WATER AND WASTEWATER AGREEMENT

BETWEEN:

OKANAGAN INDIAN BAND

AND:

CITY OF KELOWNA

Duck Lake Indian Reserve No. 7

Dated for Reference: April 24, 2023

Copy ____ of ____

WATER AND SEWER SERVICES AGREEMENT

This A	greement, dated for reference	2023, is made between:
	AGAN INDIAN BAND, a "band" within the meani an office at 12420 Westside Road, Vernon, BC,	•
		("OKIB")
and:		
	OF KELOWNA, a municipality under the laws of E ce at 1435 Water Street, Kelowna, BC V1Y 1J4	British Columbia having
		("City")
BACK	BROUND:	
A.	OKIB has approved this Agreement by passing a Bameeting held on, 2023 in accordan <i>Indian Act</i> . A copy of the Band Council Resolution is as Schedule A.	nce with the provisions of the
B.	The City Council has approved this Agreement.	
C.	The City has constructed waterworks for the supply water and sewerage works for the provision of dome and treatment of sewer, to properties in and around the sewerage water w	estic water and the collection
D.	The Parties deem it to their mutual interest to enter in water and sewer services to properties on the Reser	•
E.	The Services provided or outlined within this Agr cooperation outlined in the Memorandum of Unders 25, 2022, between the District of Lake Country, OKIE	tanding made as of January
F.	The intent of this agreement is to outline the principle conditions required for individual properties in the Reswastewater services from the City of Kelowna.	
NOW T	HEREFORE, for mutual consideration, the Parties ag	ree as follows:

02306580

1.0 DEFINITIONS

- 1.1 In this Agreement, including this section, the recitals and schedules hereto, unless the context otherwise requires:
 - "City Sewer System" means the City's system of sanitary sewer mains and sewage facilities located outside the Reserve.
 - "City Water System" means the City's system of water mains and pipes, pumps, and other facilities and equipment used to supply potable water located outside the Reserve excepting a historic water transmission main which is within a separate agreement and right of way.
 - "City Systems" means collectively, the City Sewer System and the City Water System.
 - "Commencement Date" means the date set out in section 2.1.
 - **"CP Holder**" means a Certificate of Possession holder within the Reserve in accordance with the provisions of the *Indian Act*.
 - "CP Holder Service Agreement" means an agreement between the City and a CP Holder for the supply of Services, substantially on the same terms as this Agreement.
 - "Indian Act" means the Indian Act, RSC 1985, c I-5.
 - "Point of Connection" means a point where the City Systems connect to the Reserve Systems.

"Property Owner" means

- (i) OKIB, in respect of Reserve land controlled by OKIB; and
- (ii) a CP Holder, in respect of a parcel of Reserve land controlled by that CP Holder.
- "Reserve" means Duck Lake Indian Reserve No. 7, which has been set apart for the use and benefit of OKIB.
- "Reserve Sewer System" means the system of OKIB owned or CP Holder owned sanitary sewer mains and laterals on the Reserve for the purpose of collection and conveying sanitary waste from the Reserve to the City System under a Service Agreement.
- "Reserve Systems" means collectively, the Reserve Sewer System and the Reserve Water System.
- "Reserve Water System" means the system of OKIB owned, or CP Holder owned water mains and lateral supply pipes on the Reserve for the provision of water services to the Reserve under a Service Agreement.

"Services" means the municipal services provided by the City that are described in section 4.1.

"Service Agreement" means an agreement for the supply of Services to Reserve property and includes this Agreement and a CP Holder Service Agreement.

"**Term**" means a period of time which this Agreement remains in force and effect, as described in section 2.

2.0 TERM

- 2.1 This Agreement commences on ________, 2023 and shall continue until termination under sections 2.2, 12.1 or 12.2 of this Agreement.
- 2.2 This Agreement may be terminated by either Party, at their sole discretion, upon five (5) years written notice.

3.0 GOVERNANCE AND ROLES

- 3.1 OKIB and the City acknowledge that the ability for the City to enforce compliance with a Service Agreement is limited on Reserve. OKIB acknowledges and supports that the City may need to terminate water or sewer services to a property if compliance with the Service Agreement by a Property Owner cannot be satisfactorily achieved.
- 3.2 Should OKIB wish to provide water and sewerage services for the Reserve in the future, the City and OKIB will terminate this Agreement with a goal of transferring all aspects of responsibility for CP Holder Service Agreements to OKIB.
- 3.3 The City will not enter the Reserve for the purpose of operation, maintenance or construction of any facilities on site other than any City infrastructure, including water meters, that may be located on Reserve. However, at the direct request of OKIB or a CP Holder, the City may enter the Reserve to provide servicing advice or assistance.
- 3.4 CP Holder Service Agreements will allow for the transfer of those Service Agreements to OKIB.
- 3.5 OKIB will not be a party to a CP Holder Service Agreement and is not responsible for enforcing any terms and conditions within CP Holder Service Agreements. For clarity, enforcement of CP Holder Service Agreements will rest with the City.

4.0 SERVICES

- 4.1 During the Term of this Agreement, the City will, at OKIB's request, provide one or both of the following services to OKIB for any properties in the Reserve:
 - (a) supply of potable water from City Water System to Reserve Water System; and

- (b) collection, conveyance, treatment and disposal of sanitary waste that is discharged from the Reserve Sewer System to the City Sewer System (the "Services").
- 4.2 The City will provide one or both of the Services to a CP Holder that chooses to enter into a CP Holder Service Agreement.
- 4.3 The costs, quality and quantity of the Services to be provided by the City under a Service Agreement will be substantially the same as the costs, quality and quantity of Services provided by the City to the users of such Services on non-Reserve lands within the City. The City is not obliged to provide Services at a greater level or degree than the level or degree to which the same Services are provided elsewhere within the City.
- 4.4 The City makes no representation or warranty that the level or degree of Services provided under a Service Agreement will be maintained or continued to any particular standard, other than as stated expressly herein.
- 4.5 OKIB acknowledges and agrees, and a CP Holder who chooses to connect to Services will acknowledge and agree, that there may be from time-to-time interruptions or reductions in the level of Services, and that the City 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 level of a Service provided under this Agreement or the Service Agreements.
- 4.6 As a condition of Service, OKIB agrees, subject to the terms of this Agreement, and a CP Holder will agree, subject to the terms of a CP Holder Service Agreement, to comply with the relevant and applicable sections of the following related City bylaws, as amended or replaced from time to time:
 - (i) Water Regulation Bylaw 10480, as amended,
 - (ii) Sewerage System User Bylaw 3480 as amended.
 - (iii) Sanitary Sewer / Storm Drain Regulation Bylaw 6618-90 as amended,
 - (iv) Well Regulation Bylaw 11770 as amended which outlines the requirements of managing on-site wells prior to obtaining a City water service.
- 4.7 As a condition of Service, and in a manner consistent with strata corporation developments in the City, OKIB or a CP Holder that wishes to connect to Services will retain a professional engineer registered and in good standing with the Engineers and Geoscientists British Columbia and maintaining professional liability and errors and omissions insurance (the "Professional Engineer") to design and to provide engineering services for the construction of a Reserve System, which Professional Engineer shall certify to the City that such works have been constructed to the appropriate standards and specifications. The Professional Engineer's certification must be delivered to the City, along with all of the Professional Engineer's inspection records and as-built drawings before any new Reserve System may be connected to the respective City System.
- 4.8 In the interests of improved fire protection on individual properties, any existing property connecting to water must install a minimum of one fire hydrant to the water system.

5.0 EXISTING SERVICE AGREEMENTS

- 5.1 The City and OKIB agree to work to transition the Sewer Effluent Servicing Agreement between the City and OKIB dated July 26, 2010 to a new Service Agreement.
- 5.2 The City and OKIB will use their best efforts to have water and sewer services that are currently provided to the Property Owner of 8850 Jim Bailey Road, legally described as Lot 5, Plan 59290 CLSR and Road, Plan 56035 CLSR, continue under a new CP Holder Service Agreement as soon as practicable upon the Commencement Date. For clarity, there will be no interruption in service, as service will continue under the Development Servicing Agreement dated September 16, 2020 between the City and the Property Owner until transferred and continued under a new CP Holder Service Agreement.

6.0 PAYMENT FOR SERVICES

- 6.1 OKIB agrees to, and CP Holders who choose to connect to Services will be required to, pay user fees for services that are consistent with similar properties outside of the Reserve on a frequency consistent with City bylaws.
- 6.2 OKIB acknowledges that no deduction from the established City fees shall be allowed on account of any rupture, leak, breakdown, or malfunction of the Reserve Systems or any plumbing on Reserve.
- 6.3 OKIB and CP Holders who choose to connect to Services will pay for purchasing and installation of the water and sewer meters to the City's satisfaction. The City will own the meters and is responsible for their maintenance and renewal.

7.0 CONSTRUCTION OF NEW RESERVE SYSTEMS

- 7.1 Each Reserve System, including any extension of a Reserve System and any replacement of a Reserve System made necessary by accidental loss, wear and tear, breakdown, malfunction or obsolescence, must be constructed at the sole cost of the relevant Property Owner and must meet good engineering standards.
- 7.2 A City representative shall be present for the final connection to the City System.
- 7.3 The City reserves the right to refuse a connection if the conditions of service cannot be met.

8.0 RESPONSIBILITY OF RESERVE SYSTEMS

- 8.1 A Property Owner shall at all times retain responsibility of the Reserve Systems on their property under this Agreement, and no interest, right or title to the Reserve Systems shall be conveyed to the City under this Agreement.
- 8.2 Except with the prior written consent of a Property Owner, the City will not utilize the Reserve Systems or establish any connection thereto, except for the purpose of providing Services under this Agreement.

- 8.3 The City will not construct, operate, maintain, remove or administer infrastructure on the Reserve, with the exception of the existing Water Transmission Main, shown highlighted in yellow on the map attached as Schedule C and any City owned water meters that may be located on Reserve.
- The City will not be responsible for administration, operation, maintenance or renewal requirements for the Reserve Systems.

9.0 OPERATION, REPAIRS AND MAINTENANCE

- 9.1 The City will be responsible for all operation and maintenance of the City Systems up to the Point of Connection. The City will notify OKIB and affected CP Holders should any stoppages of service occur due to maintenance or short-term system failure.
- 9.2 OKIB or the CP Holder will promptly notify the City of any breakdown in a Reserve System on their property that requires any repair or maintenance work that may impact either City System.
- 9.3 OKIB and any CP Holder who chooses to connect to water will ensure that a backflow prevention program similar in outcome to the City's program is implemented on the Reserve.

10.0 FUTURE DEVELOPMENT AND COLLECTION OF DEVELOPMENT FEES

- 10.1 In accordance with the Memorandum of Understanding dated January 25, 2022, between the District of Lake Country, OKIB and the City, OKIB and the City shall develop policies and procedures with respect to future development on the Reserve to assure that appropriate growth charges are paid to the City for City Systems growth costs.
- 10.2 Subject to sections 10.3 and 10.4, OKIB and any CP Holder who chooses to connect to Services shall pay to the City, such fees and other charges payable in respect of the capital costs of providing, constructing, altering or expanding water and sewer facilities to service, directly or indirectly, new or expanded Reserve developments. Any required extension of or connection to the Services on City property or within a City highway or right of way will become the property of the City upon certification by the City of the completion of such works to the standards required under this Agreement.
- 10.3 The City will not apply any growth capacity charges for water, or development cost charges for water or wastewater for servicing the existing developments on Reserve. As of the date of execution of this Agreement, the existing developments consist of 1553 residential units with a population of 2,400 people on Reserve. Water and wastewater charges for additional development within an existing development will apply as they do for other City properties.
- 10.4 OKIB acknowledges that the figures in section 10.3, as they relate to existing developments within the Reserve, were determined by the process set out in the Water Demand Analysis Memorandum attached as Schedule B. OKIB agrees that this Memorandum will form the basis of determining the credit available for each

- existing development when dealing with impact of additional growth on increased demands for water or wastewater in the future and calculating when charges are to be paid arising from a development.
- 10.5 Any new or expanded development on the Reserve that requires Services (as determined pursuant to section 10.4) must pay a levy to the City for roads in the amount of \$2,000.00 per single family equivalent units for improvements that will be used by the City solely for the capital improvements to Commonwealth and Beaver Lake Roads.

11.0 RIGHTS OF ACCESS

11.1 The City's officers, servants, agents or employees may at any time upon providing a Property Owner who has chosen to connect to Services with not less than the amount of notice that would be provided off the Reserve in similar circumstances, enter upon the Reserve for the purpose of providing any of the Services required in accordance with this Agreement and ensuring compliance with the terms of this Agreement.

12.0 TERMINATION FOR BREACH OF AGREEMENT

- 12.1 OKIB acknowledges that whether or not the Services are discontinued or any disconnections are made, where invoices remain unpaid after six (6) months, the City shall have the right, without prejudice to any other right or remedy, to terminate this Agreement, after giving OKIB six (6) months written notice.
- 12.2 Should either party be in breach of its covenants or undertakings other than a failure by OKIB to pay for Services, which remains un-rectified for a period of six (6) months (and which can be rectified within that time period) 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, terminate this Agreement after providing one (1) year's written notice to the party in breach.

13.0 LIABILITY

13.1 The City does not warrant or guarantee the continuance or quality of any of the services provided under this Agreement and shall not be liable for any damages, expenses, or losses occurring by reason of suspension or discontinuance of the Services for any reason which is beyond the reasonable control of the City, including without limitation acts of God, forces of nature, soil erosion, landslides, lightning, washouts, floods, storms, serious accidental damage, strikes or lockouts, vandalism, negligence in the design and supervision or construction of the Reserve Systems, or in the manufacture of any materials used therein, and other similar circumstances.

14.0 COMMUNICATIONS AND CONTACT PROTOCOL

14.1 All the Parties to this agreement will appoint one or more representatives, with notice to the other Parties of such appointments as the principal contacts for official communications about this Agreement, and as the principal contacts for operational matters pursuant to this Agreement. The Parties further agree to

establish a communications protocol to manage issues arising under this Agreement.

15.0 DISPUTE RESOLUTION

- 15.1 In the interest of cooperative and harmonious co-existence, the parties agree to use their best efforts to avoid conflict and to settle any disputes arising from or in relation to this Agreement. The Parties acknowledge and agree that this section 15.1 does not limit either Party's respective rights under section 12.1 or 12.2 above.
- 15.2 In the event that the parties fail to resolve matters, the parties shall seek a settlement of the conflict by utilizing the Joint Problem-Solving Method as described in the Federation of Canadian Municipalities (FCM) First Nations Municipal Community Infrastructure Partnership Program, and recourse to the Courts shall be a means of last resort, except when public health or safety is concerned.

16.0 ACKNOWLEDGEMENT OF RIGHTS

16.1 Nothing contained in this Agreement will be deemed to limit or affect any other Aboriginal rights or claims OKIB may have at law or in equity. Nothing contained in this Agreement will be deemed to limit or affect the legal rights, duties of obligations of the City. The Parties agree that nothing in this Agreement will affect the cooperation or consultation covenants the Parties have entered into pursuant to other Agreements.

17.0 HEADINGS

17.1 Headings that precede sections are provided for the convenience of the reader only and shall not be used in constructing or interpreting the terms of this Agreement.

18.0 ENTIRE AGREEMENT

- 18.1 This Agreement constitutes the entire Agreement between the Parties and there are no undertakings, representations or promises express or implied, other than those expressly set out in this Agreement.
- 18.2 This Agreement supersedes, merges, and cancels any and all pre-existing agreements and understandings in the course of negotiations between the Parties.

19.0 NOTICE

19.1 The address for delivery of any notice or other written communication required or permitted to be given in accordance with this Agreement, including any notice advising the other Party of any change of address, shall be as follows:

(a) to City:

City of Kelowna 1435 Water Street Kelowna, British Columbia, Canada V1Y 1J4

Attention: City Clerk

(b) to OKIB:

Okanagan Indian Band 12420 Westside Road, Vernon, BC V1H 2A4

Attention: Chief

- 19.2 Any notice mailed shall be deemed to have been received on the fifth (5th) business day following the date of mailing. By notice faxed or emailed will be deemed to have been received on the first (1st) business day following the date of transmission. For the purposes of this section, the term "business day" shall mean Monday to Friday, inclusive of each week, excluding days which are statutory holidays in the Province of British Columbia.
- 19.3 The Parties may change their address for delivery of any notice or other written communication in accordance with section 19.1.

20.0 SEVERANCE

- 20.1 In the event that any provision of the Agreement should be found to be invalid, the provision shall be severed and the Agreement read without reference to that provision.
- 20.2 Where any provision of the Agreement has been severed in accordance with section 20.1 and that severance materially affects the implementation of this Agreement, the parties agree to meet to resolve any issues as may arise as a result of that severance and to amend this Agreement accordingly.

21.0 AMENDMENT

- 21.1 The Agreement shall not be varied or amended except by written agreement of both Parties.
- 21.2 No waiver of the terms, conditions, warranties, covenants, and agreements set out herein shall be of any force and effect unless the same is reduced to writing and executed by all parties hereto and no waiver of any of the provisions of this Agreement will constitute a waiver of any other provision (whether or not similar) and no waiver will constitute a continuing waiver unless otherwise expressly provided.

22.0 GOVERNING LAWS

22.1 The provisions of this Agreement will be governed and interpreted in accordance with the laws of British Columbia or Canada, as applicable.

23.0 ASSIGNMENT

23.1 The rights and obligations of the Parties may not be assigned or otherwise transferred. An amalgamation by a Party does not constitute an assignment.

24.0 ENUREMENT

24.1 The Agreement enures to the benefit and is binding upon the Parties and their respective heirs, executors, administrators and successors.

IN WITNESS WHEREOF the parties hereto have executed this Agreement.

On behalf of the CITY OF KELOWNA:	On behalf of the OKANAGAN INDIAN
Mayor Thomas Dyas	Chief Byron Louis
City Clerk – Stephen Fleming	Witness

SCHEDULE "A" – Band Council Resolution

SCHEDULE "B" - Memorandum - (OKIB I.R.#7) Water Demand Analysis

OKIB – I.R. #7 - Water Demand Analysis

Prepared for: Kevin Van Vliet, Utility Services Manager **Topic:** OKIB – I.R. #7 - Water Demand Analysis

City of Kelowna Water Supply to OKIB I.R. #7 Lands

Original Date: December 20, 2022

Revised: March 20, 2023 – Revision 2

Prepared by: Rod MacLean, P. Eng., Utility Planning Manager, City of Kelowna

Reviewed by: Jim Hager, Utility Planning Design Technician,

Luke Dempsey, P. Eng., Utility Planning Engineer Robinson Puche, Utility Planning Technologist

1. BACKGROUND

In January 2022, the City of Kelowna (City), Okanagan Indian Band (OKIB) and District of Lake Country (District) signed a memorandum of understanding (MOU) to resolve several outstanding issues between the three governments that have gone unresolved for many years. The motivating factors include OKIB's desire for water and sewer for properties under its jurisdiction, a joint interest to complete the Okanagan Rail Trail through OKIB lands, ongoing joint water supply issues, wastewater effluent capacity concerns in the District, and road quality issues on Beaver Lake Road.

As part of the MOU, the City will provide the opportunity for water and wastewater servicing to all lands within I.R.#7. The City will receive a bulk water supply from the District for a fee, and in turn, the City will deliver, maintain and meter potable water supply to all customers, including OKIB lands, within the City boundary as shown in Figure A-1. As with all municipal servicing, the City's responsibilities end at the property line. For the OKIB lands, OKIB has agreed to responsibility for servicing internal individual lots or units. The City will bill bi-monthly to OKIB or its subsidiary.

As of December 2022, the City is not responsible for supplying water to the OKIB. OKIB currently operates under private water supplies or or through agreement with the District.

As part of the MOU, the District has indicated it has enough capacity to provide an average day demand of 16 litres per second of potable water to the existing developed area on OKIB lands. Should development expand beyond this capacity, it is assumed that growth will need to cover any added infrastructure costs for additional supply.

The purpose of this memo is to confirm the current design demand of all properties within I.R. #7 lands and project future water supply to an ultimate development demand scenario anticipated in 2075.

2. WATER SUPPLY ANALYSIS

a. Current Demand Design Criteria

For this analysis, it is assumed that the City provides all servicing to the property line. This assumes enough flow, pressure, and capacity for fire protection. To determine current demand, the City uses methodology from Bylaw 7900 – Subdivision, Development and Servicing Bylaw which outlines design criteria and standards of practice. To equate zoning, this analysis assumes a land use-based assessment code for each property to help address typical zoning requirements (i.e., Single family, multi-family, commercial or industrial needs). The criteria used for the other customers in the service area all use the same base criteria as shown in Table 1.



Table 1. Design Criteria for Agreements and Adjusted Current Demands

A	Agreement or	7 !	Governing	Zoning or Agreement	Adjusted Current Unit Population Densities ²			
Area	Bylaw	Zoning	Agreement MDD¹	Density (people/ha)	Current Use	People/ha		
District Metered Properties	Bylaw 7900	Ind.	DLC	55.56	Ecotex ³ Heavy Ind Light Ind	84.2 55.56 12.5		
Shanks Road	City Ag Policy	Ag MF Com	5 USgpm/ac (up to 685mm) 600 l/cap/d 1800 l/cap/d	300 workers 189 workers		No change		
OKIB	Bylaw 7900	MF Com	N/A	25		No change		
New Lands	Bylaw 7900	Ind/Com	N/A		Heavy Ind Light Ind	55.56 12.5		

Notes:

- 1. Unit demands (MDD) assume 1,800 L/cap/day (Bylaw 7900).
- 2. Adjusted population based on Bylaw No. 7900 and current BC Assessment Land Use,
- 3. Ecotex located at 9730 McCarthy Road.

b. Calculation of Current System Demand in OKIB Lands

Data was collected using available mapping, recent population statistics and current air photography from Spring 2022.

According to BC Assessment data for 2021, there were 1,553 residential units housing a population of 2,404 people. This calculates to over 19 units per hectare over a developable area of approximately 124 hectares. This unit development range coincides with a Residential 2 Land Use in the City of Kelowna (as per Development Cost Charge Bylaw No. 12420):

"Residential 2" — developments with a density greater than 15 and less than or equal to 35 residential dwelling units per net hectare (generally small lot single family, row housing).

This equates to two (2) people per unit. Based on the information outlined above, the current demand for the OKIB lands is estimated at 34.6 L/s, and the maximum day demand (MDD) is 69.1 L/s (See Table 2). It is assumed that each of the leased parcels will eventually be supplied water by the City.

Table 2. Summary of Current Demand (2021) of OKIB Lands

Sub-Area	Sub Area	2021 Metered ADD	Current De	emand (L/s)	Current Demand (m³/year)		
	Sub-Area	(lps)	ADD	MDD	ADD	MDD	
	OKIB ¹	Unknown	34.6	69.1	1,089,900	2,179,700	

Notes:

1. Assumes all CP holders are connected.



3. DEMAND FROM FUTURE GROWTH

To assist the City in estimating future demand in the area and properly plan for sustainable water supply, an analysis of potential future development on OKIB lands was needed to address future demand. For this analysis, it is assumed that the ultimate buildout for the entire area will occur up to the Year 2075. The estimates are conservative, and are essentially for planning purposes only to assure capacity needs are always met.

For residential properties, the highest current population density of 30 units per hectare occurs at the Holiday Park Resort. Densities in other areas are significantly lower. As such, a more realistic residential density of 25 units per hectare will be used.

For industrial and commercial developments, a hybrid density of 25.4 people per hectare is used. While greater water consuming industrial uses (55.56 people per ha) will be allowed, this "hybrid" unit population density was used consistently with other planning in the Jim Bailey industrial areas and allows for more realistic capacity expectations. Fire flows remain 225 L/s for all industrial uses.

The future capacity for the OKIB can be found in Table 3.

Table 3. Summary of Ultimate Demand Requirement

Sub-Area	Ultimate De	emand (L/s)	Ultimate Demand (m³/year)			
Sub-Area	ADD MI		ADD	MDD		
OKIB	65.1	130.1	2,052,100	4,104,100		

4. CLOSING

The City and OKIB will work together to confirm this data, then look forward to analyzing future growth and project into new development areas using the same approach. The City believes that using a demand-based approach provides a more stable measure to determine future supply infrastructure.

ATTACHMENTS

Table A-1 - Detailed Water Demand Analysis by Property and Agreement Area

Area or Agreement	OKIB I.R. #7													
Original Sub-Area No.							#/							
Property / Address	2a 485 Beaver Lake Rd	2b 715 Beaver Lake Rd	3 8495 Hwy 97N	4a 720 Commonwealth	4b 415 Commonwealth	5 Holiday Park	6а 7841 Нwy 97N	6b 9020 Jim Bailey Rd.	7 9450 Jim Bailey Rd.	9 E of Hwy 97N	8850 Jim Bailey Road Wedge (Existing City Service)	Southern Property (industrial) 8355 Jim Bailey Rd	Subtotal OKIB Lands	
Current Demands Year of Meter Reading Start End Water Usage (m ³)													0 u	units
Period of Usage (days) OKIB Units 2022 (Per BCAC) Population 2022 (Per BCAC) 2022 Unit Density (people/ha) ADD (L/d)		149 292 13 262,800	57 114 6	236 438 14 394,200	220 249 35 224,100	468 508 30 457,200	23 26 1 23,400	154 322 26 289,800	16 28 180 25,200	230 427 16 384,300			1,553 L 2,404 p 19.4 p 2,163,600	people pp/ha 25.0 l/s
MDD (L/d) Estimated Current Design Demand based on BCAA Land Use and Bylaw 7900 Lot Area (ac) Lot Area (Ha) Irrigated or Developable Area (Ha) Land Use 2022 Units Density by Land Use (people/ha or unit) Unit Demand (L/cap/day) MDD multiplier Population Equivalent ADD (L/d) MDD (L/d)	34.60 15.51 15.51 I-7900 12.50 900 2 194 174,488 348,975	24.54 11.70 11.70 R-7900 149 2 900 2 298 268,200 536,400	24.46 9.90 9.90 8-7900 57 2 900 2 114 102,600 205,200	788,400 40.70 16.47 16.47 R-7900 236 2 900 2 472 424,800 849,600	15.32 6.20 6.20 8.7900 220 2 900 2 440 396,000 792,000	914,400 38.55 15.60 15.60 R-7900 468 2 900 2 936 842,400 1,684,800	46,800 65.73 26.60 26.60 R-7900 23 2 900 2 46 41,400 82,800	579,600 14.58 5.90 5.90 R-7900 154 2 900 2 308 277,200 554,400	50,400 0.22 0.09 0.09 R-7900 16 2 900 2 32 28,800 57,600	36.40 14.73 14.73 R-7900 230 2 900 2 460 414,000 828,000	3.52 1.42 1.42 C406 12.50 900 2 18 16,026 32,051		4,327,200 298.6 124.1 124.1 0 3,318 2,985,913 5,971,826	50.1 l/s people 35 l/s 69 l/s
Peak hour Annual (ML/y) BCAA Land Use (Current)	63.7	97.9	37.4	155.1	144.5	307.5	15.1	101.2	10.5	151.1	5.8		1,090	138 l/s
Ultimate Design Demand as per Agreements or 7900 (worst Case) Lot Area (ac) Lot Area (Ha) Irrigated or Developable Area (Ha) Land Use SF Density by Land Use (units/ha) People per unit Unit Demand (L/cap/day) MDD multiplier Ind'I Density by Agmt or Zone (pp/ha) Population Equivalent ADD (L/d)	34.60 15.51 15.51 1-7900 900 2 55.56 862 775,500	24.54 11.70 11.70 R-7900 35 2 900 2 819 737,100	24.46 9.90 9.90 8-7900 35 2 900 2 693 623,700	40.70 16.47 16.47 R-7900 35 2 900 2 1,153 1,037,654	15.32 6.20 6.20 8-7900 35 2 900 2 434 390,600	38.55 15.60 15.60 R-7900 35 2 900 2 1,092 982,800	65.73 26.60 26.60 R-7900 35 2 900 2 1,862 1,675,800	14.58 5.90 5.90 8-7900 35 2 900 2 413 371,700	0.22 0.09 0.09 8-7900 35 2 900 2	36.40 14.73 14.73 R-7900 35 2 900 2 1,031 928,025	3.52 1.42 1.42 R-7900 35 2 900 2	60.91 24.65 0.00 I-7900 900 2 55.56 0	359.5 148.8 124.1 8,465 7,618,232	88.2 l/s
MDD (L/d) Annual (ML/y)	1,551,000 283.1	1,474,200 269.0	1,247,400 227.7	2,075,309 378.7	781,200 142.6	1,965,600 358.7	3,351,600 611.7	743,400 135.7	11,218 2.0	1,856,050 338.7	179,486 32.8	0 0.0	15,236,463 2,781	176.3 l/s
Hybrid Ultimate Design Demand Lot Area (ac) Lot Area (Ha) Developable Area (Ha) Future Zoning SF Density by Land Use (units/ha) People per unit Unit Demand (L/cap/day)	34.60 15.51 12.41 300	24.54 11.70 11.70 R-7900 25 2 900	24.46 9.90 9.90 R-7900 25 2 900	40.70 16.47 16.47 R-7900 25 2 900	15.32 6.20 6.20 R-7900 25 2 900	38.55 15.60 15.60 R-7900 25 2 900	65.73 26.60 26.60 R-7900 25 2 900	14.58 5.90 5.90 R-7900 25 2 900	0.22 0.09 0.09 R-7900 25 2 900	36.40 14.73 14.73 R-7900 25 2 900	3.52 1.42 1.42 R-7900 25 2 900	60.91 24.65 19.72 300	359.5 148.8 140.7	
MDD multiplier Ind'l Density by Land Use (pp/ha) Population Equivalent ADD (L/d) MDD (L/d) Annual (ML/y)	2 25.42 315 283,500 567,000 103.5	2 585 526,500 1,053,000 192.2	2 495 445,500 891,000 162.6	2 824 741,182 1,482,364 270.5	310 279,000 558,000 101.8	780 702,000 1,404,000 256.2	2 1,330 1,197,000 2,394,000 436.9	2 295 265,500 531,000 96.9	4 4,006 8,013 1.5	737 662,875 1,325,750 241.9	71 64,102 128,204 23.4	2 25.42 501 450,900 901,800 164.6		65.1 l/s 130.1 l/s

SCHEDULE "C" - Beaver Lake Service Area/Alignment of Water <u>Transmission Main</u>

