



**AGENDA**  
**Bentley Town Council Regular Meeting**  
**Tuesday February 9, 2021**  
**6:45 pm**

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- 1. Call to Order**
- 2. Amendments & Acceptance of Agenda**
- 3. Adoption of Previous Minutes:**
  - a) Regular Meeting January 26, 2020**
- 4. Financial:**
  - a) Prepaid Cheque Listing – Cheques No. 20210053 to 20210101**
- 5. New Business**
  - a) Purchase of blade attachment for Public Works International Dump Truck**
  - b) Year End Wastewater and Water Reports**
  - c) 2021 Annual Review Employee Salary Grid Updates**
- 6. Correspondence**
  - a) 2021 Fortis Alberta Approved Rates**
  - b) Lacombe County January 28, 2021 Council Highlights**
- 7. Council Reports**
  - a) Mayor Rathjen**
  - b) Deputy Mayor Dickau**
  - c) Councillor Knutson**
  - d) Councillor Talsma**
  - e) Councillor Maki**
- 8. Other Business/Council Question Period:**
  - a) Parkland Air Shed Management 2021 Membership**
  - b) Bentley Arena and Partnership with Bentley School for Hockey Academy**
  - c) In Camera discussion regarding First Impressions Project (need to find section that applies)**
- 9. Adjournment**



**Minutes of the Regular Meeting of the Council of the Town of Bentley  
January 26, 2021**

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**Date & Place:** Minutes of the Regular Meeting of the Council of the Town of Bentley, held beginning Tuesday, January 26, 2021 at 6:45am, in the Bentley Municipal Office.

**In Attendance**  
Mayor Greg Rathjen  
Deputy Mayor Joan Dickau  
Councillor Doug Talsma  
Councillor Cora Knutson  
Councillor Neil Maki  
CAO Marc Fortais

**Call to Order** Mayor Greg Rathjen called the council meeting to order at 6:45pm

**Agenda** **Motion 11/2021** Moved by Councillor Knutson, "THAT the agenda be amended to include two additional items as other business:

- 1) **Historical Plaques – Medicine Lodge Ski Hill & Arena**
- 2) **In-Camera Item: Competitive Information**  
"In accordance with the Freedom of Information and Protection of Privacy Act Revised Statutes of Alberta Chapter F-25 Division 2 – Disclosure Harmful to business interests of a third party."  
16(1) the head of a public body must refuse to disclose  
ii.) Commercial, financial, labour relations, scientific or technical information.

**Carried**

**Motion 12/2021** Moved by Mayor Rathjen, "THAT the agenda as amended be accepted."

**Carried**

**Previous Minutes** **Motion 13/2021** Moved by Councillor Maki, "THAT the minutes of the regular meeting held on January 12, 2020 be confirmed."

**Carried**

**Financial**

a) **Prepaid Cheque Listing – Cheques 20200946 to 20210053**

**Motion 14/2021** Moved by Deputy Mayor Dickau, "THAT cheques numbered 20200946 to 20210053, excepting cheque number 20210035, which Deputy Mayor Dickau formally declared as a conflict of interest, be received as information."

**Carried**

**Motion 15/2021** Moved Councillor Maki, "That cheque number 20210035 be received as information." It should be noted that Deputy Mayor Dickau did not vote on this motion.

**Carried**

## **New Business**

### **a) 2021 Annual Recreation, Cultural, Historical, Tourism Funding Support**

It should be noted that each request was voted on separately due to any potential or perceived conflict of interest due to various council members' roles serving on the boards of organizations that requested grant funding.

#### **Requests to carry 2020 grant funding provided into the 2021 year**

**Motion 16/2021** Moved by Councillor Maki, "THAT Mayor and Council approve that the 2020 grant funding in the amount of \$2,000 provided to Rev Masters Car Club for the fireworks during the Bentley Town & County Fair Days and Rodeo be carried over into the 2021 year."

**Carried**

**Motion 17/2021** Moved by Mayor Rathjen, "THAT Mayor and Council approve that the 2020 grant funding in the amount of \$2,500 provided to Bentley District Ag Society for the fun zone activity expense during the Bentley Town & County Fair Days and Rodeo be carried over into the 2021 year." It should be noted that Deputy Mayor Dickau did not vote on the motion due to a potential conflict of interest.

**Carried**

**Motion 18/2021** Moved by Councillor Talsma, "THAT Mayor and Council approve that the 2020 grant funding in the amount of \$1,200 provided to Bentley Municipal Library for the mini libraries program be carried over into the 2021 year." It should be noted that Deputy Mayor Dickau and Councillor Knutson, did not vote on the motion due to a potential conflict of interest.

**Carried**

**Motion 19/2021** Moved by Councillor Knutson, "THAT Mayor and Council approve that the 2020 grant funding in the amount of \$2,500 provided to Canada Day for the Canada Fireworks be carried over into the 2021 year." It should be noted that Deputy Mayor Dickau, did not vote on the motion due to a potential conflict of interest.

**Carried**

#### **Requests for 2021 Grant Funding**

**Motion 20/2021** Moved by Deputy Mayor Dickau, "THAT Mayor and Council approve the 2021 grant request from Medicine Lodge Ski Club in the amount of \$4,000 for the purchase of uniforms (jackets) for the hill staff and volunteers."

**Carried**

**Motion 21/2021** Moved by Councillor Maki, "THAT Mayor and Council approve the 2021 grant request from Bentley Museum Society in the amount of \$2,530 for tourism information centre staffing costs." It should be noted that Councillor Knutson and Councillor Talsma did not vote on the motion due to a potential conflict of interest.

**Carried**

**Motion 22/2021** Moved by Mayor Rathjen, "THAT Mayor and Council approve the 2021 grant request from Bentley Municipal Library in the amount of \$6,000 for the Bentley Library Mural Project." It should be noted that Deputy Mayor Dickau and Councillor Knutson did not vote on the motion due to a potential conflict of interest.

**Carried**

**Motion 23/2021** Moved by Councillor Maki, "THAT Mayor and Council approve the 2021 grant request from Bentley Farmers Market in the amount of \$5,000 for the additional operational costs in relation to COVID-19, enhanced security, fencing, cleaning costs related to the market." It should be noted that Councillor Knutson did not vote on the motion due to a potential conflict of interest.

**Carried**

**Motion 24/2021** Moved by Councillor Knutson, "THAT Mayor and Council not approve the 2021 grant funding request from Bentley Minor Hockey in the amount of \$4,450 due to the request not meeting policy guidelines in that it is a request to fund a prior year project where grant funds have already been disbursed to that organization for another project within that year."

**Carried**

**b) Deferral of utility and tax penalties until December 31, 2021**

**Tax Penalty Deferral Bylaw**

**Motion 25/2021** Moved by Councillor Maki, "THAT Bylaw 224/2021 the 2021 Tax Penalty Deferral Bylaw be given first reading this day of January 26, 2021."

**Carried**

**Motion 26/2021** Moved by Councillor Knutson, "THAT Bylaw 224/2021 the 2021 Tax Penalty Deferral Bylaw be given second reading this day of January 26, 2021."

**Carried**

**Motion 27/2021** Moved by Deputy Mayor Dickau, "THAT Bylaw 224/2021 the 2021 Tax Penalty Deferral Bylaw be considered for third and final reading this day of January 26, 2021."

**Carried Unanimously**

**Motion 28/2021** Moved by Councillor Talsma, "THAT Bylaw 224/2021 the 2021 Tax Penalty Deferral Bylaw be read a third and final time this day of January 26, 2021."

**Carried Unanimously**

**Utility Penalty Deferral Bylaw**

**Motion 29/2021** Moved by Mayor Rathjen, "THAT Bylaw 225/2021 the 2021 Utility Penalty Deferral Bylaw be given first reading this day of January 26, 2021."

**Carried**

**Motion 30/2021** Moved by Councillor Maki, "THAT Bylaw 225/2021 the 2021 Utility Penalty Deferral Bylaw be given second reading this day of January 26, 2021."

**Carried**

**Motion 31/2021** Moved by Councillor Talsma, "THAT Bylaw 225/2021 the Utility Penalty Deferral Bylaw be considered for third and final reading this day of January 26, 2021."

**Carried Unanimously**

**Motion 32/2021** Moved by Deputy Mayor Dickau, "THAT Bylaw 225/2021 the Utility Penalty Deferral Bylaw be read a third and final time this day of January 26, 2021."

**Carried Unanimously**

**Correspondence**

a) **Lacombe County Council Highlights January 14, 2021**

**Motion 33/2021** Moved by Councillor Talsma, "THAT correspondence item a) be accepted as information."

**Carried**

**Other Business/Council Question Period**

a) **Historical Plaques – Bentley Museum Society Request**

- Councillor Knutson provided an overview of the grant that the Bentley Museum Society is applying for to fund the placement of historical plaques at the Bentley Arena and Curling Club along with the an historical plaque for a Barrel Flooder located at the arena. As well the society is also looking to place a plaque at the Bentley Ski Hill.
- The Museum Society is seeking permission from the Town to place the plaques on Town owned property and is requesting that a formal letter be written by the town providing such authorization.

**Motion 34/2021** Moved by Deputy Mayor Dickau, "THAT Mayor and Council authorize the CAO, Marc Fortais to work with the Museum Society, Bentley Ski Hill, Arena Staff and Curling Club Staff for the placement of the historical plaques; AND

THAT CAO, Marc Fortais provide the Bentley Museum Society with authorization in writing for the placement of said plaques on town land."

**Carried**

**b) In Camera Item**

Competitive Information "In accordance with the Freedom of Information and Protection of Privacy Act Revised Statutes of Alberta Chapter F-25 Division 2 – Disclosure Harmful to business interests of a third party."

16(1) the head of a public body must refuse to disclose

ii.) Commercial, financial, labour relations, scientific or technical information.

**Motion 35/2021** Moved by Councillor Talsma that the Regular Meeting of Council be closed to the public for a discussion to take place regarding competitive information at 7:18pm.

**Carried**

**Motion 36/2021** Moved by Councillor Knutson that the Regular Meeting of Council be resumed in public at 7:32pm.

**Carried**

**Motion 37/2021** Moved by Councillor Talsma, "THAT the regular meeting of council be adjourned. Time: 7:35 pm."

**Carried**

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Mayor Greg Rathjen

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Marc Fortais



# TOWN OF BENTLEY

## Cheque Listing For Council

2021-Feb-3  
11:11:42AM

Cheque		Vendor Name	Invoice #	Invoice Description	Invoice Amount	Cheque Amount
Cheque #	Date					
20210053	2021-01-19	FEDERATION OF CANADIAN MUNICIPALITIES	INV-26485-T6R3V	PAYMENT 2021 FCM MEMBERSHIP	443.71	443.71
20210054	2021-01-20	BENTLEY DISTRICT FIRE DEPARTMENT	31122020	PAYMENT REIMBURSEMENT FIRE DEPARTMEI	2,180.99	2,180.99
20210055	2021-01-20	BUNZL CLEANING & HYGIENE	124042 124043	PAYMENT ARENA MAINTENANCE BLACKJACK OFFICE SUPPLIES	184.39 259.99	444.38
20210056	2021-01-20	RURAL MUNICIPALITIES ASSOC. INSURANCE	INS00038231	PAYMENT ENVIRONMENTAL LIABILITY	5,498.14	5,498.14
20210057	2021-01-22	MY TECH ONSITE	INV 1671 INV 1672 INV 1675	PAYMENT WORKSTATIONS FOR SANDI & LOR SERVER REPLACEMENT PROJECT MARCS LAPTOP AND DOCKING STA	4,428.99 11,476.24 2,932.65	18,837.88
20210058	2021-01-22	TELUS COMMUNICATIONS INC.	04012021 4012022. Jan042021	PAYMENT ARENA WIFI INTERAC LINE TELUS BILL FOR JANUARY 2021	68.25 105.66 934.91	1,108.82
20210059	2021-01-27	LACOMBE COUNTY	IVC00039953	PAYMENT 4TH QUARTER FIRE DEPT COST SH	3,119.78	3,119.78
20210060	2021-01-27	STANTEC CONSULTING LTD.	1559469 1559471	PAYMENT CONCRETE REPLACEMENT 50TH STREET SOUTH REHABILITATI	534.92 1,049.74	1,584.66
20210061	2021-01-27	SYLVAN LAKE SUMMER HOCKEY CAMP LTD	30Dec2020	PAYMENT ARENA REPAIRS SUMMER 2020	4,411.81	4,411.81
20210062	2021-01-30	CARSON, BARBARA J				
20210063	2021-01-30	JENSEN, DARREN J				
20210064	2021-01-30	MEREDITH, SANDRA L				
20210065	2021-01-30	GIBSON, COLE C				
20210066	2021-01-30	DENNEHY, NATHAN				
20210067	2021-01-30	GREAVES, LORYANNE				
20210068	2021-01-30	FORTAIS, MARC C				
20210069	2021-01-30	KIKSTRA, ROBERT B				
20210070	2021-01-31	MCLAREN, JAMES I				
20210071	2021-01-28	MOUNTAIN AIR MECHANICALLTD.	10502	PAYMENT ARENA FURNACE REPAIR DECEMBE	1,659.00	1,659.00
20210072	2021-01-28	RATHJEN, GREG	12212020	PAYMENT CAO'S CHRISTMAS GIFT	367.49	367.49
20210073	2021-01-29	WSP CANADA INC.	0959869	PAYMENT BENTLEY SUBDIVISION PHASE 1	570.68	570.68
20210074	2021-02-02	ACCESS COPYRIGHT	56600/52392	PAYMENT 2021 ACCESS LICENSE	220.50	220.50
20210075	2021-02-02	ALBERTA ONE-CALL CORPORATION	IN165288	PAYMENT JANUARY 2021 NOTIFICATIONS	13.23	13.23
20210076	2021-02-02	CARSON, BARB	01202021	PAYMENT FAMILY DAY WEEKEND SUPPLIES F	207.55	207.55
20210077	2021-02-02	CITY OF RED DEER	417972	PAYMENT FIRE DISPATCH FEES 2021	2,824.36	2,824.36
20210078	2021-02-02	CLEARTECH INDUSTRIES INC.	858301	PAYMENT SAMPLE CONTAINER FOR CLARTE	96.16	96.16



# TOWN OF BENTLEY

## Cheque Listing For Council

2021-Feb-3  
11:13:04AM

Cheque		Vendor Name	Invoice #	Invoice Description	Invoice Amount	Cheque Amount
Cheque #	Date					
20210078	2021-02-02	CLEARTECH INDUSTRIES INC.	858889	CHEMICAL, CONTAINER DEPOSIT &	872.76	968.92
20210079	2021-02-02	CRACKER JACK SIGNS	1235	PAYMENT TRUCK DOOR DECALS & UNIT NUME	330.75	330.75
20210080	2021-02-02	DIGITEX CANADA LTD.	IN713440	PAYMENT OFFICE PHOTOCOPIER	344.23	344.23
20210081	2021-02-02	FORTAIS, MARC	18Jan2021	PAYMENT REIMBURSE FOR REGISTRATION FC	84.00	84.00
20210082	2021-02-02	GREAVES, LORYANNE	01252021	PAYMENT REIMBURSE OFFICE SUPPLIES	35.80	35.80
20210083	2021-02-02	GREGG DISTRIBUTORS LP	059-339513	PAYMENT PROTECTIVE CLOTHING P.W.	375.19	375.19
20210084	2021-02-02	HI-WAY 9 EXPRESS LTD.	6566521	PAYMENT CLEAR TECH FREIGHT	405.90	405.90
20210085	2021-02-02	LRL HVAC/R SOLUTIONS LTD.	11576	PAYMENT BENTLEY FIRE DEPT BLDG REPAIRS	487.20	487.20
20210086	2021-02-02	MUNICIPAL INFORMATION SYSTEMS INC.	20202019	PAYMENT SUPPORT FOR FEBRUARY 2021	828.48	828.48
20210087	2021-02-02	OUTLAW ELECTRIC LTD.	8651	PAYMENT FIRE DEPT BUILDING REPAIRS	330.14	330.14
20210088	2021-02-02	RECEIVER GENERAL	01122021 01312021 01312021.	PAYMENT REDUCED EMPLOYEMENT INSURAN REGULAR EMPLOYMENT INSURANC REDUCED EMPLOYMENT INSURANC	5,333.09 63.71 16,490.83	21,887.63
20210089	2021-02-02	RSM ALBERTA LLP	6221681	PAYMENT AUDIT OF FINANCIAL STATEMENTS	10,500.00	10,500.00
20210090	2021-02-02	SELECT AG FOODS	01062021	PAYMENT OFFICE SUPPLIES	25.54	25.54
20210091	2021-02-02	STANTEC CONSULTING LTD.	1541535	PAYMENT 50TH STREET SOUTH REHABILITATI	557.03	557.03
20210092	2021-02-02	TOSHIBA BUSINESS SOLUTIONS	AR4121765	PAYMENT CONTRACT OVERAGE CHARGE	7.92	7.92
20210093	2021-02-02	WASTE MANAGEMENT	1112075-0613-5	PAYMENT RECYCLING	4,785.68	4,785.68
20210094	2021-02-02	WOLF CREEK BUILDING SUPPLIES	242793 247484 247916	PAYMENT PARKS & REC DOOR MAINTENANCE ARENA MAINTENANCE MATERIALS UNIT#1601 DUMP TRUCK BOX SIDES	166.92 10.67 460.31	637.90
20210095	2021-02-02	EXCEL WELDING & FABRICATION INC.	11329	PAYMENT ARENA - LABOUR & MATERIAL TO BI	352.07	352.07
20210096	2021-02-02	NEW WEST FREIGHTLINER INC.	106119R	PAYMENT MAINTENANCE & CHANGED TIRES C	1,792.72	1,792.72
20210097	2021-02-03	ALBERTA HEALTH SERVICES	C103331-21	PAYMENT CLEANING AT DOCTOR'S CLINIC AT	288.50	288.50
20210098	2021-02-03	RIMBEY EXPRESS	1134 1195	PAYMENT WATER SAMPLES & RETURNS FOR WATER SAMPLES & RETURN FOR J/	96.00 96.00	192.00
20210099	2021-02-03	SHAW CABLE	02212021	PAYMENT INTERNET AT FCSS DOCTORS OFFI	163.80	163.80
20210100	2021-02-03	WASTE CONNECTIONS OF CANADA INC.	7425-0000228795	PAYMENT COMMERCIAL WASTE PICK UP	810.08	810.08
20210101	2021-02-03	WILD ROSE ASSESSMENT SERVICES		PAYMENT		1,330.88





# TOWN OF BENTLEY

## Cheque Listing For Council

2021-Feb-3  
11:11:42AM

Cheque					Invoice	Cheque
Cheque #	Date	Vendor Name	Invoice #	Invoice Description	Amount	Amount
20210101	2021-02-03	WILD ROSE ASSESSMENT SERVICES	8135	PROGRESS PAYMENT FOR FEBRUA	1,330.88	1,330.88

**Total 106,380.11**

\*\*\* End of Report \*\*\*



**Agenda Date:** February 9, 2021

**Agenda Item:** **New Business:**  
**Capital Purchase Snow Dogg Blade for 2016 International 7400 SFA with dump**

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## **ADMINISTRATIVE RECOMMENDATIONS**

THAT Mayor and Council authorize the CAO Marc Fortais to purchase a SnowDogg 36 inch Full Trip Steel Municipal Plow Part Number 1666110200 for the 2016 International 7400 SFA with dump at a capital cost of \$10,590 plus GST to be funded from the Public Works Equipment Reserve.

## **SUMMARY & BACKGROUND**

The Town of Bentley Public Works Department undertakes a snow removal that is second to none in Alberta. With the addition of our recent asset purchase of the 2016 International 7400 SFA with dump, the program continues to see improvements and gain efficiencies in our hauling capabilities and time required to complete this important task.

The 2016 International was purchased with the hydraulics mount and controls already installed to affix a highway sized plow. However our needs in Bentley are slightly different as we do not required a plow as large. Administration is recommending to purchase a 10' / 36 inch plow with all the required mounting hardware and plate to match the current configured plow hitch. The quoted price includes all costs for install, any additional hoses and couplers, corner markers and moldboard.

With the addition of the plow, this will provide another tool to expedite the process for snow removal each time that we experience a weather event. Leading to additional cost savings in time and the ability to focus on other tasks to be completed within Public Works.

## **BUDGET AND FINANCIAL CONSIDERATIONS**

Original Quote Purchase Price	\$11,090.00
Discount	\$ (500.00)
GST	<u>\$ 529.50</u>
<b>Total</b>	<b>\$11,119.50</b>

There is no impact to the operational budget as there are sufficient reserves specifically for the purchase.

## **ATTACHMENTS**

- 1) SnowDogg Plow Blade Specifications Sheet
- 2) SnowDogg Plow Blade Quote

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Marc Fortais, CAO



## SnowDogg™ Full Trip Steel Municipal Plow Assembly 10 Foot x 36 Inch-Swivel

**Buyers Part Number:** 1666110200

**Buyers Products SnowDogg 36 Inch Full Trip Steel Municipal Plow offers cities and large contractors a versatile tool to manage snow for years to come.**

- Stands up to heavy use with six laser-cut steel ribs and a full structural lower base.
- Buyers Products 4-step Tuff Kote finishing process extends the life of your plow.
- 10 Ga carbon steel moldboard is an investment that will last.
- Quality, fully welded moldboard -- never stitch-welded.
- Two adjustable, compression-style trip springs and full-trip moldboard help protect your equipment from hidden obstacles over varied surfaces.
- Easy access and protection of angle cylinders due to the above-A-frame mount.
- The A-frame's self-leveling swivel action keeps the plow blade flush to the ground.
- 1-1/2 in. plated king pin runs through a 2-1/4 in. by 3/8 in. DOM tube with integrated grease fitting.
- Strong pivot point connections from the push frame to the moldboard via four 1-1/4 in. plated pivot pins.
- Choose the attack angle that best suits your needs with three adjustable positions.
- Value-driven purchase with standard integrated running gear mounts and cushion cross-valves.
- Born and built with pride on the shores of Lake Erie in Northeast Ohio.



## Specifications

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## Specifications continued:

<b>Angle Cylinder Action</b>	Double Acting	<b>Angle Cylinder Dimensions</b>	3 x 2 x 12"
<b>Attachment Style</b>	Swivel	<b>Blade Height</b>	36"
<b>Blade Width</b>	120"	<b>Color</b>	Orange
<b>Cutting Edge Dimensions</b>	8 x 1/2"	<b>Cutting Edge Material</b>	1080 Steel
<b>Finish</b>	Powder Coat with Primer	<b>King Pin Diameter</b>	1.50"
<b>King Pin Material</b>	1045 Steel	<b>Material</b>	Carbon Steel
<b>Number of Ribs</b>	6	<b>Number of Trip Springs</b>	2
<b>Push Frame Tubing Dimensions</b>	3-1/2 x 5/16"	<b>Rib Material</b>	Carbon Steel
<b>Rib Thickness</b>	.50"	<b>Trip Spring Syle</b>	Compression
<b>Trip Style</b>	Full Trip	<b>Tubing Diameter</b>	2-1/4 x 3/8"
<b>Tubing Material</b>	Carbon Steel	<b>Shipping Weight</b>	1386.3 lb

## Equipment Quotation & Purchase Agreement

January 28, 2021

Quote #:2036874

Town of Bentley  
Box 179  
4918 – 50 ave  
Bentley. AB. T0C 0J0

Attention: Darren Jensen

**We are pleased to offer the following for your consideration:**

**Buyers Muni Snow plow,  
Standard Features / Options:**

- 10' moldboard, 36" high
- full trip moldboard
- full reverse, dual cylinders
- quick hitch swivel plate to match current truck portion plow hitch
- hoses and quick couplers installed
- screw adjust skid shoes
- poly corner markers

**PRICE (Installed and ready to work)..... \$10,590.00 CAD**

*This Quotation is based on mounting the equipment on a clear, unobstructed chassis that meets the equipment requirements.  
Any modifications to the customer supplied chassis or relocation of existing equipment will be done at an extra charge.  
Customers will be advised of these modifications prior to any work proceeding and will be asked for approval.*

- Plus, Applicable Taxes
- FOB: Calgary– CTEC branch
- Price in effect for 10 day(s)

We trust the above meets with your approval.

Should you wish to proceed, please note the general conditions below and sign under order acceptance.

Yours very truly,

Phil Blancher– Sales representative,  
Commercial Truck Equipment Corp.

BM Approval: \_\_\_\_

Providing Expert Truck Equipment Solutions Across Canada

[www.comtruck.ca](http://www.comtruck.ca)

Delta (HO)	604 526 6126	Edmonton	780 468 5151	Woodstock	519 421 4488
Surrey	604 888 0513	Regina	306 721 9575	Quebec	418 653 0000
Calgary	403 253 6421				

Commercial Truck Equipment Corp.  
DBA Commercial Truck Equipment CO.

**GENERAL CONDITIONS**

1. APPLICATION OF GENERAL CONDITIONS. These general conditions (the "General Conditions") govern the supply of goods and services by Commercial Truck Equipment Corp. ("CTE") unless modified or supplemented by a term expressly set out in a CTE job order ("Job Order"). These General Conditions, together with a Job Order and invoice, collectively form a legally binding contract between CTE and its customer ("Customer") (the "Supply Contract"). Any change to the terms of the Supply Contract must be agreed in writing by CTE.
2. ENTIRE AGREEMENT. The Supply Contract is the complete and entire agreement between the parties with respect to the subject matter therein. No understandings or communications between the parties, whether written or verbal, form part of the Supply Contract or will have any legal effect between the parties unless expressly agreed in writing by CTE. If Customer's purchase order is attached as a schedule to the Supply Contract, other than any technical specifications that may be set out therein, it will have no legal effect.
3. SUPPLY OF GOODS AND SERVICES. CTE will supply, and Customer will purchase the goods and services at the price and in accordance with the other terms and conditions of the Supply Contract
4. DELIVERY, PICK UP AND SHIPPING. Goods supplied by CTE and Customer equipment on which CTE services are performed will be deemed to have been delivered to Customer once CTE places such goods or Customer equipment at the disposal of Customer at a CTE branch. Upon delivery by CTE, Customer will be required to immediately pick up such goods and equipment at Customer's risk and expense. CTE may, upon Customer's request, arrange for shipping at Customer's risk and expense. Risk of loss or damage to goods and equipment will transfer to Customer once such goods and equipment are delivered to Customer at a CTE branch.
5. PAYMENT. Customer will pay the price of CTE's goods and services in cash on delivery by CTE. Title to goods shall remain with CTE and shall not pass to Customer until all amounts owing by Customer to CTE, including all applicable taxes, have been paid in full by Customer. If Customer does not fully pay all amounts owing when due, CTE may, without limiting its remedies under the Supply Contract and the law, (a) suspend delivery and other CTE performance until such amounts are fully paid and (b) terminate the Supply Contract.
6. DEPOSIT. If Customer has paid CTE a deposit on the Supply Contract price (the "Deposit") and Customer fails to complete the Supply Contract in accordance with the terms thereof (including, without limitation, failing to pick up goods and equipment and failing to fully pay all amounts when due) through no fault of CTE, CTE may terminate the Supply Contract and in such event the deposit will be absolutely forfeited to CTE on account of damages without limiting CTE's right to pursue Customer for additional damages and other remedies under the Supply Contract and the law.
7. LIMITED WARRANTY.
  - 7.1 Goods – Manufacturer's Warranty. Goods supplied by CTE will be warranted by the manufacturer in accordance with the terms of the manufacturer's warranty (if any). CTE may, in its sole discretion and on terms acceptable to CTE, perform any warranty repair or replacement on goods covered by a manufacturer's warranty and in such event the terms of this Supply Contract (except section 7.2, unless CTE agrees in its sole discretion) will govern the warranty repair or replacement.
  - 7.2 Services – CTE's Limited Warranty. CTE warrants, subject to the following limitations and conditions, that its services will be free from defects in workmanship for 90 days after service completion: (a) CTE will determine, in CTE's sole discretion, whether the workmanship is defective, (b) CTE's sole responsibility will be to repair the defective workmanship and, if necessary as determined by CTE, repair or replace a part that is damaged by the defective workmanship, at a CTE branch during its regular business hours, (c) Customer is responsible for shipping, at Customer's risk and expense, applicable equipment to and from a CTE branch for CTE's assessment and repair, (d) no further warranty is provided on any service warranty work, (e) prior to the discovery of the defect, the applicable equipment was being used and maintained properly by Customer and in accordance with CTE's and the equipment manufacturer's guidelines. All CTE service warranty work will be governed by the terms of this Supply
  - 7.3 No Other Warranty. Other than the warranties expressly provided in sections 7.1 and 7.2 hereof, no other warranties, conditions, guarantees or similar obligations, whether express or implied by fact, by law, including any statute or regulation, by custom or trade usage, or by any course of dealing, including but not limited to any implied warranties or conditions of merchantability or fitness for purpose or fitness for a particular purpose, are applicable to goods and services supplied by CTE.
8. PROPERTY/GOODS LEFT ON CTE PREMISES. Any Customer property and CTE supplied goods left on CTE premises will be left at Customer's risk and expense and if any of the foregoing are left on CTE's premises more than 30 days after delivery at a CTE branch, CTE may store such property and goods at a third party site at Customer's risk and expense. If any Customer property and CTE supplied goods are left more than 90 days after delivery at a CTE branch, CTE may, at Customer's risk and expense, sell such property and goods, apply the proceeds of such sale to any amounts owed by Customer and hold the remaining proceeds (if any) in trust for Customer.
9. FORCE MAJEURE. "Force Majeure" means an event or circumstance that is beyond the reasonable control of a party and that prevents or delays that party in the performance of any of its obligations under the Supply Contract, including but not limited to a delay or failure by a subcontractor, or sub-supplier, in each case of any tier, to perform and complete their obligations in accordance with their respective contracts that is caused by an event that, if it occurred with respect to a party to this Supply Contract, would constitute Force Majeure. If a party is prevented or delayed in performing its obligations (other than a payment obligation) by Force Majeure, that party is not liable to the other party for failure to perform those obligations. The time for performance is deferred to the extent and for so long as performance is prevented or delayed and the completion, delivery and other dates contemplated under the Supply Contract shall be adjusted if necessary to accommodate the effects of Force Majeure.
10. LIMITATIONS OF LIABILITY. CTE is not liable to Customer under or in relation to the Supply Contract for any loss of use, loss of production, loss of profits, loss of markets, additional or incremental costs of operation, economic loss, or special, indirect or consequential loss or damage, or punitive and exemplary damages suffered or incurred by Customer, or by any third party who makes a claim against Customer for which Customer seeks recovery from CTE, whether Customer's claim, or that of the third party, is in contract, or tort, including negligence, or under any other theory of law or of equity. CTE's total liability arising out of or in relation to the Supply Contract, whether in contract, warranty, tort (including negligence), strict liability or otherwise, shall be limited to the price of the goods and services supplied under such Supply Contract.
11. APPLICABLE LAW. The Supply Contract shall be governed by and construed in accordance with the laws of the Province in which the Supply Contract is entered into and the laws of Canada applicable in such Province, excluding any conflict of laws principles or rules that would impose a law of another jurisdiction for the construction of the Supply Contract. The parties to the Supply Contract hereby irrevocably and unconditionally attorn to the non-exclusive jurisdiction of the courts of the Province in which the Supply Contract is entered into and all courts competent to hear appeals therefrom. The United Nations Convention on Supply Contracts for the International Sale of Goods (1980) shall not apply to the Supply Contract and is hereby excluded in its entirety.
12. MISCELLANEOUS. Any additional supply or work performed by CTE in relation to the original supply of goods or services contemplated under this Supply Contract will be governed by the terms of this Supply Contract. The remedies available to CTE hereunder are in addition to any other remedy available under the law. If any provision of the Supply Contract is determined to be invalid or unenforceable in whole or in part, such invalidity or unenforceability attaches only to such provision and everything else in the Supply Contract continues in full force and effect. Rev. Aug 15/ 2019

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Surrey	604 888 0513	Regina	306 721 9575	Quebec	418 653 0000
Calgary	403 253 6421				

**Order acceptance:**

**Customer acknowledges having read the conditions in this document and agrees to purchase.**

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date (day/month/year): \_\_\_\_\_

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Delta (HO)	604 526 6126	Edmonton	780 468 5151	Woodstock	519 421 4488
Surrey	604 888 0513	Regina	306 721 9575	Quebec	418 653 0000
Calgary	403 253 6421				



**Agenda Date:** February 9, 2021

**Agenda Item:** 2020 Water and Wastewater Annual Report

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## **LEGISLATIVE REQUIREMENT/AUTHORITY**

Annual reports are required to be completed as a condition of the operating approvals issued by the Alberta government under the Environmental Protection and Enhancement Act Approvals for water and wastewater treatment facilities. Reports may also be required as a condition of the Code of Practice for a specific facility.

## **SUMMARY AND BACKGROUND**

The purpose of these reports is to address the performance of each facility and ensure compliance, quality and safety of the services provided.

### **The reports provide:**

#### **Water Year End Report (Attachment #1)**

- Volume summaries by well and by distribution
- Chlorine consumption, dosages and residuals
- Number of samples taken
- Results of water quality testing
- Any operational challenges and issues with the system and how they were addressed
- Any contraventions and what was done to address the contravention
  - In all cases these contraventions were minor in nature and the town has a duty to report all such issues in accordance with EPEA (Environmental and Protection Enhancement Act)
  - As an example this would include an uncontrolled water release due to a water main line break

#### **Wastewater Year End Report (Attachment #2)**

- Volume summaries
- Lagoon discharge dates and volume discharged
- Volume of digester treatment added to ponds
- Percentages of removal of harmful nutrients
- Results of wastewater testing



It should be noted that all results obtained indicated that the Town of Bentley has excellent water quality and that we are in compliance for both our Water and Wastewater Treatment.

**RECOMMENDATION:**

THAT the Annual Water & Wastewater Reports for the year ending December 31, 2020 and the Drinking Water Safety Plan (Attachment #3) , be received and accepted by Town Council as information.

**ATTACHMENTS:**

- 1) Water Year End Report
- 2) Wastewater Year End Report
- 3) Drinking Water Safety Plan

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Marc Fortais, CAO



# **Water Year End Report 2020**

**Water # 18648-00-00 (SW26-40-1-W5M)**

**This report was prepared by  
Darren Jensen (#4051)  
Town of Bentley  
Box 179  
Bentley, Alberta  
T0C 0J0  
403 748 4044**

**Acknowledgement of Water System Report 2020**  
**Water # 18648-00-00 (SW26-40-1-W5M)**

**Darren Jensen (#4051) Operator**

Water Treatment I  
Water Distribution I  
Wastewater Treatment I  
Wastewater Collection I

**Cole Gibson (#5404) Operator**

Water Treatment I  
Water Distribution I  
Wastewater Treatment I  
Wastewater Collection I

**Mayor and Council of the Town of Bentley have reviewed and accepted this report.**

Mayor: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

**Chief Administrative Officer for the Town of Bentley has reviewed and accepted this report.**

CAO: \_\_\_\_\_

**Raw Well Water Consumption Report 2020**  
**Water Treatment Distribution System**  
**Town of Bentley**  
**Water # 18648-00-00 (SW26-40-1-W5M)**

Month End	Well # 1 Reading	Volume (m3)	Well # 2 Reading	Volume (m3)	Well # 3 Reading	Volume (m3)	Volume #1,2,3	Monthly Avg (m3)	Monthly Min (m3)	Monthly Max (m3)
Dec-19	920472		903843		92992					
Jan	923173	2701	906427	2584	95333	2341	7626	246	134	481
Feb	926132	2959	907990	1563	97894	2561	7083	244	121	434
Mar	928958	2826	910706	2716	344	2450	7992	258	42	492
Apr	931577	2619	913221	2515	2618	2274	7408	247	25	488
May	934647	3070	916164	2943	5287	2669	8682	280	175	539
June	937560	2913	918955	2791	7826	2539	8243	275	145	471
July	940470	2910	921742	2787	10375	2549	8246	266	25	485
Aug	943810	3340	924931	3189	12677	2302	8831	285	35	1006
Sept	946567	2757	927566	2635	15082	2405	7797	260	27	465
Oct	949320	2753	930199	2633	17476	2394	7780	251	62	615
Nov	951792	2472	932564	2365	19622	2146	6983	233	33	455
Dec	954279	2487	934939	2375	21776	2154	7016	226	9	679
<b>Total</b>		<b>33807</b>		<b>31096</b>		<b>28784</b>	<b>93687</b>			

Total Yearly Volume:	93687 m3
Monthly Average:	7807 m3
Daily Average:	257 m3
Peak Month:	August (8831 m3)
Peak Day:	August 16th (1006 m3)

# Treated Water Consumption Report 2020

## Water Treatment Distribution System

### Town of Bentley

Water # 18648-00-00 (SW26-40-1-W5M)

Monthly Meter Reads					
Month End	Dist Pump 1 Meter Read	#1 Volume Used (m3)	Dist Pump 2 Meter Read	#2 Volume Used (m3)	1&2 Volume Total (m3)
Dec-19	792130		775985		
Jan	795534	3404	779963	3978	7382
Feb	799258	3724	783307	3344	7068
Mar	804149	4891	786253	2946	7837
Apr	806834	2685	790985	4732	7417
May	811348	4514	795142	4157	8671
June	816176	4828	798316	3174	8002
July	819354	3178	803123	4807	7985
Aug	823460	4106	807143	4020	8126
Sept	827840	4380	810440	3297	7677
Oct	833012	5172	812683	2243	7415
Nov	834784	1772	818030	5347	7119
Dec	837724	2940	822120	4090	7030
<b>Total</b>		<b>45594</b>		<b>46135</b>	<b>91729</b>

Monthly Town Usage (m3)			
	Monthly Avg (m3)	Monthly Min (m3)	Monthly Max (m3)
Jan	238	92	372
Feb	244	113	332
Mar	353	127	435
Apr	247	110	342
May	280	91	562
June	267	120	388
July	258	149	391
Aug	262	106	418
Sept	256	174	406
Oct	239	114	335
Nov	237	91	345
Dec	227	140	378

Total Yearly Volume:	91729 m3
Monthly Average:	7644 m3
Daily Average:	251 m3
Peak Month:	May (8671 m3)
Peak Day:	May 17 (562 m3)

**Chlorine Consumption and Chlorine residual Report 2020**  
**Water Treatment Distribution System**  
**Town of Bentley**  
**Water # 18648-00-00 (SW26-40-1-W5M)**

Monthly Chlorine Used				
Month	Total (L)	Monthly Avg (L)	Monthly Min (L)	Monthly Max (L)
Jan	180	6	2	12
Feb	158	6	2	11
Mar	195.5	6	1	12
Apr	190.1	6	0.5	12
May	224	7	4	14
June	225	8	3	13
July	206.5	7	0.5	12
Aug	234	8	1	26
Sept	209.5	7	0.5	12
Oct	201.5	7	2	13
Nov	188	6	1	13
Dec	194.3	7	0.3	19
<b>Totals</b>	<b>2406.4</b>			

Monthly Dosages mg/L			
	Monthly Avg Dosage	Monthly Min. Dosage	Monthly Max. Dosage
Jan	3.4	2.3	4
Feb	3.3	2.1	3.9
Mar	3.6	2.6	5.2
Apr	3.8	2.8	5.8
May	3.7	3.2	4.4
June	3.9	3	4.5
July	3.6	2.9	4.2
Aug	3.9	3	5.6
Sept	3.8	2.7	4.7
Oct	3.8	3	4.3
Nov	3.9	3	4.4
Dec	4	3.7	4.8

Monthly Free CL2 Residuals (mg/L)						
Month	Free CL2 Mon. Avg	Free CL2 Mon. Min	Free CL2 Mon. Max	Free CL2 Mon. Avg	Free CL2 Mon. Min.	Free CL2 Mon. Max
	Entering Dist.	Entering Dist.	Entering Dist.	In Dist.Sys	In Dist.Sys	In Dist.Sys
Jan	0.79	0.75	0.87	0.76	0.70	0.80
Feb	0.63	0.40	0.80	0.59	0.35	0.75
Mar	0.80	0.72	0.87	0.76	0.71	0.82
Apr	0.80	0.73	0.85	0.76	0.71	0.85
May	0.77	0.67	0.80	0.75	0.67	0.82
June	0.73	0.64	0.78	0.72	0.64	0.79
July	0.78	0.65	0.88	0.75	0.66	0.85
Aug	0.84	0.66	1.10	0.83	0.64	1.09
Sept	0.63	0.57	0.68	0.62	0.55	0.66
Oct	0.63	0.53	0.76	0.62	0.54	0.77
Nov	0.74	0.64	0.81	0.70	0.61	0.81
Dec	0.71	0.64	0.77	0.65	0.60	0.71

Monthly Total CL2 Residuals (mg/L)						
Month	Total CL2	Total CL2	Total CL2	Total CL2	Total CL2	Total CL2
	Mon. Avg Entering Dist.	Mon. Min Entering Dist.	Mon. Max Entering Dist.	Mon. Avg. In Dist.Sys	Mon. Min. In Dist.Sys	Mon. Max In Dist.Sys
Jan	0.92	0.85	1.00	0.91	0.86	0.96
Feb	0.76	0.54	0.96	0.72	0.50	0.89
Mar	0.91	0.85	0.97	0.88	0.82	0.95
Apr	0.90	0.83	0.95	0.87	0.81	0.95
May	0.88	0.83	0.95	0.84	0.79	0.93
June	0.81	0.72	0.93	0.81	0.73	0.89
July	0.86	0.74	0.94	0.83	0.75	0.92
Aug	0.91	0.7	1.19	0.89	0.70	1.10
Sept	0.71	0.67	0.76	0.69	0.65	0.75
Oct	0.75	0.65	0.90	0.74	0.64	0.86
Nov	0.87	0.82	0.92	0.81	0.74	0.87
Dec	0.86	0.76	0.92	0.80	0.74	0.86

Monthly Inline Analyzer CL2			
Month	Free	Free	Free
	Mon. Avg.	Mon. Min.	Mon. Max.
Jan	0.77	0.74	0.79
Feb	0.60	0.40	0.77
Mar	0.76	0.71	0.85
Apr	0.79	0.75	0.84
May	0.77	0.76	0.80
June	0.73	0.70	0.76
July	0.80	0.72	0.84
Aug	0.82	0.63	1.09
Sept	0.63	0.60	0.66
Oct	0.63	0.52	0.77
Nov	0.72	0.57	0.76
Dec	0.68	0.61	0.74

Monthly average chlorine used (12% Sodium Hypochlorite):

201 Liters

Daily chlorine average:

6.6 Liters

Monthly average daily dosage rate:

3.6 mg/l

Average yearly FREE CL2 residual (Entering Distribution system)

.74 mg/l

Average yearly FREE CL2 residual (In Distribution system)

.65 mg/l

Average yearly TOTAL CL2 residual (Entering Distribution System)

.85 mg/l

Average yearly TOTAL CL2 residual (In Distribution System)

.82 mg/l

**CT Virus Report 2020**  
**Water Treatment Distribution System**  
**Town of Bentley**  
**Water # 18648-00-00 (SW26-40-1-W5M)**

Month	Free CL2 Resid. Avg.	Free CL2 Resid. Min.	Free CL2 Resid. Max.	Temp °C	CT Required
Jan	0.79	0.75	0.87	6	8
Feb	0.63	0.4	0.8	6	8
Mar	0.8	0.72	0.87	6	8
Apr	0.80	0.73	0.85	6	8
May	0.77	0.67	0.8	6	8
June	0.73	0.64	0.78	6	8
July	0.78	0.65	0.88	6	8
Aug	0.84	0.66	1.1	6	8
Sept	0.63	0.57	0.68	6	8
Oct	0.63	0.53	0.76	6	8
Nov	0.74	0.64	0.81	6	8
Dec	0.71	0.64	0.77	6	8

Monthly CT Achieved Avg / Min / Max			
Month	CT Achieved Avg.	CT Achieved Min.	CT Achieved Max.
Jan	1071	1019	1182
Feb	859	543	1087
Mar	1084	978	1182
Apr	1093	992	1155
May	1052	910	1087
June	995	869	109
July	1062	883	1195
Aug	1139	897	1494
Sept	859	774	924
Oct	862	720	1032
Nov	1003	869	1100
Dec	960	869	1046

Free CL2 Residual yearly average:  
 Temperature yearly average:  
 CT Achieved yearly average:  
 CT Required yearly average:  
 CT Performance yearly average:

.74 mg/l
6 °C
1003
8
125

Monthly CT Proformance Ratio Avg / Min / Max			
Month	CT Proform. Ratio Avg.	CT Proform. Ratio Min.	CT Proform. Ratio Max.
Jan	134	127	148
Feb	107	68	136
Mar	135	122	148
Apr	137	124	144
May	131	114	136
June	124	109	132
July	133	110	149
Aug	142	112	187
Sept	107	97	115
Oct	108	90	129
Nov	126	109	138
Dec	120	109	131



**Bacterial Analysis Report 2020**  
**Water Treatment Distribution System**  
**Town of Bentley**  
**Water # 18648-00-00 (SW26-40-1-W5M)**

<b>Samples taken throughout the distribution system</b>	
Number of samples required	52
Number of samples submitted	50
Number of samples testing positive	0
Number of late samples	0

**Monthly Bacterial Analysis**

Month	Number of Samples	Results of Samples	Date & Sample ID#
Jan	4	Satisfactory	(8-1797161)(15-1797370)(22-1797516)(29-1797319)
Feb	4	Satisfactory	(5-1792030)(12-1792031)(19-1791763)(26-1792068)
Mar	4	Satisfactory	(4-1792141)(11-1792307)(18-1792244)(25-1792242)
Apr	5	Satisfactory	(1-1792219)(8-1690426)(15-1690560)(22-1690555)(29-1690574)
May	4	Satisfactory	(6-1690484)(13-1690485)(20-1690883)(27-1690497)
June	4	Satisfactory	(3-1690495)(10-1690908)(17-1706893)(24-1706894)
July	4	Satisfactory	(8-1690863)(15-1690809)(22-1690688)(29-1690634)
Aug	4	Satisfactory	(5-1690774)(12-1826670)(19-1853236)(26-1853202)
Sept	5	Satisfactory	(2-1826695)(9-1690793)(16-1704133)(23-1826533)(30-1538379)
Oct	4	Satisfactory	(7-1826849)(14-1826530)(21-1826817)(28-1826934)
Nov	4	Satisfactory	(4-1826814)(9-1826706)(18-1853087)(25-1214402)
Dec	4	Satisfactory	(2-1853008)(9-1853069)(16-1853119)(23-1853080)

## **Description of Operational Problems and Corrective Actions 2020**

### **Town of Bentley**

**Water # 18648-00-00 (SW26-40-1-W5M)**

**Wastewater # 415-02-00 (SW22-NW26-40-1-W5M)**

February 2, Well #2 Electrical starter malfunction.

February 3, New starter ordered (Wells 1 & 3 still online)

February 11, Well #2 starter replaced. (Well #2 back online)

February 17, Heater malfunction, line to VFD pressure switches frozen. Line was thawed out.

(Emergency back up engine/pump online while corective measures were taken)

February 21, Electric heater installed by pressure switches.

August 4, Back up battery failure well #3 radio transmitter. (wells 1 & 2 online)

August 8, Battery replaced well #3. (well #3 online)

## **Drinking Water Safety Plan 2020**

### **Town of Bentley**

**Water # 18648-00-00 (SW26-40-1-W5M)**

The Drinking Water Safety Plan has been reviewed and updated as required by Alberta Environment & Parks.



# **Wastewater Year End Report 2020**

**Wastewater # 415-02-00 (SW22-NW26-40-1-W5M)**

**This report was prepared by  
Darren Jensen (#4051)  
Town of Bentley  
Box 179  
Bentley, Alberta  
T0C 0J0  
403 748 4044**

**Acknowledgement of Wastewater System Report 2020  
Wastewater # 415-02-00 (SW22-NW26-40-1-W5M)**

**Darren Jensen (#4051) Operator**

Water Treatment I  
Water Distribution I  
Wastewater Treatment I  
Wastewater Collection I

**Cole Gibson (#5404) Operator**

Water Treatment I  
Water Distribution I  
Wastewater Treatment I  
Wastewater Collection I

**Mayor and Council of the Town of Bentley have reviewed and accepted this report.**

Mayor: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

Council: \_\_\_\_\_

**Chief Administrative Officer for the Town of Bentley has reviewed and accepted this report.**

CAO: \_\_\_\_\_

# Wastewater Lagoon Report 2020

Town of Bentley

Wastewater # 415-02-00 (SW22-NW26-40-1-W5M)

Date	Monthly	Daily
	Volume	Average
Jan	11635	375
Feb	8823	315
Mar	9661	312
April	11148	372
May	11715	404
June	n/a	n/a
July	n/a	n/a
Aug	n/a	n/a
Sept	n/a	n/a
Oct	n/a	n/a
Nov	n/a	n/a
Dec	n/a	n/a
<b>Total</b>	<b>52982</b>	<b>1778</b>

\*NOTE\*  
 Level meter failure on wastewater flume. (June - December)  
 Due to Covid 19 restrictions there were extreme delays with  
 repairing/replacing the flow meter.

Monthly Average:

n/a

\*NOTE\*

Daily Average:

n/a

Unable to give accurate average

Lagoon discharge dates:

Oct 30th

Nov 20th

Approximate discharge:

145,000 m3

(outfall not metered)

## Treatment:

### January - December 2020

4 totes @ 25 kgs (55 lbs) January - April, Acti-Zyme added to Anaerobic Pond One.

4 Pails @ 20 Kgs (44 lbs) April - July, DD Bio Dry (Kadd) added to Anaerobic Pond One.

4 Pails @ 20 Kgs (44 lbs) August - December ChemZyme (Chem International) added to Anaerobic Pond One.

The active use of digester will liquefy bio-solids, increase a systems capacity, stabilizes pH, decreases odour, removes pathogens, and cleans pipes, traps & valve boxes.

Acti-Zyme, Kadd & Chem International products are used as a non-toxic, all natural bio-augmentation for digestion of organic wastewater.

## **Description of Operational Problems and Corrective Actions 2020**

**Town of Bentley**

**Wastewater # 415-02-00 (SW22-NW26-40-1-W5M)**

---

**May**, Greyline flow meter malfunction. Suspected Transducer failure.

**July**, Transducer replaced. Did not correct the issue. New flow meter required.

**August**, Greyline model PZ32T to be replaced with a Siemens LUT400. (On Order)

**November**, Siemens LUT400 Flow Meter installed by certified Electrician.

**\*NOTE\***

Due to Covid 19 restrictions, replacement of the flow meter and installation was considerably delayed.

Calibration of unit will be done by Northwest Automation in the new year. (2021)

**ANALYTICAL REPORT**

**Client:** Town of Bentley  
 Box 179  
 Bentley, AB, T0C 0J0

**Attention:** Darren Jensen

<b>KaizenLAB JOB #:</b>	<b>309618</b>
<b>DATE RECEIVED:</b>	22-Oct-2020
<b>DATE REPORTED:</b>	28-Oct-2020
<b>PROJECT ID:</b>	Town of Bentley Wastewater 2020
<b>LOCATION:</b>	

**KaizenLAB Sample #:** 309618\_001    **Sample ID:** Pre Lagoon 2020  
**Date Sampled:** 21-Oct-2020 9:35    **Matrix:** Water

<b>Parameter Description</b>	<b>Units</b>	<b>Result</b>	<b>Detection Limit</b>
<b>Total and Thermotolerant (Fecal) Coliforms in water</b>			
Thermotolerant (Fecal) Coliforms	MPN/100mL	41	1
Total Coliforms	MPN/100mL	457	1
<b>CBOD pH TSS with un-ionized ammonia</b>			
pH @ 15°C		8.0	
<b>Ammonia-N in Water</b>			
Ammonia-N	mg/L	0.09	0.05
Ammonia-N (un-ionized)	mg/L	<0.01	0.01
Carbonaceous Biochemical Oxygen Demand	mg/L	1.7	1.0
Total Suspended Solids	mg/L	5	2
Chloride	mg/L	9.04	0.50
Dissolved Sodium	mg/L	45.6	0.1
Total Kjeldahl Nitrogen	mg/L	<2.00	2.00
Total Phosphorus	mg/L	0.046	0.040

**Test Methodologies**

---

Ammonia in Water: Modified from SM 4500-NH3 F  
Anions in Water: Modified from SM 4110B  
Carbonaceous Biochemical Oxygen Demand in Water: Modified from SM 5210B  
Cations in Water: Modified from SM 3030B and SM 3120B  
pH of Water: Modified from SM 4500-H+ B  
Thermotolerant (Fecal) Coliforms in Water: Modified from SM 9223B  
Total Coliforms in Water: Modified from SM 9223B  
Total Kjeldahl Nitrogen in Water: Modified from SM 4500-N(org) B and D  
Total Metals in Water: Modified from EPA 200.2 and SM 3120B  
Total Suspended Solids in Water: Modified from SM 2540D

**Final Review by:**



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Loida Agacid  
Client Services Administrator

Note: The results in this report relate only to the items tested and as received. Information is available for any items in 7.8.2.1 of ISO/IEC 17025:2017 that cannot be put on a test report. The report shall not be reproduced except in full without written approval of KaizenLAB. The validity of results may be affected if the information is provided by the customer.



**ANALYTICAL REPORT**

**Client:** Town of Bentley  
 Box 179  
 Bentley, AB, T0C 0J0

**Attention:** Darren Jensen

<b>KaizenLAB JOB #:</b>	<b>309621</b>
<b>DATE RECEIVED:</b>	22-Oct-2020
<b>DATE REPORTED:</b>	28-Oct-2020
<b>PROJECT ID:</b>	Town of Bentley Wastewater 2020
<b>LOCATION:</b>	

**KaizenLAB Sample #:** 309621\_001    **Sample ID:** Lagoon 2020  
**Date Sampled:** 21-Oct-2020 9:45    **Matrix:** Water

<b>Parameter Description</b>	<b>Units</b>	<b>Result</b>	<b>Detection Limit</b>
<b>Total and Thermotolerant (Fecal) Coliforms in water</b>			
Thermotolerant (Fecal) Coliforms	MPN/100mL	3	1
Total Coliforms	MPN/100mL	1300	1
<b>CBOD pH TSS with un-ionized ammonia</b>			
pH @ 15°C		7.9	
<b>Ammonia-N in Water</b>			
Ammonia-N	mg/L	6.07	0.50 *
Ammonia-N (un-ionized)	mg/L	0.13	0.01
Carbonaceous Biochemical Oxygen Demand	mg/L	2.0	1.0
Total Suspended Solids	mg/L	8	2
Chloride	mg/L	69.10	0.50
Dissolved Sodium	mg/L	227.5	0.1
Total Kjeldahl Nitrogen	mg/L	8.48	2.00
Total Phosphorus	mg/L	3.355	0.040

\* The detection limit has been adjusted due to sample matrix type and/or insufficient sample volume.

**Test Methodologies**

---

Ammonia in Water: Modified from SM 4500-NH3 F  
Anions in Water: Modified from SM 4110B  
Carbonaceous Biochemical Oxygen Demand in Water: Modified from SM 5210B  
Cations in Water: Modified from SM 3030B and SM 3120B  
pH of Water: Modified from SM 4500-H+ B  
Thermotolerant (Fecal) Coliforms in Water: Modified from SM 9223B  
Total Coliforms in Water: Modified from SM 9223B  
Total Kjeldahl Nitrogen in Water: Modified from SM 4500-N(org) B and D  
Total Metals in Water: Modified from EPA 200.2 and SM 3120B  
Total Suspended Solids in Water: Modified from SM 2540D

**Final Review by:**



---

Loida Agacid  
Client Services Administrator

Note: The results in this report relate only to the items tested and as received. Information is available for any items in 7.8.2.1 of ISO/IEC 17025:2017 that cannot be put on a test report. The report shall not be reproduced except in full without written approval of KaizenLAB. The validity of results may be affected if the information is provided by the customer.

**ANALYTICAL REPORT**

**Client:** Town of Bentley  
 Box 179  
 Bentley, AB, T0C 0J0

**Attention:** Darren Jensen

<b>KaizenLAB JOB #:</b>	<b>309620</b>
<b>DATE RECEIVED:</b>	22-Oct-2020
<b>DATE REPORTED:</b>	28-Oct-2020
<b>PROJECT ID:</b>	Town of Bentley Wastewater 2020
<b>LOCATION:</b>	

**KaizenLAB Sample #:** 309620\_001    **Sample ID:** Post Lagoon

**Date Sampled:** 21-Oct-2020 9:55    **Matrix:** Water

<b>Parameter Description</b>	<b>Units</b>	<b>Result</b>	<b>Detection Limit</b>
<b>Total and Thermotolerant (Fecal) Coliforms in water</b>			
Thermotolerant (Fecal) Coliforms	MPN/100mL	4	1
Total Coliforms	MPN/100mL	436	1
<b>CBOD pH TSS with un-ionized ammonia</b>			
pH @ 15°C		8.0	
<b>Ammonia-N in Water</b>			
Ammonia-N	mg/L	<0.05	0.05
Ammonia-N (un-ionized)	mg/L	<0.01	0.01
Carbonaceous Biochemical Oxygen Demand	mg/L	<3.0	3.0
Total Suspended Solids	mg/L	9	2
Chloride	mg/L	10.29	0.50
Dissolved Sodium	mg/L	46.3	0.1
Total Kjeldahl Nitrogen	mg/L	<2.00	2.00
Total Phosphorus	mg/L	0.041	0.040

\* The detection limit has been adjusted due to sample matrix type and/or insufficient sample volume.

**Test Methodologies**

---

- Ammonia in Water: Modified from SM 4500-NH3 F
- Anions in Water: Modified from SM 4110B
- Carbonaceous Biochemical Oxygen Demand in Water: Modified from SM 5210B
- Cations in Water: Modified from SM 3030B and SM 3120B
- pH of Water: Modified from SM 4500-H+ B
- Thermotolerant (Fecal) Coliforms in Water: Modified from SM 9223B
- Total Coliforms in Water: Modified from SM 9223B
- Total Kjeldahl Nitrogen in Water: Modified from SM 4500-N(org) B and D
- Total Metals in Water: Modified from EPA 200.2 and SM 3120B
- Total Suspended Solids in Water: Modified from SM 2540D

**Final Review by:**



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Loida Agacid  
Client Services Administrator

Note: The results in this report relate only to the items tested and as received. Information is available for any items in 7.8.2.1 of ISO/IEC 17025:2017 that cannot be put on a test report. The report shall not be reproduced except in full without written approval of KaizenLAB. The validity of results may be affected if the information is provided by the customer.



DRINKING WATER SAFETY PLAN

Water Supply System	Town of Bentley
Location	Section 26-40-1-W5M (4602 46 Street)
Approval Holder	Town of Bentley Mayor
Approval Number	18648-01-00
AbWARN	CAO of Bentley
DWSP Author	Public Works Foreman

*Version 2.00: November 24, 2011*

## KEY / Instruction Page

### Buttons and their actions

Jump to Register Page

Jump to Menu Page

Toggles screen Split on and off

Go to previous group page

Go to next group page

Reformats all rows on a risk page  
(replaces eqns, cond. Formatting and drop downs)

Inserts row above cursor position  
(then formats it and offers risk type)



# SHEET REGISTER

**CLICK SHEET NAMES TO NAVIGATE**

(This page refreshes each time it is activated)

## Sheet Name

(1)

[Title](#)

[KEY](#)

[DWSP Intro](#)

[Glossary](#)

[Sheet Guide](#)

[Menu](#)

[Risk Scoring](#)

[Core Detail](#)

[Source Detail](#)

[Source Schematic](#)

[Source Risks](#)

[Treatment Detail](#)

[Treatment Schematic](#)

[Treatment Risks](#)

[Network Detail](#)

[Network Schematic](#)

[Network Risks](#)

[Customer Detail](#)

[Customer Risks](#)

[Key Risks](#)

[Action Summary](#)

[SOPs](#)

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

### About Drinking Water Safety Plans

A Drinking Water Safety Plan is a systematic method of risk management that may be applied to any water supply system. It is based on the analysis of detailed knowledge of the whole water supply system from source to tap and its fundamental purpose is to ensure the safety of the supply at all times.

It considers four main areas of supply: source, treatment, distribution network and customer. The risks attached to each section are analysed using a combination of likelihood and consequence and the most significant risks must then be assigned an appropriate mitigation. The plan records all of this information in various forms and is updated on a regular basis. It is a 'living document' that provides the operator with an efficient means of managing risk and is a useful single source of information about the supply.

### About this template

This template has been designed to enable you to systematically record the main details of your water supply system and to assess the potential risks to public health. It is divided into four main sections, source, treatment, network and customer and you will be expected to supply the main details, a schematic and then to assess the risks for each section.

The amount of detail required will depend on the nature and complexity of your system. You have been provided with a list of common water supply risks to help you, but it is very important that you also think about any specific risks that might be present in your own system. A guide on how the risks are assessed is given in the risk scoring sheet. **Once the major risks are identified they must be carried forward to the Major Risks sheet**, where you need to consider the most appropriate way of diminishing each risk.

You will obviously be constrained by resources and you may need to think about short-term ways of mitigating the risk before you can put in place a permanent solution.

Once you have completed this section you then need to record all of the actions that you have identified into the Action Summary sheet.

A brief guide to the function of each of the sheets is given in the Sheet Guide



Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

Glossary of commonly used terms and Abbreviations

Term	Definition
AbWARN	The mission of the Alberta Water/Wastewater Agency Response Network (AbWARN) is to support and promote a province-wide emergency preparedness, disaster response, and mutual assistance program for public and private water and wastewater utilities.
Anatoxins	A group of algal neurotoxins produced by the <i>Anabaena</i> species of blue-green algae.
Breakthrough	The situation where barrier filtration is no longer effective and material starts to pass through the filter.
Cause	The action, situation or state that has led to a particular effect or event.
CIP	Cleansing in place. Applies to cleaning of membranes, usually with citric acid
Consequence	The assessed outcome of any hazardous event
Control Measure	Any action or activity that is used to prevent or eliminate a water safety hazard or reduce the risk of it occurring to an acceptable level.
Contingency Plan	A plan of action that will be operated should a hazard or group of hazards enter the distribution system creating a situation where there is an acute risk to Public Health.
<i>Cryptosporidium</i>	A protozoan parasite common in water that causes a severe diarrhoeal disease, cryptosporidiosis. As part of its lifecycle it forms a cyst (oocyst) that is very resistant to normal means of disinfection. It is, however, deactivated by exposure to UV light and will be removed by barrier filtration.
Cyanotoxins	A large group of organic compounds released by the breakdown of blue green algal cells. Amongst other effects they may cause neurological damage, liver damage, or cause diarrhoea.
DWSP	Drinking Water Safety Plan
Event	An incident or situation resulting in an increased public health risk in the water supply.
Geosmin	An organic compound produced by blue-green algae that causes an earthy/musty taste and odour problem in water.
<i>Giardia</i>	A protozoan parasite common in water that causes a severe diarrhoeal disease, giardiasis. As part of its lifecycle it forms a cyst that is very resistant to normal means of disinfection. It is, however, deactivated by exposure to UV light and will be removed by barrier filtration.
Hazard	A chemical, biological, physical or radiological presence with a potential adverse human health effect.
HACCP	Hazard Analysis and Critical Control Point
Likelihood	Probability that an event will happen.
MAC	Maximum Acceptable Concentration.
MIB	2-Methylisoborneol. An organic compound produced by blue-green algae that causes an earthy/musty taste and odour problem in water.
Microbiological Contamination	Results from the presence of pathogenic bacteria or protozoans. The presence of pathogenic bacteria (e.g <i>E.Coli</i> ) often results from a fault with disinfection, but in the case of protozoans, for example <i>Cryptosporidium</i> or <i>Giardia</i> from the failure or lack of barrier filtration.
Microcystins	A group of toxins produced by blue green algae, specifically <i>Microcystis</i> , that cause liver damage.

Pathogenic	Capable of causing disease, in DWSPs specifically to humans.
Protozoan	Any of a large group of single celled organisms, usually too small to be seen with the naked eye, and characterised by their ability to move. They often include a resistant cyst form as part of their lifecycle, and some species such as <i>Cryptosporidium</i> and <i>Giardia</i> are responsible for a lot of waterborne disease.
PRV	Pressure reducing valve
OSEC	On-site electrolytic chlorination
Risk	The probability of something happening that will impact on water safety. It is measured in terms of likelihood and consequence.
Risk Score	A numerical expression of risk derived from the product of likelihood and consequence.
Schematic	A schematic (diagram) represents the elements of a system using abstract, graphic symbols rather than realistic pictures and is not drawn to scale.
Validation	Confirmation that a process fulfils its intended function
Verification	Confirmation that the stated data or processes are correct.
WHO	World Health Organisation.
WTW	Water Treatment Works

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

Explanation of sheets included in template & their function

Sheet Name	Purpose	Details
Title	Identifies Site	Water supply name, owner, site manager, WSP author, date of completion, next planned review date
DWSP Intro	Information	Provides summary of DWSP process and how the DWSP is put together
Glossary	Information	Provides a definition for commonly used terms and abbreviations
Sheet Guide	Information	Guide to the purpose & detail of each component sheet
Menu	Quick links to other areas of plan	Simple structure showing main areas with hyperlinks to start of each section
Risk Scoring	Information	Example of matrix and how risk scores are derived
Core Detail	Site Information	Main details of the system, people involved in the making of the plan and main stakeholders
Source Detail	Information	Main details of the watershed, reliable yield, watershed type, watershed activities, etc., and any raw water mains
Source Schematic	Information	Schematic showing the source to the point of treatment, using standard symbols.
Source Risks	Risk assessment	Pre-populated with standard risks with consequence pre-scored. Additional site specific risks to be added as required. Each line must be reviewed to see if it applies at this site and all of the other detail added.
Treatment Detail	Information	Full account of the treatment process including constituent parts, chemicals used etc
Treatment Schematic	Information	Schematic showing full treatment process including any on-line monitoring, using standard symbols
Treatment Risks	Risk assessment	Pre-populated with standard risks with consequence pre-scored. Additional site specific risks to be added as required. Each line must be reviewed to see if it applies at this site and all of the other detail added.
Network Detail	Information	Main details of the distribution network including any pump stations, service reservoirs, and length and type of mains
Network Schematic	Information	Schematic showing the distribution network, using standard symbols.
Network Risks	Risk assessment	Pre-populated with standard risks with consequence pre-scored. Additional site specific risks to be added as required. Each line must be reviewed to see if it applies at this site and all of the other detail added.
Customer Detail	Information	Details of numbers of properties domestic/commercial, key customers/at risk customers, etc.

DWSP Town of Bentley

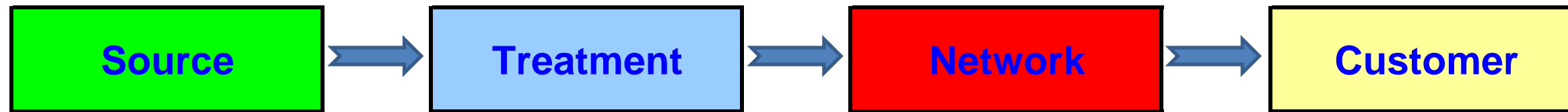
Customer Risks	Risk assessment	Pre-populated with standard risks with consequence pre-scored. Additional site specific risks to be added as required. Each line must be reviewed to see if it applies at this site and all of the other detail added.
Key Risks	Risk assessment	Summary of risks that exceed an agreed acceptable level and what actions are required to mitigate the risks.
Action Summary	Risk Mitigation	Details of how the unacceptable risks are to be mitigated, by whom, when and funding
SOPs	Information	Summary of standard operating procedures, relating to this water supply system.

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

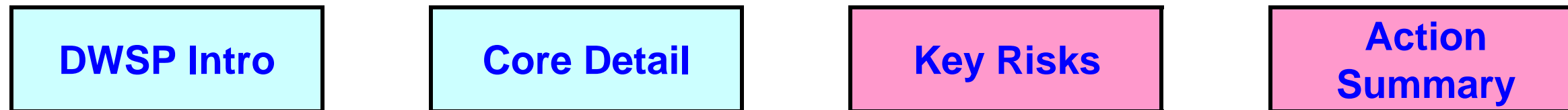
### Menu Page

This page contains shortcuts around the spreadsheet and will take you either to the start of a section or to another commonly used sheet. Simply click on the box description that you want and it will transfer you to that sheet

### Main areas



### Other useful links



Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Risk Scoring Guide**

This page explains the rationale behind risk scoring. It provides an explanation of the numbers used for likelihood and consequence and a matrix indicates the level of derived risk (risk score), and the level of threat that each represents. It should be noted that although the risk score gives an indication of the level of risk posed it is a semi-quantitative guide value only and not an absolute number.

**Likelihood**

The likelihood is a measure of the frequency with which any event is likely to occur. Six levels of likelihood are used and their definitions are shown below. to describe the assessed frequency and a nominal value is attached to each.

**Likelihood Table**

Likelihood	Definition	Value
Not applicable	Does not apply in this water supply system	0
Most Unlikely	Conceivable but extremely small chance of happening in next 4-5 years	1
Unlikely	Is possible and cannot be ruled out in next 4-5 years.	2
Medium	As likely as not to happen in next 4-5 years.	4
Probable	Would be expected to happen in next 4-5 years but there is a small chance it may not.	8
Almost Certain	Would be confident this will happen at least once in next 4-5 years	16

**Consequence**

The consequence is a measure of the severity of the event which is likely to occur. Six levels of consequence are used and their definitions shown below.

Consequence Table

Consequence	Definition	Value
Not applicable	Does not apply in this water supply system	0
Insignificant	Wholesome water or interruption < 8 hrs	1
Minor	Short term or localised non-compliance, non health related e.g. aesthetic or interruption 8-12 hrs	2
Moderate	Widespread aesthetic issues or long term non compliance, not health related or interruption 12-24 hrs	4
Severe	Potential illness or interruption >24 - 48 hrs	8
Catastrophic	Actual illness or potential long term health effects or interruption >48 hrs	16

Risk Matrix

		Consequence Descriptor					
		Score	Not Applicable	Insignificant	Minor	Moderate	Severe
Likelihood Descriptor	Not Applicable	0	1	2	4	8	16
	Most Unlikely	1	1	2	4	8	16
	Unlikely	2	2	4	8	16	32
	Medium	4	4	8	16	32	64
	Probable	8	8	16	32	64	128
	Almost Certain	16	16	32	64	128	256

*Note: The score of "0" should only be applied if the risk is not applicable in this water supply system.*

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

Basic Details

Municipal Authority	Elizabeth Smart CAO
Approval Number	18648-01-00
Water Supply System	Town of Bentley
Main Contact/Operator	Darren Jensen

Source

Source Type	High Quality Groundwater Wells
Watershed Area	Paskapoo Formation
Reliable Yield	287 m3/day (2012 Average)
Diversion Licence	200,043 m3/year
Main hazards	Oil feild contamination...benzene in aquifer

Treatment

Main Process	12% Sodium Hypochlorite
Design Capacity	548 m3/day max diversion
Average Throughput	287 m3/day (2012 average)
Storage	1778 m3

Network

Network Length	9650m
Network Materials	AC, PVC
Network Storage	n/a
Domestic Properties (No.)	372
Business Properties (No.)	50

Customer

Bylaws in Operation	Bylaw 91/05
Hospitals	n/a
Home Dialysis Patients	not aware of any
Prisons etc.	n/a
Other Vulnerable Customers	Care centre, Westveiw Apartments (seniors)
Significant Manufacturers	n/a



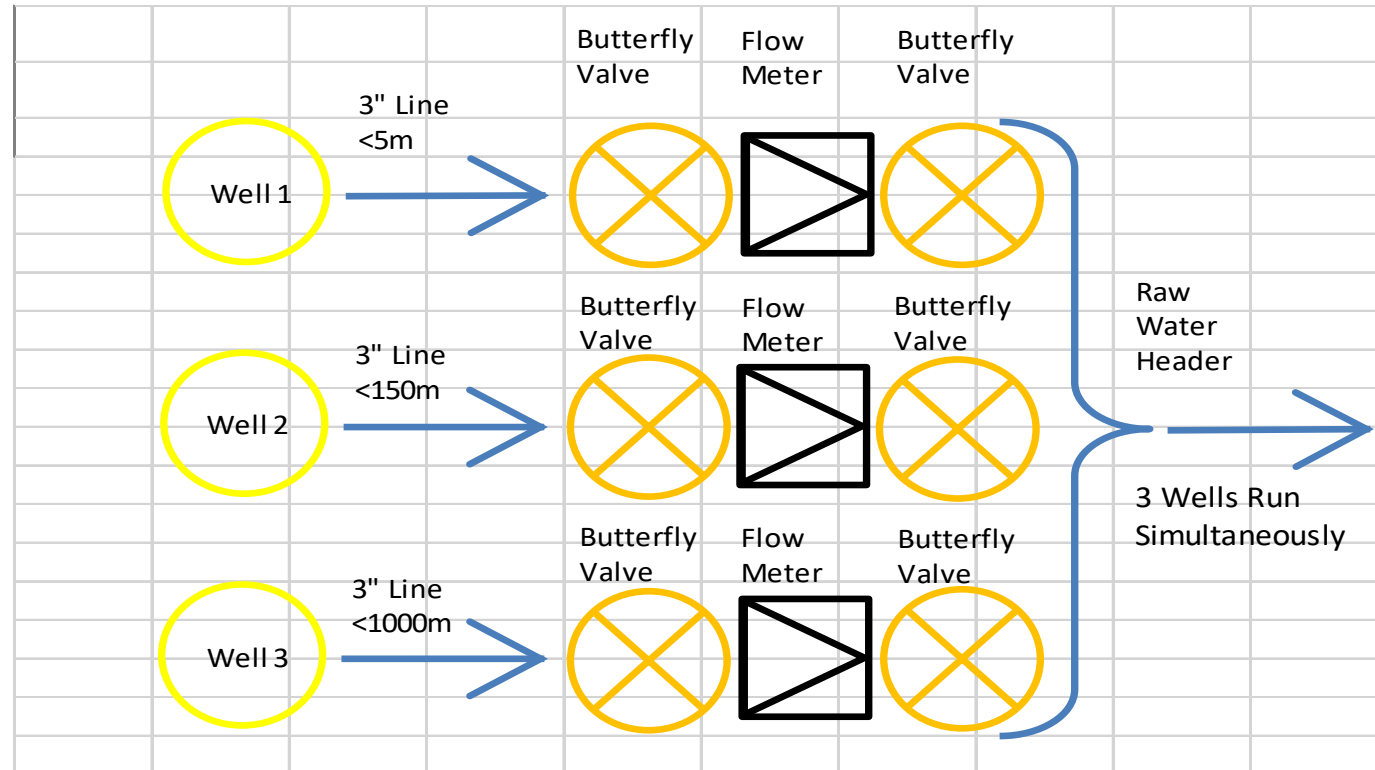
Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Source Information**

Water Supply System	Town of Bentley
Source Type	3 Wells
Source Description	3 High Quality ground water wells located within Bentley corporate limits. Furthest well located 1000m west of pumhouse.
Watershed Area	Paskapoo Formation
Diversion Licence	200,043 m3/year
Yield	287 m3/day (2012 Average)
Inlet or pump arrangements	3 well pumps running simultaneously- start/stop activation.
Raw Water Mains (length, diameter, condition)	1150m (3")
Activities within watershed	n/a
Agricultural Discharges/Run-off (manure, etc.)	n/a
Municipal Discharges/Run-off (raw or treated wastewater, stormwater, etc.)	n/a
Discharges from septic fields/tanks or other non-municipal unsewered human activity	n/a
Industrial Discharges/Run-off	n/a
Recreational Discharges/Run-off	n/a
Comments	

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

### Source



Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

Note: Shallow wells from river gravels should be regarded as surface water as much of the recharge may be coming from the adjacent watercourse

General Risks	Risk Description	Risk I.D.	Hazard	Cause of Potential Failure	Comments	Current Monitoring	How Risk is Currently Controlled	Assess if Control is Adequate	Do any Standard Procedures cover this	Likelihood	Consequence	L'Hood Score	Cons. Score	Risk Score	Key Risk?	Required Interventions to Prevent Failure	Responsible Party
General Risks	Microbiological contamination of raw water as a result no restriction in access to source	DWSP-S-001	Microbiological contamination	Due to livestock having access to source due to inadequate fencing.	wells located within town.	CT Calculations, 24 hr online analyzing of CL2.	CL2 treatment & monitoring	yes	SOP 6.0 to 6.8	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Microbiological contamination of raw water resulting from wildlife activity in watershed.	DWSP-S-002	Microbiological contamination	Due to wildlife dying or defecating in watershed.	Some animals such as beaver can carry Giardia and other pathogenic organisms	CT Calculations, 24 hr online analyzing of CL2.	CL2 treatment & monitoring	yes	SOP 6.0 to 6.8	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of water quality due to birds roosting on reservoirs at night	DWSP-S-003	Microbiological contamination	Due to bird roost due to large faecal loading	Bird excrement contains very large numbers of bacteria.	CT Calculations, 24 hr online analyzing of CL2.	CL2 treatment & monitoring	yes	SOP 6.0 to 6.8	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of raw water with sewage	DWSP-S-004	Microbiological contamination	Resulting from sewage input to the source from private septic tanks or sewer outfalls.	No sanitary sewer line within 50' of a well.	CT Calculations, 24 hr online analyzing of CL2.	CL2 treatment & monitoring	yes	SOP 6.0 to 6.8	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Chemical contamination of raw water as a result of proximity to transport corridor.	DWSP-S-005	Chemical contamination Hydrocarbons	Due to chemical contamination in the source due to spillage from transport corridor (e.g. road or rail tanker) adjacent to source and no containment.	May result from accidental spillage or a crash.	Visual	All 3 wells are surrounded by concrete reinforced steel bollards and a steel top weighing 500+ pounds.	yes	ERP 3.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Chemical contamination of raw water as a result proximity to airport or disused airport	DWSP-S-006	Chemical contamination Hydrocarbons	Due to chemical contamination in the source due to spillage from airport adjacent to source and no containment.	May result from accidental spillage or a crash. May also be due to use of chemicals within airport as result of uncontrolled run-off e.g. de-icing fluid.	n/a	n/a	No airport in Bentley.	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Chemical contamination of raw water as a result of mining activity	DWSP-S-007	Heavy metals Hydrocarbons	Due to uncontained spillage or disturbed ground within watershed.	n/a	n/a	n/a	No Mines in Bentley.	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Chemical contamination of raw water as a result of mining activity drainage	DWSP-S-008	Heavy metals Hydrocarbons	Due to mine drainage discharge being contaminated or deoxygenated	n/a	n/a	n/a	No Mines in Bentley.	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Chemical contamination of raw water as a result of recreational activity within watershed	DWSP-S-009	Microbiological contamination Hydrocarbons	Due to uncontrolled defecation or use of land or water vehicles within watershed	Well system.	n/a	n/a	Well system.	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of water with nutrients, due to agricultural activity.	DWSP-S-010	Algal bloom Reduced oxygen level in water.	Due to contamination in run-off from areas of agricultural activity.	There are a number of different sources: silage pits, sludge lagoons, concentrations of stock.	Wells are all within Town limits.	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of water with pathogens due to agricultural activity.	DWSP-S-011	Microbiological contamination	Due to contamination in run-off from areas of agricultural activity.	Wells are all within Town limits.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of raw water with pesticides	DWSP-S-012	Pesticides	Resulting from pesticides spraying in the watershed due to poor practice.	Toxicity testing for Town water every 5 years.	Toxicity testing for Town water every 5 years.	No herbicides used around wells.		ERP 3.0	Unlikely	Insignificant	2	1	2	No		Town
General Risks	Deterioration of raw water as a result of flooding or heavy rain	DWSP-S-013	Turbidity	Due to inability to close intake when raw water has deteriorated.	Lack of storage may also influence ability to close intake; high sediment loading resulting from high level of rainfall or spring melt.	Town is on well system with no raw storage.	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of raw water from forestry activities	DWSP-S-014	Turbidity Colour Iron & manganese	Resulting from poor quality surface run-off from forestry activities due to forestry within watershed.	When brush and vegetation are removed the rate of erosion will often increase transporting solids to the watercourse.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of raw water from forestry activities	DWSP-S-015	Fertilizers Hydrocarbons Microbiological contamination	As a result of forestry-related human activity within watershed.	Many forestry activities will result in chemicals being brought into watershed. Human waste may also produce pathogenic organisms.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of raw water as a result forestry fires	DWSP-S-016	Chemical contamination	Due to change in soil chemistry as a result of heat or run-off rate as a result of reduced vegetation	Surrounded by farm land, with no raw water storage ponds.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination as a result of waste disposal site within watershed.	DWSP-S-017	Hydrocarbons Heavy metals Organics	As a result of leachate from waste disposal site getting into watercourse	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination as a result of disposal of animal remains within watershed	DWSP-S-018	Microbiological contamination	As a result of leachate from the disposal site getting into watercourse	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Changing raw water quality caused by environmental change	DWSP-S-019	Manganese	Due to increase in manganese level resulting from changing weather patterns.	Increased temperature or inversion in lakes may cause manganese release.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of raw water quality caused by shallow water body and wind effects	DWSP-S-020	Turbidity Colour Manganese	Resulting from shallow water body and wind induced turbulence.	Storm conditions may stir up sediment and make treatment more difficult.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination of raw water resulting from algal blooms	DWSP-S-021	Algae	Due to algal blooms due to increased nutrient levels or changing weather patterns.	Algal cells may clog filters causing poor quality or lower throughput. Blue green algae produce toxins.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Insufficient raw water quantity	DWSP-S-022	Loss of supply	Resulting from restriction in diversion licence due to changing legislation or growth in demand.	Changes in environmental legislation may lead to tighter diversion limits.		Hydrogeological study 2012.		ERP 21.0	Most Unlikely	Insignificant	1	1	1	No		Town

														0	No		Town
General Risks	Insufficient water available for abstraction	DWSP-S-023	Low pressure Loss of supply	As a result of drought.	The Town's recent draw down recovery for the wells shows that in 20+ years the wells have shown no	Contracted maintenance on the wells every 5 years.	Hydrogeological study 2012.	Will be adding static level records in 2013 because of a new observation well.	ERP 21.0	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Contamination of well during construction	DWSP-S-024	Microbiological contamination Metals Drilling fluids	Cross-contamination by drilling equipment or residual substances used in drilling e.g. Barium released from drilling mud.	Drillers should operate according to the Water (Ministerial) Regulations	Well three was overseen in all aspects by contracted engineer.	Well casings will be camera(d) every 5 years starting in 2013.		no	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Contaminated water entering well from upper levels	DWSP-S-025	Microbiological contamination Nutrients	Well casing does not extend above surface or is damaged or deteriorated.	Water at upper levels of well more prone to surface effects. Downhole camera inspection	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Well Risks	Contaminated water entering well from surface	DWSP-S-026	Microbiological contamination Nutrients	Well head badly constructed, damaged, or badly maintained.	Well head should be inspected and assessed for risk.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Well Risks	Contaminated water entering well from surface	DWSP-S-027	Microbiological contamination Nutrients	Site prone to flooding due to poor siting and well head not sealed.	Well head should be inspected and assessed for risk.	Visual, Wells camera(d) every 5 years by contractor.	All wells have been mounded and well heads brought up 3' past ground level. According to AENV best practices.	yes	ERP 3.0	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Contaminated water entering well from surface	DWSP-S-028	Microbiological contamination Nutrients	Inadequate security around well head giving animals access.	Well head should be inspected and assessed for risk.	Visual, Wells camera(d) every 5 years by contractor.	All wells have been mounded and well heads brought up 3' past ground level. According to AENV best practices.	yes	ERP 3.0	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Deterioration of water quality	DWSP-S-029	Iron manganese	Due to over-production from aquifer, mixing with other zones or biofouling	Well should not be pumped higher than recommended rate, downhole camera inspection, shock chlorination, rehabilitation	Wells pumped within engineered limits, camera inspection and well maintenance every 5 years.	Wells pumped within engineered limits, camera inspection and well maintenance every 5 years.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Deterioration of water quality	DWSP-S-030	Fluoride Arsenic Uranium Other heavy metals	Due to naturally occurring minerals	Yearly water analysis done by contracted lab.	Yearly water analysis done by contracted lab.	Yearly water analysis done by contracted lab.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Well Risks	Contamination of aquifer	DWSP-S-031	Hydrocarbons Pesticides Nutrients	Activities within recharge zone or vulnerable aquifer	More likely with shallow wells, unconfined aquifers or where rock is badly faulted or fractured.	Yearly water analysis done by contracted lab.	Yearly water analysis done by contracted lab.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Springs Risks	Contamination of spring at collection chamber	DWSP-S-032	Microbiological contamination Suspended solids	As a result collection chamber design or poor maintenance.	Structure should be well maintained.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Springs Risks	Contamination of spring at collection chamber	DWSP-S-033	Microbiological contamination Suspended solids	As a result of inadequate security round collection chamber and animal or human activity.	The rock around springs is often fractured so an adequately fenced protection zone is desirable.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Springs Risks	Contamination of aquifer	DWSP-S-034	Chemical contamination Microbiological contamination	As a result of human/animal activities in the recharge zone	If the recharge zone is small it may be possible to prevent some activities if shown to be adverse.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pumps & Mains Risks	Reduced resource availability due to break/leak on raw water mains	DWSP-S-035	Loss of supply	Resulting from raw water main breaks/leaks as a result of poor mains condition.	Lack of maintenance may lead to more frequent interruptions to supply.	Daily hours and volumes recorded.	Daily hours and volumes recorded. Each well is on a separate line into pumphouse, if one of the 3 fails there still is 2 other wells until the one can be repaired.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Pumps & Mains Risks	Contamination due to insecure break pressure tank.	DWSP-S-036	Microbiological contamination	As a result of contamination entering break-pressure tank.	Break-pressure tanks are often poorly maintained	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pumps & Mains Risks	Failure of pumps at Pump Station	DWSP-S-037	Loss of supply	Resulting from pumps failure due to insufficient/no standby generation if electricity supply fails.	Wells/pumps serviced every 5 years.	Daily hours and volumes recorded.	Daily hours and volumes recorded. Each well is on a separate line into pumphouse, if one of the 3 fails there still is 2 other wells until the one can be repaired.	yes	ERP 10.0	Most Unlikely	Insignificant	1	1	1	No		Town
Pumps & Mains Risks	Loss of power to pumps as a result of electrical fault.	DWSP-S-038	Loss of capacity	Loss of power to pumps due to control panel fault resulting from insufficient maintenance.	Essential components need to be maintained regularly.	Daily hours and volumes recorded.	Daily hours and volumes recorded. Each well is on a separate line into pumphouse, if one of the 3 fails there still is 2 other wells until the one can be repaired. Town electrician maintains and stores parts for system.	yes	ERP 19.0	Most Unlikely	Insignificant	1	1	1	No		Town
Facility Specific Risks		DWSP-S-100												0	No		
Facility Specific Risks		DWSP-S-101												0	No		
Facility Specific Risks		DWSP-S-102												0	No		
Facility Specific Risks		DWSP-S-103												0	No		
Facility Specific Risks		DWSP-S-104												0	No		
Facility Specific Risks		DWSP-S-105												0	No		

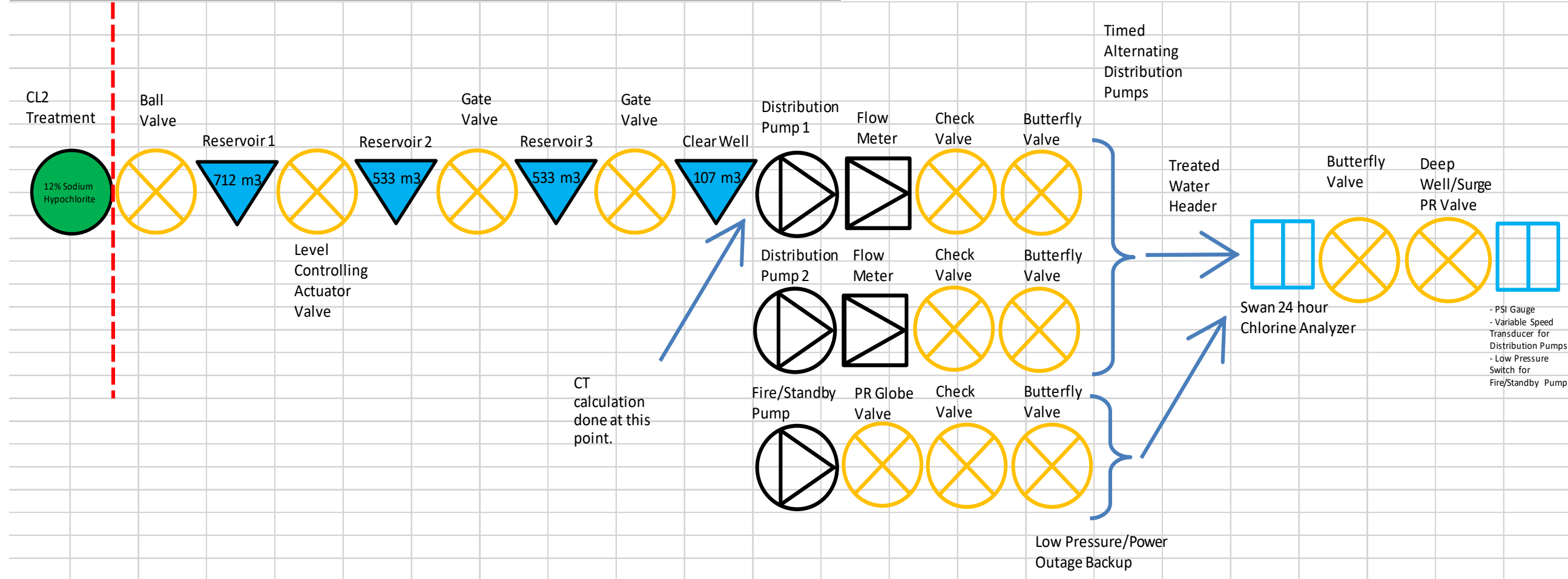
Facility Specific Risks		DWSP-S-106												0	No		
Facility Specific Risks		DWSP-S-107												0	No		
Facility Specific Risks		DWSP-S-108												0	No		
Facility Specific Risks		DWSP-S-109												0	No		

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Treatment Information**

Water Supply System	Town of Bentley
Treatment Type	12% Sodium Hypochlorite
Treatment Description	Injection at lowest point in header, where wells 1,2 and 3 meet.
Primary Treatment	12% Sodium Hypochlorite
Secondary Treatment	n/a
CT	Average CT performance 98 (8.8 required).
Design Capacity	1778 m3 (treated potable water storage)
Chemicals Used in Process	12% Sodium Hypochlorite
On-line monitors	2012 Swan AMI online analyzer
Treated Water Storage	1778 m3 (treated potable water storage)
Stand-by Generator	Emergency/standby natural gas driven engine.
Sludge Treatment Process	n/a
Comments	Bentley doesn` t currently store raw water.

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	Risk Description	Risk I.D.	Hazard	Cause of Potential Failure	Comment	Current Monitoring	How Risk is Currently Controlled	Assess if Control is Adequate	Do any Standard Procedures cover this	Likelihood	Consequence	L'Hood Score	Cons. Score	Risk Score	Key Risk	Required Interventions to Prevent Failure	Responsible Party
Pre-treatment Risks	Inability to meet demand as a result of failure of cartridge filters	DWSP-T-001	Loss of Supply	Due to blocking due to deterioration of raw water quality.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pre-treatment Risks	Inability to meet demand as a result of failure of microtrainers	DWSP-T-002	Loss of Supply	As a result microtrainers blocking due to failure of microtrainer wash pump to wash screens adequately.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pre-treatment Risks	Inadequate treatment due to poor contact chamber design	DWSP-T-003	Turbidity Microbiological contamination	Inefficient filtration due to incorrect contact time for coagulant.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pre-treatment Risks	Loss of supply caused by failure of heating at works inlet	DWSP-T-004	Loss of Supply	As a result of mechanical failure due to poor maintenance	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
Pre-treatment Risks	Loss of supply caused by failure of inlet control valve	DWSP-T-005	Loss of Supply	As a result of frozen inlet due to low temperatures and no heating	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Breakthrough of algal breakdown products as a result of failure of carbon dosing	DWSP-T-006	Taste & odour Algal toxins	Due to failure to remove algal by-products in the water due to lack of carbon dosing	Geosmin and MIB impart a strong earthy musty taste to water. Algal toxins are pathogenic.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Breakthrough of contaminants as a result of poor floc formation caused by incorrect or no dosing	DWSP-T-007	Turbidity Aluminium Iron Microbiological contamination	due to poor floc formation due to incorrect coagulant dose due to flow meter out of calibration or signal failure due to inadequate maintenance	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Contamination caused by unauthorised human access	DWSP-T-008	Unknown contamination	Unauthorised human access may lead to contamination.	WTWs should be kept secure at all times when not attended.	Lighting, 8' chainlink with barbed wire, ADT alarm system. Locked hatches	Lighting, 8' chainlink with barbed wire, ADT alarm system. Locked hatches behind the chainlink	Yes	ERP 2.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination of treated water as a result of dosing with incorrect or inferior quality chemicals	DWSP-T-009	Chemical contamination	Contamination due to use of incorrect or inferior quality or contaminated chemicals due to lack of control check on deliveries.	Might be due to change in supplier or inadequate specification for chemicals used.	NSF approved, visual/signed bill of lading, purchase from leading manufacturer - Cleartech.	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of treated water quality as a result of failure of coagulant dosing	DWSP-T-010	Trace organics Turbidity Iron Manganese	As a result of failure to dose coagulant due to dosing line blocked.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of treated water quality as a result of incorrect or no permanganate dosing	DWSP-T-011	Taste and odour Colour	Due to not setting the dose at the right level or failure of dosing system	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Inability to meet demand as result of damage to single line interprocess pipework	DWSP-T-012	Loss of Supply	Structural failure due to failure of single line interprocess pipe work; i.e. Interruption to process.	General issue common to most WTWs	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Inability to meet demand caused by power failure	DWSP-T-013	Loss of Supply	Resulting from power failure and to failure of stand by generator change over or no standby generator.	Many small WTW will have no standby power generation		Auto dialer will call out power failures, stand by/emergency pump starts with low pressure switch.	no, a genset is needed for the Town.	ERP 19.0	Medium	Moderate	4	4	16	No		Town
General Risks	Inadequate treatment as a result of raw water bypassing all or part of the treatment process	DWSP-T-014	Chemical contamination Microbiological contamination	As a result of no treatment to the raw water	Ideally treatment bypasses should not exist. Where they do they should be secured and signed.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Inadequate pH adjustment as a result of break in dosing pipework	DWSP-T-015	pH	Due to flooding of dosing pump due to break of make up water piping in dosing room and inadequate drainage.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Inadequate treatment as a result of failure to reach optimum coagulation pH.	DWSP-T-016	Aluminium Iron	Failure of optimum coagulation due to over-or under dosing of pH adjustment due to mechanical failure	Duty/stand-by system of operation would normally control this.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Inadequate treatment caused by incorrect dosing of chemicals	DWSP-T-017	Chemical contamination	Due to incorrect dosing due to faulty equipment.	Manual dosing by hand can also be done.	365 day a year chlorine sampling. Colourmeter grab samples on working days.	365 day a year chlorine sampling. Colourmeter grab samples on working days. and 24 Swan AMI	yes	ERP 7.0, 8.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Loss of supply as a result of flooding	DWSP-T-020	Loss of Supply	Due to plant shut down as a result of flooded areas of plant.	Flooding is not a great concern as in other Towns as we are on the side of the Blindman Valley, and our	Alberta Environment weather warnings.	Alberta Environment weather warnings.	yes	ERP 14.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination due to incorrectly plumbed drains	DWSP-T-021	Chemical contamination Microbiological contamination	Due to inappropriate cross-connection of drainage into treated water areas.		Every three years divers inspect the reservoirs including the ceilings of all three reservoirs.	Every three years divers inspect the reservoirs including the ceilings of all three reservoirs.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination or loss of supply due to lack of knowledge of infrastructure location	DWSP-T-022	Chemical contamination Microbiological contamination	Due to lack of adequate 'as-built' drawings	Bentley spent 3 years and contracted Stantec to map/GPS water system.	All new developments are mapped/GPSed then added to our autocad drawings by Stantec.	Proactive mapping before issues.	yes	Bentley's development agreement.	Most Unlikely	Insignificant	1	1	1	No		Town



Process Control Risks	Loss of supply resulting from failure of telemetry.	DWSP-T-018	Loss of supply	Due to plant shut down not being notified due to failure of telemetry	The only system on a SCADA set-up is well number 3.	Daily run hours and volumes.	Daily run hours and volumes. If well 3 stops responding wells 1 and two will pick-up slack until it is caught from the hours difference.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Process Control Risks	Loss of supply resulting from failure of the control system	DWSP-T-019	Loss of supply	Due to inability to run the plant as a result of PLC software failure or to voltage variation and lack of power surge protection.	If control system fails the plant may not be able to run on manual.	n/a plant is not a PLC set-up.	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Sedimentation Risks	Inadequate treatment as a result of unstable sludge blanket	DWSP-T-023	Turbidity Aluminium Iron Microbiological contamination	As a result of increased loading on secondary filters due to carry-over of floc from sedimentation stage.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Sedimentation Risks	Inadequate treatment as a result of insufficient de-sludging	DWSP-T-024	Turbidity Aluminium Iron Microbiological contamination	As a result of increased loading on secondary filters due to carry over of floc from sedimentation stage.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Sedimentation Risks	Inadequate treatment as a result of temperature variation in incoming water upsetting settlement	DWSP-T-025	Turbidity Aluminium Iron Microbiological contamination	Due to warmer water upsetting settlement due to changes in raw water temperature.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
DAF Risks	Inadequate treatment as a result of insufficient air saturation	DWSP-T-026	Turbidity Aluminium Iron Microbiological contamination	Due to insufficient flotation as a result of insufficient air saturation.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
DAF Risks	Inadequate treatment as a result of insufficient de-sludging	DWSP-T-027	Turbidity Aluminium Iron Microbiological contamination	As a result of increased load due to sludge carry over to filters	Important to set the desludge at the right interval.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
DAF Risks	Inadequate treatment as a result of unstable float	DWSP-T-028	Turbidity Aluminium Iron Microbiological contamination	As a result of increased load due to sludge carry over to filters	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
DAF Risks	Inadequate treatment as a result of failure of air blowers	DWSP-T-029	Turbidity Aluminium Iron Microbiological contamination	As a result of failure of flotation.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
DAF Risks	Inadequate treatment as a result of failure of floating sludge removal mechanism	DWSP-T-030	Turbidity Aluminium Iron Microbiological contamination	As a result of no sludge removal	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Contamination of raw water or water in treatment with wash water / sludge supernatant	DWSP-T-031	Turbidity Chemical contamination Microbiological contamination	As a result of carry-over in recycled washwater.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Contamination of recovered wastewater in inlet works caused by chemical spill entering wastewater system	DWSP-T-032	Chemical contamination	Due to uncontrolled spillage due to washwater recycling	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Contamination of water due anaerobic conditions in washwater treatment process.	DWSP-T-033	Chemical contamination Taste and odour	Due to formation of phenolic compounds due to breakdown of sludge due to anaerobic activity	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Restriction of supply due to problems with washwater storage capacity	DWSP-T-034	Loss of Supply	As a result of restriction in filter wash frequency due to mechanical breakdown or high loading on filters.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Restriction of supply due to problems with sludge de-watering/disposal capacity	DWSP-T-035	Loss of Supply	As a result of inadequate capacity to de-water sludge as a result of difficult conditions or significant increase in sludge produced.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Washwater Risks	Restriction of supply due to problems with sludge disposal capacity	DWSP-T-036	Loss of Supply	As a result of inadequate capacity to dispose of sludge to sewer interruption.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Deterioration of water quality due to cracking of media in filters	DWSP-T-037	Microbiological contamination Turbidity Iron	Due to media disruption due to uneven flow or problems with under drainage.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Deterioration of water quality due to cracking or failed underdrains	DWSP-T-038	Microbiological contamination Turbidity Iron	Due to failed underdrains.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Deterioration of water quality due to failure to mature filter before putting into use following cleaning	DWSP-T-039	Microbiological Contamination Chemical contamination Turbidity	Due to lack of development of the schmutzdecke (biological layer) following cleaning.	Without the schmutzdecke the filter acts only as a sieve and is less efficient. Filter should be run to waste until turbidity is satisfactory.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town

Slow Sand Filtration Risks	Deterioration of water quality due anaerobic conditions prevailing in filter.	DWSP-T-040	Manganese Low oxygen levels	Due to anaerobic conditions releasing manganese	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Deterioration of water quality due to birds roosting on filters at night	DWSP-T-041	Microbiological contamination	Due to bird roost due to large faecal loading	Bird excrement contains very large numbers of bacteria.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Deterioration of water quality due to incorrect media being installed.	DWSP-T-042	Microbiological contamination Turbidity	Due to use of wrong sand	Slow sand filtration requires angular sand rather than round sand.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Slow Sand Filtration Risks	Inability to meet demand due to algal bloom	DWSP-T-043	Loss of Supply	Due to block of filters due to large numbers of algal cells.	May also lead to unacceptable tastes and odours.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants due to mud-balling in media.	DWSP-T-044	Suspended solids Trace organics Residual coagulant Microbiological contamination	As a result of inadequate filtration due to state of filter due to inadequate washing.	May result from inadequate bed expansion or upflow rate failing to clean media.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of filter wash plant failure	DWSP-T-045	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to overload of filter due to lack of washing.	If no standby available adequate spares should be carried.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of inadequate frequency for backwash.	DWSP-T-046	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to overload of filter due to frequency of washing.	If allowed to operate in this way, the media may also become less efficient due to build up of dirt.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of no slow start or run-to-waste following backwashing	DWSP-T-047	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to starting filter too quickly.	If filter is started at too high a rate before the bed has settled down filtration will be less efficient.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of reduced capacity when one filter is out for backwash	DWSP-T-048	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to increased filter loading as a result of a filter being out of service for washing.	More likely if plant is running close to or exceeding its design capacity or is stressed due to poor raw water conditions.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of uneven backwash	DWSP-T-049	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to uneven filter loading as a result of blocked filter nozzles.	The efficiency of some areas of the filter bed will be reduced, placing a greater load on areas that are OK.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as result of loss of media	DWSP-T-050	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to inadequate media depth.	Media loss may be greater in dual media filters. Anthracite/ carbon has a lower density and is washed over more easily	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as result of failure to set correct coagulant or polyelectrolyte dose.	DWSP-T-051	Suspended solids Trace organics Residual coagulant Microbiological contamination	As a result of floc that is too soft or too small penetrating the bed more rapidly.	A rise in treated water turbidity may indicate a problem. Flocculation tests should then be done to check floc formation.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Rapid Gravity Risks	Breakthrough of contaminants as a result of wrong media in filter	DWSP-T-052	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to inadequate filtration due to wrong grade of media.	If media is replaced ensure the right specification and check samples for effective size and uniformity coefficient to ensure that it is.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Breakthrough of contaminants caused by dirty or damaged membrane	DWSP-T-053	Suspended solids Trace organics Residual coagulant Microbiological contamination	As a result of inefficient cleaning of membranes due to failure of cleaning system	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Breakthrough of contaminants caused by dirty or damaged membrane	DWSP-T-054	Suspended solids Trace organics Residual coagulant Microbiological contamination	As a result inadequate frequency of cleaning of membranes due to failure to follow operating procedures.	Important that all operators are adequately trained,	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Breakthrough of contaminants caused by dirty or damaged membrane	DWSP-T-055	Suspended solids Trace organics Residual coagulant Microbiological contamination	Resulting from damage to membranes due to inadequate frequency of inspections or membrane integrity tests	Membrane integrity tests should be an integral part of the operation of membrane plants.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Loss of supply due to CIP failure	DWSP-T-056	Loss of Supply	Due to automatic plant shut-down	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Loss of supply due to 'deep clean' failure	DWSP-T-057	Loss of Supply	Due to automatic plant shut-down	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Loss of supply due to integrity test failure	DWSP-T-058	Loss of Supply	Due to manual plant shut-down	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Loss of supply due to particle count failure	DWSP-T-059	Loss of Supply	Due to automatic plant shut-down	n/a	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town

Membrane Risks	Breakthrough of contaminants as a result of loss of membrane integrity.	DWSP-T-060	Suspended solids Trace organics Residual coagulant Microbiological contamination	Due to membrane damage due to failure of pre-treatment.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Deterioration of final water quality as a result of inability to dose coagulant	DWSP-T-061	Chemical contamination	Due to decrease in membrane efficiency as a result of failure of coagulant dosing system.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Inability to meet demand as a result of failure of backwash system	DWSP-T-062	Loss of supply	Inability to operate membranes due to fouling due to inability to backwash membranes	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Membrane Risks	Inability to meet demand as a result of membrane feed pump failure	DWSP-T-063	Loss of supply	Inability to operate membranes as a result of membrane feed pump failure.	If no standby available adequate spares should be carried.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Contamination of treated water as a result of accumulation of deposits in contact tank	DWSP-T-064	Turbidity	As a result of carry over of sediment from contact tank.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Contamination of treated water as a result high bromate content of sodium hypochlorite	DWSP-T-065	Chemical contamination	As a result of sodium hypochlorite not meeting supply specification	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Contamination of treated water as a result of excessive formation of disinfection by-products	DWSP-T-066	Chemical contamination	As a result of excessive disinfectant dose and high levels of trace organics	Due to formation of disinfection by-products	TOC sampled yearly, if it is about 2.0 mg/L then for THM tests are done in one year.	yes	TOC sampled yearly, if it is about 2.0 mg/L then for THM tests are done in one year.	ERP 3.0	Most Unlikely	Insignificant	1	1	1	No	Town
Disinfection Risks	Inadequate treatment as a result of disinfection at wrong pH	DWSP-T-067	Microbiological contamination	As a result of reduced disinfection efficiency due to pH out with optimum range	Disinfection efficiency is significantly affected by pH.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Failure of disinfection as a result of failure of chlorine gas flow	DWSP-T-068	Microbiological contamination	Due to failure of disinfection due to failure of delivery system.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Failure of disinfection as a result of failure of UV	DWSP-T-069	Microbiological contamination	Due to failure of disinfection due to failure of UV lamp.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Failure of disinfection as a result of failure of sodium hypochlorite delivery system.	DWSP-T-070	Microbiological contamination	Due to failure of disinfection due to failure of delivery system.	Back-up chlorinator in stock.	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer	yes	Back-up chlorinator in stock. Auto-dialer to call out an alarm if CL2 is below 2.5 mg/L. Maintenance schedule.	ERP 6.0, 7.0	Most Unlikely	Insignificant	1	1	1	No	Town
Disinfection Risks	Failure of disinfection as a result of failure or lack of automatic shutdown following disinfection process failure	DWSP-T-071	Microbiological contamination	Due to WTW failing to shut down when disinfection fails.	System is not a PLC set-up. Start and stop is wired into power of wells.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Inadequate treatment as a result of reduced UV efficiency	DWSP-T-072	Microbiological contamination	Due to reduction transmittance of light due to fouling of lamp sheath or to increase in colour or turbidity	If light transmission is reduced UV becomes less effective.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Inadequate treatment as a result of inability to meet disinfection requirements due to high chlorine demand	DWSP-T-073	Microbiological contamination	Due to inability to add sufficient chlorine due to high flow or high chlorine demand	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm.	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm.	yes	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm.	ERP 6.0, 7.0	Most Unlikely	Insignificant	1	1	1	No	Town
Disinfection Risks	Inadequate treatment as a result of insufficient contact time	DWSP-T-074	Microbiological contamination	Due to insufficient contact time to kill bacteria as a result of poor contact tank design or operating beyond design flow	In 2002 the Town added a new pumphouse & reservoir to the existing. At that time the two older reservoirs were retro-fitted with diffusion piping on both the inlets and the outlets of reservoir 1 & 2.	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm. CT equation is done daily.	yes	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm. CT equation is done daily.	ERP 6.0, 7.0	Most Unlikely	Insignificant	1	1	1	No	Town
Disinfection Risks	Inadequate treatment as a result of incorrect chlorine dose	DWSP-T-075	Microbiological contamination	Due to lack of residual controller and rapid change in chlorine demand, due to insufficient manual intervention.	The system is not a PLC setup, dosage doesn't control the CL2 injector. The injector is controlled by the start/stop process of the wells, dosage is manually adjusted.	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm. CT equation is done daily.	yes	Colourmeter grab sample taken 5 days per week, Swan AMI 24 hr online analyzer with dial-out alarm. CT equation is done daily.	ERP 6.0, 7.0	Most Unlikely	Insignificant	1	1	1	No	Town
Disinfection Risks	Inadequate treatment as a result of failure of ammonia dosing system	DWSP-T-076	Microbiological contamination Taste or odour	As a result of incorrect chlorine: ammonia ratio due to failure of ammonia dosing system	If using chloramination failure to reach the correct ratio of ammonia to chlorine affects disinfection.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Disinfection Risks	Inadequate treatment due inadequate ventilation of hydrogen from OSEC unit	DWSP-T-077	Explosion Loss of supply	As a result of build up of hydrogen as a result of inadequate ventilation.	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Ozone Risks	Inadequate Treatment due to low levels of ozone	DWSP-T-078	Microbiological contamination	Due to failure to adequately reduce humidity of incoming air supply	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Ozone Risks	Inadequate Treatment due to high pH in water	DWSP-T-079	Microbiological contamination	Due to rapid decay of ozone due to elevated pH in water	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Ozone Risks	Contamination of water due to excessive formation of ozonation by-products	DWSP-T-080	Chemical contamination	As a result of high levels of precursor organics in the incoming water	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Treated Storage Risks	Contamination of treated water as a result of vandalism	DWSP-T-081	Microbiological contamination Chemical contamination	As a results of actions by intruders	As a minimum lids and air vents must be secure. Security fence may be needed if conditions warrant it.	ADT security system in both pumphouses. 8' fence with barbed wire at the top around both pumphouses. Lids within compound are paddle locked.	yes	ADT security system in both pumphouses. 8' fence with barbed wire at the top around both pumphouses. Lids within compound are paddle locked.	ERP 2.0	Most Unlikely	Insignificant	1	1	1	No	Town

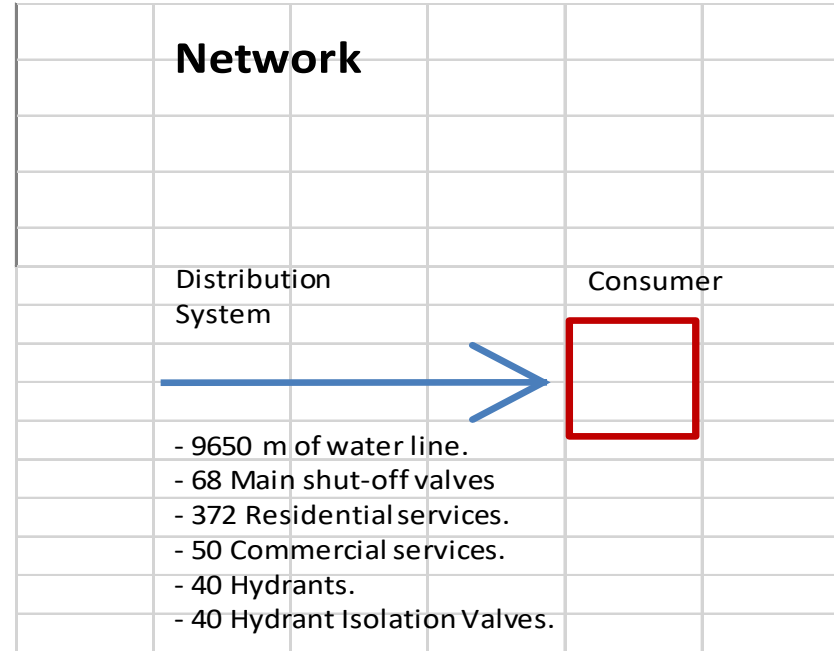
Treated Storage Risks	Contamination of treated water caused by rainwater ingress	DWSP-T-082	Microbiological contamination Chemical contamination	As a result of lack of structural integrity of reservoir due to lack of inspection or maintenance	Reservoirs should be cleaned and inspected on a regular basis.	Every three years divers inspect the reservoirs including the ceilings of all three reservoirs.	Every three years divers inspect the reservoirs including the ceilings of all three reservoirs.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Treated Storage Risks	Deterioration in water quality due to disturbance of sediment in reservoir	DWSP-T-083	Microbiological contamination Turbidity Aluminium Iron	Due to disturbance of sediment on floor of reservoir due to low level and lack of maintenance.	Reservoirs should be cleaned and inspected on a regular basis.	Every three years divers inspect/clean the reservoirs including the ceilings of all three reservoirs.	Every three years divers inspect/clean the reservoirs including the ceilings of all three reservoirs.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Treated Storage Risks	Loss of supply due to inadequate storage	DWSP-T-084	Loss of supply	Due to insufficient storage to cope with fluctuations in demand.	Reservoirs may be undersized due to financial considerations.	New pumphouse/reservoir added in 2002.	New pumphouse/reservoir added in 2002.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Facility Specific Risks	VFD pressure switch waterline freezing	DWSP-T-200		Emergency back-up pump running, ceiling exhaust fan removing excess heat and fumes from building causing	Only an issue during extended running of the back-up pump when the temperature outside the building	On duty operator monitors the temperature of the building if the back	An extra heater has been installed on the wall beside the pressure control switches.	yes	no	unlikely	Insignificant	2	1	2	No		Town
Facility Specific Risks		DWSP-T-201												0	No		
Facility Specific Risks		DWSP-T-202												0	No		
Facility Specific Risks		DWSP-T-203												0	No		
Facility Specific Risks		DWSP-T-204												0	No		
Facility Specific Risks		DWSP-T-205												0	No		
Facility Specific Risks		DWSP-T-206												0	No		
Facility Specific Risks		DWSP-T-207												0	No		
Facility Specific Risks		DWSP-T-208												0	No		
Facility Specific Risks		DWSP-T-209												0	No		

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Network Information**

Water Supply System	Town of Bentley
Length of Network	9650m
Mains Materials	AC, PVC
Trunk Mains	8" and 6" mains throughout Town.
Pumping Stations	n/a
Service Reservoirs and average residence times	
Telemetry	
Comments	9650m of water mains, 68 main shut-offs, 40 hydrants, 40 hydrant isolation valves.

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	Risk Description	Risk I.D.	Hazard	Cause of Potential Failure	Comment	Current Monitoring	How Risk is Currently Controlled	Assess if Control is Adequate	Do any Standard Procedures cover this	Likelihood	Consequence	L'Hood Score	Cons. Score	Risk Score	Key Risk	Required Interventions to Prevent Failure	Responsible Party
General Risks	Loss of supply from regional supply line	DWSP-N-001	Loss of supply	Failure of flow from regional supply	n/a	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Build up of deposits in network as a result of inadequate flushing frequency and/or velocity	DWSP-N-002	Discoloration Taste & Odour	Resulting from inadequate flushing of problem areas.	Areas where sediment is known to build up benefit from a regular flushing programme.	Residential complaints, CL2 usage.	Hydrants are flushed/pressure tested yearly.	yes	SOP 9.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Broken main as a result of PRV failure	DWSP-N-003	Loss of supply Chemical contamination Microbiological contamination	As a result of a broken main due to high pressure due to failure of PRV.	PRVs should be serviced as required.	The only PRV valve is on the standby emergency pump. A smaller PRV is on the main header in case of water hammer from power outage and start-ups.	Both PRV are inspected and serviced every 5 years.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Loss of supply and/or deterioration of water quality as a result of broken main	DWSP-N-004	Loss of supply Chemical contamination Microbiological contamination	As a result of a broken main due to failure of pipe integrity.	May be as a result of many different circumstances	visual, if the break causes a drop in pressure starting the fire pump we would be called from the atuo-dialer.	visual, if the break causes a drop in pressure starting the fire pump we would be called from the atuo-dialer.	maybe... don't know of any other detection methods that run with a nonPLC setup.	SOP 9.3	Medium	Minor	4	2	8	No		Town
General Risks	Contamination of water as a result of cross-connection	DWSP-N-005	Chemical contamination Microbiological contamination	As a result of connection with private supply due to customer having dual connection, no air gap	If customer has dual supply the pipework must be safely set up.	none	none	no	ERP 5.0	Medium	Minor	4	2	8	No		Town
General Risks	Contamination of water due to leaking air valves	DWSP-N-006	Chemical contamination Microbiological contamination	Resulting from ingress of water due to faulty air valve surrounded by water.	Air valves should be checked periodically.	Colourmeter grab samples 365 days a year, Swan AMI 24 hr online analyzer.	Daily CL2 treatment.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination of water in supply as a result of the use of non-approved or inappropriate materials in the network	DWSP-N-007	Chemical contamination	As a result of contact with inappropriate materials.	Any materials used in the network should comply with the appropriate standard.	Bentley has a development plan for new subdivisions. The water system was installed in 1974 so all of the infrastructure is relatively up to date.	Bentley has a development plan for new subdivisions.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination of water due to failure to follow proper hygiene practice when carrying out repairs.	DWSP-N-008	Chemical contamination Microbiological contamination	Due to ingress of material from excavation and/or poor disinfection procedures.	Operators should be fully trained in proper hygiene practice	Water system repairs are done by contractors. The Town only uses contractors with tickets and AC cutting tickets.	Water system repairs are done by contractors who practice CL2 treatment of repaired lines. The Town only uses contractors with tickets and AC cutting tickets.	yes	SOP 9.3	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Contamination of water in supply as a result of connection to mothballed or abandoned assets.	DWSP-N-009	Chemical contamination microbiological contamination	As a result of connection to a main containing stagnant water.	All abandoned assets should be cut and capped rather than just valved off.	Appropriate CL2 levels throughout system tested using grab samples and Swan AMI online analyzer.	Most dead-ends in sytem have been looped and areas that are dead-ends have hydrants flushed 2 times per year.	yes	ERP 6.0	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Deterioration of water quality as a result of incorrect sequence of valve operations	DWSP-N-010	Chemical contamination Microbiological contamination	As a result of flow reversal due to the need for rezoning due to the incorrect sequence of valve operations	Valves should be maintained and good records kept of their location and mode of operation, i.e. RH or LH thread.	Valves are exercised every year and records kept.	Valves are exercised every year and records kept.	yes	SOP 9.1	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Deterioration of water quality in supply as a result of unauthorised connection to the network.	DWSP-N-011	Chemical contamination	As a result of unauthorised connection to the network due to incorrect use of hydrants and standpipes.	Use of standpipes should be controlled to ensure that they have anti backflow devices and are used correctly.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Town
General Risks	Deterioration of water quality due to change in normal flow pattern.	DWSP-N-012	Chemical contamination	Due to mains sediment being disturbed by increased flow.	Iron, manganese, aluminium sediment	none	Bentley doesn't currently have iron bacteria active in its system.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Failure to meet demand as a result of failure to mend break in a reasonable time	DWSP-N-013	Loss of supply	As a result of poor access.	or as a result of contractor timing.	none	The Town uses various local and nonlocal contractors to minimize response time.	yes	no	Medium	Moderate	4	4	16	No		Town
General Risks	Failure to meet demand due to inability to operate valves as required.	DWSP-N-014	Loss of supply	Inability to operate valves when needed due to the lack of maintenance	If valves are not operated and checked they may become difficult to operate.	All valves exercised yearly with documentation, problem valves are replaced immediately.	All valves exercised yearly with documentation, problem valves are replaced immediately.	yes	SOP 9.1	Most Unlikely	Insignificant	1	1	1	No		Town
General Risks	Failure to meet demand as a result of insufficient valves to isolate area affected by break	DWSP-N-015	Loss of supply	Due to high loss of water due lack of isolation of mains	All valves exercised yearly with documentation, problem valves are replaced immediately.	All valves exercised yearly with documentation, problem valves are replaced immediately.	All valves exercised yearly with documentation, problem valves are replaced immediately.	yes	SOP 9.1	Unlikely	Minor	2	2	4	No		Town
General Risks	Failure to meet demand as a results of operating system above design pressure	DWSP-N-016	Loss of supply	Due to broken mains as a result of operating mains above design pressure.	Pressure is maintained at 43 psi by VFD motors controlled by the main VFD computer.	Pressure gauges - visual inspection daily.	Variable drive distribution pumps controlled by a pressure switch located on the main header.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town

General Risks	Failure to meet demand as a result of failure of pipe bridge	DWSP-N-017	Loss of supply	As a result of mains break due to pipe bridge collapse.	Pipe bridge structures should be checked regularly.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
General Risks	Failure to meet demand as a result of breaks caused by age-related deterioration.	DWSP-N-018	Loss of supply	Resulting from break due to deterioration of pipe condition due to age.	Planned maintenance/renewal should prevent this problem occurring.	none	reactive currently.	no	SOP 9.3	Medium	Insignificant	4	1	4	No	Town
General Risks	Iron discoloration in water as a result of metal pick-up from the mains material.	DWSP-N-019	Chemical contamination	Resulting from mains corrosion due to mains material and prevailing water quality.	Older pipe materials in use may not comply with current standards. May also be affected by flow rate.	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
General Risks	Loss of pressure as a result of leakage	DWSP-N-020	Loss of supply Loss of pressure	Due to leakage due to inadequate leakage control/poor maintenance.	If system leakage rates are high, a leakage control programme is recommended.	none	none	no	no	Medium	Minor	4	2	8	No	Town
General Risks	Loss of supply or pressure or contamination of water in supply as a result of fire service tackling a fire	DWSP-N-021	Loss of supply Loss of pressure Microbiological contamination Chemical contamination	Due to high flow rate or changes in flow patterns, or loss of disinfectant contact time or disturbance of sediment		New stand-by/emergency pump, motor and drive. Hydrants colour coded to prevent over pumping of hydrant. Callout alarms for low pressure and water level.	New stand-by/emergency pump, motor and drive. Hydrants colour coded to prevent over pumping of hydrant. Callout alarms for low pressure and water level.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
General Risks	Loss of supply or contamination of water in supply as a result of excessive demand in a short period of time	DWSP-N-022	Loss of supply Chemical contamination	Lack of communication from external stakeholders, e.g. builders, fire service	Fire service should be aware that if they are testing hydrants they should notify water operators.	Public Works pressure tests hydrants.	Public Works pressure tests hydrants.	yes	SOP 9.0	Most Unlikely	Insignificant	1	1	1	No	Town
General Risks	Loss of supply as a result of failure of critical main due to lack of alternative supply	DWSP-N-023	Loss of supply	Due to break on a critical main such that no alternative means of supply is available		Visual and pressure gauges in pumphouse. Low pressure alarm for large breaks.	Visual and pressure gauges in pumphouse. Low pressure alarm for large breaks.	yes	SOP 9.3	Most Unlikely	Insignificant	1	1	1	No	Town
General Risks	Microbiological growth in distribution system as a result of oversized mains	DWSP-N-024	Microbiological contamination	Build up of biofilms in the network due to excessive dwell time as a result of incorrectly sized mains.	Biofilms are more likely to develop in areas of low flow where disinfectant residual may be very low.	CL2 colourmeters and Swan AMI 24 hr chlorine monitoring. Water lines are 8" and 6" mains.	CL2 colourmeters and Swan AMI 24 hr chlorine monitoring. Water lines are 8" and 6" mains.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
General Risks	Microbiological growth in distribution system as a result of low disinfectant residual	DWSP-N-025	Microbiological contamination	Build up of biofilms in the network due to inadequate residual disinfectant.		CL2 colourmeters and Swan AMI 24 hr chlorine monitoring. The town isn't currently affected by iron bacteria. Free and Total CL2 are usually within 0.9 mg/L of each other.	CL2 colourmeters and Swan AMI 24 hr chlorine monitoring. The town isn't currently affected by iron bacteria. Free and Total CL2 are usually within 0.9 mg/L of each other.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
General Risks	Migration of hydrocarbons and other contaminants through pipework as a result of inappropriate materials used in areas of contaminated land	DWSP-N-026	Chemical contamination	Resulting from use of inappropriate materials in areas of contaminated land	All polyethylene pipes are susceptible to migration of hydrocarbons through the pipe wall.					Most Unlikely	Insignificant			0	No	Town
General Risks	Health risk to vulnerable customer due to inability to operate dialysis machine or similar	DWSP-N-027	Loss of supply	Due to loss of supply						Not applicable	Not applicable	0	0	0	No	Town
General Risks	Pressure problems caused by PRV failure	DWSP-N-028	Loss of pressure High pressure	Pressure fluctuation due to the failure of PRV.	PRVs should be serviced as required.	PRV valve on the fire engine is serviced every 5 years by a Singer rep.	PRV valve on the fire engine is serviced every 5 years by a Singer rep.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Pumping Station Risks	Failure of pump control panel resulting in power loss	DWSP-N-029	Loss of supply	As a result of inability to operate pumps due to lack of power		Stand by emergency pump, motor, and drive was replaced in 2009.	Stand by emergency pump, motor, and drive was replaced in 2009.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Pumping Station Risks	Failure of pumps due to breakdown and no standby	DWSP-N-030	Loss of supply	As a result of mechanical breakdown and lack of standby pump.		Stand by emergency pump, motor, and drive was replaced in 2009.	Stand by emergency pump, motor, and drive was replaced in 2009.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Pumping Station Risks	Oil contaminating water due to use of unacceptable pump lubricants.	DWSP-N-031	Hydrocarbon contamination	Due to non food grade leaking into wet well.	All pumps should use food grade lubricants.	The only grease used is food grade.	The only grease used is food grade. Maintenance sheets.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Pumping Station Risks	Failure of pumps due to power surge at pump station.	DWSP-N-032	Loss of supply	Due to pump failure due to electrical fault caused by power surge.	If electrical supply is subject to power fluctuations surge protection should be used.	none	no surge protector in pumphouse	no	no	Medium	Minor	4	2	8	No	Town
Pumping Station Risks	Failure of pumps due to flooding	DWSP-N-033	Loss of supply	Due to inadequate drainage or poor siting of pump house		Visual 365 days a year.	Bentley is on the side of a hill and the pumphouse is at the top of the hill.	yes	ERP 14.0	Most Unlikely	Insignificant	1	1	1	No	Town
Pumping Station Risks	Failure to meet demand as a result of loss of power supply	DWSP-N-034	Loss of supply	Due to power failure and no standby generator.		n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No	Town
Pumping Station Risks	Failure to meet demand due to insufficient pumping capacity	DWSP-N-035	Loss of supply Low pressure	Due to pumps operating below rating or inadequately sized.	Pump capacity should be matched to expected demand.	Callout alarm for excessive alternation due to demand.	Callout alarm for excessive alternation due to demand.	yes	no	Most Unlikely	Insignificant	1	1	1	No	Town
Reservoir Risks	Contamination of water as a result of sediment deposition in reservoir	DWSP-N-036	Chemical contamination Microbiological contamination.	Due to build up of sediment in bottom of reservoir as a result of inadequate maintenance.	Reservoirs should be emptied, inspected and cleaned on a regular basis.	Reservoirs cleaned and inspected every five years.	Reservoirs cleaned and inspected every five years.	yes, very little sediment is present when the divers inspect/clean the reservoirs	SOP 8.0	Most Unlikely	Insignificant	1	1	1	No	Town
Reservoir Risks	Contamination of water due to ingress of water as a result of inadequate structure or maintenance.	DWSP-N-037	Chemical contamination Microbiological contamination.	Due to lack of structural integrity of reservoir as a result of poor design or maintenance	Common weaknesses are lids, ducting holes for cables, poorly sealed roof joints, air vents.	Divers monitor deficiencies, visual inspections of hatches. Significant drop in cl2 residual would begin investigation.	Reservoir repairs contracted through Stantec Engineering.	Yes	ERP 14.0, 17.0, 20.0	Probable	Minor	8	2	16	No	Town



Reservoir Risks	Contamination of water due to ingress of organic debris as a result of inadequate structure or maintenance.	DWSP-N-038	Chemical contamination Microbiological contamination.	Due to lack of structural integrity of reservoir as a result of poor design or maintenance	More of a problem on earth covered reservoirs where plant roots may penetrate structure.	Divers monitor deficiencies, visual inspections of hatches. Significant drop in cl2 residual would begin investigation.	Reservoir repairs contracted through Stantec Engineering.	Yes	ERP 14.0, 17.0, 20.0	Unlikely	Insignificant	2	1	2	No		Town
Reservoir Risks	Contamination of water due to poor hygiene practice when doing planned inspection or maintenance.	DWSP-N-039	Chemical contamination Microbiological contamination.	Due to poor hygiene practice or use of non-approved chemicals.	Operators should be fully trained in proper hygiene practice	Recreational divers not allowed in reservoirs- accredited divers only. Only approved for use of 12% sodium hypochlorite.	Only approved divers and CL2 is used in reservoirs.	yes	ERP 2.0, 3.0	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Contamination of water due to reservoir running empty due to faulty or no telemetry.	DWSP-N-040	Chemical contamination	Due to disturbance of sediment on floor of reservoir due to low level as a result of lack of alarm.	Regular cleaning will help keep sediment build up to a minimum.	Divers clean reservoirs every three years- whether needed or not.	Divers clean reservoirs every three years-whether needed or not.	yes	SOP 8.0	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Contamination of water as a result of vandalism	DWSP-N-041	Chemical contamination Microbiological contamination.	Due to vandalism, due to lack of secure fencing and structure.	Degree of security required will depend on location.	Visual inspection 365 days per year. Pumphouse over two hatches is locked and alarmed.	8' barbed-wire topped fence, paddle locks, locked hatches, and alarmed pump houses.	yes	ERP 2.0, 3.0	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Contamination of water due to access to reservoir by stock or wildlife	DWSP-N-042	Microbiological contamination	Due to lack of secure fencing round reservoir.	Degree of security required will depend on location.	Visual inspection 365 days per year.	8' barbed-wire topped fence, paddle locks, locked hatches, and alarmed pump houses.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Contamination of water due vermin accessing reservoir	DWSP-N-043	Microbiological contamination	Due to lack of mesh or flap valve on overflow from reservoir.		None	Mesh on all vents and 6" collars on hatches. CL2 residual.	Not sure	no	Medium	Minor	4	2	8	No		Town
Reservoir Risks	Deterioration of water quality due to thermal stratification	DWSP-N-044	Chemical contamination Microbiological contamination.	Due to hot weather and reservoir being above ground and inadequately insulated and poor circulation		Temperature is recorded monthly. Water is between 5 to 10 degrees celcius in summer or winter (wells).	Water is diffused through perforated pvc pipe in all reservoirs to ensure proper mixing.	Yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Deterioration of water quality due to poor circulation in reservoir	DWSP-N-045	Chemical contamination	Due to poor design of reservoir	Design should encourage circulation.	Reservoirs were redesigned in 2002 with all inlets/outlets passing	Reservoirs were redesigned in 2002 with all inlets/outlets passing through perforated pvc	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Deterioration of water quality due to excessive residence time of water in reservoir.	DWSP-N-046	Chemical contamination Microbiological contamination.	Due to long storage time in reservoir and likely loss of disinfectant residual.		CL2 residuals taken weekdays at furthest point in distribution system, and pumphouse. 24 hr cl2 online analyzer samples and alarms if residuals fall below 0.20 mg/L.	CL2 residuals taken weekdays at furthest point in distribution system, and pumphouse. 24 hr cl2 online analyzer samples and alarms if residuals fall below 0.20 mg/L.	yes	ERP 6.0, 8.0	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Failure to meet demand as a result of reservoir being undersized	DWSP-N-047	Loss of supply	Due to inability to allow sufficient throughput.	If reservoir is often running low it is also likely to entrain air.	Volumes recorded daily. The reservoirs are set to refill at 1/4 usage-more of a topping up than a refill. Both high and low level arlarms in the reservoirs.	Volumes recorded daily. The reservoirs are set to refill at 1/4 usage-more of a topping up than a refill. Both high and low level arlarms in the reservoirs.	yes	SOP 7.0	Most Unlikely	Insignificant	1	1	1	No		Town
Reservoir Risks	Failure to meet demand as a result of inability to access reservoir to correct fault	DWSP-N-048	Loss of supply	Due to poor weather making access impossible.	System is within Town limits.	Pump house is inspected 356 days per year-no exceptions.	Pump house is inspected 356 days per year-no exceptions. Two operators and one contracted operator, and two public works employees that live in Town.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Town
Facility Specific Risks		DWSP-N-300												0	No		
Facility Specific Risks		DWSP-N-301												0	No		
Facility Specific Risks		DWSP-N-302												0	No		
Facility Specific Risks		DWSP-N-303												0	No		
Facility Specific Risks		DWSP-N-304												0	No		
Facility Specific Risks		DWSP-N-305												0	No		
Facility Specific Risks		DWSP-N-306												0	No		
Facility Specific Risks		DWSP-N-307												0	No		
Facility Specific Risks		DWSP-N-308												0	No		
Facility Specific Risks		DWSP-N-309												0	No		

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Customer Information**

Water Supply System	Town of Bentley
Are By-Laws in Place?	Bylaw 91/05
Are there compliance checks?	
Population Supplied	1184
No. of Domestic Properties	372
No. of Business Properties	50
Hospitals	n/a
Other Medical Premises	no
Dialysis Patients	not aware of any
Prisons etc.	n/a
Schools	Elementry and High School.
Care Homes	Care Centre, Westview Apartments.
Is plumbosolvency an issue?	
Comments	

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

Risk Description	Risk I.D.	Hazard	Cause of Potential Failure	Comments	Current Monitoring	How Risk is Currently Controlled	Assess if Control is Adequate	Do any Standard Procedures cover this	Likelihood	Consequence	L'Hood Score	Cons. Score	Risk Score	Key Risk	Required Interventions to Prevent Failure	Responsible Party
General Risks	DWSP-C-001	Chemical contamination	Resulting from dissolved lead from internal pipework or lead solder.		none	none	no	no	Probable	Moderate	8	4	32	Yes		Home/business owner
General Risks	DWSP-C-002	Chemical contamination Microbiological contamination	Disinfectant decay due to long residence time of water in pipe due to long service pipe	Service may have been installed without any consideration of residence time in service pipe	none	none	no	no	Almost Certain	Moderate	16	4	64	Yes		Home/business owner
General Risks	DWSP-C-003	Chemical contamination Microbiological contamination	As a result of long residence time in network creating chloramine decay and formation of high levels of nitrite	chloramine not used in Bentley	n/a	n/a	n/a	n/a	Not applicable	Not applicable	0	0	0	No		Home/business owner
General Risks	DWSP-C-004	Microbiological contamination Loss of pressure	Due to ingress due to leaking service pipe	If a leaking service pipe is sitting in water and there is a sudden drop in pressure, water may drawn in.	Low pressure telemetry at the pumphouse.	Low pressure telemetry at the pumphouse, standby/emergency pump incase pressure drops.	yes	no	Most Unlikely	Insignificant	1	1	1	No		Home/business owner
General Risks	DWSP-C-005	Chemical contamination Microbiological contamination	As a result of unsatisfactory or damaged new connections due to bad installation and failure to follow a suitable code of practice	If the pipe ends are not protected during installation then swarf or dirt may enter the pipe and cause contamination.	none	none	no	no	Probable	Moderate	8	4	32	Yes		Home/business owner
General Risks	DWSP-C-006	Chemical contamination.	As a result of fuel/oil leak in soil through which polyethylene pipe is laid.	Hydrocarbons can migrate through polyethylene pipe.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-007	Chemical contamination Microbiological contamination	Due to incorrect connection to unwholesome water due to lack of knowledge/supervision.	Use of non-certified tradesmen may lead to unsatisfactory conditions	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-008	Chemical contamination.	Due to the use of inappropriate material in the presence of contaminated land	If laying pipes in contaminated land, contractors must install appropriate pipe materials.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-009	Chemical contamination Microbiological contamination	Resulting from back siphonage due to the lack of appropriate backflow protection, i.e. non-return valve.	Industrial/Commercial Premises are generally High Risk; Household Customers are generally Low Risk, although preparing pesticides for garden use potentially high.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-010	Loss of pressure	Resulting from leakage due to corrosion of copper pipework due to lack of protection or maintenance	Pitting corrosion or electrolytic or galvanic corrosion may cause leakage or failure.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-011	Chemical contamination Microbiological contamination	Warm water due to on site storage above required temp due to inappropriate storage facility/lack of insulation	Elevated temperature may encourage microbial growth.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-012	Microbiological contamination	Resulting from loss of chlorine residual due to increase in temperature.	May give rise to microbial growth.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-013	Chemical contamination Microbiological contamination	Resulting from use of inappropriate plumbing materials	Plumbers should only use materials approved for potable water.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-014	Chemical contamination Microbiological contamination	Due to open storage tank due to inadequate plumbing work.	Open storage tanks may attract birds or other animals that may drown. Dust may be a problem too.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-015	Microbiological contamination	Resulting from poor condition of on site storage tanks due to lack of inspection/maintenance.	Inside of Tank needs to be inspected and cleaned Should be situated away from direct sunlight and insulated to keep cool.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-016	Microbiological contamination	Resulting from installation of inappropriate water filters and cartridges.	Any point of use device should be approved for potable water use.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	DWSP-C-017	Microbiological contamination	Due to growth of bacteria in water filters or cartridges resulting from inadequate maintenance.	If cartridges or filters are not changed regularly internal bacterial growth may occur.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner

General Risks	Contamination of water in supply as a result of use of drip feed cisterns	DWSP-C-018	Chemical contamination Microbiological contamination	As a result of ingress of contamination due to failure to operate proper hygiene practice.		none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	Contamination of water in supply as a result of cisterns being supplied from tankers	DWSP-C-019	Microbiological contamination	As a result of ingress of contamination due to failure to operate proper hygiene practice.		none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
General Risks	Contamination of water in supply as a result of inadequate hygiene practice at bulk water filling stations	DWSP-C-020	Chemical contamination Microbiological contamination	As a result of ingress of contamination due to failure to operate proper hygiene practice.	If hoses are not properly managed and kept from coming into contact with the ground or other undesirable material contamination can easily occur.	none	none	no	no	Medium	Moderate	4	4	16	No		Home/business owner
Facility Specific Risks		DWSP-C-400												0	No		
Facility Specific Risks		DWSP-C-401												0	No		
Facility Specific Risks		DWSP-C-402												0	No		
Facility Specific Risks		DWSP-C-403												0	No		
Facility Specific Risks		DWSP-C-404												0	No		
Facility Specific Risks		DWSP-C-405												0	No		
Facility Specific Risks		DWSP-C-406												0	No		
Facility Specific Risks		DWSP-C-407												0	No		
Facility Specific Risks		DWSP-C-408												0	No		
Facility Specific Risks		DWSP-C-409												0	No		

Approval Holder: Town of Bentley Mayor  
 Water Supply System: Town of Bentley  
 Approval Number: 18648-01-00  
 Location: Section 26-40-1-W5M (4602 46 Street)

Last run: December-18-2013 09:29

Risk Description	Risk I.D.	Hazard	Cause of Potential Failure	Comments	Current Monitoring	How Risk is Currently Controlled	Assess if Control is Adequate	Do any Standard Procedures cover this	Likelihood	Consequence	L'Hood Score	Cons. Score	Risk Score	Key Risk	Required Interventions to Prevent Failure	Responsible Party
Customer Risks	DWSP-C-001	Chemical contamination	Resulting from dissolved lead from internal pipework or lead solder.		none	none	no	no	Probable	Moderate	8	4	32	Yes	Current responsibility lies with home or business owner.	Home/business owner
Customer Risks	DWSP-C-002	Chemical contamination Microbiological contamination	Disinfectant decay due to long residence time of water in pipe due to long service pipe	Service may have been installed without any consideration of residence time in service pipe	none	none	no	no	Almost Certain	Moderate	16	4	64	Yes	Current responsibility lies with home or business owner.	Home/business owner
Customer Risks	DWSP-C-005	Chemical contamination Microbiological contamination	As a result of unsatisfactory or damaged new connections due to bad installation and failure to follow a suitable code of practice	If the pipe ends are not protected during installation then swarf or dirt may enter the pipe and cause contamination.	none	none	no	no	Probable	Moderate	8	4	32	Yes	Current responsibility lies with home or business owner.	Home/business owner

Approval Holder ..... Town of Bentley Mayor  
 Water Supply System ..... Town of Bentley  
 Approval Number ..... 18648-01-00  
 Location ..... Section 26-40-1-W5M (4602 46 Street)

**Summary of Actions Required to Mitigate the Main Risks identified**

	Risk Description	Risk ID	Possible Additional Short Term Controls	Intervention (s) Identified	Is There Funding?	Person Responsible	Expected Start Date	Expected Finish Date	Comments
Customer Risks	Lead in water in supply picked up from the service pipes and other fittings	DWSP-C-001	Assuming liability of a private home or business utility will have to be a Council decision.		no	owner			
Customer Risks	Contamination of water in supply due to reduction in disinfectant levels resulting from long residence time of water in pipe caused by incorrectly sized/long service pipe.	DWSP-C-002	Assuming liability of a private home or business utility will have to be a Council decision.		no	owner			
Customer Risks	Contamination of water in supply as a result of unsatisfactory or damaged new connections caused by inadequate installation procedures.	DWSP-C-005	Assuming liability of a private home or business utility will have to be a Council decision.		no	owner			

Approval Holder	Town of Bentley Mayor
Water Supply System	Town of Bentley
Approval Number	18648-01-00
Location	Section 26-40-1-W5M (4602 46 Street)

**Standard Operating Procedures**

List here all operating procedures that apply to the operation of your water supply system

Identifying Code or Number	Description
1	Well Pump Operation
1.1	Manual Well Pump Operation
1.2	Recording Pump Hours
1.3	Recording Pump Usage
1.4	Well Pump Flow Rate
2	Superchlorination of Well
3	Water Depth Measurements
4	Site and Wellhead Security
4.1	Site Security
4.2	Wellhead Security
5	Source Protection
5.1	Annual Water Quality Analysis
5.2	Trihalomethane Analysis
5.3	Well Decommissioning
6	Disinfection
6.1	Testing Chlorine Level (Shop)
6.2	Testing Chlorine Level (Pumphouse)
6.3	Colorimeter Dye Testing
6.4	Chlorine Injector Operation
6.5	Manual Injector Operation
6.6	Chlorine Handling
6.7	Daily Chlorine Handling
6.8	Weekly Bacteriological Analysis
7	Reservoir Level Control
7.1	Distribution Pump Operations
7.2	Manual Distribution Pump Operations
7.3	Fire Pump Operation
7.4	Manual Fire Pump Operation
7.5	Manual Fire Pump Shutdown
8	reservoir Cleaning Procedures
9	Hydrant Operation and Testing
9.1	Exercising Water Valves
9.2	Exercising Curb Stops
9.3	Water Main Repairs



**Agenda Date:** February 9, 2021

**Agenda Item:** **New Business:**  
**Annual Review – Employee Salary Grid and Council Remuneration & Expense**

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## **POLICY GUIDANCE/AUTHORITY**

Policy 07/04 Salary Grid and Cost of Living Policy establishes a salary grid for each employment position. Annually, Council shall consider a cost of living increase.

Policy 40-2011 Council Remuneration & Expenses establishes rates and guidelines for the claiming of remuneration by Council and expenses incurred by Council, Staff members and Citizen Members-at-large attending meetings, conferences, seminars, courses, workshops etc.

## **SUMMARY AND BACKGROUND:**

Annually, pursuant to the Salary Grid and Cost of Living Policy 07/04 (Attachment 1), Council considers a cost of living increase to the Employee Salary Grid (Attachment 2). Council has been using an average of the Statistics Canada Consumer Price Index of the previous year to guide their deliberations.

Council Remuneration & Expense Policy 40/2011 (Attachment 3), as amended, states “annually, the remuneration and expense rates will be adjusted, based on the same cost of living adjustment made to the Employee Salary Grid, as determined by Council, pursuant to the Salary Grid and Cost of Living Policy 07/04”. The changes to Council Remuneration & Expenses are shown in (Attachment 4).

Information from the Statistics Canada Consumer Price Index, for the months of January to December, 2020, is as follows;

January	3.0%	July	.90%
February	2.5%	August	.60%
March	.70%	September	1.5%
April	-.50%	October	1.1%
May	.10%	November	1.3%
June	1.6%	December	.80%

The average Consumer Price Index for Alberta for the 12 months of 2020 is 1.20%



## **RATIONAL FOR RECOMMENDATIONS:**

The annual salary increase has been done in accordance with policy 07/04 approved by Mayor and Council. This small salary increase is in alignment with the increased costs of goods and services as per the Statistics Canada Consumer Price Index.

## **BUDGET & FINANCIAL CONSIDERATIONS:**

It is anticipated that the impact of this increase will be approximately \$5,000 including all wages and deductions for both staff salaries and council remuneration for the 2021 calendar year.

## **RECOMMENDATION:**

- a) That pursuant to Policy 07/04, Council approve a cost of living increase of 1.20% to the salary grid, to take effect March 1, 2021.
- b) That pursuant to Policy 40/2011, Council approve a cost of living increase of 1.20% to the Council remuneration and expense rates, to take effect March 1, 2021.

## **ATTACHMENTS:**

- 1) Policy 07/04 – Salary Grid and Cost of Living Expenses
- 2) Town of Bentley Employee Salary Grid
- 3) Policy 40/2011 – Council Remuneration and Expense
- 4) Council Remuneration and Expense Summary

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Marc Fortais, CAO

**POLICY NO. 07/04**

**POLICY TITLE:** Salary Grid and Cost of Living Increases

**DATE ADOPTED:** July 27, 2004

**POLICY PURPOSE:**

- a) Amendment to Personnel Policy No. 7/2000 Article 17 - Pay Administration
- b) To provide a stable working environment that encourages and rewards employees for their job performance
- c) To maintain salary levels that are current with the (municipal) market place
- d) To establish a fair, impartial and consistent method of determining the salary of each employee.


**POLICY STATEMENT:** Personnel Policy No. 7/2000, Article 17 - Pay Administration shall be deleted and replaced with the following:

- 17.1 A salary grid is hereby established for each employment position.
- 17.2 Individual employee placement and advancement on the grid shall be determined by the Chief Administrative Officer and shall be based on the following criteria:
  - a) work related experience and knowledge
  - b) results of annual performance review
  - c) recognized further education/training successfully completed
  - d) additional job responsibilities
  - e) budgetary considerations
- 17.3 Annual employee performance appraisals will be undertaken in December of each year.

- 17.4 Annually, during the month of January, Council shall consider a cost of living increase.
- 17.5 Pay periods shall be mid-month and month-end. Payments shall be by direct deposit to the employees' individual bank account.

All employees shall receive an itemized statement showing the period worked, gross earnings and all relevant deductions for the pay period in question.

- 17.6 Copies of daily time records shall be kept on file in the Municipal Office.

  
\_\_\_\_\_

Mayor

  
\_\_\_\_\_

Chief Administrative Officer

# Town of Bentley - Salary Increases

2021 Increases as per Policy 07/04

CPI Increase 1.20%

Position	HRS	1	2	3	4	5	6	7	8
		2021	2021	2021	2021	2021	2021	2021	2021
Chief Administrative Officer	35 hrs/wk	N/A	N/A	N/A	N/A	N/A	N/A	\$ 125,000.00	\$ 130,000.00 *
Administrative Assistant	32.5 hrs/wk	46,769.02	47,989.12	49,596.25	51,074.82	52,553.37	54,192.66	55,815.86	57,503.36
Administrative Clerk	28 hrs/wk	33,634.16	34,637.02	35,678.44	36,758.44	37,851.29	38,969.85	41,077.80	41,361.28
Public Works Foreman	40 hrs/wk	75,808.46	78,081.53	80,422.85	82,835.55	85,320.60	87,880.23	90,516.63	93,179.28
Assistant Public Works Foreman	40 hrs/wk	64,486.77	66,415.24	68,414.29	70,460.37	72,577.00	74,764.17	76,998.41	79,308.38
Maintenance Worker III	40 hrs/wk	56,608.19	58,324.99	60,065.35	61,875.78	63,734.46	65,639.15	67,614.69	69,633.63
Maintenance Worker II	40 hrs/wk	48,605.42	50,117.15	51,622.33	53,174.54	54,750.25	56,396.51	58,089.82	59,830.17
Maintenance Worker I	per hour	16.33	16.82	17.32	17.85	18.40	18.92	19.49	20.09

\* No CPI Index applied as is according to contract

## Seasonal & Part Time (Includes Arena Part Time)

FCSS Program	28 hrs/wk	40,649.85	41,864.85	43,124.84	44,414.84	45,749.83	47,129.83	48,539.82	49,949.82
Casual Labour	May Vary		2021 low \$ 16.33	2021 high \$ 27.93					

## Public Works Stand-by-Rates

	2021
Monday - Friday: outside regular work hours	\$ 23.26
Saturday, Sunday: per 24 hour period	\$ 58.14
Holidays: as recognized in the Personnel Policy per 24 hour period	\$ 69.94

## Placement and / or Advancement on the Salary Grid is determined by:

- a.) results of performance evaluation
- b.) work related experience & knowledge
- c.) recognized education/training
- d.) additional job responsibilities
- e.) budgetary considerations

1.2% Cost of Living Increase to Salary Grid

Approved by Bentley Town Council -

\_\_\_\_\_  
Mayor Greg Rathjen

\_\_\_\_\_  
CAO Marc Fortais



## TOWN OF BENTLEY

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**POLICY NO.** 40/2011

**POLICY TITLE:** Council Remuneration & Expenses

**DATE ADOPTED:** March 22, 2011  
**Amendment Date:** February 14, 2012, February 12, 2013, February 11, 2014  
**Amendment Date:** February 10, 2015, February 14, 2017  
**Amendment Date:** March 12, 2019

**DATE EFFECTIVE:** April 1, 2011  
**Amendment Effective:** March 1, 2012, March 1, 2013, March 1, 2014, March 1, 2015  
**Amendment Effective:** March 1, 2017, April 1, 2019

**REPLACES:** Policy 24, 2007

**PURPOSE:** To recognize the time and out-of-pocket expenses incurred by members of the Bentley Municipal Council on meetings, functions and other activities relating to or required by their elected positions.

To establish the rates and guidelines for the claiming of remuneration by Council and the expenses incurred by Council, Staff Members and Citizen Members-at-large attending meetings, conferences, seminars, courses, workshops, etc.

**POLICY:**

**1. Monthly Council Remuneration**

**Mayor \$540.51 per month**

- Established to recognize the additional duties and responsibilities of the "Chief Elected Official" as set out in the Municipal Government Act and the additional time spent, as Mayor, on Town business or public relations
- To recognize time spent in the Municipal Office signing cheques, letters and other Municipal Documents
- To recognize time spent reviewing/discussing matters with the Chief Administrative Officer, members of Council and/or members of the Community, outside the formal meeting setting

  
Initial

- To recognize time spent meeting with other Government Officials, engineers, lawyers, and attending as “exo-ficio” meetings of Council Committee
- To recognize time spent attending local functions when the presence of the Mayor is requested or when protocol dictates the Mayor’s presence or where good public relations warrants the Mayor’s attendance
  - i.e. - ground breaking ceremonies
  - grand openings
  - anniversaries/birthdays
  - community reunions
  - graduation exercises

**Councillors**

**\$141.27 per month**

- to recognize the time spent reviewing/discussing matters with other members of Council and the citizens of Bentley, outside of the formal meeting setting
- attending local functions when the presence of members of Council are requested, when protocol dictates a Council presence or where good public relations warrants Council attendance
- to recognize the time spent on other local matters pertaining to the office of Councillor of the Town of Bentley
- to recognize the representation of Council, at functions in which the Mayor is unable to attend

**2. Meeting Rates – Mayor and Council**

- |    |  |                       |
|----|--|-----------------------|
| A. | Regular Council Meetings   | \$ 108.11 per meeting |
|    | Budget Meetings  | \$ 108.11 per meeting |
| B. | Special Council Meetings:  |                       |
|    | • Under 2 hours  | \$ 61.44              |
|    | • Half day   | \$ 108.11             |
|    | • Per day (maximum)  | \$ 202.70             |
| C. | Attendance at other meetings of Council, Board/Committee, Foundation or Society, Conference, Seminars, Workshops, etc. meetings held <u>within the Town</u> – Same rate as Special Council meetings                    |                       |
| D. | Attendance at Board/Committee, Foundation, Society, Conference, Seminars, Workshops, etc., held <u>outside the Town</u> – Same rate as Special Council meetings except that travel time is included in time durations. |                       |



- E. Attendance at informal (Public Relations) activities over 1 hour, i.e. parades – Mileage and meal per diem only

### 3. Expenses

- A. Hotel/Motel Accommodations for attendance at functions, meetings, conferences, conventions, workshops, etc, located more than 100 kilometers from Bentley, requiring an overnight stay shall be paid as per receipts submitted.

Reimbursement of expenses for overnight stays within 100 km. from Bentley will require prior approval.

- B. Same activities as above, but staying at a friend or relative's residence - **\$41.00** per night
- C. Mileage - In recognition of the fluctuation of the cost of gasoline, the mileage rate will be based on the minimum of \$.50 or 50% of a litre of gasoline, per kilometer, whichever is greater. The Chief Administrative Officer will determine what the price of gasoline was for the last week of each month, based on the invoice received from the local supplier. In the event the cost of gasoline is above \$1.00 per litre, 50% of said gas price will be applied as the mileage rate to all expense claims for the said month.

- D. Meals – shall be reimbursed for actual expenses subject to a maximum of **\$66.75** per 24 hour period – receipts will be required

The guideline for individual meals shall be:

Breakfast	\$16.70
Luncheon	\$16.70
Dinner	<u>\$33.36</u>
	\$66.75

Gratuities are included in the above

- E. Other Expenses:

Telephone Calls – actual expense for costs incurred for calls relating to Town business – a copy of telephone bill must be submitted

Parking Charges – actual expense based on submitted receipt, except that no receipts are required for parking meter costs.

Car Rentals – actual expense based on submitted receipts

Miscellaneous – other related expenses based on submitted receipts



4. Community Citizens serving on Council appointed Committee and Boards shall be subject to the same meeting and expense rates as set out in this policy and amendments thereto.
5. Staff members shall be subject to the same expense rates as set out in this policy and amendments thereto.
6. Annually, the remuneration and expense rates will be adjusted, based on the same cost of living adjustment made to the Employee Salary Grid, as determined by Council, pursuant to the Salary Grid & Cost of Living Policy 07/04.
7. This Policy replaces Policy 24. 2007

Signed, as most recently amended, this 20<sup>th</sup> day of March, 2019

  
\_\_\_\_\_  
Mayor

  
\_\_\_\_\_  
Chief Administrative Officer



# Town of Bentley - Mayor and Council Renumeration and Expense

2021 Increase as per Policy 40/2011

CPI Index Increase

1.20%

Position	Frequency of Renuumeration	2020	2021
Mayor	Monthly	\$ 550.24	\$ 556.84
Councillors	Monthly	144.83	\$ 146.57
Regular Budget Meetings	As Required	110.06	\$ 111.38
Special Committee & Other Meetings	As Required		
Under 2 hours		62.55	\$ 63.30
Half Day		110.06	\$ 111.38
Per Day (maximum)		206.35	\$ 208.83
Meals *			
Breakfast	Per Day	17.00	\$ 17.20
Lunch	Per Day	17.00	\$ 17.20
Dinner	Per Day	33.95	\$ 34.36

Hotel

As Per Actual Expense

Other

As per Actual Expense

\* Gratuities are included in the per day amount



February 1, 2021

**RE: Approved FortisAlberta 2021 Distribution Rates**

As a follow up to our correspondence in September 2020, FortisAlberta has received approval from the Alberta Utilities Commission (AUC) for its distribution rates, effective Jan. 1, 2021. In addition, the AUC has approved the Alberta Electric System Operator (AESO) 2021 tariff resulting in adjustments to the Base Transmission Adjustment Rider, the Quarterly Transmission Adjustment Rider and Balancing Pool Allocation. FortisAlberta collects and flows through all transmission and Balancing Pool costs billed by the Alberta Electric System Operator (AESO) as approved by the AUC.

The attached charts illustrate the estimated percentages and average changes for each rate class based on estimated consumption and demand between December 2020 and January 2021 on a *distribution rate only* basis and a *bundled bill* basis from your retailer. The bundled bill percentages indicated on the attached chart will vary slightly compared to the version you received in September, as it reflects the transmission rate rider adjustments.

We thank you for the opportunity to advise you of these updates. Please feel free to contact me or your Stakeholder Relations Manager should you have any questions or require further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Hunka".

Dave Hunka, Manager, Municipalities & Key Accounts North

P: (780) 464-8311

C: (780) 868-7040

E: [Dave.Hunka@FortisAlberta.com](mailto:Dave.Hunka@FortisAlberta.com)

**2021 Approved Rates**  
**Average Monthly Bill Impacts by Rate Class**  
**DISTRIBUTION ONLY**

Rate	Rate Class Description	Consumption Usage	Demand Usage	Dec 2020 Bill	Jan 2021 bill	\$ Difference	% Change
		300 kWh		\$31.75	\$32.15	\$0.40	1.2%
11	Residential	640 kWh		\$39.57	\$40.07	\$0.55	1.2%
		1200 kWh		\$52.46	\$53.12	\$0.66	1.2%
		900 kWh	5 kVA	\$84.06	\$85.06	\$1.00	1.2%
21	FortisAlberta Farm	1,400 kWh	10 kVA	\$153.98	\$155.79	\$1.81	1.2%
		7,500 kWh	25 kVA	\$363.77	\$368.00	\$4.23	1.1%
		6,000 kWh	20 kW	\$781.94	\$788.22	\$6.28	0.8%
26	FortisAlberta Irrigation	14,518 kWh	33 kW	\$1,324.69	\$1,335.31	\$10.62	0.8%
	*Seasonal bill impact	45,000 kWh	100 kW	\$4,021.74	\$4,053.98	\$32.24	0.8%
31	Streetlighting (Investment)	5,144 kWh	12,500 W	\$2,288.25	\$2,327.79	\$39.54	1.7%
33	Streetlighting (Non-Investment)	7,900 kWh	12,000W	\$819.12	\$833.42	\$14.30	1.7%
38	Yard Lighting	5,000 kWh	12,000 W	\$1,436.58	\$1,462.13	\$25.55	1.7%
	Rates 31, 33 and 38 is based on 100 HPS Lights in assorted fixture wattages.						
		1,083 kWh	5 kW	\$72.76	\$73.59	\$0.83	1.1%
41	Small General Service	2,165 kWh	10 kW	\$129.04	\$130.52	\$1.48	1.1%
		10,825 kWh	50 kW	\$579.34	\$585.96	\$6.62	1.1%
		2,590 kWh	7.5 kW	\$178.57	\$180.51	\$1.94	1.1%
44/45	Oil and Gas Service	5,179 kWh	15 kW	\$333.11	\$336.72	\$3.61	1.1%
		25,895 kWh	75 kW	\$1,501.36	\$1,517.52	\$16.16	1.1%
		32,137 kWh	100 kW	\$3,828.11	\$3,892.65	\$64.54	-0.2%
61	General Service	63,071 kWh	196 kW	\$7,143.33	\$7,270.46	\$127.13	-0.2%
		482,055 kWh	1500 kW	\$52,152.08	\$53,129.02	\$976.94	-0.2%
		824,585 kWh	2500 kW	\$9,623.97	\$9,525.10	-\$98.87	-1.0%
63	Large General Service	1,529,869 kWh	4638 kW	\$11,199.66	\$11,081.29	-\$118.37	-1.1%
		3,298,338 kWh	10,000 kW	\$15,151.44	\$14,984.13	-\$167.31	-1.1%
65	Transmission Connected Service	The Distribution component will increase from \$37.49/day to \$39.17/per day. The Transmission Component is the applicable rate of the AESO.					

**2021 Approved Rates**  
**Average Monthly Bill Impacts by Rate Class**  
**BUNDLED BILL Including Energy, Retail, and DT Rates & Riders**

Rate	Rate Class Description	Consumption Usage	Demand Usage	Dec 2020 Bill	Jan 2021 bill	\$ Difference	% Change
		300 kWh		\$75.40	\$76.94	\$1.54	2.0%
<b>11</b>	<b>Residential</b>	640 kWh		\$123.68	\$126.59	\$2.91	2.3%
		1200 kWh		\$203.24	\$208.36	\$5.12	2.5%
		900 kWh	5 kVA	\$193.79	\$200.12	\$6.33	3.2%
<b>21</b>	<b>FortisAlberta Farm</b>	1,400 kWh	10 kVA	\$321.64	\$331.74	\$10.10	3.0%
		7,500 kWh	25 kVA	\$1,237.47	\$1,286.11	\$48.64	3.8%
		6,000 kWh	20 kW	\$1,587.94	\$1,723.51	\$135.57	7.9%
<b>26</b>	<b>FortisAlberta Irrigation</b>	14,518 kWh	33 kW	\$3,234.64	\$3,558.05	\$323.41	9.1%
	*Seasonal bill impact	45,000 kWh	100 kW	\$9,886.93	\$10,888.68	\$1,001.75	9.2%
<b>31</b>	<b>Streetlighting (Investment)</b>	5,144 kWh	12,500 W	\$3,029.68	\$3,082.75	\$53.07	1.7%
<b>33</b>	<b>Streetlighting (Non-Investment)</b>	7,900 kWh	12,000W	\$1,669.39	\$1,698.42	\$29.03	1.7%
<b>38</b>	<b>Yard Lighting</b>	5,000 kWh	12,000 W	\$1,979.14	\$2,012.07	\$32.93	1.6%
	Rates 31, 33 and 38 is based on 100 HPS Lights in assorted fixture wattages.						
		1,083 kWh	5 kW	\$212.43	\$218.99	\$6.56	3.0%
<b>41</b>	<b>Small General Service</b>	2,165 kWh	10 kW	\$400.44	\$413.35	\$12.91	3.1%
		10,825 kWh	50 kW	\$1,904.50	\$1,968.26	\$63.76	3.2%
		2,590 kWh	7.5 kW	\$467.36	\$478.72	\$11.36	2.4%
<b>44/45</b>	<b>Oil and Gas Service</b>	5,179 kWh	15 kW	\$899.08	\$921.85	\$22.77	2.5%
		25,895 kWh	75 kW	\$4,284.27	\$4,394.69	\$110.42	2.5%
		32,137 kWh	100 kW	\$3,828.11	\$3,892.65	\$64.54	1.7%
<b>61</b>	<b>General Service</b>	63,071 kWh	196 kW	\$7,143.33	\$7,270.46	\$127.13	1.7%
		482,055 kWh	1500 kW	\$52,152.08	\$53,129.02	\$976.94	1.8%
		824,585 kWh	2500 kW	\$87,932.39	\$87,418.81	-\$513.58	-0.6%
<b>63</b>	<b>Large General Service</b>	1,529,869 kWh	4638 kW	\$148,716.35	\$147,831.52	-\$884.83	-0.6%
		3,298,338 kWh	10,000 kW	\$311,502.17	\$309,683.77	-\$1,818.40	-0.6%
<b>65</b>	<b>Transmission Connected Service</b>	The Distribution component will increase from \$37.49/day to \$39.17/per day. The Transmission Component is the applicable rate of the AESO.					

**Riders Included:**

Municipal Franchise Fee  
(Average by Rate Class)  
Municipal assessment Rider (0.73% on July 1, 2020)  
Average EPCOR Default Supply Rate  
2020 Q4 QTAR and 2021 Q1 QTAR  
January 2020 BPAR and 2021 BPAR

**Retail/Energy Price Assumptions**

Rates 11 through 44 – October 2019 to September 2020  
Average EEAI RRT Rates  
Rates 61 and 63 – August 2019 to July 2020-2020 Base TAR and 2021 Base TAR

**CUSTOMER CONTRIBUTIONS SCHEDULES \*\***

**Table 1  
Maximum Investment Levels for Distribution Facilities  
When the Investment Term is 15 years or more**

Type of Service	Maximum Investment Level
Rate 11 Residential	\$2,638 per service
Rate 11 Residential Development	\$2,638 per service, less FortisAlberta's costs of metering and final connection
Rate 21 Farm and Rate 23 Grain Drying	\$5,984 base investment, plus \$857 per kVA of Peak Demand
Rate 26 Irrigation	\$5,984 base investment, plus \$952 per kW of Peak Demand
Rate 38 Yard Lighting	\$851 per fixture
Rate 31 Streetlighting (Investment Option)	\$3,080 per fixture
Rate 41 Small General Service	\$5,984 base investment, plus \$952 per kW of Peak Demand
Rate 45 Oil and Gas Service	\$5,984 base investment, plus \$952 per kW of Peak Demand  FortisAlberta invests as required per unmetered to metered service conversion program.
Rate 61 General Service (less than or equal to 2 MW)	\$5,984 base investment, plus \$952 per kW for the first 150 kW, plus \$120 for additional kW of Peak Demand
Rate 63 Large General Service (over 2 MW) (Distribution Connected)	\$108 per kW of Peak Demand, plus \$119 per metre of Customer Extension

\*\*Alberta Utilities Commission (AUC) Decision 24843-D01-2020, Dec. 18, 2020.  
Maximum Investment Levels are reduced if the expected Investment Term is less than 15 years.



WHERE PEOPLE ARE THE KEY

## HIGHLIGHTS OF THE REGULAR COUNCIL MEETING JANUARY 28, 2021

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### **COVID-19 Q&A**

Council was provided with an update on the latest COVID-19 statistics and the ongoing mandatory restrictions introduced by the Province.

### **RED TAPE REDUCTION**

In July 2020, the Government of Alberta announced the \$500 million Municipal Stimulus Program (MSP). A requirement of the Program is that municipalities must develop a red tape reduction plan and provide the Report Form to Municipal Affairs by February 1, 2021. The following resolution received Council approval:

- 1) *the Lacombe County 2020 Red Tape Reduction Report for the Municipal Stimulus Program funding be approved; and*
- 2) *that the County Manager be authorized to submit the Lacombe County 2020 Red Tape Reduction Report to Municipal Affairs.*

### **TAX PENALTY CANCELLATION REQUEST**

A motion that Lacombe County cancel the \$271.58 late payment penalty levied on Tax Roll No. 4101342017 did not receive Council approval.

### **COUNCILLOR ORIENTATION TRAINING**

A report on Lacombe County coordinating and hosting a Council orientation training workshop following the 2021 municipal election and inviting neighboring municipalities to participate was received for information. All Councillors will attend the Muni 101 (Essentials of Municipal Governance) following the election.

### **SUNBREAKER COVE BOAT LAUNCH**

The Summer Village of Sunbreaker Cove and Lacombe County have agreed to hire Commissionaires for the Sunbreaker Cove boat launch for the summer of 2021. Lacombe County will partner with the Summer Village of Sunbreaker Cove to request all municipalities around Sylvan Lake to consider contributing towards costs of hiring Commissionaires for vehicle, pedestrian and parking control at the Sunbreaker Cove boat launch for the 2021 boating season.

### **WOLF CREEK PUBLIC SCHOOLS**

Council discussed the Wolf Creek Public School Board video called 2021 WCPS Thought Exchange Priority Engagement and the Thought Exchange to provide feedback to the Board regarding initiatives and decisions outlined in the video. This matter was deferred to the February 11, 2021 Council meeting.

### **BDO CANADA LLP – 2020 FINANCIAL STATEMENTS/AUDIT PLANNING LETTER**

BDO Canada LLP will be conducting an annual audit of Lacombe County and presented to Council on the audit process and their audit plan. The BDO Canada LLP plan for the audit of consolidated financial statements of Lacombe County for the period ending December 31, 2020 was received for information.

**Next Regular Council Meeting is**  
**Thursday, February 11, 2021 - 9:00 a.m.**

**Next Committee of the Whole Meeting is**  
**Tuesday, February 2, 2021 – 9:00 a.m.**

**Lacombe County Administration Building**

**\*\*For more details from Lacombe County Council meetings, please refer to the meeting minutes. All meeting minutes are posted on the website ([www.lacombecounty.com](http://www.lacombecounty.com)) after approval.**



## Town of Bentley

Box 179, 4918 - 50 Avenue

Bentley, AB T0C 0J0

403-748-4044 Fax: 403-748-3213

[www.townofbentley.ca](http://www.townofbentley.ca)

## Council Report

January  
Greg Rathjen

Jan 12 - Town Council meeting

Jan 26 - Town Council meeting

Jan 27 - Lacombe County Fire advisory committee meeting



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### **Report to Council – January, 2020**

January 12 Regular Council Meeting

January 25 Parent Council Meeting (School) via zoom

Principal Moore gave his annual presentation on the ACE Plan. This outlined school celebrations/highlights, Leadership in junior high, Apprenticeship Program for senior high, Budget, Accountability Pillar. There is a link on the school website that would allow town councillors to provide feedback in the thought exchange.

Principal Moore thanked Town Council for getting more involved in the education community.

January 26 Regular Council Meeting

Joan Dickau





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## **Council Report**

### **January Councillor Knutson**

January 12	Reg Bentley Council Mtg.	
January 26	Reg Bentley council Mtg.	
January 28	PCPS Mtg	9:30am – 10:30am
January 28	PRL Committee Mtg	1:00pm - 4:00 pm

#### **Bentley Municipal Library**

**Bentley Library is continuing curb service and following AHS regulations regarding COVID19.**

**Our meetings are via virtual until farther notice.**



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## Council Report

January  
Councillor Talsma

**Jan-12. Council Meeting**

**Jan-26. Council Meeting**



## Town of Bentley

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[www.townofbentley.ca](http://www.townofbentley.ca)

## Council Report

January  
Councillor Maki

Jan 12. Council meeting

Jan 26. Council meeting



RECEIVED  
FEB - 3 2021  
ab

January 22, 2021

Town of Bentley  
Box 179  
Bentley, AB  
T0C 0J0

Attn: Mayor Greg Rathjen & Council

Re: Parkland Airshed Management Zone 2021 Membership

We thank Bentley for its continued participation in and support of the Parkland Airshed Management Zone Association (PAMZ).

The year 2020, was a challenging year for PAMZ, as it was for all of us. PAMZ was able to maintain its regional air quality monitoring program throughout the year, except for the deployment of its portable monitoring station. The station was kept out of service for the second quarter to eliminate any possible public contact at its proposed Olds location. It was returned to service for the third and fourth quarters. All meeting of PAMZ's Board and various committees were switched from in-person to virtual formats. Public activities of the association, such as its Blue Skies Awards and Clean Air Day events were cancelled. Both events are being replanned for 2021, to also be held virtually. The Olds Monitoring was deferred to the second quarter of 2021.

The activities and accomplishments of PAMZ in 2020 will be published on-line in our Annual Report to the community during the second quarter of 2021. The 2019 Annual Report is freely available at: [https://pamz.org/wp-content/uploads/2020/07/PAMZ\\_2019AnnualReport\\_June2020\\_HR.pdf](https://pamz.org/wp-content/uploads/2020/07/PAMZ_2019AnnualReport_June2020_HR.pdf)

In 2020, the Alberta Airsheds Council (AAC), of which PAMZ is a founding member, published its first ever Provincial Air Quality Report. This report was published with funding from all ten provincial airsheds and includes 2019 data from all three of PAMZ permanent continuous monitoring stations: Red Deer Riverside, Red Deer Lancaster and Caroline. The AAC will publish its report on 2020 Provincial Air Quality during the second quarter of 2021. The 2019 report is freely available at: <https://www.albertairshedsCouncil.ca/air-quality-report>.

Enclosed is Bentley's invoice for its 2021 PAMZ membership fee. The fee is based on a per capita calculation that is detailed on the attached page. You should be pleased that your 2021 invoice is 8 % lower than 2020's due to reduced costs associated with the deferment of the Olds monitoring and moving to online meetings.

Again, thank-you for your continued support!

Regards,

Kevin Warren  
Executive Director, PAMZ



**PAMZ**

Parkland Airshed  
Management Zone

RECEIVED  
FEB - 3 2021

OLG

# INVOICE

Invoice #: 2021-032  
Invoice Date: January 22, 2021

Town of Bentley  
Box 179  
Bentley, AB  
T0C 0J0

Attn: Accounts Payable

<u>Amount</u>	<u>Description</u>	<u>Price</u>
1	2021 PAMZ AQM Program Fees Town of Bentley	\$ 341.64

Sub -Total \$ 341.64

GST Number: 872803697

GST (5%) \$ 17.08

TOTAL \$ 358.72

Please Remit Payment to:

Parkland Airshed Management Zone  
Box 1020  
Sundre, AB  
T0M 1X0

Ph: 403.862.7046  
Email: pamz@pamz.org

211 00230 00

# Town of Bentley

## 2021 PAMZ Fee Allocation

PAMZ 2021 Budget \$619,246

PAMZ Non-Industrial Emissions          X 14%  
= \$86,694

Area Municipal

In PAMZ Population 2021 Fee

100% X 1,078 X \$86,694 = **\$ 341.64**

273,556

Zone Population

## 2021 PAMZ BUDGET FINAL

	2020 Budget	2021 Budget	
<b>REVENUE</b>			
EPEA Companies Fee For Service	\$317,074	\$290,918	-8%
Non-EPEA Companies Fee For Service	\$30,000	\$25,000	-17%
Municipalities Fee For Service	\$45,000	\$42,000	-7%
AEP Riverside O&M Contract	\$107,246	\$107,246	
AEP Lancaster O&M Contract	\$98,632	\$98,632	
AEP Community Engagement Branch 2019-20	\$30,000		
AEP Community Engagement Branch 2020-21	\$30,000		
AEP Community Engagement Branch 2021-22		\$30,000	
Previous Year Surplus	\$15,000	\$25,450	70%
	<b>\$672,952</b>	<b>\$619,246</b>	<b>-8%</b>
<b>EXPENSES</b>			
<b>ADMINISTRATION</b>			
Insurance	\$23,000	\$8,000	-65%
Meetings/Workshops	\$6,000	\$2,000	-67%
Office Supplies	\$6,900	\$6,900	
Auditor	\$7,000	\$7,500	7%
Secretarial	\$3,400	\$3,400	
Bookkeeping	\$250	\$250	
NGO & Public Expenses	\$1,000	\$1,000	
Miscellaneous/Other	\$1,000	\$2,000	100%
	<b>\$48,550</b>	<b>\$31,050</b>	<b>-36%</b>
<b>Communications</b>			
Advertising	\$600	\$600	
Annual Report	\$2,000	\$2,000	
Martha Kostuch Env. Education Fund	\$2,500	\$2,500	
Communications Committee	\$8,000	\$8,000	
Communications Consultant	\$12,000	\$12,000	
PAMZ Website Operating	\$1,800	\$1,800	
	<b>\$26,900</b>	<b>\$26,900</b>	
<b>MANAGEMENT</b>			
Management Fees	\$102,668	\$100,036	-3%
Management Expenses	\$6,728	\$4,000	-41%
	<b>\$109,395</b>	<b>\$104,036</b>	<b>-5%</b>
<b>BANK</b>			
Interest & Bank Charges	\$250	\$250	
	<b>\$250</b>	<b>\$250</b>	
<b>CORE AQM PROGRAM</b>			
Caroline Station Operation	\$84,637	\$87,634	4%
Martha Portable Station Operation	\$73,947	\$52,771	-29%
Lancaster Station Operation	\$75,988	\$74,513	-2%
Martha Site Prep & Power	\$3,938	\$2,500	-37%
Riverside Station Operation	\$81,394	\$81,278	
Passives Changeout	\$33,000	\$33,000	
Passives Analysis	\$34,404	\$34,404	
Parts	\$20,000	\$20,000	
Station Communications	\$2,430	\$1,676	-31%
Contingency	\$24,180	\$23,000	-5%
Call-out Surveillance	\$53,940	\$46,234	-14%
	<b>\$487,857</b>	<b>\$457,010</b>	<b>-6%</b>
<b>Sub-Total</b>	<b>\$672,952</b>	<b>\$619,246</b>	<b>-8%</b>
Capital Reserve (Start of Year)	\$41	\$367	
Capital Expenditures	\$0	\$0	
Capital Contributions	\$0	\$0	
Capital Reserve (Year-End)	\$41	\$367	
<b>TOTAL BUDGET</b>	<b>\$672,952</b>	<b>\$619,246</b>	