



DROUGHT PLAN

The ultimate objective of this Drought Plan is to provide the RM of Grey with direction prior to and during drought conditions and to provide longer-term guidance to mitigate the impacts of a drought. In other words, the Plan addresses drought events both in proactive and reactive approaches offering direction for all aspects of drought planning.

July 2021

RM of Grey – Drought Plan

Monitoring –

- Haywood & St Claude System - Towns and Rural Area –
 - o The water supply for this area comes from the Stephenfield Lake and is treated at the Stephenfield Water Treatment Plant owned and operated by Pembina Valley Water Co-op (PVWC).
 - o RM will monitor the soil moisture, lake level and rainfall reports from Province of Manitoba and PVWC.
 - o The RM will respond to the drought levels as reported by PVWC.
- Elm Creek System - Town and Rural Area –
 - o The water supply for this area comes from the Elm Creek Community Well, located 2 miles north of Elm Creek on PTH #13. The well water is treated at the Elm Creek Water Treatment Plant.
 - o Ground water levels will be monitored by keeping in contact with the Province of Manitoba Groundwater Section. This department annually monitors the well levels and test well sites in the area. The RM will receive reports on the status of the well.
 - o RM will respond to the drought level reports from the province as well as the PVWC and CRWC
- Fannystelle & Booster Station System - Town & Rural Area –
 - o The water supply for this area comes from the Assiniboine River and is treated at the Elie Regional Water Treatment Plant owned and operated by Cartier Regional Water Co-op (CRWC).
 - o RM will monitor the soil moisture, river level and rainfall reports from Province of Manitoba and CRWC.
 - o The RM will respond to the drought levels as reported by CRWC.

Resource – Manitoba Drought Monitor Website – monthly reports are available as far back as 2007

Mitigation –

- Promote Conservation Through Action:
 - o Offer a rebate with proof of purchase of rain barrel or low flow fixtures. Use the money collected from penalty charges collected to fund this program.
 - o Facebook and Website posts with water conservation tips - encourage re-use of household water for outdoor plant and garden watering, the use of barrels, cisterns, ponds for collecting rainwater for outdoor use.

- Water bills as an instructional tool:
 - Use the graph on the water bills to educate the public on their water use as compared to conservation goals. Insert information on their 5-year average use for specific quarter (consult TownSuite for a report) with tips on how to reach the conservation goals.
 - Insert information on watering schedule and penalty fees applied for consumption over basic household use.

Preparedness –

- Update the Emergency Plans to Include Drought Related Items.
 - The local emergency plan/continuity plan will refer to the Municipal Drought Plan in the case of a drought event and include drought specific items. (pumping companies, pipe distributors, alternate water sources, well drilling companies)
 - Review plan annually, keeping notes on changes needed as we go.
- Hazard Analysis - *See Appendix A* -
 - To predict potential impacts of each stage on infrastructure, quality of life, other considerations.
- Establish By-Laws
 - To declare drought stages in the best interest of all residents of the municipality.
 - To enforce any failure to comply with the water restrictions set out in this plan by charging a penalty or fine as set out in the water use by-law.
- Establish Water Budgets for Allocation During Drought Stages
 - To determine the amount of water consumption allotted to essential uses, residential uses, and other uses.
 - The water budget will also determine which uses may not receive water during a water shortage where demand exceeds supply. Priority will always be given to water for human consumption.
 - New bulk water accounts will not be allowed. Bulk hauling will be limited to only household use.
- Establish Drought Stage Criteria/Zones/Schedules for Water Use During Restrictions - *See Appendix B* -
 - Develop a response plan for each drought stage to set out water uses allowed with target reductions.
 - Divide the municipality into zones for water use, alternate odd/even house numbers or section numbers.
 - Each zone will have scheduled days for any landscape, garden watering using sprinkler or handheld spray nozzle. (*See Figure 1 on page 4*)
- Perform Water Audits to Identify System Weakness and Losses
 - To identify upgrades needed – reservoir storage
 - To identify water losses in the system and establish baselines for future evaluation.

- Engage local industries if industrial reductions are contemplated
 - o Encourage on site water storage to lessen the strain when higher demands are needed.
 - o As drought stages progress the RM may have to limit the days of operation for certain industries. It is important the local industries are consulted during the planning process.
 - o Establish a framework for how reductions to industrial operations would work. Limit restrictions to severe and extreme stages only.

Response –

- Priorities of Use established in the Water Rights Act will be used to form responses throughout Drought Stages - *See Appendix B* -
 1. Domestic Purposes - Preserve day-to-day residential water use as much as possible
 2. Municipal Purposes
 3. Agricultural Purposes
 4. Industrial Purposes
 5. Irrigation Purposes
 6. Other Purposes
- Drought Stages are Declared by Resolution of Council, on the recommendation of the Utility Manager OR by the Reeve/Deputy Reeve & Utility Manager.
 - o Follow the guidelines as listed in RM of Grey Drought Stages Plan - *See Appendix B* -
- Planned Communications and Public Notifications for each Drought Stage – *See Appendix C* –
 - o Scheduled meetings with PVWC to share system information.
 - o Planned social media and website posts to encourage water conservation.
 - o Public notifications of Drought Stages declared through media releases, website, and social media. - *See Appendix D* -
 - o Post signage at all water plants, reservoirs and truckfill stations.

Figure 1:

Outdoor Treated Water Use – Odd/Even Schedule

For all garden/landscape watering, pool filling, car washing with treated water please use low flow options whenever possible.

- Timers, handheld nozzles with auto shut off, trickle hoses, flow regulators

EVEN House Numbers/Section Numbers may water on EVEN calendar dates, and

ODD House Numbers/Section Numbers may water on ODD calendar dates

Watering is not allowed between the hours of 9am and 7pm

Normal - Stage 1:

To reduce the demand on our systems, The RM of Grey is asking your co-operation with the use of this watering schedule.

Moderate Drought - Stage 2:

Please follow these guidelines to limit non-essential uses of treated water.

Extreme Drought - Stage 3:

No sprinklers are allowed, only use of handheld spray nozzle with auto shut off for watering.

Follow Even/Odd schedule during the allowed hours.

All other landscape watering is NOT ALLOWED

Severe Drought - Stage 4:

Watering is allowed for fruit/vegetable gardening only

Follow Even/Odd schedule during the allowed hours.

All other landscape watering is NOT ALLOWED

Tip: Try using a catch basin in sinks and tubs to re-use household water for outdoor plant watering.



APPENDIX A – DROUGHT HAZARD ANALYSIS

Normal Conditions

(no anticipated water supply shortages or problems)

Category		Rating	Score		Weight	Total
History		Low	1		* 2	2
Vulnerability	People	Low	1	2/2=1	* 5	5
	Property	Low	1			
Maximum Threat		Low	1		* 10	10
Probability		Low	1		* 7	7
						24.0

Moderate Drought Stage

(mild or modest drought, first indication of a potential water supply shortage)

Category		Rating	Score		Weight	Total
History		High	10		* 2	20
Vulnerability	People	Low	1	2/2=1.0	* 5	5
	Property	Low	1			
Maximum Threat		Low	1		* 10	10
Probability		Med	5		* 7	35
						70.0

Severe Drought Stage

(severe or serious drought, potentially serious water supply shortage)

Category		Rating	Score		Weight	Total
History		Med	5		* 2	10
Vulnerability	People	Med	5	10/2=5.0	* 5	25
	Property	Med	5			
Maximum Threat		Med	5		* 10	50
Probability		Med	5		* 7	35
						120.0

Extreme Drought Stage

(extreme or intense drought, a major water supply shortage)

Category		Rating	Score		Weight	Total
History		Med	5		* 2	10
Vulnerability	People	High	10	15/2=7.5	* 5	37.5
	Property	Med	5			
Maximum Threat		High	10		* 10	100
Probability		Low	1		* 7	7
						146.5

Appendix B - RM of Grey Drought Stages

Appendix B RM of Grey Drought Stages	Normal Conditions Stage 1		Moderate Drought Stage 2		Severe Drought Stage 3		Extreme Drought Stage 4	
	Treated Water Use Voluntary Conservation	Action	Treated Water Use Reduction Target 10%	Action	Treated Water Use Reduction Target 25%	Action	Treated Water Use Reduction Target 30% +	Action
Component								
Domestic Use - Town/Rural								
Household	No Restriction		Voluntary - Conservation Request		Voluntary - Conservation Request		Voluntary - Conservation Request	
Watering - garden (food Production)	Voluntary Conservation Use of odd/even schedule Requested		Mandatory Odd/Even Schedule not permitted between 9am-7pm		Mandatory - no sprinklers, hoses with shutoff allowed, handwatering allowed, not permitted between 9am-7pm		Mandatory - no sprinklers, hoses with shutoff allowed, handwatering allowed, not permitted between 9am-7pm	
Watering - Landscape	Voluntary Conservation Use of odd/even schedule Requested		Mandatory Odd/Even Schedule not permitted between 9am-7pm		Mandatory - Complete Restriction		Mandatory - Complete Restriction	
Vehicle Washing	No Restriction		Voluntary - Conservation Request		Bucket washing only - spraying not permitted		Not Permitted Commercial Car Washes Only	
Leisure Uses	No Restriction		Voluntary - Conservation Request		No pool filling		Not Permitted	
Agriculture - Rural								
Farm Operations	No Restriction - Voluntary Conservation		Voluntary - Conservation Request		Spraying and Irrigation Not Permitted		Spraying and Irrigation Not Permitted	
Livestock Dairy Operations	No Restriction		No Restriction		Voluntary - Conservation No Livestock expansion		Voluntary - Conservation No Livestock expansion	

Notes:

Appendix B RM of Grey Drought Stages	Normal Conditions Stage 1		Moderate Drought Stage 2		Severe Drought Stage 3		Extreme Drought Stage 4	
	Treated Water Use Voluntary Conservation	Action	Treated Water Use Reduction Target 10%	Action	Treated Water Use Reduction Target 25%	Action	Treated Water Use Reduction Target 30% +	Action
Municipal Operations								
Watering - Landscape/flowers	Odd/Even Schedule	Mandatory - Odd/Even Schedule		Mandatory - Complete Restriction		Mandatory - Complete Restriction		Mandatory - Complete Restriction
Vehicle Washing	No Restriction	Voluntary - Conservation Request		Bucket washing only - spraying not permitted		Not Permitted		Not Permitted
Emergency Vehicle, School Bus Washing	No Restriction	Voluntary - Conservation Request		Voluntary - Conservation Request		Voluntary - Conservation Request		Voluntary - Conservation Request
Flushing/hydrant use	No Restriction	Hydrant Flushing (only if necessary)		Hydrant Emergency Use Only		Hydrant Emergency Use Only		Hydrant Emergency Use Only
New Connections	Upon Request	Upon Request		Restricted to Household Connections - replacing bulk hauling		Restricted to Household Connections - replacing bulk hauling		Restricted to Household Connections - replacing bulk hauling
Bulk Hauling	No Restriction	Voluntary - Conservation Request		Domestic Hauling only - Voluntary Conservation		Domestic Hauling only - Voluntary Conservation		Domestic Hauling only - Voluntary Conservation
Commercial								
Operations	No Restriction	Voluntary - Conservation Request		Voluntary - Conservation Request		Voluntary - Conservation Request		Voluntary - Conservation Request
Car Washes	No Restriction	Voluntary - Conservation Request		Voluntary - Reduction Suggested		Mandatory Reduction of Hours by 20%		Mandatory Reduction of Hours by 20%
Lodging/Restaurant	No Restriction	Voluntary - Conservation Request		Voluntary - Conservation (serve water on request, laundry reduction)		Voluntary - Conservation (serve water on request, laundry reduction)		Voluntary - Conservation (serve water on request, laundry reduction)
Industrial/Water Rich	No Restriction	Voluntary - Conservation Request		Voluntary restriction of water consumption		Voluntary restriction of water consumption		Voluntary restriction of water consumption
Construction Water	Metered Use	Limited Metered Use		Not permitted		Not permitted		Not permitted

Notes:

RM of GREY DROUGHT PLAN

Appendix C - Communications and Notifications

Action	Normal Conditions Frequency	Moderate Drought Frequency	Severe Drought Frequency	Extreme Drought Frequency
	Communicate water demand needs to PVWC (new connections, infrastructure changes, shut-downs, peak water needs)	Quarterly	Monthly	Weekly
Share system Information on storage levels, flows, pressures, etc at key points in the system	Quarterly	Monthly	Weekly	Daily
Meet with Utility Manager, Utility Operators, Emergency Co-ordinator, and Office Staff to review drought stage restrictions, notifications, etc.		Monthly	Weekly	Daily
Media and Public Communication - inserts in water bills, website and social media updates	Quarterly	As Required	As Required	As Required
Updates corresponding with PVWC releases		As Required	As Required	As Required
Co-ordinate with PVWC and Manitoba EMO - Declare local state of emergency if necessary.				As Required
Advocate or Provincial state of emergency, if necessary.				As Required

Notes:

**RM OF GREY
DROUGHT PLAN**

**APPENDIX D
DROUGHT STAGES
PUBLIC NOTICES**

RM of Grey - Normal Conditions Stage 1

Treated Water Use - Voluntary Conservation

Component	Action
Domestic Use - Town/Rural	
Household	No Restriction
Watering - garden (food Production)	Voluntary Conservation Use of odd/even schedule Requested
Watering - Landscape	Voluntary Conservation Use of odd/even schedule Requested
Vehicle Washing	No Restriction
Leisure Uses	No Restriction
Agriculture - Rural	
Farm/Outdoor Use	No Restriction - Voluntary Conservation
Livestock/Dairy	No Restriction
Municipal Operations	
Watering - Landscape/Flowers	Mandatory - Odd/Even Schedule
Vehicle Washing	No Restriction
Washing - Emergency Vehicles/Buses	No Restriction
Flushing/hydrant use	No Restriction
New Connections	Upon Request
Bulk Hauling	No Restriction
Commercial	
Operations	No Restriction
Car Washes	No Restriction
Lodging/Restaurant	No Restriction
Industrial/Water Rich	No Restriction
Construction Water Hauling	Limited Metered Use

Outdoor Treated Water Use – Odd/Even Schedule

For all garden/landscape watering with treated water please use low flow options whenever possible (timers, handheld nozzles with auto shut off, trickle hoses)

**EVEN House Numbers/Section Numbers may water on EVEN calendar dates, and
 ODD House Numbers/Section Numbers may water on ODD calendar dates
 Watering is not allowed between the hours of 9am and 7pm**

To reduce the demand on our systems
 The RM of Grey is asking your co-operation with the use of this watering schedule.

RM of Grey - Moderate Drought Stage 2

Treated Water Use - Reduction Target 10%

Component	Action
Domestic Use - Town/Rural	
Household	Voluntary - Conservation Request
Watering - garden (food Production)	Mandatory - Odd/Even Schedule not permitted between 9am-7pm
Watering - Landscape	Mandatory - Odd/Even Schedule not permitted between 9am-7pm
Vehicle Washing	Voluntary - Conservation Request
Leisure Uses	Voluntary - Conservation Request
Agriculture - Rural	
Farm/Outdoor Use	Voluntary - Conservation Request
Livestock	No Restriction
Municipal Operations	
Watering - Landscape/Flowers	Mandatory - Odd/Even Schedule
Vehicle Washing	Voluntary - Conservation Request
Washing - Emergency Vehicles/Buses	Voluntary - Conservation Request
Flushing/hydrant use	Hydrant Flushing (only if necessary)
New Connections	Upon Request
Bulk Hauling	Voluntary - Conservation Request
Commercial	
Operations	Voluntary - Conservation Request
Car Washes	Voluntary - Conservation Request
Lodging/Restaurant	Voluntary - Conservation Request
Industrial/Water Rich	Voluntary - Conservation Request
Construction Water Hauling	Limited Metered Use

Outdoor Treated Water Use – Odd/Even Schedule

For all garden/landscape watering with treated water - please use low flow options whenever possible (timers, handheld nozzles with auto shut off, trickle hoses)

**EVEN House Numbers/Section Numbers may water on EVEN calendar dates, and
 ODD House Numbers/Section Numbers may water on ODD calendar dates
 Watering is not allowed between the hours of 9am and 7pm**

Please follow these guidelines to limit non-essential uses of treated water.

RM of Grey - Severe Drought Stage 3

Treated Water Use - Reduction Target 25%

Component	Action
Domestic Use - Town/Rural	
Household	Voluntary - Conservation Request
Watering - garden (food Production)	Mandatory - no sprinklers, hoses with shutoff and handwatering allowed Odd/Even Schedule not permitted between 9am-7pm
Watering - Landscape	Mandatory - Complete Restriction
Vehicle Washing	Bucket washing only spraying not permitted
Leisure Uses	No pool filling.
Agriculture - Rural	
Farm/Outdoor Use	Not Permitted - Spraying and Irrigation with treated water
Livestock	Voluntary - Conservation Request No Livestock expansion
Municipal Operations	
Watering - Landscape/Flowers	Mandatory - Maximum 1 Day/Week
Vehicle Washing	Bucket washing only spraying not permitted
Washing - Emergency Vehicles/Buses	Voluntary - Conservation Request
Flushing/hydrant use	Hydrant Emergency Use Only
New Connections	Restricted to Household Connection - replacing bulk hauling
Bulk Hauling	Domestic Hauling only Voluntary Conservation
Commercial	
Operations	Voluntary - Conservation Request
Car Washes	Voluntary - Reduction Suggested
Lodging/Restaurant	Voluntary - Conservation (serve water on request, laundry reduction)
Industrial/Water Rich	Voluntary restriction of water consumption
Construction Water Hauling	Not Permitted

Outdoor Treated Water Use – Odd/Even Schedule

NO LANDSCAPE WATERING ALLOWED AT THIS TIME

**EVEN House Numbers/Section Numbers may water on EVEN calendar dates, and
ODD House Numbers/Section Numbers may water on ODD calendar dates
Watering is not allowed between the hours of 9am and 7pm**

RM of Grey - Extreme Drought Stage 4

Treated Water Use - Reduction Target 30% +

Component	Action
Domestic Use - Town/Rural	
Household	Voluntary - Conservation Request
Watering - garden (food Production)	Mandatory - no sprinklers, hoses with shutoff and handwatering allowed Odd/Even Schedule not permitted between 9am-7pm
Watering - Landscape	Mandatory - Complete Restriction
Vehicle Washing	Not Permitted Commercial Car Washes Only
Leisure Uses	Not Permitted
Agriculture - Rural	
Farm Operations	Not Permitted Spraying and Irrigation with treated water
Livestock	Voluntary - Conservation Request No Livestock expansion
Municipal Operations	
Watering - Landscape/Flowers	Mandatory - Complete Restriction
Vehicle Washing	Not Permitted
Washing - Emergency Vehicles/Buses	Voluntary - Conservation Request
Flushing/hydrant use	Hydrant Emergency Use Only
New Connections	Not Permitted
Bulk Hauling	Domestic Hauling only Voluntary Conservation
Commercial	
Operations	Voluntary - Conservation Request
Car Washes	Mandatory Reduction of Hours by 20%
Lodging/Restaurant	Voluntary - Conservation (serve water on request, laundry reduction)
Industrial/Water Rich	Voluntary restriction of water consumption
Construction Water Hauling	Not permitted

Outdoor Treated Water Use – Odd/Even Schedule

Watering is allowed for fruit/vegetable gardening only
All other landscape watering is NOT ALLOWED

EVEN House Numbers/Section Numbers may water on EVEN calendar dates, and
ODD House Numbers/Section Numbers may water on ODD calendar dates
Watering is not allowed between the hours of 9am and 7pm