If a dispute is not resolved within 30 days from the date the Parties appoint a mediator, then, upon application by the PIB or Penticton, the disagreement will be referred and resolved by a single arbitrator pursuant to the Arbitration Act, RSBC 1996, c 55. The decision of the arbitrator on all issues or matters submitted to the arbitrator for resolution shall be conclusive, final and binding on the Parties. The cost of the arbitrator shall be borne equally by the PIB and Penticton unless the arbitrator determines otherwise. Costs incurred by a Party for representation by legal counsel during the arbitration shall be the responsibility of the Party who retained legal counsel.

#### **DEFAULT/TERMINATION**

46. Should either Party be in breach of its covenants or undertakings under this Agreement which remains unrectified for a period of 30 days following written notification of such breach, the Party not in breach may, at its option and without prejudice to any other rights or remedies it might have, immediately terminate this Agreement.
47. Either Party may terminate this Agreement by providing not less than 180 days written notice of such termination to the other Party.

## ACKNOWLEDGEMENT OF RIGHTS

48. Nothing contained in this Agreement will be deemed to limit or affect the legal rights, duties of obligations of Penticton or the PIB. The Parties agree that nothing in this Agreement will affect the cooperation or consultation covenants the parties have entered into pursuant to other Agreements.

## GENERAL


49. **Unavoidable Delay** – If, by reason of strike, lock-out or other labour dispute, material or labour shortage not within the control of Penticton, fire, explosion, flood, wind, water, earthquake, act of God, pandemic or other similar circumstances beyond the reasonable control of Penticton and not avoidable by the exercise of reasonable effort or foresight by Penticton (a “**Force Majeure Event**”), Penticton is, in good faith and without default or neglect on its part, prevented or delayed in performing its’ obligations under this Agreement, Penticton will not be deemed to be in default if it performs and completes its obligations in the manner required by the terms of this Agreement within a reasonable time period following the conclusion of the Force Majeure Event.
50. **Time** – Time shall be the essence of this Agreement and the transactions contemplated in this Agreement.
51. **Notice** – Any notice required or permitted to be given under this Agreement shall be sufficiently given if delivered personally or if sent by prepaid registered mail to the address indicated on page one provided that any party shall be entitled to designate another address by giving notice of it to the other party in accordance with the terms of this Agreement. Any notice so mailed shall be deemed to have been received, except during a period of interruption of normal postal service, on the fourth business day following the date of mailing.
52. **Further Assurances** – Each Party shall from time to time execute and deliver or cause to be executed and delivered all such further documents and instruments and do or cause to be done all further acts and things as any of the other party may reasonably require as being necessary or desirable in order to effectively carry out or better evidence or perfect the full intent and meaning of this Agreement or any provision hereof.
53. **No Assignment** – No Party may assign its rights under this Agreement without the prior written consent of the other Party.
54. **Binding Effect** – This Agreement shall enure to the benefit of and be binding upon the Parties to it, their respective heirs, executors, administrators, and other legal representatives and, to the extent permitted in this Agreement, their respective successors and assigns.
55. **Extended Meanings** – Words importing the singular number include the plural and vice versa, and words importing the masculine gender include the feminine and neuter genders.
56. **Entire Agreement** – This Agreement constitutes the entire agreement between the Parties with respect to the subject matter of the Agreement and contains all of the

58. **Counterparts** – This Agreement may be signed in counterparts and each such counterpart will constitute an original document and such counterparts, taken together, will constitute one and the same instrument. A counterpart may be delivered by fax or any other form of electronic transmission.

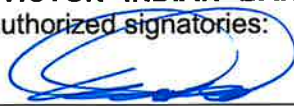
As evidence of their agreement to be bound by this Agreement, the parties have executed this Agreement below:

the **CITY OF PENTICTON** by its' authorized signatories:

  
\_\_\_\_\_  
Signature  
JULIUS BLOOMFIELD  
\_\_\_\_\_  
Name  
MAYOR  
\_\_\_\_\_  
Title  
APRIL 22 2026  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature  
Kristen Dixon  
\_\_\_\_\_  
Name  
General Manager of Infrastructure  
\_\_\_\_\_  
Title  
Apr. 22, 2026  
\_\_\_\_\_  
Date

**PENTICTON INDIAN BAND** by its' authorized signatories:

  
\_\_\_\_\_  
Signature  
GREG GABRIEL  
\_\_\_\_\_  
Name  
CHIEF  
\_\_\_\_\_  
Title  
April 22/26  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature  
Dolly Kruger  
\_\_\_\_\_  
Name  
Councillor  
\_\_\_\_\_  
Title  
April. 22. 2026  
\_\_\_\_\_  
Date

representations, warranties, covenants and agreements of the respective parties, and may not be amended or modified except by an instrument in writing executed by the Parties. This Agreement supersedes all prior agreements, memoranda, and negotiations between the Parties.

57. **Jurisdiction** – This Agreement shall be construed in accordance with and governed by the laws of British Columbia.

**SCHEDULE 1**

**Water Servicing Review**



April 6, 2023

Confidential

City of Penticton  
616 Okanagan Avenue East  
Penticton, BC V2A 3K6

**Attention: Mr. Jonathan Chu, P.Eng., PMP, City Engineer**

Dear Mr. Chu:

**Subject: Interim Water Supply to PIB – Water Servicing Review**

We are pleased to submit the following letter report with hydraulic model results determining the impact to the City of Penticton's water system for the proposed temporary/interim water supply to the Penticton Indian Band.

## INTRODUCTION

The City of Penticton (City) has retained WSP Canada Inc. (WSP) to assess impacts to the City's water users with a new interim supply connection to the Penticton Indian Band (PIB) lands. The proposed connection point is located near the intersection of Green Avenue West and Channel Parkway. The node is serviced from an existing 150 mm Asbestos Cement watermain which runs along Green Avenue West.

The City's latest water model, developed for the 2021 Water Master Plan (WMP), was used to support and complete the assessment. The focus of this report is to identify upgrades required to the City's existing water distribution system to maintain levels of service within City boundaries.

## SCOPE OF WORK

The extent of this study includes the identification of various infrastructure constraints pertinent to providing potable water to PIB, as well as recommendations with respect to infrastructure upgrades within the City. The intent of this assessment is to identify impacts to the existing City water utilities, rather than comment on levels of service within the connected PIB service area.

The objectives of the water servicing analysis are to provide the following:

- Using the City's hydraulic model, analyze the impact on the City's water distribution network due to the proposed water supply to the PIB lands;
- Analyze the impacts to service pressures for existing conditions with proposed water supply to PIB (25 L/s or 50 L/s);

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wsp.com



- Analyze the impacts to fire flow availability within the City under existing conditions with proposed water supply (25 L/s or 50 L/s);
- Provide recommendations for water system improvements to address deficiencies within the City’s water network, where required;
- Provide Class C cost estimates for improvements required; and,
- Summarize the completed analysis and infrastructure upgrade requirements in a final report.

## WATER SERVICING ANALYSIS

The City’s Subdivision and Development Bylaw No. 2004-81, MMCD Design Guideline Manual, as well as the City’s 2021 Water Master Plan (WMP), were referenced in defining the design criteria for water servicing requirements.

The following sections summarize the assumptions and design criteria used, the demand allocation at the boundary of the City’s hydraulic water model, and the analysis/impact to the City.

## WATER SUPPLY DESIGN CRITERIA

### Available Service Pressures

Minimum service pressures are required to ensure an adequate flow and pressure of water to all serviced properties within the City and are stipulated in the City’s Subdivision and Development Bylaw No. 2004-81, summarized in Table 1.

*Table 1: City of Penticton Service Pressure Requirements*

During Average Day	Maximum	150 psi (1034 kPa)
During Average Day	Minimum	40 psi (280 kPa)
During Peak Hour	Minimum	36 psi (250 kPa)
During Maximum Day Plus Fire Flow	Minimum	20 psi (140 kPa)

### Fire Protection

Water distribution systems must be able to deliver large volumes of water for fire protection in addition to meeting water demands. Highlighting that the intent of the assessment is to understand the impact to fire protection within the City, modelling assumptions and considerations are as follows:

- 1 Only one fire, within the City, will be fought at any one time;
- 2 To ensure pumper trucks obtain adequate water supply from hydrants, a minimum residual pressure (20 psi) on the street main is required during fires;
- 3 Fire flow is coincident to maximum day demand within the City and maximum day demand within the connected service areas;
- 4 The minimum required fire flows within City bounds in this assessment are as per the 2021 Water Master Plan, where model nodes in the City’s water model were assigned fire flows for adjacent land uses according to the City’s Bylaw No. 2004-81.



## DEMAND ALLOCATION

As requested by PIB, water demands in the amounts of both 25 L/s and 50 L/s PIB demands will be modelled in conjunction with the City’s existing MDD and PHD demand scenarios.

Demands will be added based on the Domestic SF (single family) usage pattern in the 2021 Penticton WMP. Since the water model is population based for water demand entry, MDD and PHD demands will be correlated with the population to L/s multiplier for hours 15:00 and 21:00, respectively to determine the required equivalent population to simulate the 25 L/s and 50 L/s demands to PIB for each scenario.

## WATER SERVICING HYDRAULIC ASSESSMENT

The objective of the hydraulic analysis is to assess the impact to the existing watermain network while providing potable water to the PIB. Adequate levels of service within City bounds are to be maintained in compliance with the City’s design criteria. This analysis considers the City’s existing distribution system assessed with the additional water connection to the PIB lands and provides system improvement recommendations as required for levels of service as prescribed by the City’s Bylaw No. 2004-81.

### Existing HGLs

For future on-site servicing modelling purposes, the PIB project team has requested that the existing hydraulic grade line (HGL) at the connection point. This information is summarised in Table 2.

*Table 2: HGL at Service Area Connection Node*

SCENARIO	HGL AT J-433-649 (M)
Existing ADD	429.4
Existing MDD	424.6
Existing PHD	419.9

### HGLs under Different Withdrawal Scenarios

Additionally, PIB requested that the HGL at the connection point (node J-433-649) for different ADD, MDD and PHD scenarios also be reported. These HGLs are given in Table 3.

*Table 3: HGL at the Connection Point for Different Withdrawal Rates under ADD, MDD and PHD*

PIB WITHDRAWAL RATE (L/S)	HGL AT J-433-649 (M) WITH ADD IN CITY SYSTEM	HGL AT J-433-649 (M) WITH MDD IN CITY SYSTEM	HGL AT J-433-649 (M) WITH PHD IN CITY SYSTEM
0	429.4	424.6	419.9
10	428.4	423.1	418.1
20	426.6	420.9	415.5
30	424.1	418.0	412.3
40	420.8	414.4	408.5

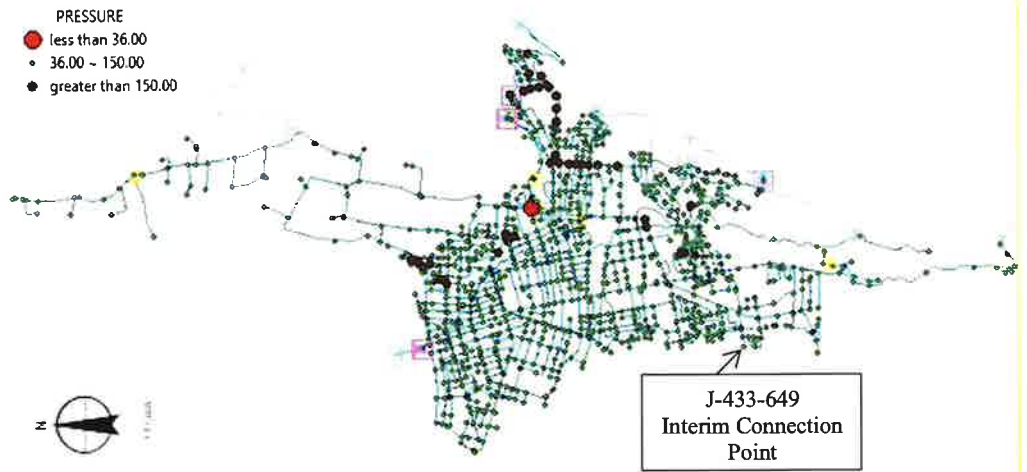


PIB WITHDRAWAL RATE (L/S)	HGL AT J-433-649 (M) WITH ADD IN CITY SYSTEM	HGL AT J-433-649 (M) WITH MDD IN CITY SYSTEM	HGL AT J-433-649 (M) WITH PHD IN CITY SYSTEM
50	416.9	410.1	404.0
60	412.3	405.2	398.8
70	407.1	399.7	393.0
80	401.3	393.5	386.5
90	394.8	386.7	379.5
100	387.8	379.3	371.8
110	380.1	371.3	363.6
120	371.9	362.7	354.8

**Service Pressure Analysis under PHD**

Refer to the 2021 Water Master Plan for maps of existing PHD pressures within the water network.

Modelling the PHD scenario with a 25 L/s connection to PIB results in pressures within the City distribution network that are similar to the existing scenario (without PIB connection), and all service nodes are above the minimum allowable pressure (36 psi). No additional deficiencies are observed within the system as shown in Figure 1.



**Figure 1: Pressures during Existing PHD with 25 L/s connection**

Under the 50 L/s interim connection scenario, one additional node, J-433-523 on Greenwood Drive near Dafoe Street is slightly deficient with 33.0 psi pressure. Zone transfer is possible by transferring the node from the 433 m to the 555 m zone. However, given the deficiency is minor (within 10%) and occurring only under PHD (theoretically the peak hour of consumption during the whole year), it has been agreed with the City that transfer will not be required in this case. The new deficiency is observed as shown in Figure 2.

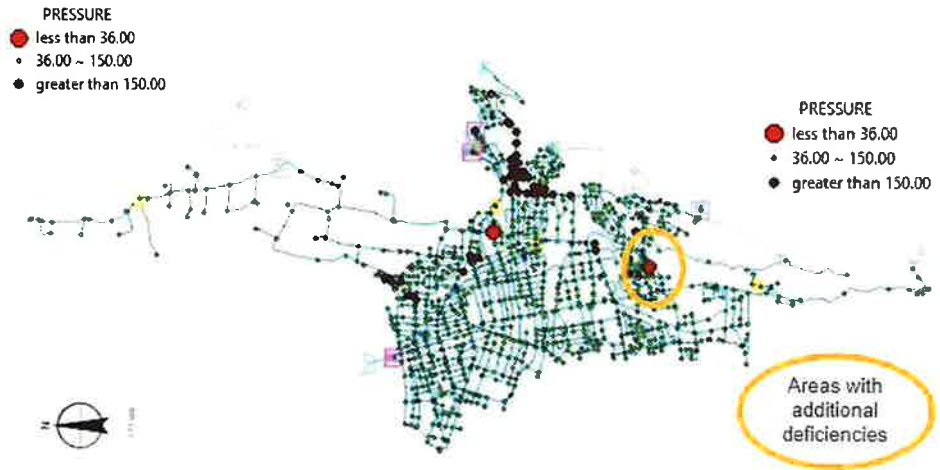


Figure 2: Pressures during Existing PHD with 50 L/s connection

Table 4 outlines the PHD pressures at the service connection node with and without the additional service connection in the existing scenarios respectively. Service pressures at connection points remains within acceptable limits in all cases.

Table 4: PHD Service Pressures at Service Area Connection Node – Existing Scenario

SCENARIO	PRESSURE AT J-433-649 (PSI)
Existing PHD	114
Existing PHD with 25 L/s connection	105
Existing PHD with 50 L/s connection	91

**Fire Flow Analysis during MDD**

The City’s hydraulic model was run to determine the available fire flows coincident to maximum day demand within the City and with the additional service connection to the PIB lands. The number of new fire flow deficiencies triggered with the additional service to the PIB are summarized in Table 5, and are in addition to the City’s existing fire flow deficiencies, which are detailed in the 2021 Water Master Plan and shown in Figure 3.

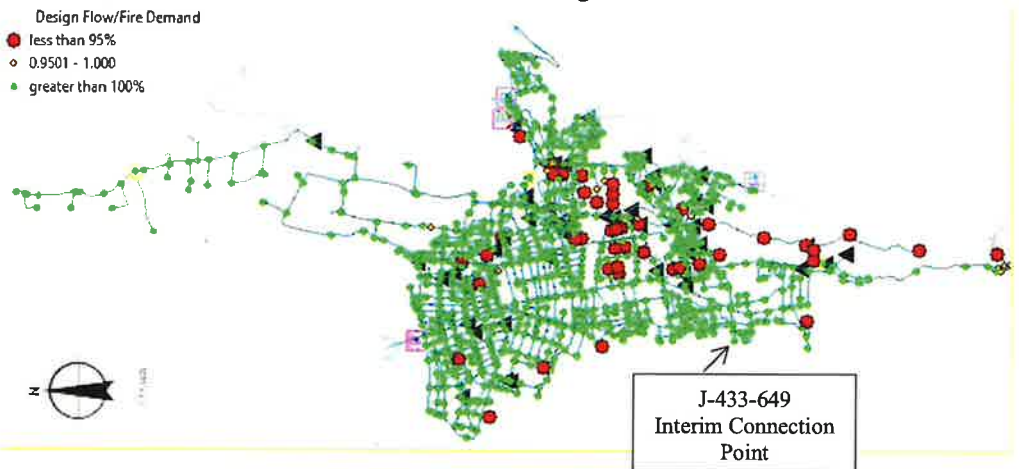


Figure 3: Available Fire Flows during Existing MDD

*Table 5: Impact to Fire Protection – Added Deficiencies*

SCENARIO	NUMBER OF NEW FIRE FLOW DEFICIENCIES
Existing MDD+FF with 25 L/s connection	6
Existing MDD+FF with 50 L/s connection	14

As shown in Figures 4 and 5, nodes that become deficient are located around the Skaha Lake Park area and the south end of Lakeside Road.



*Figure 4: Available Fire Flows during Existing MDD with 25 L/s connection*

In the case of the 25 L/s connection, 6 additional deficiencies are observed, including 1 near Skaha Lake Park and 5 at the south end of Lakeside Road. These nodes were assessed for whether the hydrant design flow was greater than the fire demand and, in all cases, they provided less than 95% of the required flow.



*Figure 5: Available Fire Flows during Existing MDD with 50 L/s connection*

Similarly for the 50 L/s connection, additional deficiencies are limited to the Skaha Lake Park and Lakeside Road areas, with 7 deficient nodes in each location respectively. The nodes were found to be deficient within a range 8% to 14% as outlined in Table 6.



*Table 6: Impact to Fire Protection – Nodes Affected*

SCENARIO	NODES	DEFICIENCY (%)
Existing MDD+FF with 25 L/s	J-433-414, J-433-535, J-433-539	≤7%
	J-433-354, J-433-542, J-433-545	8%
Existing MDD+FF with 50 L/s	J-433-341, J-433-342 J-433-346, J-433-415 J-433-529, J-433-538	≤10%
	J-433-210, J-433-340 J-433-354, J-433-414 J-433-535, J-433-539 J-433-542, J-433-545	>10%

## WATER SERVICING SYSTEM IMPROVEMENTS

Under existing fire flow conditions with the 25 L/s connection, the area around the Skaha Lake Park and the south end of Lakeside Road becomes fire flow deficient where previously there was only a single deficiency in each. In the Skaha Lake Park location the pipe network consists of 250 mm cast iron mains dating from the 1950s. Along Lakeside Road, the existing water system includes 200 mm PVC mains from the 1980s.

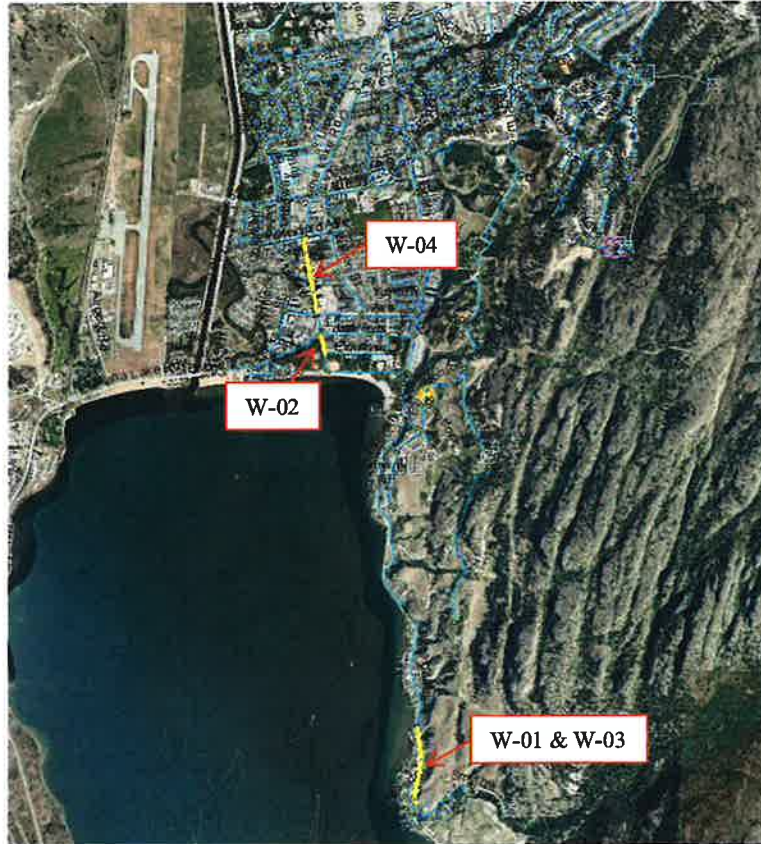
Similarly, in the existing demand scenario with an additional 50 L/s connection the same areas become deficient.

Table 7 summarizes the system improvements recommended to provide adequate fire flow to the impacted areas. Locations of the proposed upgrades are outlined in Figure 6.

*Table 7: Proposed Water System Improvements for Existing System*

	IMPROVEMENT ID	PROJECT DETAILS
25 L/s Condition	W-01	It is recommended to replace 483 m of watermain along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent. The existing 200 mm watermain will be replaced with a 250 mm watermain.
	W-02	It is recommended to replace 119 m of watermain along Parkview Street from Lee Ave to Elm Ave. The existing 250 mm watermain would be replaced with a 300 mm watermain.
50 L/s Condition	W-03	It is recommended to replace 483 m of the existing 200 mm watermain along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent. North of De Renzy Place, the watermain would be replaced with a 300 mm watermain, and south of the midpoint it would be replaced by a 250 mm watermain.
	W-04	It is recommended to replace 492 m of the existing watermain along Skaha Lake Road from Waterford Ave to Yorkton Ave. North of Guelph Ave the watermain is replaced with a 300 mm watermain, and south of the intersection the main is replaced with a 250 mm watermain <sup>1</sup> .

- (1) *Relining of the existing cast iron water main may be an option to consider. However, the analysis did not review costs and impacts of this type of upgrade.*



*Figure 6: Locations of Proposed Water System Upgrades*

WSP notes that upgrades W-01 and W-03 target a section of watermain that was also considered previously as part of the 2021 Smythe Drive Development in the City.

## **COSTS ESTIMATE ANALYSIS**

WSP provides the following Class “C” construction cost estimate for the proposed watermain upgrades. Cost estimates are based on values obtained from suppliers, WSP’s internal cost database containing previous water system projects in municipalities across BC and pricing provided by the City of Penticton relating to ongoing capital works projects.

Table 8 outlines the cost estimate details for the upgrades related to both the 25 L/s and 50 L/s connection scenarios.



Table 8: Class “C” Construction Cost Estimate

	DESCRIPTION	UNIT	QTY.	UNIT COST	2022 DOLLARS
<b>SYSTEM IMPROVEMENT COSTS</b>					
<b>25 L/s Option</b>	<b>W-01:</b> Replace 483 m of the existing 200 mm watermain with a 250 mm along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent.	m	483	\$1,380	\$ 666,500
	<b>W-02:</b> Replace 119 m of the existing 250 mm watermain with a 300 mm along Parkview Street from Lee Ave to Elm Ave.	m	119	\$1,883	\$ 224,025
<b>50 L/s Option</b>	<b>W-03:</b> Replace 483 m of watermain along Lakeside Road between 4645 Lakeside Road and Lakeside Crescent. North of De Renzy Place the existing 200 mm main would be replaced with a 300 mm main, and south of the intersection to 250 mm.	m	483	\$1,447	\$ 699,100
	<b>W-04:</b> Replace 492 m of watermain along Skaha Lake Road. North of Guelph Ave the existing 250 mm main would be replaced with a 300 mm main, and south of the intersection the main is replaced with a new 250 mm main.	m	492	\$1,419	\$ 697,950
<b>Total Cost for 25 L/s Option (2022 Dollars, before GST)</b>					~\$ 1.4 M
<b>Total Cost for 50 L/s Option (2022 Dollars, before GST)</b>					~\$ 2.2 M

NOTE: Total costs include Engineering (15%), Contingency (25%), and other associated costs.

The Class “C” construction cost estimate for the proposed improvement works is approximately \$1.4 M for the 25 L/s option and \$2.2 M for the 50 L/s connection (2022 Dollars). Refer to Appendix A for the detailed cost estimates of the proposed improvement works.

## SUMMARY AND RECOMMENDATIONS

WSP has undertaken a water servicing review for the proposed supply extension to the Penticton Indian Band in the City of Penticton. This study was carried out to identify impacts to the existing distribution system that would require improvement works. This section provides a summary of the recommendations.

### WATER SERVICING

The additional connection to the PIB connected service areas will introduce increased water demands to the City’s existing system. Assessments were completed for a 25 L/s and 50 L/s withdrawal at the connection.



Due to the anticipated increase in water demands. For a 25 L/s connection to PIB, the following water system upgrades are recommended:

- W-01: Replace 483 m of watermain along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent. The existing 200 mm watermain will be replaced with a 250 mm main.
- W-02: Replace 119 m of watermain along Parkview Street from Lee Ave to Elm Ave. The existing 250 mm watermain would be replaced with a 300 mm main.

For the option with a 50 L/s connection to PIB, the following water system upgrades are recommended:

- W-03: Replace 483 m of the existing 200 mm watermain along Lakeside Road, between 4645 Lakeside Road and Lakeside Crescent. North of De Renzy Place the main would be replaced with a 300 mm main, and south of the midpoint it would be replaced by a 250 mm main.
- W-04: Replace 492 m of the existing 250 mm watermain along Skaha Lake Road from Waterford Ave to Yorkton Ave. North of Guelph Ave the main is replaced with a 300 mm main, and south of the intersection the main is replaced with a 250 mm main.

The cost estimate for water system improvements is approximately \$1.4 M for the 25 L/s option and \$2.2 M for the 50 L/s connection.

## CLOSURE

We trust you will find the foregoing report suitable. Please do not hesitate to contact the undersigned should you have any questions.

Yours truly,

PERMIT NUMBER: 1000200



Clive Leung, P.Eng, PMP  
Senior Project Manager, Conveyance

Ana Kovacevic, PMP  
Designer & Team Lead, Conveyance

AP/AK/ab  
WSP Ref. 221-09281-00

# APPENDIX

# A CLASS "C" COST ESTIMATE



City of Pentiction  
Modelling Review of Potential for Interim Water Supply to PIB  
Class 'C' Cost Estimate  
25L/s Condition



Item #	Description	Unit	Unit Price \$	Quantity	Price
<b>1</b>	<b>SITE WORKS</b>				
1.1	Removal and Disposal of Asphalt	m <sup>2</sup>	\$ 20	761	\$ 15,220
1.2	Removal and Disposal of Existing Valves/Tees	Each	\$ 2,000	41	\$ 82,000
1.3	Surface Restoration <i>Rough site grading along alignment, entire 5m ROW width</i>	m <sup>2</sup>	\$ 80	761	\$ 60,880
	Sub-Total Site Works				\$ <b>158,100</b>
<b>2</b>	<b>WATERWORKS</b>				
2.1	Watermain Pipe DR18 C900 <i>250mm dia installation, all depths, excavation, imported backfill, c/w subgrade prep, freight</i>	lineal m	\$ 750	483	\$ 362,250
2.2	Watermain Pipe DR18 C900 <i>300mm dia installation, all depths, excavation, imported backfill, c/w subgrade prep, freight</i>	lineal m	\$ 825	119	\$ 98,175
2.3	Temporay End Cap and Tie-in	Each	\$ 8,000	9	\$ 72,000
2.4	Reconnect Existing Hydrants	Each	\$ 4,650	5	\$ 23,250
2.5	Reconnect Existing Service Connections	Each	\$ 2,350	25	\$ 58,750
2.6	Gate Valves	Each	\$ 3,700	15	\$ 55,500
2.7	Reducer	Each	\$ 1,700	1	\$ 1,700
2.8	Tees	Each	\$ 2,200	26	\$ 57,200
2.9	Cross	Each	\$ 3,500	1	\$ 3,500
	Sub-Total Waterworks				\$ <b>732,325</b>
	<b>Sub-Total</b>				\$ <b>890,425</b>
GEN 1	Contingency (Class C)			25%	\$ 222,610
GEN 2	Commissioning			1%	\$ 8,910
GEN 3	Warranty			1%	\$ 8,910
GEN 4	Traffic Management			5%	\$ 44,530
GEN 5	Environmental / Erosion Sediment Control			1%	\$ 8,910
GEN 6	Rock and Contaminated Soil Removal / Disposal			1%	\$ 8,910
GEN 7	Insurance & Bond			1%	\$ 8,910
GEN 8	Mob/Demob			3%	\$ 26,720
GEN 9	Engineering Design			15%	\$ 133,570
	<b>Total</b>				\$ <b>1,362,405</b>

This estimate has been prepared on the following assumptions:

- This estimate has been produced in advance of design drawings, further design information, and quantities; this estimate is subject to review as new information is available. Quantities that are unavailable at this stage have been captured based on unit costs for similar recently tendered & estimated work in other municipalities.
- The cost estimate utilized the Pentiction Property Viewer web application to determine quantities for fittings. For all fittings, the unit price was assumed to include the cost of installation.
- Costs exclude considerations/items such as GST, operational costs, and deviation of existing unknown services or extraordinary conditions.
- This estimate has been based on prices in September 2022. Pricing and lead times are subject to change as they currently have shown to be volatile from materials & equipment suppliers within the industry, due to the current market conditions and other global issues.
- The estimate is based on land along the proposed alignment being within an existing road ROW. This shall be reviewed and the City of Pentiction may advise adjustment to this rate.
- Quantities along the alignments are assumed based on the Pentiction Pipe Trench Detail Drawing - S-G4, and Pavement Restoration Drawing G-5.
- The estimate is based on excavated material having little need for rock removal and contaminated soil (1% of excavated volume) with a 1% budget allocation for disposal.
- The pipe cost estimates are based on a construction crew consisting of 5 members, 2 Traffic Control People + truck, and excavator required for installation. The total time for installation of the pipe lengths is assumed to be 34 days.



**City of Pentticon**  
**Modelling Review of Potential for Interim Water Supply to PIB**  
**Class 'C' Cost Estimate**  
**50L/s Condition**



Item #	Description	Unit	Unit Price \$	Quantity	Price
<b>1</b>	<b>SITE WORKS</b>				
1.1	Removal and Disposal of Asphalt	m <sup>2</sup>	\$ 20	1252	\$ 25,040
1.2	Removal and Disposal of Existing Valves/Tees	Each	\$ 2,000	63	\$ 126,000
1.3	Surface Restoration <i>Rough site grading along alignment, entire 5m ROW width</i>	m <sup>2</sup>	\$ 80	1252	\$ 100,160
	<b>Sub-Total Site Works</b>				<b>\$ 251,200</b>
<b>2</b>	<b>WATERWORKS</b>				
2.1	Watermain Pipe DR18 C900 <i>250mm dia installation, all depths, excavation, imported backfill, c/w subgrade prep, freight</i>	lineal m	\$ 750	388	\$ 291,000
2.2	Watermain Pipe DR18 C900 <i>300mm dia installation, all depths, excavation, imported backfill, c/w subgrade prep, freight</i>	lineal m	\$ 825	586	\$ 483,450
2.3	Temporay End Cap and Tie-in	Each	\$ 8,000	9	\$ 72,000
2.4	Reconnect Existing Hydrants	Each	\$ 4,650	9	\$ 41,850
2.5	Reconnect Existing Service Connections	Each	\$ 2,325	32	\$ 74,400
2.6	Gate Valves	Each	\$ 3,700	28	\$ 103,600
2.7	Reducer	Each	\$ 1,700	1	\$ 1,700
2.8	Tees	Each	\$ 2,200	35	\$ 77,000
2.9	Cross	Each	\$ 3,500	0	\$ -
	<b>Sub-Total Waterworks</b>				<b>\$ 1,145,000</b>
	<b>Sub-Total</b>				<b>\$ 1,396,200</b>
GEN 1	Contingency (Class C)			25%	\$ 349,050
GEN 2	Commissioning			1%	\$ 13,970
GEN 3	Warranty			1%	\$ 13,970
GEN 4	Traffic Management			5%	\$ 69,810
GEN 5	Environmental / Erosion Sediment Control			1%	\$ 13,970
GEN 6	Rock and Contaminated Soil Removal / Disposal			1%	\$ 13,970
GEN 7	Insurance & Bond			1%	\$ 13,970
GEN 8	Mob/Demob			3%	\$ 41,890
GEN 9	Engineering Design			15%	\$ 209,430
	<b>Total</b>				<b>\$ 2,136,230</b>

This estimate has been prepared on the following assumptions:

- This estimate has been produced in advance of design drawings, further design information, and quantities; this estimate is subject to review as new information is available. Quantities that are unavailable at this stage have been captured based on unit costs for similar recently tendered & estimated work in other municipalities.
- The cost estimate utilized the Pentticon Property Viewer web application to determine quantities for fittings. For all fittings, the unit price was assumed to include the cost of installation.
- Costs exclude considerations/items such as GST, operational costs, and deviation of existing unknown services or extraordinary conditions.
- This estimate has been based on prices in September 2022. Pricing and lead times are subject to change as they currently have shown to be volatile from materials & equipment suppliers within the industry, due to the current market conditions and other global issues.
- The estimate is based on land along the proposed alignment being within an existing road ROW. This shall be reviewed and the City of Pentticon may advise adjustment to this rate.
- Quantities along the alignments are assumed based on the Pentticon Pipe Trench Detail Drawing - S-G4, and Pavement Restoration Drawing G-5.
- The estimate is based on excavated material having little need for rock removal and contaminated soil (1% of excavated volume) with a 1% budget allocation for disposal.
- The pipe cost estimates are based on a construction crew consisting of 5 members, 2 Traffic Control People + truck, and excavator required for installation. The total time for installation of the pipe lengths is assumed to be 55 days.

**Schedule 2**

**Water Treatment Plant Capacity Assessment**

To: Kristen Dixon  
City of Penticton  
616 Okanagan Avenue East  
Penticton, BC V2A 3K6

cc: City of Penticton – Jonathan Chu  
City of Penticton - Alistair Wardlaw

Date: April 2, 2024

Project #: 60303523

Name: Penticton Water Treatment Plant  
Capacity Assessment

From: Brett de Wynter

# Memorandum



Subject: Penticton Water Treatment Plant Capacity Assessment

## Introduction

The City of Penticton (City) is in discussions with the Penticton Indian Band to determine the impact of delivering potable water. The impact to the City potable water system will occur to the raw water source, the treatment plant and the distribution system. The City distribution system assessment was completed by WSP with the results of their work being summarized in the memorandum titled Permanent Water Supply to PIB – Water Servicing Modelling Review, dated November 30, 2023. This memorandum focuses on the raw water source and the water treatment plant impacts. The one specific item not detailed in the WSP distribution system is the impact to the Duncan Avenue Reservoir. All the new water demand for the PIB lands would flow through this distribution storage facility and will have an impact on the balancing capacity available. There will be an impact to the capacity available in the Duncan Avenue Reservoir resulting in the need for a capacity increase sooner. However, the exact impact of the additional demand from the PIB should be determined once the reconfiguration of the PRV 1 and the function of the Duncan Reservoir is modified to be more in-line with a typical distribution system reservoir.

The timing and magnitude of the new potable water demand from the PIB was determined by their engineering consultant. The potable water demands of the PIB are assumed as follows:

- Stage 1: 50 L/s [4.32 ML/d] for the basis of the assessment. This demand would potentially occur immediately under the scenario where the PIB current sources fail and they rely solely on the City supply.
- Stage 2: 130 L/s [11.2 ML/d] for the basis of the assessment. This is the full buildout is projected to occur in roughly 20 years. The Stage 2 assessment needs to also consider the growth within the City basis on the Official Community Plan.

In addition to the PIB demands there is expected water demand growth within the City of Penticton to meet planned needs of the community. The 2021 Water Master Plan prepared by WSP stated that the current maximum daily demand (MDD) is 488 L/s (42.1 ML/d) and the projected MDD in 2045 is 688 L/s (59.4 ML/d). This represents a growth in water demand within the existing service area of 200 L/s (17.3 ML/d). For the purpose of this analysis, it is assumed that an additional 200 L/s of water demand within the City water service area will be required within the next 20-years or the same time period as the estimated Stage 2 demands for the PIB.

A key component of a municipal treatment facility capacity assessment is the determination of redundancy. During past discussions and designs there is an n+1 level of redundancy for mechanical items such as chemical feed pumps, but not concrete items such as flocculation or DAF basins. Ministry of Health Design Guidelines for Drinking Water Systems in British Columbia does not formal address redundancy. For the basis of this capacity assessment an n+1 level of redundancy is not provided for concrete basins, pipes and other items with an expected design life in the order of 50-years. This means

all the process basins will be considered in the determination of the WTP capacity, except for the filters. The filters contain numerous systems that could potentially fail resulting in the entire basin not being able to function. Given this, an n+1 level of redundancy is assumed necessary for the filters and all the treatment process mechanical equipment.

The existing potable water demand on the WTP will be determined by analyzing the existing flow data. The daily flow data from the plant for the past 3-years will be summarized combined with a safety factor to determine the existing load on the plant.

Once the capacity of the WTP and the current design demand is determined, the current and future available capacity will be determined. Additionally, the capital value of the WTP on a per ML basis will be estimated based on the asset management plan completed in the past.

## Water Treatment Plant Raw Water Supply

Okanagan Lake and Pentiction Creek are the two surface water sources and have withdrawal licences of 22,371 ML/year and 6,661 ML/year, respectively. Water from Okanagan Lake is pumped from the intake to the WTP, while water from Pentiction Creek feeds the plant by gravity. Prior to 1997, the City used a well (Warren Avenue well) to meet a portion of potable demand. This well was withdrawn from service after the commissioning of the WTP. There is no plan to use the Warren Avenue well given the groundwater water is mineralized and treatment of the groundwater would be required.<sup>1</sup> It is part of the current City capital plan to formally decommission the Warren Avenue well.

Okanagan Lake water is diverted through a submerged intake to a raw water pump station located on the shore. The intake consists of a drum screen sized to reduce the potential for the diversion of fish. The general consensus is not if, but when, invasive mussels such as quagga and zebra impact Okanagan Lake. There is not currently a problem with invasive mussels at the intake, but this should be monitored with an annual inspections. At some point in the future, it is assumed that new infrastructure will need to be added to manage the growth of invasive mussels.

Raw water is pumped to the WTP with an approximate static lift of 121 m. The pump station includes 6 vertical turbine pumps installed in a common wet well, with a total duty capacity of 60 ML/d. The duty capacity is based on the largest pump being out of service. The mechanical and electrical equipment within the Okanagan Lake Pump Station was recently refurbished to meet current standards.

Water is conveyed through a single 750 mm pipeline from the Lake to the head of the plant at the inlet works. The Okanagan Lake raw water transmission main was constructed over 25-years ago and is ductile iron. In the past few years there have been 2 separate transmission main breaks associated with corrosion of the transmission mains. Both breaks result in the pipeline being useable for several days while the repairs were completed. The transmission main is a single point of failure and issues have been experienced by the City in the recent past. Given this the operation staff are apprehensive to operate the pipeline at the rate capacity of 60 ML/d as this results in the highest operating pressure. Hydraulic and conditional assessment analysis should be completed on the existing Okanagan Lake raw water transmission main to determine the investments required to maintain the necessary reliability of this asset.

Two watersheds on the north and east of the water treatment plant drain to Pentiction Creek. A dam placed to the north of the WTP supplies raw water to the plant by gravity through a 700 mm steel pipeline. Pentiction Creek has variable and lower quality water than the Okanagan Lake.

Currently, the plant operation allows the use of raw water from Okanagan Lake and Pentiction Creek. For operational reasons the raw water supply is either a blend of Pentiction Creek and Okanagan Lake or only Okanagan Lake. The design of the plant upgrade was based primarily using a blend of Pentiction Creek and Okanagan Lake. An approximate blend of 30% Pentiction Creek and 70% Okanagan Lake results in a treatable raw water supply that supplies a treated water that is stable and generally categorized as non-corrosive for the distribution network. The upland Pentiction Creek source is more vulnerable to seasonal raw water quality issues and quantity concerns associated with drought. However, as a supplemental source to Okanagan Lake these concerns have been historical mitigated by the WTP operations staff. For the purpose of this assessment it is assumed the raw water capacity is 78 ML/d based on 60 ML/d from Okanagan Lake and 18 ML/d from

<sup>1</sup> City of Pentiction – Treated Water Capacity Upgrade – Pre-design Report. Earth Tech (Canada) Inc. February 2008.

Penticton Creek. Allowing for losses through the treatment process it is assumed that 75 ML/d of treated water can be delivered given the current raw water supplies.

It is noted that the blend of 70% Okanagan Lake and 30% Penticton Creek has proven to be treatable and is theoretically stable and non-corrosive. However, the level of corrosiveness of the blended water on the distribution system has not been formally studied in the past. It is our understanding that the City is currently embarking on a corrosion study for the treated water. A corrosion study has been a past recommendation and is an important item to complete given the value of the distribution system and the potential impacts to the water quality in the distribution system. Based on the results of the corrosion study, the previously practiced Okanagan Lake and Penticton Creek raw water blend may need to be re-visited. Additionally there may be economic value to add chemicals to stability and make the treated water less corrosive.

## Existing Water Treatment Process Assessment

The City of Penticton Water Treatment Plant (WTP) was constructed in 1997, intended to use a multiple barrier treatment system consisting of coagulation, multi-stage mechanical flocculation, high-rate sedimentation, granular media filtration, and chlorination for primary and secondary disinfection<sup>2</sup>. The original facility design allowed for flexibility to treat either raw water source – Okanagan Lake or Penticton Creek. The designed treatment capacity was 60 ML/d and the hydraulic capacity was 100 ML/d to pass through the plant without causing an overflow.

The 1997 commissioned plant was designed in two discrete trains to allow the flow to split from each source and provide flexibility. The train designed to treat Penticton Creek had a conventional approach composed of flash/rapid mixing coagulation, flocculation, sedimentation, filtration, and disinfection, while the Okanagan Lake train was a direct filtration (i.e. did not include sedimentation). This original design based on blending the treated water caused various operational difficulties given the different pH of the creek and lake water. To address this concern the operators decided to blend the raw water as it entered the plant. As a result, all water needed to pass through the sedimentation basin used the conventional process train within the WTP. However, the sedimentation basin was not the ideal clarification technology given the characteristics of the raw water sources. The sedimentation basins historically were the capacity bottleneck within the treatment plant.

In 2008, the WTP capacity was reviewed in the Preliminary Design Report prepared by Earth Tech. Upgrades were provided to the clarification process and the residual handling systems were completed to address the process bottlenecks within the existing facility. The expansion of those processes was established to increase the effective capacity of the WTP. The last upgrades of the water treatment plant occurred in 2008/2009 and included:

- ◆ Removal of the sedimentation basin internals (plate settlers and sludge scraper) and conversion of the clarifier to high rate dissolved air flotation (DAF);
- ◆ Modification of the flocculation basins to improve the flow split into the DAF basins;
- ◆ Relocation of the centrifuge into the dewatered sludge room;
- ◆ Construction of a roof and building over the backwash waste settling tank;
- ◆ Construction of a new backwash clarification and thickening process;
- ◆ Upgrading of the SCADA system to integrate the new process technologies into the overall plant control system; and
- ◆ Connection of the new process equipment into the existing electrical system.

The existing WTP can receive water from the two different surface sources. Raw water is blended in a blending tank, where coagulation chemicals are added. Following this water flows to two-stage mixing in the flash and rapid mixing chambers, followed by flocculation tanks. Two flocculation trains are provided with three-stage flocculation basins. Flocculated water flows to two high-rate DAF clarifiers and clarified water is conveyed to a filter effluent channel, where the flow can split into six filters. Each filter uses mono-media anthracite. Filtered water is disinfected by chlorine and goes to the clearwell, from where potable water is distributed. The diagram of the current WTP is presented in Appendix A. The main features of each process unit and the associated capacity of the WTP are presented in **Table 1**.

<sup>2</sup> City of Penticton Water Treatment Plant – Basis of Design Report. Stantec Consulting. December 1993.

**Table 1. Penticton Water Treatment Plant Existing Capacity**

<b>Plant Capacity</b>	<b>Value</b>
Average Day Demand (ML/d)	52
Hydraulic (ML/d)	100
<b>Process Components</b>	
<b>Flash/Rapid Mixing</b>	
Number of Tanks	2
Total Volume (m <sup>3</sup> )	15
Dimensions, each (m)	1.5 x 1.5 x 3.3 W.D.
G Value (sec <sup>-1</sup> )	1300/675
Comments	There is sufficient hydraulic retention time to support rapid mixing at a process flow greater than 100 ML/d.
<b>Flocculation</b>	
Number of Tanks	2
Total Volume (m <sup>3</sup> )	1500
Dimensions, each (m)	15 x 10 x 5 W.D.
Mixer G Value (sec <sup>-1</sup> )	100/100/80, 3-stage flocculation
Hydraulic Retention Time (min)	21.6 @ 100 ML/d
Comments	It is typical that flocculation for a DAF clarifier consists of 2-stages with a hydraulic retention time of 10 – 15 minutes. This facility was a retrofit of flocculators originally designed for sedimentation basins so the flocculation basins are larger than typically provided for a DAF clarifier at a process flow of 100 ML/d.
<b>Dissolved Air Flotation (DAF)</b>	
Number of Tanks	2, each rated for 57.5 ML/d
Nominal Surface Loading Rate (m/h)	29.2
Volume (m <sup>3</sup> )	534.3
Dimensions (m)	12 x 6.85 x 5.86 W.D.
Comments	The DAF basins were constructed as a retrofit within the original sedimentation basin. The surface area of the DAF basins was the result of the space available within the original structure. Testing during the pilot testing and commissioning confirmed the maximum clarifier loading rate to be 29.2 m/hr resulting in a process capacity of 57.5 ML/d per basin. The rotating equipment such as the recycle pumps and compressors have an n+1 level of redundancy.
<b>Filters</b>	
Number of Filters	6
Filtration Rate (m/h)	15.2
Size (m x m)	3.5 x 10
Depth (m)	6.5
Media Depth (m)	1.8
Media	Anthracite (1.4 mm E.S.)
Hydraulic Capacity, each (ML/d)	12.7 (63.5 ML/d with 5 filters, n+1)

Plant Capacity	Value
Comments	The filters are the critical solids removal process that contain several devices that can fail. Providing a redundant filter in the assessment of the plant capacity is typical.
<b>Clearwell</b>	
Number of Cells	2 (two baffles)
Total Volume Provided (m <sup>3</sup> )	6,600
Contact Time Required (min)	The original design of the contact tank was 20 mg/L-min (based on residual of 1.5 mg/L at a pH = 7.0 or less for a disinfection target of 0.5 log Giardia).
Unfactored Storage Volume Required	556 m <sup>3</sup> at 60 ML/d
Comments	Currently, the Drinking Water Treatment Objectives (Microbiological) for Surface Water in B.C, updated 2022 states there should dual levels of treatment. Additionally, chlorine contact time does not provide protection for Cryptosporidium. The recommended current disinfection approach is CT for viruses (CT required is 6 mg/L-min, less than the Giardia CT) and adding ultraviolet radiation for a redundant parasite barrier. If UV radiation were added the existing clearwell would be able to provide sufficient CT well allowing the majority of the storage to be retained for balancing. The minimum balancing and filter backwash storage required at a treatment plant is typically 10% of the process flow. A detailed review of this item could be completed separately, but for the purpose of this assessment it is assumed that the current clearwell is at capacity. This review should be completed based on the reconfiguration of PRV 1 being complete as this work allows the Duncan Avenue Reservoir to function as a dedicated distribution system reservoir.

Note: W.D. - Water Depth; E.S.- Effective Size

In addition to the items noted above for the primary treatment plant process, there are chemical and residual systems that are critical for the operation of a water treatment plant. The chemical systems for the treatment facility consist of storage tanks and dosing pumps that can be upgraded as required at a low relative cost. The scope of this assignment is a high level overview of the facility capacity so the chemical systems were not examined in detail.

The key elements of the residual systems are the filter backwash clarification and the sludge dewatering. The backwash clarification system is designed to treat a total flow of 3,500 m<sup>3</sup>/d. Historical data indicates the filter backwash volume produced by the filtration process is 3 – 5% of the filtered water produced. The worst case is 5% backwash meaning the filter backwash clarification system is expected to be able to support a primary process flow of 70 ML/d.

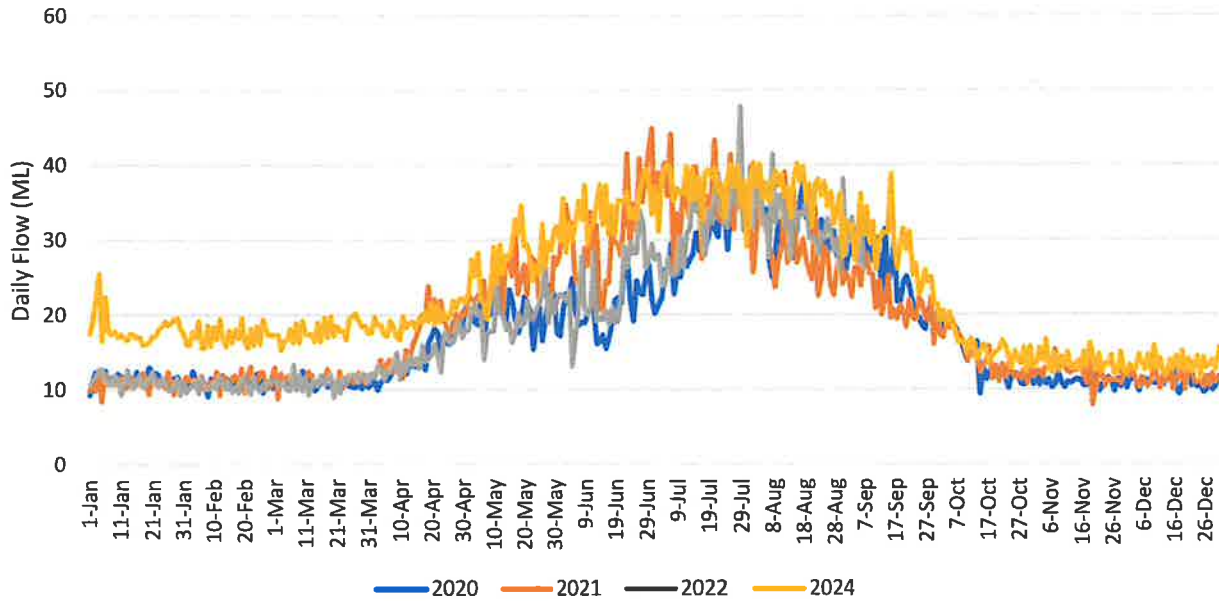
The plant is provided with a centrifuge on-site for sludge dewatering. However, the centrifuge is infrequently used as the majority of the sludge produced at the WTP is discharged to the sanitary sewer. It was reviewed and confirmed with the City operations staff that sludge disposal is not limiting the capacity of the plant.

## Existing Water Treatment Plant Operation

Total daily flow data was provided from the City for 2020, 2021, 2022 and 2023. **Figure 2** below graphically presents the data provided by the City. Review of the daily flow data determined that the Average Daily Demand (ADD) was approximately 19.8 ML/d and the Maximum Daily Demand (MDD) recorded was approximately 47 ML/d on July 29, 2022. Historically it was noted that the highest MDD recorded was 53 ML/d and occurred in 2002. The treatment facility operated 100% on the Okanagan Lake source during this event.

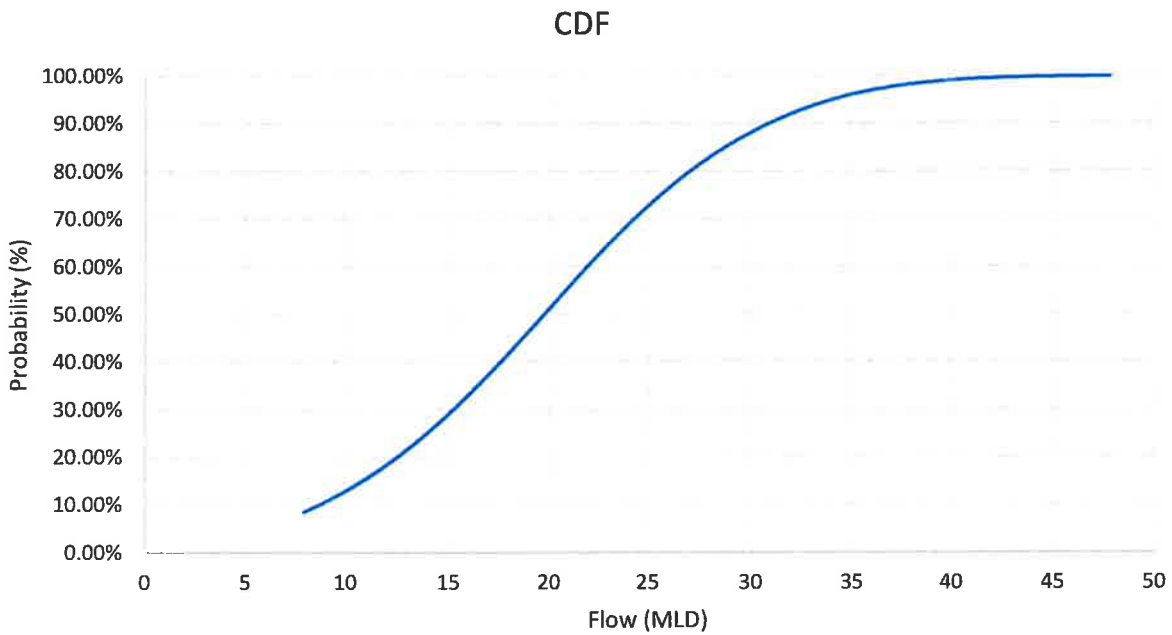
Occasionally, there are peak hour demand events that the plant needs to address given the current configuration of the distribution storage and the undersized clearwell at the treatment plant site. This situation will be improved with the completion of the PRV 1 relocation project and the planned expansion of the Ridgedale Reservoir. The exact impact of these 2 projects will not be known until construction is complete, but it is expected that the balancing storage will be improved allowing the treatment plant output to be limited to the MDD. Given this the focus of the treatment plant capacity assessment is limited to the recorded MDD.

**City of Penticton WTP - Daily Flow**



**Figure 1. Daily Water Demand for 2020, 2021,2022 and 2023**

The analysis of the accumulated distribution of flow in **Figure 2** shows that at 95% of the time flow measurements are lower than 36.3 MLD. Additionally, almost 50% of the daily flows that reach the WTP are not higher than the current average of 19.8 MLD.



**Figure 2. Cumulative Distribution Function for Daily Flow Data between 2020 and 2023.**

It is challenging to determine the capacity of a water treatment plant since the customer demand must be met but the demand varies year to year based on customer behavior and weather conditions. The other key item to note is a reduction in the per capita demand that has occurred in the Okanagan during the past couple of decades for the following general reasons:

- ◆ Lot sizes have generally reduced for single family residential units;
- ◆ Densification resulting in more multi-family units;
- ◆ Water conservation education and consumption based billing;
- ◆ Improvements in water conservation for outdoor water use; and
- ◆ The inclusion of more water efficient devices within homes.

Given the documented reduction in the per capital demand that has occurred using the legacy peak water demand of 53 ML/d from 2002 is assumed to not be relevant. Using the water demand data from the past 3-years the peak demand is 47 ML/d, with the 95<sup>th</sup> percentile being 36.3 ML/d assigning a safety factor of roughly 5% to the peak recorded water consuming daily in the past 3-years for the current peak water demand is assumed to be reasonable. This approach results in the current peak demand on the existing WTP is 50 ML/d. It is assumed that the existing distribution network requires 50 ML/d to meet the current demand.

## Value of the Existing Treatment Infrastructure

In 2017 an asset management assessment of the WTP was completed. It was determined that the replacement value of the WTP infrastructure is \$ 71.6 M. In the past 7 years there has been significant escalation, specifically within the industry construction market. As such it is reasonable to suggest that the estimate replacement value of the existing WTP infrastructure is currently 2 to 3 times more. Assuming the existing capacity of the WTP is 60 ML/d, this means the value of the WTP infrastructure is in the order of \$ 2.39 M per ML to \$ 3.58 M per ML. Using the high estimated cost per ML and a total estimated demand of 11.2 ML/d for the PIB, the estimated value of the treatment infrastructure being used is \$ 26.8 to 40.1 M. Note this estimate does not include the cost of the upland storage dams and the Pentiction Creek pipeline supplying the WTP.

## Closing

Based on our review of the existing WTP, we offer the following conclusions:

- ◆ There is sufficient raw water supply and water license to support the conveyance of 78 ML/d supply to the WTP. This is based on a 70/30% split between Okanagan Lake and Pentiction Creek. With a raw water supply of 78 ML/d the assumed treated water potential with no further investments in the raw water supply is 75 ML/d. The ability to operate the raw water supply at capacity should be confirmed through the completion of assessment to the Okanagan Lake raw water transmission main and the completion of a corrosion study;
- ◆ The existing Water Treatment Plant capacity of 63.5 ML/d. The limiting process element within the existing facility is the filtration. However, it is speculated that the loading rate of the existing filters could be increased with the existing media design or within some small modifications to the existing media design. It is recommended that testing be completed to determine the increased capacity that could be achieved within the existing filtration basins at the WTP. Based on the results of the trial, potentially pilot testing and filter modifications may be required to increase the capacity of the filtration process.
- ◆ Treated water storage for balancing and treatment operation (filter backwashing) is limited given the additional disinfection requirements of the clearwell. Adding UV radiation for the disinfection of parasites would reduce the disinfection requirement of the clearwell to viruses. The addition of UV radiation would allow the existing clearwell to provide balancing storage and filter backwash required to support a process flow greater than roughly 60 ML/d. The additional UV radiation needs to be developed further with a feasibility study, but for the purpose of budgeting, it is assumed this work will cost \$ 2 – 2.5 M. The planned PRV 1 relocation and the Ridgedale Reservoir expansion will also help address the balancing storage shortage at the WTP site.

- ◆ The maximum daily flow processed by the Water Treatment Plant in the past 3-years is 47 ML/d. For the basis of this assessment the assumed existing maximum daily demand is 50 ML/d. This means that the requested additional demand of 4.32 ML/d (50 L/s) can be supplied by the existing facility. The 20-year projected flow of 11.2 ML/d (130 L/s) plus the projected growth within the City can not be supported by the existing plant. However, if the filtration and disinfection improvements are completed the existing WTP could be capable of supplying the projected City demand and the total Penticton Indian Band estimate of 11.2 ML/d (130 L/s). This statement is based on the assumption that filtration and UV radiation upgrades could increase the plant capacity to 70 – 75 ML/d. Refer to **Table 2** below.

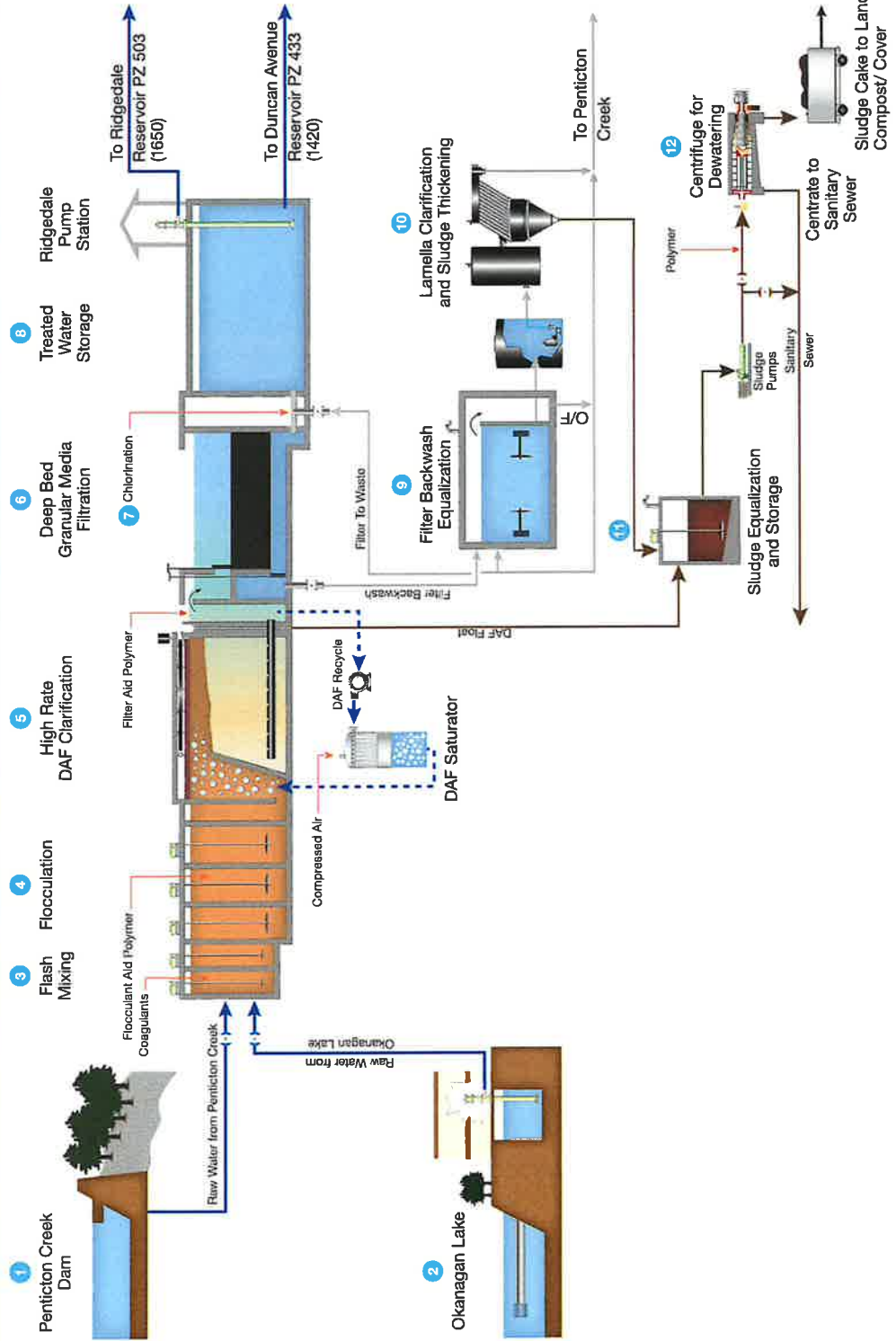
**Table 2. Penticton Water Treatment Plant Existing Capacity.**

<b>Description</b>	<b>Value</b>
Current Maximum Daily Demand (ML/d)	50
PIB Stage 1 and 2 Maximum Daily Demand (ML/d)	11.2
Projected City Service Area Maximum Daily Demand (ML/d)	17.3, based on projections but the data shows increases in total demand but the peak demand is remaining somewhat consistent.
<b>Total Project Maximum Daily Demand (~20-year), (ML/d)</b>	<b>78.5</b>
Additional Capacity with Filtration and UV Radiation Improvements	75 ML/d, This value could be increase nominally based on the results of the raw water supply improvement assessments, filtration upgrades and the addition of UV radiation.

# **Appendix A – Process Schematic of the Current Water Treatment Plant**

# City of Penticton Water Treatment Plant

- The **PROCESS FLOW DIAGRAM** for the water treatment plant consists of the following items:
- 1 Raw water is diverted from behind the Penticton Creek dam for the production of water to the Penticton Water Treatment Plant. Creek experiences elevated levels of turbidity and dissolved natural organic matter during the spring freshet.
  - 2 A deep lake intake and high lift pump station to convey raw Okanagan Lake water to the plant. The water is of high quality that is reasonably consistent all year.
  - 3 Coagulation, using aluminum chlorohydrate or poly-aluminum chloride, and a cationic coagulant aid polymer to destabilize colloidal material, and entrap natural colour in the water within a chemical floc. The coagulants are rapidly mixed into the raw water using a high energy mixer.
  - 4 Mechanical flocculation, to gently stir the newly coagulated water, and encourage the small floc particles formed during coagulation to adhere together and grow larger floc.
  - 5 Dissolved air floatation (DAF), using micro-bubbles to float the floc to the surface of the tank, forming a sludge layer which can be scraped from the surface of the water. The clarified water is collected from the bottom of the basin.
  - 6 Deep bed granular media filtration to polish the clarified water to ensure parasite removal and the treated water turbidity targets are achieved.
  - 7 Primary disinfection, using sodium hypochlorite.
  - 8 Treated water storage in 4 separate catch-in-place concrete tanks for a total treated water storage volume of 8,640m<sup>3</sup>. The treated water storage tanks are configured in 2 trains to facilitate maintenance operations.
  - 9 A storage tank to capture and equalize the waste generated from the filtration process.
  - 10 Lamella clarification and thickening to process the waste generated during the backwashing of the filters. During this treatment step the solids are separated from the filter backwash to produce a sludge suitable for dewatering and a clarified effluent that can be discharged to Penticton Creek.
  - 11 A storage tank to equalize and blend the sludge generated by the DAF and the lamella clarification and thickening processes.
  - 12 Sludge is normally sent to the sanitary sewer and processed at the WWTP. The centrifuge is an option for mechanical dewatering. The process removes most of the water in the sludge, allowing the remaining solids to be hauled for disposal at the landfill if the WWTP can't process the sludge.

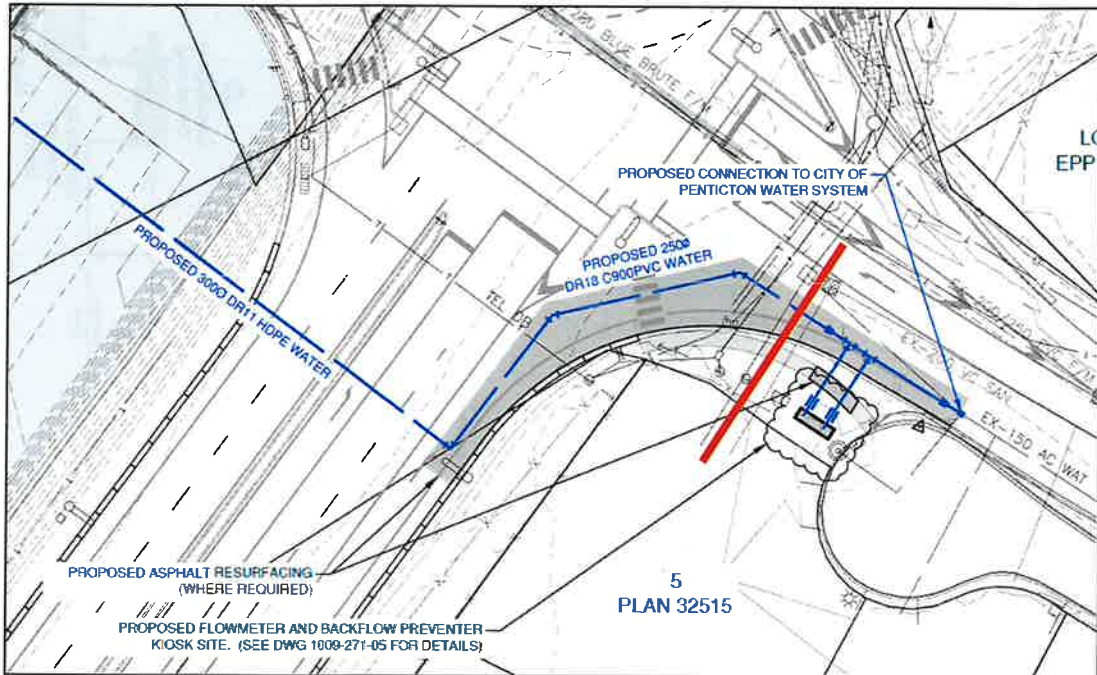


**Schedule 3**

**Connection Works**

1. Connection Point Location (Green Avenue):

As shown on the plan excerpt below, ownership delineated approximately by the Red Line.

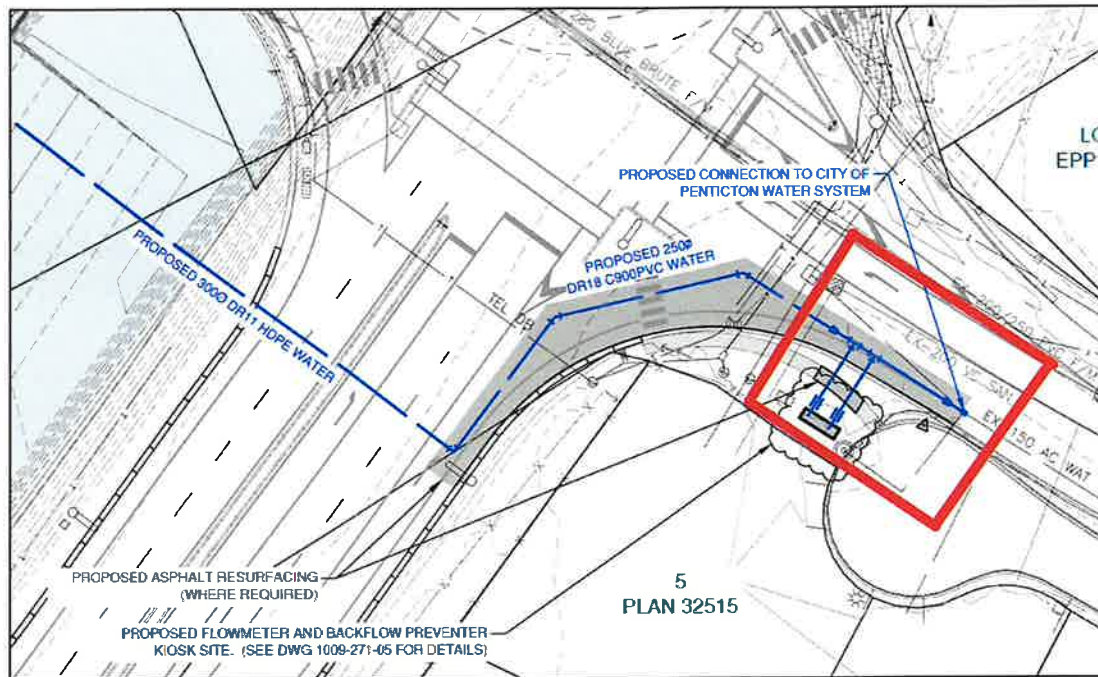


2. Connection Works:

Includes all works shown on TRUE Consulting Project Drawings, Titled Water Connection to City of Penticton, 1009-271, dated March, 2023.

3. Connection Works License Area:

Approximately as outlined in bold red on the drawing below



**SCHEDULE 4**

**Fee Structure**

1. Cost of Service
  - (a) Operating Service Fee: \$0.69/m<sup>3</sup>
  - (b) Capital Service Fee: \$15,738/month
2. Adjustment of Service Fees
  - (a) Penticton calculated the Operating Service Fee based on all direct and indirect operating, administration and overhead costs incurred by Penticton in connection with its supply of water pursuant to this Agreement.
  - (b) In order to ensure the Operating Service Fee reflects any increases in Penticton's costs of supplying water to the PIB, Penticton may increase the Operating Service Fee once per calendar year by delivering notice of such increase to the PIB in writing at least 60 days prior to such increase being effective.
  - (c) If the Operating Service Fee is payable for a portion of the month, it will be imposed on a pro-rated basis for that month.
  - (d) The Capital Service Fee was calculated based on a proportionate share of the average annual life cycle investment (AALCI) for the City's raw water infrastructure and treatment plant. In order to ensure the Capital Service Fee reflects the appropriate valuation, Penticton may increase the Capital Service Fee once per calendar year by delivering such notice of such increase to the PIB in writing at least 60 days prior to such increase being effective.
  - (e) Should the PIB wish to pay the Capital Service Fee as a lump sum at any point in the agreement, the PIB shall make such request to the City and the City will calculate the appropriate payment based on the current asset valuation.

**SCHEDULE 5**

**Draft Construction Licence**



**1. Interpretation –**

- (a) Defined words and phrases in this Agreement will have the same meaning as in the BWS Agreement unless otherwise specified.

**2. Grant of Licence**

- (a) The PIB acknowledges and agrees that:
- (i) portions of the Licence Area will be located within the Municipal Roads and the City has limited power to authorize the private use of a municipal road;
  - (ii) rights granted by the City to the PIB over the Municipal Road portions of the Licence Area are not exclusive and are subject to the public's right to pass and repass over the Municipal Road except where the City has permitted closure of a portion of Municipal Road via issuance of a road closure permit; and
  - (iii) that, as a condition of this Agreement and prior to utilizing the Licence Area, the PIB will submit an application for a road closure permit using the City's standard form, which is attached hereto as Schedule C.
- (b) Subject to section 2(a), the City hereby grants to the PIB and its employees, agents, and contractors, a licence to enter, go, be on, pass, and repass, with or without vehicles, personal property, and equipment, upon, over, under, and across the Licence Area for the sole purpose of constructing or otherwise establishing the Works on the Licence Area and carrying out the Permitted Uses. The City will use reasonable efforts to ensure that the PIB will have exclusive use of the portions of the Licence Area covered by a road closure permit during the Term.
- (c) The PIB agrees to only use the Licence Area for the purpose of carrying out the Permitted Uses and performing ancillary activities.
- (d) The PIB acknowledges and agrees that this Agreement shall not in any way restrict the right of the City to at any time:
- (i) improve, maintain, widen, raise, lower or otherwise alter the Municipal Road;
  - (ii) inspect, install, improve, maintain or alter any structure, service or utility on, over or under any portion of the Municipal Road; or
  - (iii) permit other encroachments or use of the Municipal Roads and the Licence Area,
- provided that the City will take reasonable care to ensure that such activities do not adversely affect the Works or the PIB's rights in the Licence Area.
- (e) The PIB acknowledges and agrees that a portion of the Works will be located within Channel Parkway, which is part of Highway 97, that the City does not have the authority to grant a licence over Highway 97, and that the PIB will be required to obtain permission from the provincial government to construct the Works within Highway 97.

### 3. Term, Fee and Termination

- (a) This Agreement will commence on the date that the General Manager of Infrastructure provided written approval of the Works in accordance with section 17 of the BWA (the "**Commencement Date**") and will continue until the earlier of the following dates:
- (i) the date the PIB provides to the General Manager of Infrastructure a Certificate of Completion from a Professional Engineer, prepared under seal, certifying that the Works are complete; or
  - (ii) the date specified in section 21 of the BWS Agreement.
- (the "**Term**")
- (b) This Agreement may be terminated as follows:
- (i) by the PIB upon 1 month's written notice to the City;
  - (ii) by the City upon written notice to the PIB describing the PIB's breach or failure to observe or perform any of its covenants or agreements under this Agreement or and if such breach is not cured by the PIB within 30 days after delivery of written notice thereof from the City, or, if the PIB determines that the cure of such breach or failure will reasonably require longer than 30 days, such longer period, that the City consents to in writing prior to the expiry of the 30 day period, provided that the PIB, in the City's reasonable opinion, diligently and continuously proceeds to cure the breach or failure at all times;
  - (iii) Should the PIB dispute the City's position that there has been a breach of this Agreement or that the PIB has failed to observe or perform any of its covenants or agreements under this Agreement the City shall not terminate this Agreement until the matter has been referred to dispute resolution in accordance with section 18 unless the PIB agrees to terminate this Agreement; and
  - (iv) the City, immediately and without notice, if the BWS Agreement is terminated or of no force and effect for any reason.
- (c) Upon termination of this Agreement in accordance with subsection 3(b) prior to the issuance of a Certificate of Completion for the Works, the PIB will, at its sole cost:
- (i) perform any work necessary to repair or mitigate any potential or actual negative impacts or damage to Penticton's Waterworks System resulting from work completed by the PIB pursuant to this Agreement and restore it to good work order;
  - (ii) repair any damage to the Licence Area caused by the PIB's use and occupation thereof; and

- (iii) restore the Licence Area, and any other area affected by the PIB's use of the Licence Area, to substantially the condition that it was in immediately prior to the Commencement Date as determined by the City, acting reasonably.
- (d) The PIB will provide to the City a report or certificate of a Professional Engineer, prepared under seal confirming completion of the removal, repair, and restoration in accordance with subsection 3(c). If the PIB fails to deactivate or decommission any Works, remove any property or repair or restore any part of the Licence Area as required pursuant to section 3(c) or fails to fully and adequately do so to the City's satisfaction within 120 days after the expiration or termination of this Agreement, the City may, at its sole option and without further notice, enter the Licence Area and deactivate or decommission such Works, take possession and remove such property or complete such repairs or restorations.

The covenants contained in subsections 3(c) and (d) will survive the expiry or termination of this Agreement.

- 4. **Alteration of Works** – In addition to securing any permits, authorizations or approvals required in order to comply with the applicable enactments referenced in section 5, the PIB will not alter the Works except with the approval of the City, which the City will not withhold unreasonably.
- 5. **Compliance with Laws, Standard of Operation and Maintenance** –
  - (a) All activities carried out on the Licence Area by the PIB pursuant to this Agreement will comply with City of Penticton bylaws applicable to such construction, as well as any other instruments or enactments that regulate or impact construction on the Licence Area, including, without limitation, any encumbrances on title to the Licence Area unless otherwise authorized and agreed to by the Council of the City of Penticton.
  - (b) The PIB will carry out the Permitted Uses and perform ancillary activities in a good and workmanlike manner and obtain all required governmental authorizations and permits and shall carry out all activities in accordance with any such authorizations and permits.
- 6. **PIB's Covenants** – The PIB covenants and agrees with the City as follows:
  - (a) to use the Licence Area only as set out in section 2 of this Agreement and in accordance with a road closure and street occupancy permit issued by the City. In the event of a conflict between this Agreement and a road closure and street occupancy permit, the terms of the permit will prevail;
  - (b) subject to subsection 2(c) to not unduly disrupt or interfere with:
    - (i) the use, enjoyment and safety of the Licence Area and the Municipal Roads by the City and all those invited by the City to use the Licence Area and the Municipal Roads, including the public generally; or
    - (ii) any rights or privileges of any third party to use or access the Licence Area or Municipal Roads;

- (c) in the exercise of the rights herein granted, at all times act reasonably and with due consideration for the interests of the City and any occupants (including the general public);
- (d) it will use due care and attention to identify the location of all improvements located on, in or under the Licence Area prior to the commencement of the construction of the Works and, promptly and its sole cost, make good and repair, to the satisfaction of the City, acting reasonably, any damage which it may cause to the Licence Area or any such improvements;
- (e) it will ensure that all work done in accordance with this Agreement shall be done in such a manner as not to interfere with the any existing utilities or similar services owned by the City or any existing public or private utility located in, on, over or under the Licence Area or supplied to or through the Licence Area (the "Utilities");
- (f) it will be solely responsible for all costs of determining the location of any and all Utilities located within the Licence Area;
- (g) it will engage, at its cost, a Professional Engineer to review the "as-build" drawings to determine the location of any and all Utilities and advise regarding specifics of tie-back in relation to the Utilities;
- (h) in exercising the rights herein, it will use best efforts to ensure that the public is interfered with as little as possible and shall not impede any pedestrian, vehicular or other traffic in the Licence Area without the City's prior written consent, acting reasonably;
- (i) not to alter or modify the Licence Area in any way beyond the scope of the Works or undertake any construction or placement of any other structure or encroachment on the Licence Area other than the Works without the City's prior written consent, which it shall not withhold unreasonably;
- (j) use best efforts to keep the areas adjacent to the Works free and clear of obstructions at all times, exercising the greatest care in the use and occupation of the Licence Area;
- (k) use reasonable care not to cause or permit anything that may be or become a nuisance or annoyance on the Licence Area to the owners or occupiers of adjoining lands or to the public;
- (l) to pay all costs and expenses of any kind whatsoever associated with and payable in respect of the Works, including without limitation all payments for work and materials, taxes thereon, and permits and licence fees, and should the PIB fail to pay and discharge any such costs described above, the City may do so at the cost of the PIB, and the PIB shall pay the City's costs of doing so forthwith plus a 10% administration fee upon receipt of invoice for same; and
- (m) not to allow any refuse, debris, garbage, waste, contaminants, pollutants, or other loose or objectionable material to accumulate or be deposited on the License Area, but rather to dispose of the same regularly and continuously.

7. **Licence Area Accepted "As Is"** – The PIB accepts the Licence Area in an "as is" condition and any improvements made to the Licence Area by the PIB at any time during the Term of this Agreement, to make the Licence Area suitable for the purposes of the PIB hereunder, shall be at the risk, cost, and expense of the PIB.
8. **Emergency** - The PIB grants to the City the right at any time, in the case of an emergency or apprehended emergency, acting reasonably, to remove the Works or any hazard to the public resulting from the Works, without prior notice to the PIB, at the expense of the PIB.
9. **Indemnity of the PIB** – The PIB will indemnify, defend, and save harmless the City from and against all liability, actions, damages, proceedings, costs, claims, demands, and expenses whatsoever (including the actual cost of solicitor's fees and litigation expenses) (the "Losses") which the City may incur or suffer or be put to by reason of or in connection with or arising from any breach, violation, or non-performance by the PIB of any obligation hereunder to be observed or performed by the PIB, any wrongful act or neglect of the PIB on or about the Licence Area, any damage to property related to the PIB's use and occupation of the Licence Area, or the death or injury to any person related to the PIB's use and occupation of the Licence Area, except where such Losses result from the respective negligence or wilful acts of the City.

The PIB's obligation's under this section shall extend to all liability, actions, damages, proceedings, costs, claims, demands, and expenses, whether they arise during the term of this Agreement or thereafter, and shall survive the termination or expiration of this Agreement.

10. **Indemnity of the City** – The City will indemnify, defend, and save harmless the PIB from and against all Losses which the PIB may incur or suffer or be put to by reason of or in connection with or arising from any breach, violation, or non-performance by the City of any obligation hereunder to be observed or performed by the City, any wrongful act or neglect of the City on or about the Licence Area, any damage to property related to the City's use and occupation of the Licence Area, or the death or injury to any person related to the City's use and occupation of the Licence Area, except where such Losses result from the respective negligence or wilful acts of the PIB.

The City's obligation's under this section shall extend to all liability, actions, damages, proceedings, costs, claims, demands, and expenses, whether they arise during the term of this Agreement or thereafter, and shall survive the termination or expiration of this Agreement.

11. **Insurance Requirements** – The PIB must, at its sole expense, obtain and maintain during the Term the following insurance policies:
- (a) comprehensive general liability insurance providing coverage for death, bodily injury, property loss and damage, and all other losses, arising out of or in connection with the PIB's activities on the Licence Area under this Agreement, in an amount of not less than \$5,000,000.00 per occurrence;
  - (b) automobile liability insurance on an occurrence basis with respect to the Works and Permitted Uses carried on, in, or from the PIB Area and the PIB's use and occupancy of them, of not less than \$5,000,000 per occurrence; and

- (c) blanket contractual liability insurance providing coverage for contractual liabilities assumed by the PIB under this Agreement and any other contracts entered into in during the course of this Agreement related the Works, the Licence Area, and the Permitted Uses, and such coverage will not contain any endorsements limiting or excluding coverage for contractual liabilities assumed by the PIB in relation thereto.
12. **Insurance Policies** – All policies of insurance required to be taken out by the PIB will meet the following requirements:
- (a) the policies will be written on an occurrence basis and will provide for blanket contractual liability where applicable, including liability assumed by the PIB under this Agreement;
  - (b) the policies will contain a cross liability or severability of interests clause;
  - (c) the policies will name the City and their respective Personnel as additional insureds with respect to third party claims arising out of the PIB's operations pursuant to this Agreement;
  - (d) the policies will be primary and non-contributing with respect to any policy or self-insured fund otherwise held or established on behalf of the City;
  - (e) the policy will be written on a form acceptable to the City and with insurers licenced to do business in the Province of British Columbia and acceptable to the City;
  - (f) any deductible amounts applying to a claim against a policy will be of an amount approved by the City;
  - (g) each policy will contain a clause requiring that the insurers provide to the City a minimum of thirty (30) days prior written notice of any cancellation (except for cancellation resulting from non-payment of premiums, in which case applicable statutory provisions will apply);
  - (h) all premiums and deductibles required under said policies will be paid by the PIB to the insurers and proof of such payment will be submitted to the City; and
  - (i) the PIB will provide the City with a new Certificate of Liability insurance annually upon policy renewal.
13. **City May Insure** – Upon the PIB's default the City may procure the insurance required under this Agreement in the name and at the expense of the PIB.
14. **Workers Compensation Coverage** – At all times during the Term, the PIB will, and will cause its Personnel and all others engaged in or upon any work on the Licence Area to, comply with the *Workers Compensation Act* (British Columbia) (the "WCA") and the requirements and regulations of WorkSafeBC in respect of the Licence Area. Without limiting the generality of the foregoing, the PIB will:
- (a) require as a condition of any agreement made with respect to construction, repair, renovation or demolition of the Works, whether with contractors, materialmen or otherwise, that there is full workers compensation insurance coverage in place in respect of all workers, employees, servants and others engaged in or upon any

work, and that all workers, contractors or other persons require the same of their workers and subcontractors. The PIB will immediately notify the City of any dispute involving third parties that arises in connection with obtaining and maintaining the workers compensation insurance coverage required hereby if such dispute results or may result in the required insurance coverage not being in place, and the PIB will take all reasonable steps to ensure resolution of such dispute forthwith. The PIB will further ensure that no amount payable pursuant to the WCA is left unpaid so as to create a lien on the Licence Area. If the workers compensation insurance coverage required by this section 15 is not in place, the City will be entitled to have recourse to all remedies specified in this Agreement or at law or equity; and

- (b) be deemed to be, and is hereby designated and appointed by the City as, the "Prime Contractor" as that term is defined in section 13 of the WCA for the purposes of the WCA and related regulations, including the Occupational Health and Safety Regulation (the "**OHS Regulation**"), and the requirements and regulations of WorkSafeBC, and will in that capacity strictly comply with all requirements applicable to that designation as they may be amended from time to time. Notwithstanding the foregoing, with the prior written consent of the City, a contractor hired by the PIB to perform work on the Licence Area on its behalf may be designated as the Prime Contractor instead of the PIB.

#### 15. **Builder's Liens –**

- (a) The PIB will, throughout the Term at its own cost and expense, cause any and all builders' liens and other liens for labour, services, or materials alleged to have been furnished with respect to the Licence Area, which may be registered against or otherwise affect the Licence Area, to be paid, satisfied, released (including, without limitation, the release of all such liens from the interest of the City in the Licence Area), or vacated within 15 days after the City sends to the PIB written notice by registered mail of any claim for any such lien.

Notwithstanding the foregoing, in the event of a bona fide dispute by the PIB of the validity or correctness of any claim for any such lien the PIB will not be bound by the foregoing, but will be entitled to defend against the claim in any proceedings brought in respect of the claim after first paying into court the amount claimed or sufficient security, and such costs as the court may direct, or the PIB may provide, as security in respect of such claim, an irrevocable letter of credit, lodged with the City, for 120% of the full amount of any claim for any such lien, the amount of which letter of credit will be increased every six months to include interest on the claimed amount at the prime rate published by the Bank of Canada, calculated semi annually not in advance from the date any such claim is registered against or otherwise affects the Licence Area, continuing so long as the proceedings continue and which letter of credit will be on terms sufficient to protect the City's interest in the Licence Area and in a form reasonably satisfactory to the City and will be issued by one of the chartered Banks of Canada; and, upon being entitled to do so, the PIB will register all such documents as may be necessary to cancel such lien from the Licence Area, including the City's interest in them.

- (b) The City will not be responsible for claims of builders liens filed by persons claiming through the PIB or persons for whom the PIB is in law responsible. The PIB acknowledges and agrees that the improvements to be made to the Licence Area

are made at the PIB's request solely for the benefit of the PIB and those for whom the PIB is in law responsible.

16. **Environmental Compliance** – The PIB covenants and agrees with the City to:
- (a) use the Licence Area and construct the Works in compliance with all Environmental Laws;
  - (b) at the reasonable request of the City, obtain from time to time at the PIB's expense a report from an independent consultant designated or approved by the City verifying compliance with Environmental Laws and this Agreement or the extent of any non-compliance;
  - (c) except in compliance with Environmental Laws, not store, manufacture, dispose, treat, generate, use, transport, remediate, or release Environmental Contaminants on or from the Licence Area without notifying the City in writing and receiving prior written consent from the City, which consent may be unreasonably or arbitrarily withheld;
  - (d) promptly remove any Environmental Contaminants from the Licence Area in a manner that conforms to Environmental Laws governing their removal; and
  - (e) notify the City in writing of:
    - (i) any enforcement, clean up, removal, litigation, or other governmental, regulatory, judicial, or administrative action instituted, contemplated, or threatened against the PIB, the Licence Area, or Works pursuant to any Environmental Laws;
    - (ii) all claims, actions, orders, or investigations instituted, contemplated, or threatened by any third party against the PIB, the Licence Area, or the Works relating to damage, contribution, cost recovery, compensation, loss, or injuries resulting from any Environmental Contaminants or any breach of the Environmental Laws; and
    - (iii) the discovery of any Environmental Contaminants or any occurrence or condition on the Licence Area or Works or any real property adjoining or in the vicinity of the Licence Area that could subject the PIB, the Licence Area to liability.

In this section 16, the following terms have the following meanings:

"Environmental Contaminants" means any contaminants, pollutants, hazardous, corrosive or toxic substances, flammable materials, explosive materials, radioactive materials, dangerous goods, microwaves, hazardous waste, urea formaldehyde, asbestos, noxious substances, compounds known as chlorobiphenyls, mould, and any other substance or material the storage, manufacture, disposal, treatment, generation, use, transport, remediation, or release of which into the environment is prohibited, regulated, controlled, or licensed under Environmental Laws.

"Environmental Laws" means any laws, statutes, regulations, orders, bylaws, permits or lawful requirements of any government authority with respect to

environmental protection, including in relation to human health, or regulating, controlling, licensing, or prohibiting Environmental Contaminants, and which, for greater certainty, includes the *Environmental Management Act*, S.B.C. 2003, c. 53.

17. **Assignment** – The PIB may not assign this Agreement or any of its rights hereunder or sublicense the Licence Area without the consent of the City, and the City will not unreasonably withhold such consent. However, notwithstanding the foregoing, the PIB may assign this Agreement to a company of which it is the sole shareholder without the City's consent.
18. **Dispute Resolution** – The designated representatives of the City and the PIB will make reasonable efforts to resolve a dispute or disagreement concerning this Agreement. If a dispute or disagreement cannot be resolved by the parties' representatives after three meetings, the General Manager of Infrastructure of the City and the Director of Infrastructure of the PIB will meet to discuss the dispute or disagreement and attempt to resolve it in a timely manner.

Should the parties be unable to resolve a dispute or disagreement in the manner set forth in this section 18, the parties will utilize the procedures set forth in subsections 18(a) and (b).

(a) **Mediation**

- (i) If a dispute arises between the parties relating to this Agreement, or arising out of this Agreement, which has not been resolved as set out above, the parties agree to use the following procedure as a condition precedent to either party pursuing other available remedies.
- (ii) Either party may notify the other by written notice of the existence of a dispute and a desire to resolve the dispute by mediation.
- (iii) A meeting will be held promptly between the parties, attended by individuals with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute.
- (iv) If, within 14 days after such meeting or such further period as is agreeable to the parties, the parties have not succeeded in negotiating a resolution of the dispute, they agree to submit the dispute to mediation.
- (v) The parties will jointly appoint a mutually acceptable mediator, seeking assistance from the Vancouver International Arbitration Centre, if they have been unable to agree upon such appointment within 20 days following the conclusion of the negotiation period.
- (vi) The parties agree to participate in good faith in the mediation and negotiations related thereto for a period of 30 days following appointment of the mediator, or for such longer period as the parties may agree.
- (vii) The costs of mediation will be shared equally between the parties. Costs will not include costs incurred by a party for representation by counsel.

(b) **Arbitration**

If a disagreement is not resolved within 30 days after the appointment of the mediator, then, upon application by either the City or the PIB, the disagreement will be referred and resolved by a single arbitrator pursuant to the *Arbitration Act*, SBC 2020, c 2. The decision of the arbitrator on all issues or matters submitted to the arbitrator for resolution shall be conclusive, final and binding on both the City and the PIB. The cost of the arbitrator shall be borne equally by the City and the PIB unless the arbitrator determines otherwise.

19. **Notice** – Where any notice, request, direction, or other communication must be given or made by a party under this Agreement, it must be in writing and is effective if delivered in person, sent by registered mail addressed to the party for whom it is intended at the address set forth above in this Agreement, or sent by email, to:

- (a) the City at email address: [corpadmin@penticton.ca](mailto:corpadmin@penticton.ca); and
- (b) to the PIB at email address: [lghostkeeper@pib.ca](mailto:lghostkeeper@pib.ca).

Any notice, request, direction, or other communication is deemed to have been given if delivered in person, when delivered; if by registered mail, when the postal receipt is acknowledged by the other party; and, if by email, when transmitted. The delivery address or email address of a party may be changed by notice in the manner set out in this provision.

20. **No Effect on Laws or Powers** – Nothing contained or implied herein shall prejudice or affect the rights and powers of the City in the exercise of its functions under any public or private statutes, bylaws, orders, and regulations, all of which may be fully and effectively exercised as if the Agreement has not been executed and delivered by the City.
21. **No Effect on Aboriginal or treaty rights** – Nothing contained or implied herein shall modify or otherwise affect PIB's Aboriginal and treaty rights under section 35 of the *Constitution Act, 1982*.
22. **Enurement** – This Agreement shall enure to the benefit of and be binding upon the parties hereto, their successors, and assigns.
23. **Independent Parties** – The PIB and all agents, servants, and workers of the PIB are not and shall not be deemed to be agents, servants, or employees of the City.
24. **No Public Law Duty** – Whenever in this Agreement the City is required or entitled at its discretion to consider granting any consent or approval, or is entitled to exercise any option to determine any matter, or to take any action or remedy, the City may do so in accordance with the contractual provisions of this Agreement and no public law duty of procedural fairness or principle of natural justice shall have any application.
25. **Waiver or Non-action** – Waiver by the City or the PIB of any breach of any term, covenant, or condition of this Agreement by the other must not be deemed to be a waiver of any subsequent default by the breaching party. Failure by the City or the PIB to take any action in respect of any breach of any term, covenant, or condition of this Agreement by either the City or the PIB must not be deemed to be a waiver of such term, covenant, or condition.

26. **Severance** – The invalidity of any particular provision of this Agreement shall not affect the validity of the remainder of this Agreement, which shall be construed as if the invalid provision were omitted.
27. **Interpretation** – Wherever the singular or the masculine are used, the same shall be construed as meaning the plural or the feminine or the body politic or corporate where the context or the parties hereto so require.
28. **Time of the Essence** – Time is of the essence of this Agreement.
29. **Laws of British Columbia** – This Agreement must be construed according to the laws of the Province of British Columbia.

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30. **Execution in Counterparts & Electronic Delivery** - This Agreement may be executed in any number of counterparts and delivered by email, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument, provided that any party delivering this Agreement by email shall also deliver to the other party an originally executed copy of this Agreement.

IN WITNESS WHEREOF the parties have duly executed this Agreement as of the dates written below:

**THE CITY OF PENTICTON** by  
its' authorized signatories:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**PENTICTON INDIAN BAND** by  
its' authorized signatories:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**SCHEDULE A**

**DRAWINGS**

**[Insert]**

**SCHEDULE B**

**LICENCE AREA**

**[Insert sketch/plan of Licence Area]**

**SCEHDULE C**

**ROAD CLOSURE AND STREET OCCUPANCY PERMIT APPLICATION**

**[Insert]**

**SCHEDULE 6**

**Connection Works Terms**

1. **Defined Term** – In this Schedule, unless otherwise specified, defined terms have the meaning assigned to them in section 1 of the Agreement.
2. **Grant of Licence**
  - (a) The PIB acknowledges and agrees that:
    - (i) portions of the Connection Works Licence Area will be located within the Municipal Road and the City has limited power to authorize the private use of a municipal road;
    - (ii) rights granted by the City to the PIB over the Municipal Road portions of the Connection Works Licence Area are not exclusive and are subject to the public's right to pass and repass over the Municipal Road except where the City has permitted closure of a portion of Municipal Road via issuance of a road closure permit; and
    - (iii) if the PIB requires the exclusive use of the Connection Works Licence Area or the full or partial closure of the Municipal Road in order to exercise any of its rights under this Agreement, prior to exercising such rights, the PIB will submit an application for a road closure permit using the City's standard form, and the City will use reasonable efforts to ensure that the PIB will have exclusive use of the portions of the Connection Works Licence Area covered by a road closure permit during term of the permit.
  - (b) Subject to section 1(a), the City hereby grants to the PIB and its employees, agents, and contractors, a licence to enter, go, be on, pass, and repass, with or without vehicles, personal property, and equipment, upon, over, under, and across the Connection Works Licence Area to repair, operate, maintain, inspect, alter, remove, bury, cleanse, clear, string, replace, or otherwise establish the Connection Works from time to time (collectively, the "**Permitted Uses**").
  - (c) The PIB agrees to only use the Connection Works Licence Area for the purpose of carrying out the Permitted Uses and performing ancillary activities.
  - (d) The PIB acknowledges and agrees that this Agreement shall not in any way restrict the right of the City to at any time:
    - (i) improve, maintain, widen, raise, lower or otherwise alter the Municipal Road;
    - (ii) inspect, install, improve, maintain or alter any structure, service or utility on, over or under any portion of the Municipal Road; or
    - (iii) permit other encroachments or use of the Municipal Road and the Connection Works Licence Area,

provided that the City will take reasonable care to ensure that such activities do not adversely affect the Connection Works or the PIB's rights in the Connection Works Licence Area.

- (e) The PIB acknowledges and agrees that a portion of the Connection Works will be located within Channel Parkway, which is part of Highway 97, that the City does not have the authority to grant a licence over Highway 97, and that the PIB will be required to obtain permission from the provincial government to construct, operate and maintain the Connection Works within Highway 97.

### 3. **Term, Fee and Termination**

- (a) The licence granted under this Schedule will commence on the date the PIB provides to the General Manager of Infrastructure a Certificate of Completion from a Professional Engineer, prepared under seal, certifying that the Connection Works are complete in accordance with section 22 of the Agreement and will continue until the Agreement expires or is otherwise terminated (the "Licence Term").
- (b) Upon termination of the Agreement the PIB will, at its sole cost, decommission the Connection Works in a manner approved by, and to the satisfaction of, the City.
- (c) The PIB will provide to the City a report or certificate of a Professional Engineer, prepared under seal confirming completion of the decommissioning in accordance with subsection 3(b) of this Schedule. If the PIB fails to decommission any Connection Works within 120 days after the expiration or termination of the Agreement, the City may, at its sole option and without further notice, enter the Connection Works Licence Area and decommission such Connection Works.

The covenants contained in subsections 3(b) and (c) will survive the expiry or termination of the Agreement.

- 4. **Alteration of Connection Works** – In addition to securing any permits, authorizations or approvals required in order to comply with the applicable enactments referenced in section 5 of this Schedule, the PIB will not alter the Connection Works except with the approval of the City, which the City will not withhold unreasonably.

### 5. **Compliance with Laws, Standard of Operation and Maintenance**

- (a) All activities carried out on the Connection Works Licence Area by the PIB pursuant to this Agreement will comply with City of Penticton bylaws applicable to such activity, as well as any other instruments or enactments that regulate or impact construction on the Connection Works Licence Area, including, without limitation, any encumbrances on title to the Connection Works Licence Area, unless otherwise authorized and agreed to by the Council of the City of Penticton.
- (b) The PIB will carry out the Permitted Uses and perform ancillary activities in a good and workmanlike manner and obtain all required governmental authorizations and permits and shall carry out all activities in accordance with any such authorizations and permits.

6. **PIB's Covenants** – The PIB covenants and agrees with the City as follows:
- (a) to use the Connection Works Licence Area only for carrying out the Permitted Uses and ancillary activities and in accordance with a road closure permit issued by the City. In the event of a conflict between this Agreement and a road closure permit, the terms of the permit will prevail;
  - (b) to not unduly disrupt or interfere with:
    - (i) the use, enjoyment and safety of the Connection Works Licence Area and the Municipal Road by the City and all those invited by the City to use the Connection Works Licence Area and the Municipal Road, including the public generally; or
    - (ii) any rights or privileges of any third party to use or access the Connection Works Licence Area or Municipal Road;
  - (c) in the exercise of the rights herein granted, to at all times act reasonably and with due consideration for the interests of the City and any occupants (including the general public);
  - (d) that it will promptly and its sole cost, make good and repair, to the satisfaction of the City, acting reasonably, any damage which it may cause to the Connection Works Licence Area or any improvements thereon;
  - (e) that it will ensure that all work done in accordance with this Agreement shall be done in such a manner as not to interfere with the any existing utilities or similar services owned by the City or any existing public or private utility located in, on, over or under the Connection Works Licence Area or supplied to or through the Connection Works Licence Area (the "Licence Area Utilities");
  - (f) that it will be solely responsible for all costs of determining the location of any and all Licence Area Utilities located within the Connection Works Licence Area;
  - (g) that it will engage, at its cost, a Professional Engineer to review the "as-build" drawings to determine the location of any and all Licence Area Utilities and advise regarding specifics of tie-back in relation to the Licence Area Utilities;
  - (h) in exercising the rights herein, that it will use best efforts to ensure that the public is interfered with as little as possible and shall not impede any pedestrian, vehicular or other traffic in the Connection Works Licence Area without the City's prior written consent, acting reasonably.
  - (i) not to alter or modify the Connection Works Licence Area in any way beyond the scope of the Connection Works or undertake any construction or placement of any other structure or encroachment on the Connection Works Licence Area other than the Connection Works without the City's prior written consent, which it shall not withhold unreasonably;

- (j) to use best efforts to keep the areas adjacent to the Connection Works free and clear of obstructions at all times, exercising the greatest care in the use and occupation of the Connection Works Licence Area;
- (k) to use reasonable care not to cause or permit anything that may be or become a nuisance or annoyance on the Connection Works Licence Area to the owners or occupiers of adjoining lands or to the public;
- (l) to pay all costs and expenses of any kind whatsoever associated with and payable in respect of the Connection Works, including without limitation all payments for work and materials, taxes thereon, and permits and licence fees, and should the PIB fail to pay and discharge any such costs described above, the City may do so at the cost of the PIB, and the PIB shall pay the City's costs of doing so forthwith plus a 10% administration fee upon receipt of invoice for same; and
- (m) not to allow any refuse, debris, garbage, waste, contaminants, pollutants, or other loose or objectionable material to accumulate or be deposited on the License Area, but rather to dispose of the same regularly and continuously.

7. **Emergency** – The PIB grants to the City the right at any time, in the case of an emergency or apprehended emergency, acting reasonably, to remove the Connection Works or any hazard to the public resulting from the Connection Works, without prior notice to the PIB, at the expense of the PIB.

8. **Indemnity of the PIB** – The PIB will indemnify, defend, and save harmless the City from and against all Losses which the City may incur or suffer or be put to by reason of or in connection with or arising from any breach, violation, or non-performance by the PIB of any obligation hereunder to be observed or performed by the PIB, any wrongful act or neglect of the PIB on or about the Connection Works Licence Area, any damage to property related to the PIB's use and occupation of the Connection Works Licence Area, or the death or injury to any person related to the PIB's use and occupation of the Connection Works Licence Area, except where such Losses result from the respective negligence or wilful acts of the City.

The PIB's obligation's under this section shall extend to all liability, actions, damages, proceedings, costs, claims, demands, and expenses, whether they arise during the term of this Agreement or thereafter, and shall survive the termination or expiration of this Agreement.

9. **Indemnity of the City** – The City will indemnify, defend, and save harmless the PIB from and against all Losses which the PIB may incur or suffer or be put to by reason of or in connection with or arising from any breach, violation, or non-performance by the City of any obligation hereunder to be observed or performed by the City, any wrongful act or neglect of the City on or about the Connection Works Licence Area, any damage to property related to the City's use and occupation of the Connection Works Licence Area, or the death or injury to any person related to the City's use and occupation of the Connection Works Licence Area, except where such Losses result from the respective negligence or wilful acts of the PIB.

The City's obligations under this section shall extend to all liability, actions, damages, proceedings, costs, claims, demands, and expenses, whether they arise during the term of this Agreement or thereafter, and shall survive the termination or expiration of this Agreement.

10. **Insurance Requirements** – The PIB must, at its sole expense, obtain and maintain during the Licence Term the following insurance policies:
  - (a) comprehensive general liability insurance providing coverage for death, bodily injury, property loss and damage, and all other losses, arising out of or in connection with the PIB's activities on the Connection Works Licence Area under this Agreement, in an amount of not less than \$5,000,000.00 per occurrence;
  - (b) automobile liability insurance on an occurrence basis with respect to the Connection Works and Permitted Uses carried on, in, or from the Connection Works Licence Area and the PIB's use and occupancy of them, of not less than \$5,000,000 per occurrence; and
  - (c) blanket contractual liability insurance providing coverage for contractual liabilities assumed by the PIB under this Agreement and any other contracts entered into in during the course of this Agreement related the Connection Works, the Connection Works Licence Area, and the Permitted Uses, and such coverage will not contain any endorsements limiting or excluding coverage for contractual liabilities assumed by the PIB in relation thereto.
11. **Insurance Policies** – All policies of insurance which are referred to in section 10 of this Schedule will meet the requirements outlined in section 39 of the Agreement.
12. **City May Insure** – Upon the PIB's default the City may procure the insurance required under this Schedule in the name and at the expense of the PIB.
13. **Workers Compensation Coverage** – At all times during the Licence Term, the PIB will, and will cause its Personnel and all others engaged in or upon any work on the Connection Works Licence Area to, comply with the WCA and the requirements and regulations of WorkSafeBC in respect of the Connection Works Licence Area. Without limiting the generality of the foregoing, the PIB will:
  - (a) require as a condition of any agreement made with respect to construction, repair, renovation or demolition of the Connection Works, whether with contractors, materialmen or otherwise, that there is full workers compensation insurance coverage in place in respect of all workers, employees, servants and others engaged in or upon any work, and that all workers, contractors or other persons require the same of their workers and subcontractors. The PIB will immediately notify the City of any dispute involving third parties that arises in connection with obtaining and maintaining the workers compensation insurance coverage required hereby if such dispute results or may result in the required insurance coverage not being in place, and the PIB will take all reasonable steps to ensure resolution of such dispute forthwith. The PIB will further ensure that no amount payable pursuant to the WCA is left unpaid so as to create a lien on the Connection Works Licence Area. If the workers compensation insurance coverage required by this section 13 is not in place,

the City will be entitled to have recourse to all remedies specified in this Agreement or at law or equity; and

- (b) be deemed to be, and is hereby designated and appointed by the City as, the “Prime Contractor” as that term is defined in section 13 of the WCA for the purposes of the WCA and related regulations, including the OHS Regulation, and the requirements and regulations of WorkSafeBC, and will in that capacity strictly comply with all requirements applicable to that designation as they may be amended from time to time. Notwithstanding the foregoing, with the prior written consent of the City, a contractor hired by the PIB to perform work on the Connection Works Licence Area on its behalf may be designated as the Prime Contractor instead of the PIB.

**14. Builder’s Liens –**

- (a) The PIB will, throughout the Term at its own cost and expense, cause any and all builders’ liens and other liens for labour, services, or materials alleged to have been furnished with respect to the Connection Works Licence Area, which may be registered against or otherwise affect the Connection Works Licence Area, to be paid, satisfied, released (including, without limitation, the release of all such liens from the interest of the City in the Connection Works Licence Area), or vacated within 15 days after the City sends to the PIB written notice by registered mail of any claim for any such lien.

Notwithstanding the foregoing, in the event of a bona fide dispute by the PIB of the validity or correctness of any claim for any such lien the PIB will not be bound by the foregoing, but will be entitled to defend against the claim in any proceedings brought in respect of the claim after first paying into court the amount claimed or sufficient security, and such costs as the court may direct, or the PIB may provide, as security in respect of such claim, an irrevocable letter of credit, lodged with the City, for 120% of the full amount of any claim for any such lien, the amount of which letter of credit will be increased every six months to include interest on the claimed amount at the prime rate published by the Bank of Canada, calculated semi annually not in advance from the date any such claim is registered against or otherwise affects the Connection Works Licence Area, continuing so long as the proceedings continue and which letter of credit will be on terms sufficient to protect the City’s interest in the Connection Works Licence Area and in a form reasonably satisfactory to the City and will be issued by one of the chartered Banks of Canada; and, upon being entitled to do so, the PIB will register all such documents as may be necessary to cancel such lien from the Connection Works Licence Area, including the City’s interest in them.

- (b) The City will not be responsible for claims of builders liens filed by persons claiming through the PIB or persons for whom the PIB is in law responsible. The PIB acknowledges and agrees that the improvements to be made to the Connection Works Licence Area are made at the PIB’s request solely for the benefit of the PIB and those for whom the PIB is in law responsible.

**15. Environmental Compliance – The PIB covenants and agrees with the City to:**

- (a) use the Connection Works Licence Area and construct the Connection Works in compliance with all Environmental Laws;
- (b) at the reasonable request of the City, obtain from time to time at the PIB's expense a report from an independent consultant designated or approved by the City verifying compliance with Environmental Laws and this Agreement or the extent of any non-compliance;
- (c) except in compliance with Environmental Laws, not store, manufacture, dispose, treat, generate, use, transport, remediate, or release Environmental Contaminants on or from the Connection Works Licence Area without notifying the City in writing and receiving prior written consent from the City, which consent may be unreasonably or arbitrarily withheld;
- (d) promptly remove any Environmental Contaminants from the Connection Works Licence Area in a manner that conforms to Environmental Laws governing their removal; and
- (e) notify the City in writing of:
  - (i) any enforcement, clean up, removal, litigation, or other governmental, regulatory, judicial, or administrative action instituted, contemplated, or threatened against the PIB, the Connection Works Licence Area, or Connection Works pursuant to any Environmental Laws;
  - (ii) all claims, actions, orders, or investigations instituted, contemplated, or threatened by any third party against the PIB, the Connection Works Licence Area, or the Connection Works relating to damage, contribution, cost recovery, compensation, loss, or injuries resulting from any Environmental Contaminants or any breach of the Environmental Laws; and
  - (iii) the discovery of any Environmental Contaminants or any occurrence or condition on the Connection Works Licence Area or Connection Works or any real property adjoining or in the vicinity of the Connection Works Licence Area that could subject the PIB, the Connection Works Licence Area to liability.