2024 Annual Report

RM of Stanley Public Water System

PWS: 218.20

Morris Regional

Dunston Water System, 3-4 & the R.M. of Stanley Corridor Water System

Name of the public water system:
RM of Stanley Public Water System

Name of the legal owner:
Rural Municipality of Stanley

Water Source:
Red River - Morris Regional Public Water System- Owned by Pembina Valley Water CO-OP

The Morris Regional system services the rural areas surrounding Morden (excluding Morden itself), all areas north of PTH 3 & 14 between Winkler and Morden, properties along PR428, and the hospital.

Emergency Contact Information:

Phone: Call the RM of Stanley Office: 204-325-4101

In the event of an emergency outside of regular business hours you will be transferred to an on-call operator.

Email: info@rmofstanley.ca or utilities@rmofstanley.ca

Contact Persons:

Ken Thiessen	**– Public Works Supervisor**
Dave Rempel	**– OIC (Operator-in-Charge)**
Dustin Dyck	**– Utility Operator**
Melanie Walker	**– Utilities – (Admin)**
Kale Black	**- Drinking Water Officer**

Introduction:

This RM of Stanley water system encompasses three distinct local systems under a single license:

Dunston System: This system begins at Rd 17N, west of PR432, extending west and south to the rural areas surrounding Morden (excluding Morden itself). It features 219 water connections and 76 kilometers of waterline.

RM of Stanley Corridor Water Reservoir System: This newly established system was created following the completion of the corridor water reservoir pumping station, located just south of Boundary Trails Hospital. Commissioned in 2024, this reservoir boasts a storage capacity of 4 million liters. It serves the hospital, the main corridor between Winkler and Morden, the Winkler Bible Camp, and areas north of the main corridor up to Rd 17N. This system includes 145 water connections and 54 kilometers of waterline.

3-4 System: This system covers properties with water access along PR428, south of Rd 18W, extending down to the city of Winkler. It comprises 10 kilometers of waterline.

Overall, the Morris Regional system delivers water to 390 Stanley customers and runs along 138 kilometers of waterline in Stanley municipality. Generators have been installed at all of Stanley's water stations. This allows us to maintain constant system pressure during power outages. Gate valves are installed throughout the system to be able to isolate sections of line for emergency or maintenance purposes. Curbstops are installed on each service line to be able to shut off residential lines in case of emergencies. *Customers should take care not to damage valves.*

The RM purchases water from the Pembina Valley Water Co-op (PVWC). PVWC treats this water from the Red River in Morris Manitoba. The treatment process consists of numerous stages of treatment.

The water treatment plant in Morris consists of a microfiltration followed by a nanofiltration membranes. The process consists of a screened raw water intake located in the Red River that pumps into a raw water impound for off stream storage and settling. The microfiltration removes the pathogens and reduces the turbidity to a point where it is potable. The subsequent nano membrane step removes the hardness and the organics. This water is blended partially with microfiltration water so that when the water is blended it meets all of the Manitoba Drinking Water guidelines. The blended water is then dosed with chlorine for disinfection and fluoride for dental maintenance. The fluoridation program is monitored by Manitoba Health.

Upon entering Stanley's reservoir, the treated water is re-chlorinated with sodium hypochlorite to ensure that required disinfection residuals are maintained throughout the system. Treated water is then pumped throughout the distribution system to the final consumer.

Water Quality Standards

There are certain water quality standards that are adhered to for the safety of the public. Below is a list of the health standards that are followed on the Stanley Public Water System. When there is a failure to meet these standards, immediate corrective actions are taken.

Table 1: Water Quality/Treatment Standards

Parameter	Quality Standard
Total Coliform	Less than one total coliform bacteria detectable per 100 mL in all distributed water
E. coli	Less than one *E. coli* bacteria detectable per 100 mL in all distributed water
Chlorine Residual	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system
Total Trihalomethanes (THMs)	Less than or equal to 0.10 mg/L as locational annual average of quarterly samples
Lead	Less than or equal to 0.005 mg/L based on a sample(s) collected at a cold water tap or other appropriate location where water may be used for drinking or food preparation
Manganese	Less than or equal to 0.12 mg/L

Water samples are retrieved, tested, and recorded onsite for chlorine levels each day. There are two chlorine standards, one for leaving the reservoir and one for within the distribution system. The minimum free chlorine standards are 0.5 mg/L leaving the reservoir and 0.1mg/L throughout the distribution system.

Classification/Certification

The Stanley Public Water System (Morris Regional) is classified as a Class Two (2) Distribution System serving a population of about 1560 people. Classification/certification is regulated under Manitoba Conservation's Water and Wastewater Facility Operators Regulation under *The Environment Act*.

Stanley has 2 full-time operators and one part-time. All are fully certified. The operators continually participate in educational seminars to keep up their training.

Equipment:

The corridor water reservoir pumping station is equipped with two – 25 horsepower vertical turbine pumps, three 7.5hp vertical turbine pumps, and one 2hp variable speed submersible pump.

The 3-4 system's pressure is supplied by PVWC. The Dunston system consists of two booster stations which pump water to the surrounding areas around Morden. The Parkhill booster houses two 7.5hp pumps and the Dunston booster houses two 5hp pumps.

All water lines on the system are made of PVC and/or high-density polyethylene materials.

How is the Utility Operator notified in cases of emergencies?

The water pumphouses uses electronic tele-metering equipment as a means for monitoring operations. This system notifies the utility operator by way of telephone in case of any problems regarding pressures, water levels, power failures, temperatures, and noise levels. This equipment also allows the utility operator to monitor several components of the

reservoir operations while off-site through the use of a telephone. The RM of Stanley Utility Operator is notified by telephone in case of any emergency or discrepancy with the system.

The Stanley corridor reservoir also has an electronic monitoring system (PLC) that allows the operators to monitor live pressures, reservoir levels, and flows off-site. This also allows them to diagnose problems and help them trend the operations of the pumphouses.

A Utility Operator is on call 24 hours/day. In case of an emergency call the RM of Stanley office where you will be transferred to an on-call operator.

Emergency #: 1-204-325-4101

Water Quality Standards

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E. coli	Less than one *E. coli* bacteria detectable per 100 mL in all distributed water
Chlorine Residual	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system
Total Trihalomethanes (THMs)	Less than or equal to 0.10 mg/L as locational annual average of quarterly samples
Total Haloacetic Acids (HAAs)	Less than or equal to 80 ug/L (micrograms/liter) as locational annual average of quarterly samples
Lead	Less than or equal to 0.01 mg/L in the water distribution system

Disinfection Monitoring and Reporting

Water samples are retrieved, tested, and recorded onsite for chlorine levels each day. There are two chlorine standards, one for leaving the reservoir and one for within the distribution system. The minimum free chlorine standards are 0.5 mg/L leaving the reservoir and 0.1mg/L throughout the distribution system.

These charts outline the 2024 Chlorination results leaving the Stanley corridor reservoir as reported by the Utility Operator. This new system was commissioned in March of 2024. Distribution testing commenced from that point. Compliance requirements were met.

Date				In Distribution System		
	Coliforms MPN/100ml	E. coli MPN/100ml	Compliant	Chlorine Free mg/L	Chlorine Total mg/L	Compliant
	0	0	N/A	0.00	0.00	N/A
	0	0	N/A	0.00	0.00	N/A
	0	0	N/A	0.00	0.00	N/A
	0	0	N/A	0.00	0.00	N/A
	0	0	N/A	0.00	0.00	N/A
Mar 25/24	0	0	Yes	1.13	1.36	Yes
Apr 8/24	0	0	Yes	1.23	1.58	Yes
Apr 22/24	0	0	Yes	1.15	1.37	Yes
May 6/24	0	0	Yes	1.21	1.75	Yes
May 23/24	0	0	Yes	1.27	1.40	Yes
June 3/24	0	0	Yes	1.12	1.24	Yes
June 17/24	0	0	Yes	1.40	1.80	Yes
July 3/24	0	0	Yes	1.11	1.30	Yes
July 15/24	0	0	Yes	1.18	1.64	Yes
July 29/24	0	0	Yes	1.16	1.24	Yes
Aug 12/24	0	0	Yes	1.35	1.53	Yes
Aug 26/24	0	0	Yes	1.43	1.56	Yes
Sept 9/24	0	0	Yes	1.22	1.35	Yes
Sept 23/24	0	0	Yes	1.14	1.26	Yes
Oct.7/24	0	0	Yes	1.27	1.36	Yes
Oct 21/24	0	0	Yes	1.09	1.24	Yes
Nov.4/24	0	0	Yes	0.90	1.06	Yes
Nov.19/24	0	0	Yes	0.97	1.10	Yes
Dec.2 /24	0	0	Yes	0.88	1.02	Yes
Dec.17 /24	0	0	Yes	0.94	1.10	Yes

2024 Stanley Corridor Reservoir

Month	# of Samples Taken	Compliance
January	0	N/A
February	0	N/A
March	18	100%
April	30	100%
May	31	100%
June	30	100%
July	31	100%
August	31	100%
September	30	100%
October	31	100%
November	30	100%
December	31	100%

At any time when the free chlorine residual requirement is not met immediate action is taken by the Operator to adjust amounts of chlorine being added to ensure future compliance.

THM's & HAA's

Every two years, quarterly testing is done for THM's & HAA's as required by the Office of Drinking Water. Reporting years are 2024, 2026 and so on.

Trihalomethanes (THM's) are formed when chlorine reacts with naturally occurring organic matter in the water. Studies have shown a link between high levels of THM's and cancer. For that reason, the province has set a health-based standard for THM's of *0.1mg/L.* THM's were tested in the distribution system in 2024 producing the following results. Compliance with provincial standards is dependent on the effectiveness of the treatment process.

THM's

Feb.	2024	*0.0660* mg/L
May	2024	0.0799 mg/L
Aug.	2024	0.146 mg/L
Nov.	2024	0.104 mg/L

Haloacetic acids (HAAs) are a common undesirable by-product of drinking water chlorination. HAAs can be formed by chlorination, ozonation or chloramination of water with formation promoted by slightly acidic water, high organic matter content and elevated temperature. Chlorine from the water disinfection process can react with organic matter and small amounts of bromide present in water to produce various HAAs. The MAC (maximum acceptable concentration) for HAA's is 80 ug/L (micrograms/liter). Compliance with provincial standards is dependent on the effectiveness of the treatment process. Testing was done in the distribution system producing the following results.

HAA's

Feb.	2024	39.*1* ug/L
June	2024	33.6 ug/L
Aug.	2024	52.4 ug/L
Nov.	2024	87.2 ug/L

Lead Sampling

Manitoba has launched a new lead testing program for drinking water to ensure safety and compliance with Health Canada's updated guidelines. The program focuses on testing water at consumer taps, particularly in schools and child care centers, to detect and mitigate lead contamination. Each municipality needs to comply with licensing requirements in regards to lead sampling. Lead in drinking water can cause serious health issues, especially for children and pregnant women. Key risks include:

-Developmental delays and learning disabilities in children
-Cognitive impairments like memory loss
-High blood pressure and heart disease in adults
-Kidney damage
-Reproductive health problems

The maximum acceptable concentration of lead in drinking water is 0.005 mg/L. This limit is set to minimize health risks associated with lead exposure. Compliance requirements were met.

RM of Stanley (PWS 218.20) Residential Lead Monitoring - 2024			
DATE	RESULT	RE-TEST RESULT	WATER CODE
25-10-24	0.000130		218.20
15-10-24	0.002910		218.20
23-08-24	0.000078		218.20
23-08-24	0.000246		218.20
23-08-24	0.000682		218.20
23-08-24	0.000328		218.20
13-12-24	0.000525		218.20
23-08-24	0.001580		218.20
23-08-24	0.000398		218.20
30-12-2024	0.000248		218.20
30-12-2024	0.000302		218.20
30-12-2024	0.000383		218.20
30-12-2024	0.000446		218.20
30-12-2024	0.001200		218.20
30-12-2024	0.000142		218.20
30-12-2024	0.000272		218.20
30-12-2024	0.000885		218.20
30-12-2024	0.000447		218.20
30-12-2024	0.000180		218.20
30-12-2024	0.001010		218.20

Water system incidents.
3 water breaks were recorded for 2024.

Drinking water safety orders on system.
None

Boil water advisories issued.
There was a boil water advisory on the PWS 218.20 in 2024. Boil Water advisories are issued when the line pressure drops below 20 psi.

-May 21 – BWA was issued for Dickens road and a portion of the Corridor. Samples were collected and tested negative for bacteria.

Warnings issued or charges laid in accordance with Drinking Water Safety Act.
None.

Annual Audit by the Office of Drinking Water
A copy of the annual audit done by the Office of Drinking water is available by request through the RM of Stanley.

Permits and Licenses
All operator licenses are valid and up to date. A third part time fully licensed operator has been added as a contract operator. System permits are also all in place as required. This information is posted at every site and available at the RM of Stanley Office.

Major Expenses Incurred.
The Stanley Corridor Reservoir Pumping Station, located in the RM of Stanley, was built in 2023/2024 and is a significant infrastructure project aimed at ensuring a stable water supply for the region. This project was a collaborative effort between the RM of Stanley and the Manitoba Water Services Board, with a total cost of approximately $6.4 million.

Anticipated Expenses
None

Future system expansion.
None

RM of Stanley Notifications

Connect Stanley is our communication system. Along with a new website and mobile apps, we will keep you alerted on road closures, other public works and transportation notices, burning restrictions, water service disruptions and emergency alert messages from Canada's national emergency alerting system (Alert Ready). You decide how you want to receive information, whether it be by text messages, phone calls, e-mails or any combination you choose.

Register with us never miss out on the latest news on road closures, other public works and transportation notices, burning restrictions, water service disruptions and emergency alert messages from Canada's national emergency alerting system (Alert Ready).

A free copy of the 2024 Annual Report can be obtained at the RM office.