

MUNICIPAL DRINKING WATER SUPPLIES

ANNUAL REPORT

NOTE : ANNUAL REPORT MUST BE SUBMITTED ON OR BEFORE APRIL 1.

YEAR 2020 _____

MUNICIPALITY OF : County of Annapolis

WATER UTILITY NAME: Annapolis County Water

FACILITY NAME : Bridgetown

APPROVAL TO OPERATE NO: 2010-073601-04

WATER WITHDRAWAL APPROVAL NO: 2009-068808-05

I certify that information provided in this report is a complete and accurate representation of Water System operation.

Offences under the Environment Act:

158 A person who

- (a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information;
- (b) provides false or misleading information pursuant to a requirement under this Act to provide information;
- (c) does not provide information as required pursuant to this Act;
- (d) hinders or obstructs an inspector or administrator who is exercising powers or carrying out duties, or attempting to do so, pursuant to this Act;
- (e) knowingly contravenes a term or condition of an approval, an environmental assessment approval, a temporary approval, a certificate of variance or a certificate of qualification;

Name of the person in overall direct responsible charge

[Print Name] JAMES JENNER.....

Signature

Manager responsible for water system [Print Name]

Signature

PART 1 - STANDARD SUBMISSIONS.

Has the Utility submitted following updates for the next year:

| Required Submission | Yes | No | N/A Last year submission remains unchanged |
|---|------------|-----------|---|
| Contingency Plan | | | X |
| Notification Procedure | | | X |
| Monitoring Program (including sampling points location) | | | X |
| QA/QC | | | X |
| Source Water Protection Plan | | | X |
| Source Water Implementation Schedule | | | X |
| Lab Information | | | X |
| Operations Manual | | | X |
| Staff List and certification | | | X |

PART 2 - WATER TREATMENT PLANT MONITORING

A. WATER TREATMENT

Table 1- Raw water flow

| Month | Raw water flow (m ³) | |
|--|---|--------------------------------------|
| | Source..Wells... Well No, Lake or River Name | |
| | Total Monthly Volume (m ³) | Max Daily Volume (m ³ /d) |
| January | 15364 | 628 |
| February | 14957 | 690 |
| March | 16172 | 824 |
| April | 17095 | 663 |
| May | 15606 | 568 |
| Jun | 7734 | 555 |
| July | No reading | 552 |
| August | No reading | 555 |
| September | No Reading | 630 |
| October | 17433 | 553 |
| November | 17434 | 562 |
| December | 15582 | 527 |
| Total for the year..... | 137,377 m3 | |
| Maximum month | November | |
| Average | 15264 m3 | |
| Water withdraw Approval No: 2009-068808-05. | Withdraw limit: 1000.m3/day..... | |
| Approval to Operate No:.. 2010-073601-04.. | Rated design capacity:...cu3/day... | |

Table 2 - Filtered water turbidity

| Month | Filter 1 | | | Filter 2 | | | Combined Turbidity | |
|-----------|--------------------------------|---------|------------------------------------|--------------------------------|---------|-----------------|--------------------------------|-----|
| | Turbidity | | Filter to waste | Turbidity | | Filter to waste | How many times exceed Approval | max |
| | How many times exceed Approval | max NTU | max (upon return to production) | How many times exceed Approval | max NTU | max | | |
| January | 0 | | | 0 | | | | |
| February | 0 | | | 0 | | | | |
| March | 0 | | | 0 | | | | |
| April | 0 | | | 0 | | | | |
| May | 0 | | | 0 | | | | |
| Jun | 0 | | | 0 | | | | |
| July | 0 | | | 0 | | | | |
| August | 0 | | | 0 | | | | |
| September | 0 | | | 0 | | | | |
| October | 0 | | | 0 | | | | |
| November | 0 | | | 0 | | | | |
| December | | | | | | | | |

If Approval Limits for Filtration were exceeded provide date when Department was notified:

Action taken: N/A

Table 2 - Well water turbidity

| Month | Well 2 | | Well 3 | | Comments |
|--|--------------------------------|-------------|--------------------------------|-------------|----------|
| | Turbidity | | Turbidity | | |
| | How many times exceed Approval | maximum NTU | How many times exceed Approval | maximum NTU | |
| January | 0 | .085 | 0 | .089 | |
| February | 0 | .089 | 0 | .096 | |
| March | 0 | .175 | 0 | .118 | |
| April | 0 | .087 | 0 | .099 | |
| May | 0 | .103 | 0 | .118 | |
| Jun | 0 | .083 | 0 | .118 | |
| July | 0 | .126 | 0 | .096 | |
| August | 0 | .086 | 0 | .360 | |
| September | 0 | .286 | 0 | .173 | |
| October | 0 | .034 | 0 | .260 | |
| November | 0 | .032 | 0 | .086 | |
| December | 0 | .096 | 0 | .097 | |
| If exceeded provide dates of occurrence and date when Department was notified. | | | | | |
| Action taken: Wells are combined together | | | | | |

Table 3 - Disinfection (leaving treatment plant or well)

| Month | Disinfectant residual (mg/l) | | | CT value |
|---|------------------------------|-------------------------------------|---|--|
| | Minimum this month | How many times below Approval limit | Maximum this month | How many times CT _{achieved} was less than CT _{required} |
| January | .75 | 0 | 1.07 | 0 |
| February | .74 | 0 | .90 | 0 |
| March | .79 | 0 | .89 | 0 |
| April | .79 | 0 | .92 | 0 |
| May | .80 | 0 | .99 | 0 |
| Jun | .71 | 0 | .90 | 0 |
| July | .83 | 0 | .92 | 0 |
| August | .83 | 0 | 1.02 | 0 |
| September | .82 | 0 | 1.02 | 0 |
| October | .75 | 0 | .90 | 0 |
| November | .76 | 0 | .94 | 0 |
| December | .76 | 0 | 1.06 | 0 |
| If Approval Limits were exceeded provide date of occurrence and date when Department was notified: | | | | |
| If CT requirements were not met provide date of occurrence and date when Department was notified: | | | | |
| Action Taken: | | | | |
| NOTE: CT values must be calculated daily, or minimum operational conditions must be monitored daily and records kept by Approval Holder | | | | |
| MINIMUM OPERATIONAL PARAMETERS TO PROVIDE REQUIRED CT (CT calculations for "worst case scenario" must be provided to Department) See attached | | | | |
| Peak Daily Flow | | | 824m3 | |
| Temperature at CT control Point | | | 10 | |
| Minimum residual at CT control Point | | | .71 | |
| pH at CT control Point | | | 7.26 | |
| Water level in the tank during peak hourly flow | | | 75% | |
| Total chlorine use this year:...kg | | | Target organism: Giardia..... Or Viruses..... | |

Table 4 - Bacteriological quality (leaving treatment plant or GUDI well)

| Month | Total number of samples taken | <i>E.coli</i> | Total Coliform | Giardia | | Cryptosporidium | |
|---|-------------------------------|---------------------------|---------------------------|---------------------------|-------|---------------------------|-------|
| | | No. of Present this month | No. of Present this month | if tested N/A | | if tested N/A | |
| | | | | No. of Present this month | Total | No. of Present this month | Total |
| January | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| February | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| March | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| April | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jun | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| July | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| August | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| September | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| October | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| November | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| December | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| If <i>E.coli</i> Present provide date of occurrence and date when Department was notified: | | | | | | | |
| If Total Coliforms Present provide date of occurrence and date when Department was notified | | | | | | | |
| Action taken: | | | | | | | |
| Certified Lab: Valley Regional Hospital | | | | | | | |

Table 5 - Fluoride (if fluoridating)

| Month | Min this month (mg/l) | Max this month (mg/l) |
|---|-----------------------------|-----------------------------|
| January | N/A | |
| February | | |
| March | | |
| April | | |
| May | | |
| Jun | | |
| July | | |
| August | | |
| September | | |
| October | | |
| November | | |
| December | | |
| If exceeded Approval limits provide date of occurrence and date when Department was notified: | | |
| Action taken: | | |

Table 6 - Aluminum (for facilities using aluminum-based coagulants)

| | At Treatment Facility | | Distribution System* | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Month | Min this month (mg/l) | Max this month (mg/l) | Min this month (mg/l) | Max this month (mg/l) |
| January | | | | |
| February | | | | |
| March | | | | |
| April | | | | |
| May | | | | |
| Jun | | | | |
| July | | | | |
| August | | | | |
| September | | | | |
| October | | | | |
| November | | | | |
| December | | | | |
| If Aluminum exceeded Approval limits provide date of occurrence and date when Department was notified | | | | |
| Action taken: | | | | |

Table 7- pH

| Month | Raw water inlet | | CT Control Point | |
|-----------|--------------------|--------------------|--------------------|--------------------|
| | Minimum this month | Maximum this month | Minimum this month | Maximum this month |
| January | 7.41 | 7.69 | 7.41 | 7.69 |
| February | 7.52 | 7.84 | 7.52 | 7.84 |
| March | 7.5 | 7.79 | 7.5 | 7.79 |
| April | 7.54 | 7.64 | 7.54 | 7.64 |
| May | 7.45 | 7.7 | 7.45 | 7.7 |
| Jun | 7.39 | 7.49 | 7.39 | 7.49 |
| July | 7.34 | 7.59 | 7.34 | 7.59 |
| August | 7.34 | 7.61 | 7.34 | 7.61 |
| September | 7.29 | 7.53 | 7.29 | 7.53 |
| October | 7.18 | 7.37 | 7.18 | 7.37 |
| November | 7.14 | 7.28 | 7.14 | 7.28 |
| December | 7.12 | 7.21 | 7.12 | 7.21 |
| Comments: | | | | |

Table 8 - Guidelines for Monitoring Public Drinking Water Supplies (Section 33 of Regulations)

| Parameter | Health based guideline (mg/l) | AO [or OG] (mg/l) | Raw mg/l (maximum this year) | Treated mg/l (maximum this year) | Date | Location |
|--------------------|-------------------------------|-------------------|------------------------------|----------------------------------|------|----------|
| Alkalinity | - | - | | | | |
| Aluminum | 0.1/0.2 | | | | | |
| Ammonia | - | - | | | | |
| Antimony | 0.006 | - | | | | |
| Arsenic | 0.010 | - | | | | |
| Barium | 1 | - | | | | |
| Boron | 5 | - | | | | |
| Cadmium | 0.005 | - | | | | |
| Calcium | - | - | | | | |
| Chloride | - | ≤250 | | | | |
| Chromium | 0.05 | - | | | | |
| Colour | - | ≤15 | | | | |
| Conductivity | - | - | | | | |
| Copper | - | ≤1.0 | | | | |
| Fluoride | 1.5 | - | | | | |
| Hardness | - | - | | | | |
| Iron | - | ≤0.3 | | | | |
| Lead | 0.010 | - | | | | |
| Magnesium | - | - | | | | |
| Manganese | - | ≤0.05 | | | | |
| Nitrate - nitrogen | 10 | - | | | | |
| pH | - | 6.5-8.5 | | | | |
| Potassium | - | - | | | | |
| Selenium | 0.01 | - | | | | |

| Parameter | Health based guideline (mg/l) | AO [or OG] (mg/l) | Raw mg/l (maximum this year) | Treated mg/l (maximum this year) | Date | Location |
|--|-------------------------------|-------------------|------------------------------|----------------------------------|------|----------|
| Sodium | - | ≤200 | | | | |
| Sulphate | - | ≤500 | | | | |
| Total Dissolved Solids | - | ≤500 | | | | |
| Total Organic Carbon | - | - | | | | |
| Turbidity | See Approval | - | | | | |
| Uranium | 0.02 | - | | | | |
| Zinc | - | ≤5.0 | | | | |
| OTHER PARAMETERS SAMPLED | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Has any of the parameter exceeded Guidelines Yes..... No...X. | | | | | | |
| If Yes provide date of occurrence and date when Department was notified: | | | | | | |
| Action taken: | | | | | | |
| Certified Lab:AGAT | | | | | | |

Table 9 - Raw Water turbidity

| Month | Minimum NTU | Maximum NTU |
|-----------|-------------|-------------|
| January | .034 | .288 |
| February | .028 | .164 |
| March | .028 | .097 |
| April | .027 | .095 |
| May | .028 | .08 |
| Jun | .031 | .089 |
| July | .034 | .072 |
| August | .030 | .36 |
| September | .035 | .256 |
| October | .034 | .260 |
| November | .032 | .085 |
| December | .030 | .097 |

NOVA SCOTIA ENVIRONMENT

B. WASTE TREATMENT

Table 10 - Waste water discharge

| Month | Suspended Solids Limit:..... | | Aluminum Limit:..... | | Chlorine Limit:..... | | pH Limit: | | Fish toxicity | |
|--|---------------------------------|-------------|-------------------------|-------------|-------------------------|-------------|-----------------|-------------|---------------|--|
| | average mg/l | Max mg/l | average mg/l | Max mg/l | average mg/l | Max mg/l | average mg/l | Max mg/l | | |
| January | | | | | | | | | | |
| February | | | | | | | | | | |
| March | | | | | | | | | | |
| April | | | | | | | | | | |
| May | | | | | | | | | | |
| Jun | | | | | | | | | | |
| July | | | | | | | | | | |
| August | | | | | | | | | | |
| September | | | | | | | | | | |
| October | | | | | | | | | | |
| November | | | | | | | | | | |
| December | | | | | | | | | | |
| Has any of the parameter exceeded Limits Yes..... No..... | | | | | | | | | | |
| If Yes provide date of occurrence and date when Department was notified: | | | | | | | | | | |

PART 3 - WATER DISTRIBUTION SYSTEM MONITORING

Table 11 - Distribution System Bacteriology and Disinfection Residual

| Site : A | | Location: Nobs | | | | | | | | | |
|--|---------------|----------------|-------------------------|----------|-----------------|--------|-------------------------|----------|------------------------|----------|---------------------------|
| Month | <i>E.coli</i> | | | | Total Coliforms | | | | Free chlorine residual | | |
| | Present | Absent | Total number of samples | % Absent | Present | Absent | Total number of samples | % Absent | Min mg/l | Max mg/l | No. below Approval Limits |
| January | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .67 | .90 | 0 |
| February | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .67 | .82 | 0 |
| March | 0 | 5 | 5 | 100 | 0 | 5 | 5 | 100 | .73 | .83 | 0 |
| April | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .71 | .80 | 0 |
| May | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .72 | .78 | 0 |
| Jun | 0 | 5 | 5 | 100 | 0 | 5 | 5 | 100 | .71 | .75 | 0 |
| July | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .52 | .89 | 00 |
| August | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .51 | .84 | 0 |
| September | 0 | 3 | 3 | 100 | 0 | 3 | 3 | 100 | .54 | .85 | 0 |
| October | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .53 | .80 | 0 |
| November | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .44 | .58 | 0 |
| December | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .52 | .80 | 0 |
| If Approval limits exceeded, provide date of occurrence and date when Department was notified: | | | | | | | | | | | |
| Action taken: | | | | | | | | | | | |

Table 11 - Distribution System Bacteriology and Disinfection Residual (continued)

| Site : B | | Location: Wards | | | | | | | | | |
|--|---------------|-----------------|-------------------------|----------|-----------------|--------|-------------------------|----------|------------------------|----------|--------------------|
| Month | <i>E.coli</i> | | | | Total Coliforms | | | | Free chlorine residual | | |
| | Present | Absent | Total number of samples | % Absent | Present | Absent | Total number of samples | % Absent | Min mg/l | Max mg/l | No. below 0.2 mg/l |
| January | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .81 | .87 | 0 |
| February | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .77 | .86 | 0 |
| March | 0 | 5 | 5 | 100 | 0 | 5 | 5 | 100 | .82 | .95 | 0 |
| April | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .87 | .92 | 0 |
| May | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .91 | .98 | 0 |
| Jun | 0 | 5 | 5 | 100 | 0 | 5 | 5 | 100 | .82 | .96 | 0 |
| July | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .35 | .55 | 0 |
| August | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .49 | .82 | 0 |
| September | 0 | 3 | 3 | 100 | 0 | 3 | 3 | 100 | .53 | .56 | 0 |
| October | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .51 | .57 | 0 |
| November | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .44 | .70 | 0 |
| December | 0 | 4 | 4 | 100 | 0 | 4 | 4 | 100 | .49 | .95 | 0 |
| Was E.Coli or Total Coliform present in any sample this year Yes..... No...X. | | | | | | | | | | | |
| If Yes provide date of occurrence and date when Department was notified: | | | | | | | | | | | |
| Action taken: | | | | | | | | | | | |

Table 12a - Distribution System THM's

| Month | Site A Location: Wards | Site B Location Town Hall | Site C Location: Nobs |
|------------------------------------|--|------------------------------|--------------------------|
| | THM total mg/l | THM total mg/l | THM total mg/l |
| January | | | |
| February | .001 | .001 | .005 |
| March 1st Qt | | | |
| April | | | |
| May | .001 | .002 | .005 |
| Jun 2nd Qt | | | |
| July | <.001 | .006 | .009 |
| August | | | |
| September 3rd Qt | | | |
| October | .001 | .001 | .005 |
| November | | | |
| December 4th Qt | | | |
| Annual Average | .001 | .002 | .006 |
| Limits | 0.100 mg/l THM's - Locational running annual average based on a minimum of four quarterly samples. | | |
| Action taken: | | | |

Table 12b - Distribution System HAA's

| Month | Site A Location: wards | Site B Location: Town Hall | Site C Location: Nobs |
|------------------------------|--|-------------------------------|--------------------------|
| | HAA (5) mg/l | HAA (5) mg/l | HAA (5) mg/l |
| January | | | |
| February | <.004 | <.004 | <.004 |
| March 1 st Qt | | | |
| April | | | |
| May | <.004 | <.004 | <.004 |
| Jun 2 nd Qt | | | |
| July | .004 | .0043 | .004 |
| August | | | |
| September 3 rd Qt | | | |
| October | .004 | .004 | .004 |
| November | | | |
| December 4 th Qt | | | |
| Annual Average | .004 | .004 | .004 |
| Limits | 0.080 mg/l HAA's - Locational running annual average based on a minimum of four quarterly samples. | | |
| Action taken: | | | |

Table 13 - Distribution System Turbidity

| Month | Site A Location: Nobs | | Site B Location: Wards | | Site C Location: Town Hall | |
|--|--------------------------|------------|---------------------------|------------|-------------------------------|------------|
| | min NTU | max NTU | min NTU | max NTU | min NTU | max NTU |
| January | .28 | .38 | .19 | .55 | .18 | .29 |
| February | .18 | .22 | .20 | .37 | .21 | .30 |
| March | .16 | .45 | .23 | .31 | .18 | .34 |
| April | .22 | .39 | .21 | .27 | .19 | .35 |
| May | .15 | .31 | .17 | .23 | .31 | .51 |
| Jun | .31 | .70 | .21 | .52 | .14 | .22 |
| July | .21 | .31 | .24 | .61 | .26 | .38 |
| August | .18 | .39 | .29 | .41 | .16 | .47 |
| September | .40 | .53 | .45 | .49 | .30 | .57 |
| October | .35 | .60 | .35 | .39 | .28 | .45 |
| November | .29 | .41 | .29 | .38 | .27 | .45 |
| December | .15 | .36 | .19 | .32 | .38 | .54 |
| If Approval limits were exceeded provide date of occurrence and date when Department was notified: | | | | | | |
| Action taken: | | | | | | |

Table 14 - Distribution System Lead

| Month* (specify date sampled) | Site A Location: 55 Rectory st | | Site B Location: 30 Riverview | | Site C Location: 242 Centennial dr | |
|----------------------------------|-----------------------------------|-------------|----------------------------------|-------------|---------------------------------------|-------------|
| | min ug/l | max ug/l | min ug/l | max ug/l | min ug/l | max ug/l |
| May | | | | | | |
| Jun | | | | | | |
| July | | | | | | |
| August | | <.05ug | | <.05ug | .6ug | |
| September | | | | | | |
| October | | | | | | |

If Approval limits were exceeded provide date of occurrence and date when Department was notified:

* To be sampled during warmest months

Table 15 - Distribution System Corrosion Control Program

| Month | Site A Location: 55 Rectory st | | Site B Location: 30 Riverview | | Site C Location: 242 Centennial dr | |
|------------------|-----------------------------------|--|----------------------------------|--|---------------------------------------|---------------------------------------|
| | Parameter 1Iron.. | Parameter 2Langelier index..... | Parameter 1Iron..... | Parameter 2 Langelier index.... | Parameter 1Iron..... | Parameter 2 .. Langelier index.... |
| January | | | | | | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| Jun | | | | | | |
| July | | | | | | |
| August | 75 ug | .13 | 67 ug | .13 | 56 ug | .14 |
| September | | | | | | |
| October | | | | | | |
| November | | | | | | |
| December | | | | | | |
| Comments: | | | | | | |

Table 16 - Storage tank chlorine residual

| Month | Storage Tank Location: Hampton Mtn Rd. | | | Storage Tank Location..... | | | |
|----------------|---|-------------|---|-------------------------------|-------------|---|--|
| | Min mg/l | Max mg/l | Number of times residual was less than 0.2 mg/l | Min mg/l | Max mg/l | Number of times residual was less than 0.2 mg/l | |
| January | .75 | 1.07 | 0 | na | | | |
| February | .74 | .90 | 0 | | | | |
| March | .79 | .89 | 0 | | | | |
| April | .79 | .92 | 0 | | | | |
| May | .80 | .99 | 0 | | | | |
| Jun | .71 | .90 | 0 | | | | |
| July | .83 | .92 | 0 | | | | |
| August | .83 | 1.02 | 0 | | | | |
| September | .82 | 1.02 | 0 | | | | |
| October | .75 | .90 | 0 | | | | |
| November | .76 | .94 | 0 | | | | |
| December | .76 | 1.06 | 0 | | | | |
| Action taken: | | | | | | | |
| Certified Lab: | | | | | | | |

SOURCE WATER PROTECTION PLAN ANNUAL UPDATE CHECKLIST

Yearly review of the source water protection (SWP) plan is required. The review should consider questions including, but not limited, those listed below. Every five years, or whenever significant changes to the municipal water system or risks to its source occur, the municipal unit should consider revising the plan. Otherwise, updates may be added to the original source water protection plans in an appropriately identified appendix.

| QUESTIONS TO CONSIDER IN ANNUAL UPDATE |
|---|
| How many source water committee meetings have been held in the past year? Have there been any changes to committee membership? one |
| Have there been any changes made to the committee terms of reference? No |
| Have changes to the system infrastructure been made (e.g. wells constructed or decommissioned): Yes new well feild |
| Have any new risks to the watershed or aquifer area been identified? For example: <ul style="list-style-type: none"> · have new land uses which could impact the source water commenced (or existing uses changed or ceased) within the watershed or aquifer area? · have recreational uses of concern continued, declined or increased with the past year within the watershed or aquifer area? NONE |
| If new risks have been identified, what risk reduction strategies will be employed? N/A |
| Have any accidents/emergencies not considered in the contingency plan occurred within the watershed or aquifer area within the past year? NO |
| Has source water monitoring (differs from regulatory compliance monitoring) been undertaken? Please describe the results. NONE |
| Has your contingency plan been reviewed and contact information updated? YES |
| Have any accidents/emergencies not considered in the contingency plan occurred within the watershed or aquifer area within the past year? NO |
| Provide an updated schedule for the implementation of the SWP plan, including items completed within the last year, items ongoing, or items yet to be completed. Based on consideration of all the above questions, identify if any items need to be added to the implementation plan. |

DESCRIPTION OF ANY EMERGENCY AND UPSET CONDITIONS AND CORRECTIVE ACTION

Jan 13/20 when we arrived to work we noticed water running down the sidewalk. After looking into it further we found were it was coming out of the ground at 172 Granville St. We had called in MCLEOD Safety for traffic control so we could dig it up and do the necessary repairs to the main. We shut water down at 8:50 am. Once the pipe was dug up and exposed it turned out to be a saddle had rotted off the main. We used a new 4 in saddle and main stop. Once those repairs was done we noticed the old romax coupling that was installed previously was starting to let go as well and used a new 4 in romax coupling. Everything was swabbed and cleaned before getting connected to the pipe. Once we was complete the water was restored about 12:50 pm and we took a chlorine sample at the sample station at the end of town at Wards Farm and that was reading 0.82

Feb 7 There was a brief power outage affecting parts of Bridgetown tonight. When I arrived power was just coming back on so I did normal rounds and got the SCADA machine up and running. At the old well site I had to reset turbidity meters and the chlorine analyzer at the new well site. I check the sewer plant but the power never went out down there. James had called and said the lift station in Jubilee Park was not pumping, showing pumps where but no flow going out. I reset the pumps and check the station to see the pumps where working before I left.

March 3 This morning we discovered a water main break on Park Lane. We shut water off at 9 am, Spicers Construction was in to dig up the main. It was a 6 in main with a split going around the pipe. We swabbed the pipe and a 6 in repair clamp. Water was restored to Park Lane at 1130 am. We flushed out of a hydrant on park lane with a cl2 residual of 0.72.

April 29 Repaired water main 6 inch line started at 9:00AM old clamp broken off replaced clamp left line running so water was coming out of main cleaned clamp with bleach before using flushed line for 45mins chlorine out of fire hydrant 0.81 job done and water back on 2:25 PM no house's without water. Charles and Mason.

April 30/20 turned water off at 147 South St leaking bad run a line from house in back to give him water tell we can get there to repair line flow went down 60 litres/ min.

May 6 - Repair leak in service line at 147 South St it had a hole in 1/2 inch line ok now.

May 12 - water service leak repaired on Middle st, Bridgetown

July 7/20 repaired water leak in front of wards farm 2inch line water off at 9:00AM back on at 1:10PM this has been leading for some time chlorine 0.88 this will drop my flows down.

Aug 9 Called in last night for low chlorine at the old well site in Bridgetown last night when Amy arrived chlorine was 0.46. There was a loose fitting leaking chlorine and sucking air into the line. Amy tightened up the fitting and primed the line removing the air. Everything working good when Amy left.

Aug25/20 had a lightning hit at water plant both pumps not working called Mark in to check it over both VFDs burn out call David at Samson he said he will try to get someone down tomorrow call fire Chief to let him know.

PW4 off line not working came in and check it VFD not working reset at 4:50 PM came back on and had to get chlorine pump working ok know.

Aug 26 - PW3 is pumping on manual storage tank is coming back up chlorine pump one no good have parts i can make one up.

Sept 7/8/20 repaired water main break on Queen St turned water off at 6:30 PM had to replace 12 feet of 6inch pipe cleaned pipe and clamps before using 2 6inch repair clamps 6 feet of 3/4 copper pipe 1 6inch saddle 1 3/4 main stop 1 3/4

coupling flush main for 45mins chlorine 0.76 turbidity 0.37 water back on Sept 8/20 4:40 AM

Sept 22 Mtn Lee had a water break on there lawn 6 inch line had to turn water off on church street then located there valve turned there line off at 9:30AM then turned water back on church street there water turned back on at 2:30 PM it was a big break.

Oct9/20 had a water break on Rink St water off at 3:00 PM had to put 12 of 4inch of blue brute pipe two repair clamps and had to fix water service 5feet of 3/4 copper pipe one 4 inch saddle one 3/4 by 3/4 coupling one 3/4 main stop water back on at 10:30PM flush water for 45 mins chlorine 0.74 turbidity 0.57.

Dec 22 This morning around 2 am James and Charles responded to reports of a water main break on South st. They shut the water off starting at 127 south st. Brown brothers was called in to repair the break. It was a 10 in main which the saddle rotted off. Water remained coming out of the pipe the whole time. We replaced the saddle and used roughly 2 feet of copper pipe. Water started being restored at 4 pm

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MODIFICATION TO CONTINGENCY PLAN, EMERGENCY NOTIFICATION OR PROCEDURE OR
LABORATORY CHANGE:

None

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RECORD OF ANY VIOLATIONS OF APPROVAL AND CORRECTIVE ACTIONS TAKEN:

None

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SUMMARY OF COMPLAINTS RECEIVED AND CORRECTIVE ACTIONS:

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None

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REVIEW OF QA/QC PROGRAM TO VALIDATE PLANT INSTRUMENT AND FACILITY LAB:

Here at the county we use all the same on line monitors.

For on line chlorine we use models CL 17. These units are cleaned once a month to insure true readings. We double check all readings 4 – 5 times week depending on holidays. We check the readings using DR2000 spectrophotometers or DR 2800 spectrophotometers.

Turbidity we use Hach 1720c and 1720e model on line turbidity meters. The units are cleaned once a month. All units are double checked at least 4-5 times a week depending on holidays. The units we use to double check the readings are bench model 2100n turbidity meters. All sites have calibration tubes to calibrate the 2100n.

Ph probes are used.

Operators are required to submit their chlorine counts to the ODRC at least once a week to insure no low chlorine residuals are found.

All month end reports are sent to the ODRC.

Month end reports are then sent to the Municipal operations supervisor.

APPENDIX A: Health-related Guidelines for Canadian Drinking Water Quality (Section 35 of Regulations)

| Parameter | Health based guideline (mg/l) | Raw mg/l (maximum this year) | Treated mg/l (maximum this year) | Date | Location |
|--|-------------------------------|------------------------------|----------------------------------|------|----------|
| To be done in 2023 | | | | | |
| aldicarb | 0.009 | | | | |
| aldrin + dieldrin | 0.0007 | | | | |
| aluminum | 0.1 or 0.2 | | | | |
| antimony | 0.006 | | | | |
| arsenic | 0.010 | | | | |
| atrazine + metabolites | 0.005 | | | | |
| azinphos-methyl | 0.02 | | | | |
| barium | 1 | | | | |
| bendiocarb | 0.04 | | | | |
| benzene | 0.005 | | | | |
| benzo[a]pyrene | 0.00001 | | | | |
| boron | 5 | | | | |
| bromate | 0.01 | | | | |
| bromoxynil | 0.005 | | | | |
| cadmium | 0.005 | | | | |
| carbaryl | 0.09 | | | | |
| carbofuran | 0.09 | | | | |
| carbon tetrachloride | 0.005 | | | | |
| chloramines (total) | 3.0 | | | | |
| chlorate | 1.0 | | | | |
| chlorite | 1.0 | | | | |
| chlorpyrifos | 0.09 | | | | |
| chromium | 0.05 | | | | |
| cyanazine | 0.01 | | | | |
| cyanide | 0.2 | | | | |
| cyanobacterial toxins (as microcystin-LR) - surface water only | 0.0015 | | | | |

| Parameter | Health based guideline (mg/l) | Raw mg/l (maximum this year) | Treated mg/l (maximum this year) | Date | Location |
|------------------------------------|-------------------------------|------------------------------|----------------------------------|------|----------|
| diazinon | 0.02 | | | | |
| dicamba | 0.12 | | | | |
| 1,2-dichlorobenzene | 0.2 | | | | |
| 1,4-dichlorobenzene | 0.005 | | | | |
| 1,2-dichloroethane | 0.005 | | | | |
| 1,1-dichloroethylene | 0.014 | | | | |
| dichloromethane | 0.05 | | | | |
| 2,4-dichlorophenol | 0.9 | | | | |
| dichlorophenoxyacetic acid,(2,4-D) | 0.1 | | | | |
| diclofop-methyl | 0.009 | | | | |
| dimethoate | 0.02 | | | | |
| dinoseb | 0.01 | | | | |
| diquat | 0.07 | | | | |
| diuron | 0.15 | | | | |
| fluoride | 1.5 | | | | |
| glyphosate | 0.28 | | | | |
| Haloacetic Acids (HAAs) | 0.080 | | | | |
| lead | 0.01 | | | | |
| malathion | 0.19 | | | | |
| mercury | 0.001 | | | | |
| methoxychlor | 0.9 | | | | |
| metolachlor | 0.05 | | | | |
| metribuzin | 0.08 | | | | |
| monochlorobenzene | 0.08 | | | | |
| nitrate - nitrogen | 10 | | | | |
| nitrilotriacetic acid (NTA) | 0.4 | | | | |
| paraquat (as dichloride) | 0.01 | | | | |
| parathion | 0.05 | | | | |
| pentachlorophenol | 0.06 | | | | |

| Parameter | Health based guideline (mg/l) | Raw mg/l (maximum this year) | Treated mg/l (maximum this year) | Date | Location |
|--|-------------------------------|------------------------------|----------------------------------|------|----------|
| phorate | 0.002 | | | | |
| picloram | 0.19 | | | | |
| selenium | 0.01 | | | | |
| simazine | 0.01 | | | | |
| terbufos | 0.001 | | | | |
| tetrachloroethylene | 0.03 | | | | |
| 2,3,4,6-tetrachlorophenol | 0.1 | | | | |
| trichloroethylene | 0.005 | | | | |
| 2,4,6-trichlorophenol | 0.005 | | | | |
| trifluralin | 0.045 | | | | |
| trihalomethanes (THM's) | 0.100 | | | | |
| turbidity | See Approval | | | | |
| uranium | 0.02 | | | | |
| vinyl chloride | 0.002 | | | | |
| Gross alpha | 0.5 Bq/L | | | | |
| Gross beta | 1 Bq/L | | | | |
| Lead 210 | 0.2 Bq/L | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Has any of the parameter exceeded Guidelines Yes..... No..... | | | | | |
| If Yes provide date of occurrence and date when Department was notified: | | | | | |
| Action taken: | | | | | |
| Certified Lab: AGAT | | | | | |

NOVA SCOTIA ENVIRONMENT