



## **STAFF REPORT**

DATE: 5/7/2020

**CONSENT**

ITEM #

**TO:** City Council

**FROM:** Marty Powers, Public Works Director

**AGENDA ITEM:** Approval of the Lake Elmo Water Supply Plan Update to be submitted to MET Council and MN DNR

**REVIEWED BY:** Kristina Handt, City Administrator  
Jack Griffin, Focus Engineering

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### **BACKGROUND:**

The Council is being asked to formally adopt the Lake Elmo Water Supply plan dated March 13, 2020.

### **ISSUE BEFORE COUNCIL:**

Should the Council formally adopt the Lake Elmo Water Supply plan and submit the certification of adoption to the MN DNR, and submit the final approved copy to the MET Council?

### **PROPOSAL DETAILS/ANALYSIS:**

As part of the 2040 Comprehensive Plan, Public Works and Focus Engineering has been working with the MN DNR and MET Council over the past several years to update the Lake Elmo Water Supply Plan. The city recently received approval of the plan contingent upon formal adoption by the Lake Elmo City Council. There have been numerous communications and modifications which lead to the MN DNR's approval.

### **FISCAL IMPACT:**

Fiscal impact is unknown at this time. The plan contains certain requirements to be met by the City, including water conservation measures, as part of operating a public water supply system.

**OPTIONS:**

The Council has the following options:

- 1) Adopt the Lake Elmo Water Supply Plan dated March 13, 2020.
- 2) Do not adopt Lake Elmo Water Supply Plan and provide direction to staff to make certain revisions for resubmittal.
- 3) Table the submittal

**RECOMMENDATION:**

Staff and Engineering is recommending that Council adopt the Lake Elmo Water Supply Plan dated March 13, 2020 and submit the Certification of Adoption to MN DNR and submit a final copy MET Council.

***“Move to adopt the Lake Elmo Water Supply Plan dated March 13, 2020 and submit the Certification of Adoption to MN DNR and submit a final copy MET Council.”***

**ATTACHMENTS:**

1. Lake Elmo Water Supply Plan dated March 13, 2020.
2. Certificate of adoption
3. Lake Elmo Approval Letter

# Local Water Supply Plan Template Third Generation for 2016-2018

Revised June 30, 2017

Revised March 13, 2020 - DNR and Metropolitan Council Review Comments

*Formerly called Water Emergency & Water Conservation Plan*



*Cover photo by Molly Shodeen*



For more information on this Water Supply Plan Template, please contact the DNR Division of Ecological and Water Resources at (651) 259-5034 or (651) 259-5100.

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This information is available in an alternative format upon request.

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**CERTIFICATE OF ADOPTION  
WATER SUPPLY PLAN**

City or Water System Name: City of Lake Elmo

Name of Person Authorized to Sign  
Certificate on Behalf of the System: Rob Weldon

Title: Public Works Director

Address: 3800 Laverne Ave. N  
Lake Elmo, MN 55042

Telephone: 651-747-3941

E-mail: [rweldon@lakeelmo.org](mailto:rweldon@lakeelmo.org)

*I certify that the Water Supply Plan approved by the Department of Natural Resources has been adopted by the city council or utility board that has authority over water supply services.*

Signed:



Date: 12/20/2017

[Submit Certificate of Adoption through MPARS](#)

Or mail this certificate to: DNR Waters  
Water Permit Program Supervisor  
500 Lafayette Road  
St. Paul, MN 55155-4032

9/6/17

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# DEPARTMENT OF NATURAL RESOURCES – DIVISION OF ECOLOGICAL AND WATER RESOURCES AND METROPOLITAN COUNCIL

## INTRODUCTION TO WATER SUPPLY PLANS (WSP)

### Who needs to complete a Water Supply Plan

Public water suppliers serving more than 1,000 people, large private water suppliers in designated Groundwater Management Areas, and all water suppliers in the Twin Cities metropolitan area are required to prepare and submit a water supply plan.

The goal of the WSP is to help water suppliers: 1) implement long term water sustainability and conservation measures; and 2) develop critical emergency preparedness measures. Your community needs to know what measures will be implemented in case of a water crisis. A lot of emergencies can be avoided or mitigated if long term sustainability measures are implemented.

### Groundwater Management Areas (GWMA)

The DNR has designated three areas of the state as Groundwater Management Areas (GWMAs) to focus groundwater management efforts in specific geographies where there is an added risk of overuse or water quality degradation. A plan directing the DNR's actions within each GWMA has been prepared. Although there are no specific additional requirements with respect to the water supply planning for communities within designated GWMAs, communities should be aware of the issues and actions planned if they are within the boundary of one of the GWMAs. The three GWMAs are the North and East Metro GWMA (Twin Cities Metro), the Bonanza Valley GWMA and the Straight River GWMA (near Park Rapids). Additional information and maps are included in the [DNR Groundwater Management Areas webpage](#).

### Benefits of completing a WSP

Completing a WSP using this template, fulfills a water supplier's statutory obligations under M.S. [M.S.103G.291](#) to complete a water supply plan. For water suppliers in the metropolitan area, the WSP will help local governmental units to fulfill their requirements under M.S. 473.859 to complete a local comprehensive plan. Additional benefits of completing WSP template:

- The standardized format allows for quicker and easier review and approval
- Help water suppliers prepare for droughts and water emergencies.
- Create eligibility for funding requests to the Minnesota Department of Health (MDH) for the Drinking Water Revolving Fund.
- Allow water suppliers to submit requests for new wells or expanded capacity of existing wells.
- Simplify the development of county comprehensive water plans and watershed plans.
- Fulfill the contingency plan provisions required in the MDH wellhead protection and surface water protection plans.
- Fulfill the demand reduction requirements of Minnesota Statutes, section 103G.291 subd 3 and 4.

- Upon implementation, contribute to maintaining aquifer levels, reducing potential well interference and water use conflicts, and reducing the need to drill new wells or expand system capacity.
- Enable DNR to compile and analyze water use and conservation data to help guide decisions.
- Conserve Minnesota's water resources

If your community needs assistance completing the Water Supply Plan, assistance is available from your area hydrologist or groundwater specialist, the MN Rural Waters Association circuit rider program, or in the metropolitan area from Metropolitan Council staff. Many private consultants are also available.

## **WSP Approval Process**

### **10 Basic Steps for completing a 10-Year Water Supply Plan**

1. Download the DNR/Metropolitan Council Water Supply Plan Template from the [DNR Water Supply Plan webpage](#).
2. Save the document with a file name with this naming convention:  
WSP\_cityname\_permitnumber\_date.doc.
3. The template is a form that should be completed electronically.
4. Compile the required water use data (Part 1) and emergency procedures information (Part 2)
5. The Water Conservation section (Part 3) may need discussion with the water department, council, or planning commission, if your community does not already have an active water conservation program.
6. Communities in the seven-county Twin Cities metropolitan area should complete all the information discussed in Part 4. The Metropolitan Council has additional guidance information on their [Water Supply webpage](#). All out-state water suppliers **do not** need to complete the content addressed in Part 4.
7. Use the Plan instructions and Checklist document from the [DNR Water Supply Plan webpage](#) to insure all data is complete and attachments are included. This will allow for a quicker approval process.
8. Plans should be submitted electronically using the [MPARS website](#) – no paper documents are required.
9. DNR hydrologist will review plans (in cooperation with Metropolitan Council in Metro area) and approve the plan or make recommendations.
10. Once approved, communities should complete a Certification of Adoption form, and send a copy to the DNR.

Complete Table 1 with information about the public water supply system covered by this WSP.

**Table 1. General information regarding this WSP**

<b>Requested Information</b>	<b>Description</b>
DNR Water Appropriation Permit Number(s)	<b>611031</b>
Ownership	<input checked="" type="checkbox"/> Public or <input type="checkbox"/> Private
Metropolitan Council Area	<input checked="" type="checkbox"/> Yes or <input type="checkbox"/> No (and county name) Washington
Street Address	<b>3880 Laverne Ave. N, Suite 100</b>
City, State, Zip	<b>Lake Elmo, MN 55042</b>
Contact Person Name	Marty Powers
Title	Public Works Director
Phone Number	651-747-3941
MDH Supplier Classification	Municipal, Non-municipal transient, non-municipal non-transient, etc.

## **PART 1. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION**

The first step in any water supply analysis is to assess the current status of demand and availability. Information summarized in Part 1 can be used to develop Emergency Preparedness Procedures (Part 2) and the Water Conservation Plan (Part 3). This data is also needed to track progress for water efficiency measures.

### **A. Analysis of Water Demand**

Complete Table 2 showing the past 10 years of water demand data.

- Some of this information may be in your Wellhead Protection Plan.
- If you do not have this information, do your best, call your engineer for assistance or if necessary leave blank.

If your customer categories are different than the ones listed in Table 2, please describe the differences below:

--

Table 2. Historic water demand (see definitions in the [glossary](#) after Part 4 of this template)

Year	Pop. Served	Total Connections	Residential Water Delivered (MG)	C/I/I Water Delivered (MG)	Water used for Non-essential	Wholesale Deliveries (MG)	Total Water Delivered (MG)	Total Water Pumped (MG)	Water Supplier Services	Percent Unmetered/Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total per capita Demand (GPCD)
2005	2077	495	46	6		.106	52	56		1	.142	.660	7/17	60	68
2006	2919	651	70	6		.139	76	82		1	.208	.813	7/13	66	71
2007	2980	671	108	9		.756	117	142		1	.321	1	7/26	99	108
2008	3400	868	109	8		.120	117	129		1	.321	1	7/3	89	94
2009	2551	905	103	8		3	114	130		1	.312	.970	7/17	110	122
2010	3153	911	81	7		5	94	103		1	.256	.736	8/29	70	82
2011	3212	932	93	7		3	103	112		1	.282	.876	6/30	79	88
2012								165							
2013	3200	1050	94	31		4	125	129		1	.342	1	8/25	80	107
2014	3200	1069	89	22		.635	111	112		1	.304			76	95
2015	3600	1152	84	22		.759	106	110		1	.290	.831	8/3	64	81
Avg. 2010-2015	3273	1029	88	18		2.68	108	122		1	.295	.861		74	91

**MG** – Million Gallons      **MGD** – Million Gallons per Day      **GPCD** – Gallons per Capita per Day

See [Glossary](#) for definitions. A list of [Acronyms and Initialisms](#) can be found after the Glossary.

Complete Table 3 by listing the top 10 water users by volume, from largest to smallest. For each user, include information about the category of use (residential, commercial, industrial, institutional, or wholesale), the amount of water used in gallons per year, the percent of total water delivered, and the status of water conservation measures.

**Table 3. Large volume users**

Customer	Use Category (Residential, Industrial, Commercial, Institutional, Wholesale)	Amount Used (Gallons per Year)	Percent of Total Annual Water Delivered	Implementing Water Conservation Measures? (Yes/No/Unknown)
1. HOLIDAY INN	COMMERCIAL	3,124,000	2.45	UNKNOWN
2. MACHINE SHED	COMMERCIAL	1,681,600	1.32	UNKNOWN
3. HIGH POINTE	COMMERCIAL	1,193,000	0.94	UNKNOWN
4. LAKE ELMO INN	COMMERCIAL	999,998	0.79	UNKNOWN
5. BREMER BANK	COMMERCIAL	992,000	0.78	UNKNOWN
6. ROCKPOINT	COMMERCIAL	588,000	0.46	UNKNOWN
7. MI HOMES	RESIDENTIAL	527,000	0.41	UNKNOWN
8. BARTHELEMY	RESIDENTIAL	477,000	0.37	UNKNOWN
9. LAKE ELMO ELEM	COMMERCIAL	467,000	0.37	UNKNOWN
10. ELMO INN ENT	COMMERCIAL	450,000	0.35	UNKNOWN

## B. Treatment and Storage Capacity

Complete Table 4 with a description of where water is treated, the year treatment facilities were constructed, water treatment capacity, the treatment methods (i.e. chemical addition, reverse osmosis, coagulation, sedimentation, etc.) and treatment types used (i.e. fluoridation, softening, chlorination, Fe/MN removal, coagulation, etc.). Also describe the annual amount and method of disposal of treatment residuals. Add rows to the table as needed.

**Table 4. Water treatment capacity and treatment processes**

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Volume of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
Insert Facility ID here							
Add rows as needed							
Total	NA		NA	NA		NA	

Complete Table 5 with information about storage structures. Describe the type (i.e. elevated, ground, etc.), the storage capacity of each type of structure, the year each structure was constructed, and the primary material for each structure. Add rows to the table as needed.

Table 5. Storage capacity, as of the end of the last calendar year

Structure Name	Type of Storage Structure	Year Constructed	Primary Material	Storage Capacity (Gallons)
Water Tower #1	Elevated storage	1962	Steel	75,000
Water Tower #2	Elevated storage	2006	Composite	750,000
Water Tower #4	Elevated Storage	2018	Composite	1,000,000
Add rows as needed	Other -			
Total	NA	NA	NA	1,825,000

### Treatment and storage capacity versus demand

It is recommended that total storage equal or exceed the average daily demand.

Discuss the difference between current storage and treatment capacity versus the water supplier’s projected average water demand over the next 10 years (see Table 7 for projected water demand):

### C. Water Sources

Complete Table 6 by listing all types of water sources that supply water to the system, including groundwater, surface water, interconnections with other water suppliers, or others. Provide the name of each source (aquifer name, river or lake name, name of interconnecting water supplier) and the Minnesota unique well number or intake ID, as appropriate. Report the year the source was installed or established and the current capacity. Provide information about the depth of all wells. Describe the status of the source (active, inactive, emergency only, retail/wholesale interconnection) and if the source facilities have a dedicated emergency power source. Add rows to the table as needed for each installation.

Include copies of well records and maintenance summary for each well that has occurred since your last approved plan in **Appendix 1**.

Table 6. Water sources and status

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Ground Water	Well #1	208448	1962	500	808	Emergency only due to PFAS	No
Ground Water	Well #2	603085	2001	1000	285	Active	No
Ground Water	Well #3	655910		1000		Inactive	N/A
Ground Water	Well #4	767874	2015	1250	290	Active	Yes
Interconnect	City of Oakdale	Hudson Blvd.	1996	607		Inactive/Emergency only	N/A
Interconnect	City of Oakdale	Ideal Ave.		1400		Inactive/Emergency only	N/A

### Limits on Emergency Interconnections

Discuss any limitations on the use of the water sources (e.g. not to be operated simultaneously, limitations due to blending, aquifer recovery issues etc.) and the use of interconnections, including capacity limits or timing constraints (i.e. only 200 gallons per minute are available from the City of Prior Lake, and it is estimated to take 6 hours to establish the emergency connection). If there are no limitations, list none.

Interconnects with City of Oakdale  
 Hudson Blvd = 12" (capable of serving high pressure zone only at this time)  
 Ideal Ave = 6" (capable of serving 600 gpm)

### D. Future Demand Projections – Key Metropolitan Council Benchmark

#### Water Use Trends

Use the data in Table 2 to describe trends in 1) population served; 2) total per capita water demand; 3) average daily demand; 4) maximum daily demand. Then explain the causes for upward or downward trends. For example, over the ten years has the average daily demand trended up or down? Why is this occurring?

Demand and population have increased and will continue to increase due to growth and development.

Use the water use trend information discussed above to complete Table 7 with projected annual demand for the next ten years. Communities in the seven-county Twin Cities metropolitan area must also include projections for 2030 and 2040 as part of their local comprehensive planning.

Projected demand should be consistent with trends evident in the historical data in Table 2, as discussed above. Projected demand should also reflect state demographer population projections and/or other planning projections.

Table 7. Projected annual water demand

Year	Projected Total Population	Projected Population Served	Projected Total Per Capita Water Demand (GPCD)	Projected Average Daily Demand (MGD)	Projected Maximum Daily Demand (MGD)
2016	8,122	3,960	84	.333	1.0
2017	8,872	4,830	74	.359	1.0
2018	9,622	5,580	74	.414	1.2
2019	10,372	6,330	74	.469	1.4
2020	<b>11,020</b>	7,302	105	.767	2.3
2021	12,184	8,653	105	.909	2.7
2022	13,348	10,004	105	1.050	3.2
2023	14,513	11,355	105	1.192	3.6
2024	15,677	12,708	105	1.334	4.0
2025	16,841	14,056	105	1.476	4.4
2030	<b>18,005</b>	15,407	100	1.541	4.6
2040	<b>22,304</b>	21,165	96	2.032	6.1

GPCD – Gallons per Capita per Day

MGD – Million Gallons per Day



## Projection Method

Describe the method used to project water demand, including assumptions for population and business growth and how water conservation and efficiency programs affect projected water demand:

Population and peak day water use.

## E. Resource Sustainability

### Monitoring – Key DNR Benchmark

Complete Table 8 by inserting information about source water quality and quantity monitoring efforts. The list should include all production wells, observation wells, and source water intakes or reservoirs. Groundwater level data for DNR’s statewide network of observation wells are available online through the [DNR’s Cooperative Groundwater Monitoring \(CGM\) webpage](#).

**Table 8. Information about source water quality and quantity monitoring**

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
Well #1 208448	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input checked="" type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Well #2 603085	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Well #4	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Add rows to the table as needed	<input type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

### Water Level Data

A water level monitoring plan that includes monitoring locations and a schedule for water level readings must be submitted as **Appendix 2**. If one does not already exist, it needs to be prepared and submitted with the WSP. Ideally, all production and observation wells are monitored at least monthly.

Complete Table 9 to summarize water level data for each well being monitored. Provide the name of the aquifer and a brief description of how much water levels vary over the season (the difference between the highest and lowest water levels measured during the year) and the long-term trends for each well. If water levels are not measured and recorded on a routine basis, then provide the static water level when each well was constructed and the most recent water level measured during the same season the well was constructed. Also include all water level data taken during any well and pump maintenance. Add rows to the table as needed.

Groundwater hydrographs illustrate the historical record of aquifer water levels measured within a well and can indicate water level trends over time. For each well in your system, provide a hydrograph for the life of the well, or for as many years as water levels have been measured. Include the hydrographs in **Appendix 3**. An example of a hydrograph can be found on the [DNR's Groundwater Hydrograph webpage](#). Hydrographs for DNR Observation wells can be found in the [CGM](#) discussed above.

**Table 9. Water level data**

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
Well #1 208448	Jordan Sandstone Mt. Simon		<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
Well #2 603085	Prairie du Chien Jordan		<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
Well #4 767874	Prairie du Chien Jordan		<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
			<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____

**Potential Water Supply Issues & Natural Resource Impacts – Key DNR & Metropolitan Council Benchmark**

Complete Table 10 by listing the types of natural resources that are or could potentially be impacted by permitted water withdrawals in the future. You do not need to identify every single water resource in your entire community. The goal is to help you triage the most important water resources and/or the water resources that may be impacted by your water supply system – perhaps during a drought or when the population has grown significantly in ten years. This is emerging science, so do the best you can with available data. For identified resources, provide the name of specific resources that may be impacted. Identify what the greatest risks to the resource are and how the risks are being assessed. Identify any resource protection thresholds – formal or informal – that have been established to identify when actions should be taken to mitigate impacts. Provide information about the potential mitigation actions that may be taken, if a resource protection threshold is crossed. Add additional rows to the table as needed. See the glossary at the end of the template for definitions.

Some of this baseline data should have been in your earlier water supply plans or county comprehensive water plans. When filling out this table, think of what are the water supply risks, identify the resources, determine the threshold and then determine what your community will do to mitigate the impacts.

Your DNR area hydrologist is available to assist with this table.

For communities in the seven-county Twin Cities metropolitan area, the [Master Water Supply Plan Appendix 1 \(Water Supply Profiles\)](#), provides information about potential water supply issues and natural resource impacts for your community.

### Steps for completing Table 10

#### **1. Identify the potential for natural resource impacts/issues within the community**

First, review available information to identify resources that may be impacted by the operation of your water supply system (such as pumping).

##### *Potential Sources of Information:*

- County Geologic Atlas
- Local studies
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the resource type(s) that may be impacted in the column “Resource Type”

#### **2. Identify where your water supply system is most likely to impact those resources (and vice versa).**

##### *Potential Sources of Information:*

- Drinking Water Supply Management Areas
- Geologic Atlas - Sensitivity
- If no WHPA or other information exists, consider rivers, lakes, wetlands and significant within 1.5 miles of wells; and calcareous fens and trout streams within 5 miles of wells

ACTION: Focus the rest of your work in these areas.

#### **3. Within focus areas, identify specific features of value to the community**

You know your community best. What resources are important to pay attention to? It may be useful to check in with your community’s planning and zoning staff and others.

##### *Potential Sources of Information:*

- Park plans
- Local studies
- Natural resource inventories
- Tourist attractions/recreational areas/valued community resource

ACTION: Identify specific features that the community prioritizes in the “Resource Name” column (for example: North Lake, Long River, Brook Trout Stream, or Green Fen). If, based on a review of available information, no features are likely to be at risk, note “None”.

#### **4. Identify what impact(s) the resource is at risk for**

***Potential Sources of Information:***

- Wellhead Protection Plan
- Water Appropriation Permit
- County Geologic Atlas
- MDH or PCA reports of the area
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the risk type in the column “Risk”. If, based on a review of available information, no risk is identified, note “None anticipated”.

**5. Describe how the risk was assessed**

***Potential Sources of Information:***

- Local studies
- Monitoring data (community, WMO, DNR, etc.)
- Aquifer testing
- County Geologic Atlas or other hydrogeologic studies
- Regional or state studies, such as DNR’s report ‘Definitions and Thresholds for Negative Impacts to Surface Waters’
- Well boring logs

ACTION: Identify the method(s) used to identify the risk to the resource in the “Risk Assessed Through” column

**6. Describe protection threshold/goals**

What is the goal, if any, for protecting these resources? For example, is there a lower limit on acceptable flow in a river or stream? Water quality outside of an accepted range? A lower limit on acceptable aquifer level decline at one or more monitoring wells? Withdrawals that exceed some percent of the total amount available from a source? Or a lower limit on acceptable changes to a protected habitat?

***Potential Sources of Information:***

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- DNR Thresholds study
- Community parks, open space, and natural resource plans

ACTION: Describe resource protection goals in the “Describe Resource Protection Threshold” column or reference an existing plan/document/webpage

**7. If a goal/threshold should trigger action, describe the plan that will be implemented.**

Identify specific action, mitigation measures or management plan that the water supplier will implement, or refer to a partner’s plan that includes actions to be taken.

***Potential Sources of Information:***

- County Comprehensive Water Plans

- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe the mitigation measure or management plan in the “Mitigation Measure or Management Plan” column.

**8. Describe work to evaluate these risks going forward.**

For example, what is the plan to regularly check in to stay current on plans or new data?

Identify specific action that the water supplier will take to identify the creation of or change to goals/thresholds, or refer to a partner’s plan that includes actions to be taken.

***Potential Sources of Information:***

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe what will be done to evaluate risks going forward, including any changes to goals or protection thresholds in the “Describe how Changes to Goals are monitored” column.

Table 10. Natural resource impacts (\*List specific resources in Appendix 12)

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input type="checkbox"/> River or stream		<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> No data available <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input type="checkbox"/> Calcareous fen		<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed Report <input type="checkbox"/> Proximity (<5 miles) <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input checked="" type="checkbox"/> Lake	White Bear Lake	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Lake	Lake Elmo Lake Demontreville Olson Lake Lake Jane Sunfish Lake	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input checked="" type="checkbox"/> Regular check-in with these partners: <i>Valley Branch Watershed District</i> <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input checked="" type="checkbox"/> Wetlands	Clear Lake subwatershed wetlands  Goetchel Pond subwatershed wetlands  Lake Jane subwatershed wetlands	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input checked="" type="checkbox"/> Regular check-in with these partners: <i>Valley Branch Watershed District</i> <input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Trout stream	Brown's Creek	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (< 5 miles) <input checked="" type="checkbox"/> Other: <i>Monitor water levels from Lake Elmo wells</i>	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____



Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input checked="" type="checkbox"/> Aquifer	Jordan Aquifer  3M Plume	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input checked="" type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input checked="" type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input checked="" type="checkbox"/> Aquifer testing <input type="checkbox"/> Proximity (obwell < 5 miles) <input checked="" type="checkbox"/> Other: <i>Monitor water levels from new observation well to be constructed with Well #6</i>	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input checked="" type="checkbox"/> Other: <i>New water level observation well to be constructed with Well #6</i>	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input checked="" type="checkbox"/> Regular check-in with these partners: <i>MPCA; MDH, and DNR</i> <input type="checkbox"/> Other: _____

### Wellhead Protection (WHP) and Source Water Protection (SWP) Plans

Complete Table 11 to provide status information about WHP and SWP plans.

The emergency procedures in this plan are intended to comply with the contingency plan provisions required in the Minnesota Department of Health’s (MDH) Wellhead Protection (WHP) Plan and Surface Water Protection (SWP) Plan.

Table 11. Status of Wellhead Protection and Source Water Protection Plans

Plan Type	Status	Date Adopted	Date for Update
WHP	<input checked="" type="checkbox"/> In Process <input type="checkbox"/> Completed <input type="checkbox"/> Not Applicable		
SWP	<input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable		

**WHP** – Wellhead Protection Plan    **SWP** – Source Water Protection Plan

### F. Capital Improvement Plan (CIP)

Please note that any wells that received approval under a ten-year permit, but that were not built, are now expired and must submit a water appropriations permit.

### Adequacy of Water Supply System

Complete Table 12 with information about the adequacy of wells and/or intakes, storage facilities, treatment facilities, and distribution systems to sustain current and projected demands. List planned

capital improvements for any system components, in chronological order. Communities in the seven-county Twin Cities metropolitan area should also include information about plans through 2040.

The assessment can be the general status by category; it is not necessary to identify every single well, storage facility, treatment facility, lift station, and mile of pipe.

Please attach your latest Capital Improvement Plan as **Appendix 4**.

**Table 12. Adequacy of Water Supply System**

System Component	Planned action	Anticipated Construction Year	Notes
Wells/Intakes Have 4 wells (2 active) 3 additional wells are in CIP	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	Well #5: 2020 Well #6: 2023 Well #7: 2030	Jordan Aquifer monitoring well construction: 2023
Water Storage Facilities Have 3 1 additional are in CIP	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	WT#3: 2021	Inactivate Water Tower #1 with WT#3 in 2021
Water Treatment Facilities	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		Treatment for PFAS may be required at future date
Distribution Systems (Pipes, valves, etc.)	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	*Old Village Water and Sewer replacement in 2021, 2022, and 2023 *New lateral watermains will be extended to 20 existing neighborhoods with PFAS between 2020-2025.	New trunk mains will be constructed with each new well and for new developments
Pressure Zones Interconnect south intermediate pressure zone to low pressure zone	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	2020 and 2021	
Other:	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		

### Proposed Future Water Sources

Complete Table 13 to identify new water source installation planned over the next ten years. Add rows to the table as needed.

**Table 13. Proposed future installations/sources**

Source	Installation Location (approximate)	Resource Name	Proposed Pumping Capacity (gpm)	Planned Installation Year	Planned Partnerships
Groundwater	Well #5 (Tana Ridge Park 50 <sup>th</sup> Street and Lily Avenue)	Jordan Aquifer	1250 gpm	2020	
Groundwater	Well #6 + monitoring well (Keats Avenue and 59 <sup>th</sup> Street)	Jordan Aquifer	1000 gpm	2023	
Groundwater	Well #7 (Keats Avenue and 59 <sup>th</sup> Street)	Jordan Aquifer	1000 gpm	2030	
Surface Water					
Interconnection to another supplier	No new interconnects are anticipated				
<p><i>NOTE: The above listed future planned wells are consistent with Lake Elmo’s comprehensive water system planning efforts to address safe drinking water for Lake Elmo users through 2040 in the most cost-effective manner (without treatment). However, the City of Lake Elmo understands there are potential challenges to this plan due to PFAS plumes in the area and potential impacts to White Bear Lake. Lake Elmo is therefore actively working with the MDH, MPCA, DNR and East Metro 3M Settlement Workgroups to define a safe and sustainable drinking water supply through 2040. The studies are ongoing and include reviewing options for community interconnects with Oakdale and Woodbury, regional water supply systems using groundwater and/or surface water, Lake Elmo groundwater wells with PFAS treatment, and other potential combination of options.</i></p>					

### Water Source Alternatives - Key Metropolitan Council Benchmark

Do you anticipate the need for alternative water sources in the next 10 years? (see Note in Table 13)

Yes  No

For metro communities, will you need alternative water sources by the year 2040? (see Note in Table 13)

Yes  No

**If you answered yes for either question, then complete table 14. If no, insert NA.**

Complete Table 14 by checking the box next to alternative approaches that your community is considering, including approximate locations (if known), the estimated amount of future demand that could be met through the approach, the estimated timeframe to implement the approach, potential partnerships, and the major benefits and challenges of the approach. Add rows to the table as needed.

For communities in the seven-county Twin Cities metropolitan area, these alternatives should include approaches the community is considering to meet projected 2040 water demand.

**Table 14. Alternative water sources**

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
<input type="checkbox"/> Groundwater						
<input type="checkbox"/> Surface Water						
<input type="checkbox"/> Reclaimed stormwater						
<input type="checkbox"/> Reclaimed wastewater						
<input type="checkbox"/> Interconnection to another supplier						
NOTE: Lake Elmo is actively working with the MDH, MPCA, DNR and East Metro 3M Settlement Workgroups to define a safe and sustainable drinking water supply through 2040. The studies are ongoing and include reviewing options for community interconnects with Oakdale and Woodbury, regional water supply systems using groundwater and/or surface water, Lake Elmo groundwater wells with PFAS treatment, and other potential combination of options. The study timeframe is being driven by the State of Minnesota but is expected to be completed in 2020 or 2021.						

## PART 2. EMERGENCY PREPAREDNESS PROCEDURES

The emergency preparedness procedures outlined in this plan are intended to comply with the contingency plan provisions required by MDH in the WHP and SWP. Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failings, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan. Municipalities that already have written procedures dealing with water emergencies should review the following information and update existing procedures to address these water supply protection measures.

### A. Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act, (Public Law 107-188, Title IV- Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. MDH recommends that Emergency Response Plans are updated annually.

**Do you have an Emergency Response Plan?** Yes  No

**Have you updated the Emergency Response Plan in the last year?** Yes  No

**When did you last update your Emergency Response Plan?** \_\_\_\_\_

Complete Table 15 by inserting the noted information regarding your completed Emergency Response Plan.

**Table 15. Emergency Response Plan contact information**

Emergency Response Plan Role	Contact Person	Contact Phone Number	Contact Email
Emergency Response Lead			

Emergency Response Plan Role	Contact Person	Contact Phone Number	Contact Email
Alternate Emergency Response Lead			

## B. Operational Contingency Plan

All utilities should have a written operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance.

**Do you have a written operational contingency plan?** Yes  No

At a minimum, a water supplier should prepare and maintain an emergency contact list of contractors and suppliers.

## C. Emergency Response Procedures

Water suppliers must meet the requirements of MN Rules 4720.5280. Accordingly, the Minnesota Department of Natural Resources (DNR) requires public water suppliers serving more than 1,000 people to submit Emergency and Conservation Plans. Water emergency and conservation plans that have been approved by the DNR, under provisions of Minnesota Statute 186 and Minnesota Rules, part 6115.0770, will be considered equivalent to an approved WHP contingency plan.

### Emergency Telephone List

Prepare and attach a list of emergency contacts, including the MN Duty Officer (1-800-422-0798), as **Appendix 5**. An [Emergency Contact List template](#) is available at the [MnDNR Water Supply Plans webpage](#).

The list should include key utility and community personnel, contacts in adjacent water suppliers, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list and date it. Thereafter, update on a regular basis (once a year is recommended). In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the Emergency Manager for that community. Responsibilities and services for each contact should be defined.

### Current Water Sources and Service Area

Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation and maintenance records should be maintained in secured central and back-up locations so that the records are accessible for emergency purposes. A detailed map of the system showing the treatment plants, water sources, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. It is critical that public water supplier representatives and emergency response personnel communicate about the response procedures and be able to easily obtain this kind of information both in electronic and hard copy formats (in case of a power outage).

**Do records and maps exist?** Yes  No

**Can staff access records and maps from a central secured location in the event of an emergency?**

Yes  No

**Does the appropriate staff know where the materials are located?**

Yes  No

**Procedure for Augmenting Water Supplies**

Complete Tables 16 – 17 by listing all available sources of water that can be used to augment or replace existing sources in an emergency. Add rows to the tables as needed.

In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Municipalities are encouraged to execute cooperative agreements for potential emergency water services and copies should be included in **Appendix 6**. Outstate Communities may consider using nearby high capacity wells (industry, golf course) as emergency water sources.

WSP should include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MDH are required for interconnections or the reuse of water.

**Table 16. Interconnections with other water supply systems to supply water in an emergency**

Other Water Supply System Owner	Capacity (GPM & MGD)	Note Any Limitations On Use	List of services, equipment, supplies available to respond
City of Oakdale (Hudson Blvd)	1400 GPM	ONLY PROVIDES WATER TO LAKE ELMO'S HIGH SERVICE PRESSURE ZONE	
City of Oakdale (Ideal Ave.)	607 GPM		

**GPM – Gallons per minute MGD – million gallons per day**

**Table 17. Utilizing surface water as an alternative source**

Surface Water Source Name	Capacity (GPM)	Capacity (MGD)	Treatment Needs	Note Any Limitations On Use
Insert name of surface water source here				
Add rows as needed				

If not covered above, describe additional emergency measures for providing water (obtaining bottled water, or steps to obtain National Guard services, etc.)

In the event of an emergency the city may choose to distribute bottled water to effected residents of utilize services offered by the National Guard.

**Allocation and Demand Reduction Procedures**

Complete Table 18 by adding information about how decisions will be made to allocate water and reduce demand during an emergency. Provide information for each customer category, including its priority ranking, average day demand, and demand reduction potential for each customer category. Modify the customer categories as needed, and add additional lines if necessary.

Water use categories should be prioritized in a way that is consistent with Minnesota Statutes 103G.261 (#1 is highest priority) as follows:

1. Water use for human needs such as cooking, cleaning, drinking, washing and waste disposal; use for on-farm livestock watering; and use for power production that meets contingency requirements.
2. Water use involving consumption of less than 10,000 gallons per day (usually from private wells or surface water intakes)
3. Water use for agricultural irrigation and processing of agricultural products involving consumption of more than 10,000 gallons per day (usually from private high-capacity wells or surface water intakes)
4. Water use for power production above the use provided for in the contingency plan.
5. All other water use involving consumption of more than 10,000 gallons per day.
6. Nonessential uses – car washes, golf courses, etc.

Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Lower priority uses will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. Water use for lawn sprinkling, vehicle washing, golf courses, and recreation are legislatively considered non-essential.

**Table 18. Water use priorities**

Customer Category	Allocation Priority	Average Daily Demand (GPD)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	217,968	
Institutional	2	1,279	
Commercial	3	161,640	
Industrial	N/A	0	
Irrigation	4	32,074	32,074
Wholesale	5	0	
Non-Essential	6	0	
TOTAL	NA	NA	

**GPD** – Gallons per Day

***Tip: Calculating Emergency Demand Reduction Potential***

The emergency demand reduction potential for all uses will typically equal the difference between maximum use (summer demand) and base use (winter demand). In extreme emergency situations, lower priority water uses must be restricted or eliminated to protect priority domestic water

requirements. Emergency demand reduction potential should be based on average day demands for customer categories within each priority class. Use the tables in Part 3 on water conservation to help you determine strategies.

Complete Table 19 by selecting the triggers and actions during water supply disruption conditions.



**Table 19. Emergency demand reduction conditions, triggers and actions (Select all that may apply and describe)**

Emergency Triggers	Short-term Actions	Long-term Actions
<input checked="" type="checkbox"/> Contamination <input checked="" type="checkbox"/> Loss of production <input checked="" type="checkbox"/> Infrastructure failure <input type="checkbox"/> Executive order by Governor <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Supply augmentation through distribution valve configuration or City of Oakdale. <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through _____ <input checked="" type="checkbox"/> Meet with large water users to discuss their contingency plan.	<input checked="" type="checkbox"/> Supply augmentation through distribution valve configuration or City of Oakdale. <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through _____ <input checked="" type="checkbox"/> Meet with large water users to discuss their contingency plan.

**Notification Procedures**

Complete Table 20 by selecting trigger for informing customers regarding conservation requests, water use restrictions, and suspensions; notification frequencies; and partners that may assist in the notification process. Add rows to the table as needed.

**Table 20. Plan to inform customers regarding conservation requests, water use restrictions, and suspensions**

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
<input checked="" type="checkbox"/> Short-term demand reduction declared (< 1 year)	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	
<input checked="" type="checkbox"/> Long-term Ongoing demand reduction declared	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Annually	
<input type="checkbox"/> Governor’s critical water deficiency declared	<input type="checkbox"/> Website <input type="checkbox"/> Email list serve <input type="checkbox"/> Social media (e.g. Twitter, Facebook) <input type="checkbox"/> Direct customer mailing,	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
	<input type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____		

**Enforcement**

Prior to a water emergency, municipal water suppliers must adopt regulations that restrict water use and outline the enforcement response plan. The enforcement response plan must outline how conditions will be monitored to know when enforcement actions are triggered, what enforcement tools will be used, who will be responsible for enforcement, and what timelines for corrective actions will be expected.

Affected operations, communications, and enforcement staff must then be trained to rapidly implement those provisions during emergency conditions.

**Important Note:**

Disregard of critical water deficiency orders, even though total appropriation remains less than permitted, is adequate grounds for immediate modification of a public water supply authority's water use permit (2013 MN Statutes 103G.291)

**Does the city have a critical water deficiency restriction/official control in place that includes provisions to restrict water use and enforce the restrictions? (This restriction may be an ordinance, rule, regulation, policy under a council directive, or other official control)** Yes  No

If yes, attach the official control document to this WSP as **Appendix 7**.

If no, the municipality must adopt such an official control within 6 months of submitting this WSP and submit it to the DNR as an amendment to this WSP.

**Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions?** Yes  No

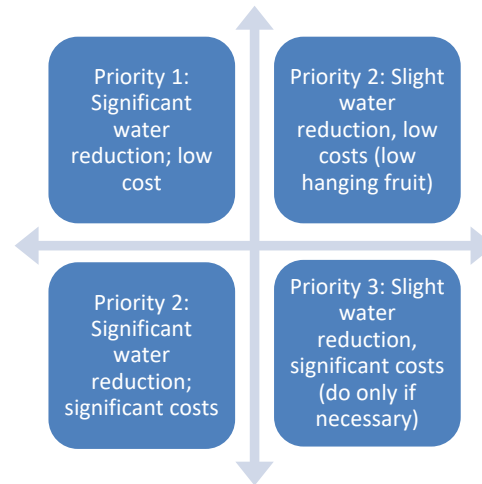
If yes, cite the regulatory authority reference: \_\_City Council or Mayor\_\_\_\_\_.

If no, who has authority to implement water use restrictions in an emergency?

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## PART 3. WATER CONSERVATION PLAN

Minnesotans have historically benefited from the state's abundant water supplies, reducing the need for conservation. There are however, limits to the available supplies of water and increasing threats to the quality of our drinking water. Causes of water supply limitation may include: population increases, economic trends, uneven statewide availability of groundwater, climatic changes, and degraded water quality. Examples of threats to drinking water quality include: the presence of contaminant plumes from past land use activities, exceedances of water quality standards from natural and human sources, contaminants of emerging concern, and increasing pollutant trends from nonpoint sources.



There are many incentives for conserving water; conservation:

- reduces the potential for pumping-induced transfer of contaminants into the deeper aquifers, which can add treatment costs
- reduces the need for capital projects to expand system capacity
- reduces the likelihood of water use conflicts, like well interference, aquatic habitat loss, and declining lake levels
- conserves energy, because less energy is needed to extract, treat and distribute water (and less energy production also conserves water since water is used to produce energy)
- maintains water supplies that can then be available during times of drought

It is therefore imperative that water suppliers implement water conservation plans. The first step in water conservation is identifying opportunities for behavioral or engineering changes that could be made to reduce water use by conducting a thorough analysis of:

- Water use by customer
- Extraction, treatment, distribution and irrigation system efficiencies
- Industrial processing system efficiencies
- Regulatory and barriers to conservation
- Cultural barriers to conservation
- Water reuse opportunities

Once accurate data is compiled, water suppliers can set achievable goals for reducing water use. A successful water conservation plan follows a logical sequence of events. The plan should address both conservation on the supply side (leak detection and repairs, metering), as well as on the demand side (reductions in usage). Implementation should be conducted in phases, starting with the most obvious and lowest-cost options. In some cases, one of the early steps will be reviewing regulatory constraints to water conservation, such as lawn irrigation requirements. Outside funding and grants may be available for implementation of projects. Engage water system operators and maintenance staff and customers in brainstorming opportunities to reduce water use. Ask the question: "How can I help save water?"

### Progress since 2006

Is this your community's first Water Supply Plan? Yes  No

If yes, describe conservation practices that you are already implementing, such as: pricing, system improvements, education, regulation, appliance retrofitting, enforcement, etc.

Tiered billing.

If no, complete Table 21 to summarize conservation actions taken since the adoption of the 2006 water supply plan.

**Table 21. Implementation of previous ten-year Conservation Plan**

2006 Plan Commitments	Action Taken?
Change water rates structure to provide conservation pricing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water supply system improvements (e.g. leak repairs, valve replacements, etc.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Educational efforts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
New water conservation ordinances	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Enforcement	<input type="checkbox"/> Yes <input type="checkbox"/> No
Describe other	<input type="checkbox"/> Yes <input type="checkbox"/> No

**What are the results you have seen from the actions in Table 21 and how were results measured?**

Results are unobtainable due to increased growth of city and expansion of the water system.

### **A. Triggers for Allocation and Demand Reduction Actions**

Complete table 22 by checking each trigger below, as appropriate, and the actions to be taken at various levels or stages of severity. Add in additional rows to the table as needed.

**Table 22. Short and long-term demand reduction conditions, triggers and actions**

Objective	Triggers	Actions
Protect surface water flows	<input type="checkbox"/> Low stream flow conditions	<input type="checkbox"/> Increase promotion of conservation measures

Objective	Triggers	Actions
	<input type="checkbox"/> Reports of declining wetland and lake levels <input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____
Short-term demand reduction (less than 1 year)	<input type="checkbox"/> Extremely high seasonal water demand (more than double winter demand) <input type="checkbox"/> Loss of treatment capacity <input type="checkbox"/> Lack of water in storage <input type="checkbox"/> State drought plan <input type="checkbox"/> Well interference <input type="checkbox"/> Other: _____	<input type="checkbox"/> Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Supply augmentation through _____ <input type="checkbox"/> Water allocation through _____ <input type="checkbox"/> Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	<input type="checkbox"/> Per capita demand increasing <input type="checkbox"/> Total demand increase (higher population or more industry). Water level in well(s) below elevation of _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Develop a critical water deficiency ordinance that is or can be quickly adopted to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Enact a water waste ordinance that targets overwatering (causing water to flow off the landscape into streets, parking lots, or similar), watering impervious surfaces (streets, driveways or other hardscape areas), and negligence of known leaks, breaks, or malfunctions. <input type="checkbox"/> Meet with large water users to discuss user's contingency plan. <input type="checkbox"/> Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	<input type="checkbox"/> Describe	<input type="checkbox"/> Describe

## B. Conservation Objectives and Strategies – Key benchmark for DNR

This section establishes water conservation objectives and strategies for eight major areas of water use.

### Objective 1: Reduce Unaccounted (Non-Revenue) Water loss to Less than 10%

The Minnesota Rural Water Association, the Metropolitan Council and the Department of Natural Resources recommend that all water uses be metered. Metering can help identify high use locations and times, along with leaks within buildings that have multiple meters.

It is difficult to quantify specific unmetered water use such as that associated with firefighting and system flushing or system leaks. Typically, water suppliers subtract metered water use from total water pumped to calculate unaccounted or non-revenue water loss.

**Is your five-year average (2005-2014) unaccounted Water Use in Table 2 higher than 10%?**

Yes  No

**What is your leak detection monitoring schedule? (e.g. Monitor 1/3rd of the city lines per year)**

Do leak detection on areas of the city that are scheduled for street reconstruction 2 years prior to construction beginning. Create a plan to ¼ of the city every year.

**Water Audits** - are designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. The American Water Works Association (AWWA) has a recommended water audit methodology which is presented in [AWWA's M36 Manual of Water Supply Practices: Water Audits and Loss Control Programs](#). AWWA also provides a free spreadsheet-based water audit tool that water suppliers can use to conduct their own water audits. This free water audit tool can be found on AWWA's [Water Loss Control webpage](#). Another resource for water audit and water loss control information is [Minnesota Rural Water Association](#).

**What is the date of your most recent water audit?** N/A

**Frequency of water audits:**     yearly         other (specify frequency) \_\_\_\_\_  
**Leak detection and survey:**     every year     every other year         periodic as needed  
**Year last leak detection survey completed:** 2017

If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe

**Metering** -AWWA recommends that every water supplier install meters to account for all water taken into its system, along with all water distributed from its system at each customer's point of service. An effective metering program relies upon periodic performance testing, repair, maintenance or replacement of all meters. Drinking Water Revolving Loan Funds are available for purchase of new meters when new plants are built. AWWA also recommends that water suppliers conduct regular water audits to account for unmetered unbilled consumption, metered unbilled consumption and source water and customer metering inaccuracies. Some cities install separate meters for interior and exterior water use, but some research suggests that this may not result in water conservation.

Complete Table 23 by adding the requested information regarding the number, types, testing and maintenance of customer meters.

**Table 23. Information about customer meters**

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years)
Residential	1610	1610	1610	When needed	20 years
Irrigation meters	24	24	24	When needed	20 years
Institutional	1	1	1	When needed	20 years
Commercial	112	112	112	When needed	20 years

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years)
Industrial	0	0	0	NA	0
Public facilities	7	0	0	When needed	20 years
Other	0	0	0	NA	0
TOTALS	1754	1754	1754	NA	NA

For unmetered systems, describe any plans to install meters or replace current meters with advanced technology meters. Provide an estimate of the cost to implement the plan and the projected water savings from implementing the plan.

**Table 24. Water source meters**

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years)
Wells	3	10 years	3	___ / ___
Interconnects	2	unknown	2	___ / ___

**Objective 2: Achieve Less than 75 Residential Gallons per Capita Demand (GPCD)**

The 2002 average residential per capita demand in the Twin Cities Metropolitan area was 75 gallons per capita per day.

Is your average 2010-2015 residential per capita water demand in Table 2 more than 75? Yes  No

**What was your 2010 – 2015 five-year average residential per capita water demand? 74 g/person/day**

Describe the water use trend over that timeframe:

Varies, no consistent trend.

Complete Table 25 by checking which strategies you will use to continue reducing residential per capita demand and project a likely timeframe for completing each checked strategy (Select all that apply and add rows for additional strategies):

**Table 25. Strategies and timeframe to reduce residential per capita demand**

Strategy to reduce residential per capita demand	Timeframe for completing work
<input checked="" type="checkbox"/> Revise city ordinances/codes to encourage or require water efficient landscaping.	Continuous, No water credit will be given for new sod starting in 2018
<input type="checkbox"/> Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation,	

Strategy to reduce residential per capita demand	Timeframe for completing work
groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	
<input checked="" type="checkbox"/> Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	Reviewed annually
<input type="checkbox"/> Revise outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements.	
<input checked="" type="checkbox"/> Make water system infrastructure improvements	continuous
<input type="checkbox"/> Offer free or reduced cost water use audits) for residential customers.	
<input type="checkbox"/> Implement a notification system to inform customers when water availability conditions change.	
<input type="checkbox"/> Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors (e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)	
<input type="checkbox"/> Provide rebates or incentives to reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
<input type="checkbox"/> Identify supplemental Water Resources	
<input type="checkbox"/> Conduct audience-appropriate water conservation education and outreach.	
<input type="checkbox"/> Describe other plans	

**Objective 3: Achieve at least 1.5% annual reduction in non-residential per capita water use** (For each of the next ten years, or a 15% total reduction over ten years.) This includes commercial, institutional, industrial and agricultural water users.

Complete Table 26 by checking which strategies you will used to continue reducing non-residential customer use demand and project a likely timeframe for completing each checked strategy (add rows for additional strategies).

Where possible, substitute recycled water used in one process for reuse in another. (For example, spent rinse water can often be reused in a cooling tower.) Keep in mind the true cost of water is the amount on the water bill PLUS the expenses to heat, cool, treat, pump, and dispose of/discharge the water. Don't just calculate the initial investment. Many conservation retrofits that appear to be prohibitively expensive are actually very cost-effective when amortized over the life of the equipment. Often reducing water use also saves electrical and other utility costs. Note: as of 2015, water reuse, and is not allowed by the state plumbing code, M.R. 4715 (a variance is needed). However, several state agencies are addressing this issue.

**Table 26. Strategies and timeframe to reduce institutional, commercial industrial, and agricultural and non-revenue use demand**

Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
<input type="checkbox"/> Conduct a facility water use audit for both indoor and outdoor use, including system components	



Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
<input checked="" type="checkbox"/> Install enhanced meters capable of automated readings to detect spikes in consumption	In process, completion expected in 5 years
<input type="checkbox"/> Compare facility water use to related industry benchmarks, if available (e.g., meat processing, dairy, fruit and vegetable, beverage, textiles, paper/pulp, metals, technology, petroleum refining etc.)	
<input type="checkbox"/> Install water conservation fixtures and appliances or change processes to conserve water	
<input checked="" type="checkbox"/> Repair leaking system components (e.g., pipes, valves)	continuous
<input type="checkbox"/> Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	
<input checked="" type="checkbox"/> Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	continuous
<input checked="" type="checkbox"/> Train employees how to conserve water	continuous
<input checked="" type="checkbox"/> Implement a notification system to inform non-residential customers when water availability conditions change.	CodeRed call system
<input type="checkbox"/> Nonpotable rainwater catchment systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, industrial processes, water features, vehicle washing facilities, cooling tower makeup, and similar uses shall be approved by the commissioner. <a href="#">Plumbing code 4714.1702, Published October 31, 2016</a>	
<input type="checkbox"/> Describe other plans:	

**Objective 4: Achieve a Decreasing Trend in Total Per Capita Demand**

Include as **Appendix 8** one graph showing total per capita water demand for each customer category (i.e., residential, institutional, commercial, industrial) from 2005-2014 and add the calculated/estimated linear trend for the next 10 years.

Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.

**Objective 5: Reduce Ratio of Maximum day (peak day) to the Average Day Demand to Less Than 2.6**

Is the ratio of average 2005-2014 maximum day demand to average 2005-2014 average day demand reported in Table 2 more than 2.6? Yes  No

Calculate a ten-year average (2005 – 2014) of the ratio of maximum day demand to average day demand: 3:1

The position of the DNR has been that a peak day/average day ratio that is above 2.6 for in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells, new water towers which can be costly items.

**Objective 6: Implement Demand Reduction Measures**

***Water Conservation Program***

Municipal water suppliers serving over 1,000 people are required to adopt demand reduction measures that include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. These measures must achieve demand reduction in ways that reduce water demand, water losses, peak water demands, and nonessential water uses. These measures must be approved before a community may request well construction approval from the Department of Health or before requesting an increase in water appropriations permit volume ([Minnesota Statutes, section 103G.291, subd. 3 and 4](#)). Rates should be adjusted on a regular basis to ensure that revenue of the system is adequate under reduced demand scenarios. If a municipal water supplier intends to use a Uniform Rate Structure, a community-wide Water Conservation Program that will achieve demand reduction must be provided.

***Current Water Rates***

Include a copy of the actual rate structure in **Appendix 9** or list current water rates including base/service fees and volume charges below.

Volume included in base rate or service charge:   0   gallons or      cubic feet    other

Frequency of billing:    Monthly    Bimonthly    Quarterly    Other: \_\_\_\_\_

Water Rate Evaluation Frequency:  every year            every    years    no schedule

Date of last rate change: 4/1/17

**Table 27. Rate structures for each customer category (Select all that apply and add additional rows as needed)**

<b>Customer Category</b>	<b>Conservation Billing Strategies in Use *</b>	<b>Conservation Neutral Billing Strategies in Use **</b>	<b>Non-Conserving Billing Strategies in Use ***</b>
Residential	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input checked="" type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates	<input type="checkbox"/> Uniform <input checked="" type="checkbox"/> Odd/even day watering	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
	<input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)		
Commercial/Industrial/Institutional	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input checked="" type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates <input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Uniform	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
<input type="checkbox"/> Other			

**\* Rate Structures components that may promote water conservation:**

- **Monthly billing:** is encouraged to help people see their water usage so they can consider changing behavior.
- **Increasing block rates (also known as a tiered residential rate structure):** Typically, these have at least three tiers: should have at least three tiers.
  - The first tier is for the winter average water use.
  - The second tier is the year-round average use, which is lower than typical summer use. This rate should be set to cover the full cost of service.
  - The third tier should be above the average annual use and should be priced high enough to encourage conservation, as should any higher tiers. For this to be effective, the difference in block rates should be significant.
- **Seasonal rate:** higher rates in summer to reduce peak demands
- **Time of Use rates:** lower rates for off peak water use
- **Bill water use in gallons:** this allows customers to compare their use to average rates
- **Individualized goal rates:** typically used for industry, business or other large water users to promote water conservation if they keep within agreed upon goals. **Excess Use rates:** if water use goes above an agreed upon amount this higher rate is charged
- **Drought surcharge:** an extra fee is charged for guaranteed water use during drought
- **Use water bill to provide comparisons:** simple graphics comparing individual use over time or compare individual use to others.
- **Service charge or base fee that does not include a water volume** – a base charge or fee to cover universal city expenses that are not customer dependent and/or to provide minimal water at a lower rate (e.g., an amount less than the average residential per capita demand for the water supplier for the last 5 years)
- **Emergency rates** -A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

**\*\*Conservation Neutral\*\***

- **Uniform rate:** rate per unit used is the same regardless of the volume used
- **Odd/even day watering** –This approach reduces peak demand on a daily basis for system operation, but it does not reduce overall water use.

**\*\*\* Non-Conserving \*\*\***

- **Service charge or base fee with water volume:** an amount of water larger than the average residential per capita demand for the water supplier for the last 5 years
- **Declining block rate:** the rate per unit used decreases as water use increases.
- **Flat rate:** one fee regardless of how much water is used (usually unmetered).

Provide justification for any conservation neutral or non-conserving rate structures. If intending to adopt a conservation rate structure, include the timeframe to do so:

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**Objective 7: Additional strategies to Reduce Water Use and Support Wellhead Protection Planning**

Development and redevelopment projects can provide additional water conservation opportunities, such as the actions listed below. If a Uniform Rate Structure is in place, the water supplier must provide a Water Conservation Program that includes at least two of the actions listed below. Check those actions that you intent to implement within the next 10 years.

**Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection**

<input checked="" type="checkbox"/>	Participate in the GreenStep Cities Program, including implementation of at least one of the 20 “Best Practices” for water
<input checked="" type="checkbox"/>	Prepare a master plan for smart growth (compact urban growth that avoids sprawl)
<input checked="" type="checkbox"/>	Prepare a comprehensive open space plan (areas for parks, green spaces, natural areas)
<input checked="" type="checkbox"/>	Adopt a water use restriction ordinance (lawn irrigation, car washing, pools, etc.)
<input checked="" type="checkbox"/>	Adopt an outdoor lawn irrigation ordinance
<input type="checkbox"/>	Adopt a private well ordinance (private wells in a city must comply with water restrictions)
<input checked="" type="checkbox"/>	Implement a stormwater management program
<input type="checkbox"/>	Adopt non-zoning wetlands ordinance (can further protect wetlands beyond state/federal laws- for vernal pools, buffer areas, restrictions on filling or alterations)
<input type="checkbox"/>	Adopt a water offset program (primarily for new development or expansion)
<input type="checkbox"/>	Implement a water conservation outreach program
<input type="checkbox"/>	Hire a water conservation coordinator (part-time)
<input type="checkbox"/>	Implement a rebate program for water efficient appliances, fixtures, or outdoor water management
<input type="checkbox"/>	Other

**Objective 8: Tracking Success: How will you track or measure success through the next ten years?**

Documentation. This will be difficult to achieve due to planned growth of the city and infrastructure.
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**Tip: The process to monitor demand reduction and/or a rate structure includes:**

- a) The DNR Hydrologist will call or visit the community the first 1-3 years after the water supply plan is completed.
- b) They will discuss what activities the community is doing to conserve water and if they feel their actions are successful. The Water Supply Plan, Part 3 tables and responses will guide the discussion. For example, they will discuss efforts to reduce unaccounted for water loss if that is a problem, or go through Tables 33, 34 and 35 to discuss new initiatives.
- c) The city representative and the hydrologist will discuss total per capita water use, residential per capita water use, and business/industry use. They will note trends.
- d) They will also discuss options for improvement and/or collect case studies of success stories to share with other communities. One option may be to change the rate structure, but there are many other paths to successful water conservation.
- e) If appropriate, they will cooperatively develop a simple work plan for the next few years, targeting a couple areas where the city might focus efforts.

### C. Regulation

Complete Table 29 by selecting which regulations are used to reduce demand and improve water efficiencies. Add additional rows as needed.

Copies of adopted regulations or proposed restrictions or should be included in **Appendix 10** (a list with hyperlinks is acceptable).

**Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies**

Regulations Utilized	When is it applied (in effect)?
<input checked="" type="checkbox"/> Rainfall sensors required on landscape irrigation systems	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Water efficient plumbing fixtures required	<input checked="" type="checkbox"/> New development <input type="checkbox"/> Replacement <input type="checkbox"/> Rebate Programs
<input type="checkbox"/> Critical/Emergency Water Deficiency ordinance	<input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Watering restriction requirements (time of day, allowable days, etc.)	<input checked="" type="checkbox"/> Odd/even <input type="checkbox"/> 2 days/week <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Water waste prohibited (for example, having a fine for irrigators spraying on the street)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	<input checked="" type="checkbox"/> New development <input checked="" type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input type="checkbox"/> Soil preparation requirements (after construction, requiring topsoil to be applied to promote good root growth)	<input type="checkbox"/> New Development <input type="checkbox"/> Construction Projects <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Tree ratios (requiring a certain number of trees per square foot of lawn)	<input checked="" type="checkbox"/> New development <input checked="" type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other

Regulations Utilized	When is it applied (in effect)?
<input type="checkbox"/> Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	<input type="checkbox"/> Describe

### D. Retrofitting Programs

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use, as well as energy costs. It is recommended that municipal water suppliers develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and appliances. Some water suppliers have developed partnerships with organizations having similar conservation goals, such as electric or gas suppliers, to develop cooperative rebate and retrofit programs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

### Retrofitting Programs

Complete Table 30 by checking which water uses are targeted, the outreach methods used, the measures used to identify success, and any participating partners.

**Table 30. Retrofitting programs (Select all that apply)**

Water Use Targets	Outreach Methods	Partners
<input type="checkbox"/> Low flush toilets, <input type="checkbox"/> Toilet leak tablets, <input type="checkbox"/> Low flow showerheads, <input type="checkbox"/> Faucet aerators;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input type="checkbox"/> Water conserving washing machines, <input type="checkbox"/> Dish washers, <input type="checkbox"/> Water softeners;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input checked="" type="checkbox"/> Rain gardens, <input checked="" type="checkbox"/> Rain barrels, <input checked="" type="checkbox"/> Native/drought tolerant landscaping, etc.	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input checked="" type="checkbox"/> Watershed organization

Briefly discuss measures of success from the above table (e.g. number of items distributed, dollar value of rebates, gallons of water conserved, etc.):

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### E. Education and Information Programs

Customer education should take place in three different circumstances. First, customers should be provided information on how to conserve water and improve water use efficiencies. Second, information should be provided at appropriate times to address peak demands. Third, emergency notices and educational materials about how to reduce water use should be available for quick distribution during an emergency.

#### Proposed Education Programs

Complete Table 31 by selecting which methods are used to provide water conservation and information, including the frequency of program components. Select all that apply and add additional lines as needed.

**Table 31. Current and Proposed Education Programs**

Education Methods	General summary of topics	#/Year	Frequency
Billing inserts or tips printed on the actual bill			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Consumer Confidence Reports		1	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Social media distribution (e.g., emails, Facebook, Twitter)	Facebook is used to help spread time sensitive materials that have not reached the emergency level.		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Presentations to community groups			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Staff training	MN Dept of Health Operator Certification Program for PW Staff		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Facility tours			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Displays and exhibits			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community news letters	Article related to water conservation will be included in bi-annual newsletters	2	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Direct mailings (water audit/retrofit kits, showerheads, brochures)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Information kiosk at utility and public buildings			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Public service announcements			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Cable TV Programs			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Demonstration projects (landscaping or plumbing)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
K-12 education programs (Project Wet, Drinking Water Institute, presentations)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community events (children's water festivals, environmental fairs)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies



Education Methods	General summary of topics	#/Year	Frequency
Community education classes			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Water week promotions			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Website (include address: )			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Targeted efforts (large volume users, users with large increases)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Notices of ordinances			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Emergency conservation notices			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Other:			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Briefly discuss what future education and information activities your community is considering in the future:

Utilize new created Social Media pages, Weekly e-mail updates and Quarterly Newsletter

## **PART 4. ITEMS FOR METROPOLITAN AREA COMMUNITIES**

Minnesota Statute 473.859 requires WSPs to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process.



Much of the information in Parts 1-3 addresses water demand for the next 10 years. However, additional information is needed to address water demand through 2040, which will make the WSP consistent with the Metropolitan Land Use Planning Act, upon which the local comprehensive plans are based.

This Part 4 provides guidance to complete the WSP in a way that addresses plans for water supply through 2040.

### **A. Water Demand Projections through 2040**

Complete Table 7 in Part 1D by filling in information about long-term water demand projections through 2040. Total Community Population projections should be consistent with the community's system statement, which can be found on the Metropolitan Council's website and which was sent to the community in September 2015.

Projected Average Day, Maximum Day, and Annual Water Demands may either be calculated using the method outlined in *Appendix 2* of the *2015 Master Water Supply Plan* or by a method developed by the individual water supplier.

### **B. Potential Water Supply Issues**

Complete Table 10 in Part 1E by providing information about the potential water supply issues in your community, including those that might occur due to 2040 projected water use.

The [Master Water Supply Plan](#) provides information about potential issues for your community in *Appendix 1 (Water Supply Profiles)*. This resource may be useful in completing Table 10.

You may document results of local work done to evaluate impact of planned uses by attaching a feasibility assessment or providing a citation and link to where the plan is available electronically.

### **C. Proposed Alternative Approaches to Meet Extended Water Demand Projections**

Complete Table 12 in Part 1F with information about potential water supply infrastructure impacts (such as replacements, expansions or additions to wells/intakes, water storage and treatment capacity, distribution systems, and emergency interconnections) of extended plans for development and redevelopment, in 10-year increments through 2040. It may be useful to refer to information in the community's local Land Use Plan, if available.

Complete Table 14 in Part 1F by checking each approach your community is considering to meet future demand. For each approach your community is considering, provide information about the amount of

future water demand to be met using that approach, the timeframe to implement the approach, potential partners, and current understanding of the key benefits and challenges of the approach.

As challenges are being discussed, consider the need for: evaluation of geologic conditions (mapping, aquifer tests, modeling), identification of areas where domestic wells could be impacted, measurement and analysis of water levels & pumping rates, triggers & associated actions to protect water levels, etc.

**D. Value-Added Water Supply Planning Efforts (Optional)**

The following information is not required to be completed as part of the local water supply plan, but completing this can help strengthen source water protection throughout the region and help Metropolitan Council and partners in the region to better support local efforts.

**Source Water Protection Strategies**

**Does a Drinking Water Supply Management Area for a neighboring public water supplier overlap your community?** Yes  No

If you answered no, skip this section. If you answered yes, please complete Table 32 with information about new water demand or land use planning-related local controls that are being considered to provide additional protection in this area.

**Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas**

Local Control	Schedule to Implement	Potential Partners
<input type="checkbox"/> None at this time		
<input type="checkbox"/> Comprehensive planning that guides development in vulnerable drinking water supply management areas		
<input type="checkbox"/> Zoning overlay		
<input checked="" type="checkbox"/> Other: 2018 Well Head Protection Plan	2018	Mn Rural Water

**Technical assistance**

From your community’s perspective, what are the most important topics for the Metropolitan Council to address, guided by the region’s Metropolitan Area Water Supply Advisory Committee and Technical Advisory Committee, as part of its ongoing water supply planning role?

- Coordination of state, regional and local water supply planning roles
- Regional water use goals
- Water use reporting standards
- Regional and sub-regional partnership opportunities
- Identifying and prioritizing data gaps and input for regional and sub-regional analyses
- Others: \_\_\_\_\_

## GLOSSARY

**Agricultural/Irrigation Water Use** - Water used for crop and non-crop irrigation, livestock watering, chemigation, golf course irrigation, landscape and athletic field irrigation.

**Average Daily Demand** - The total water pumped during the year divided by 365 days.

**Calcareous Fen** - Calcareous fens are rare and distinctive wetlands dependent on a constant supply of cold groundwater. Because they are dependent on groundwater and are one of the rarest natural communities in the United States, they are a protected resource in MN. Approximately 200 have been located in Minnesota. They may not be filled, drained or otherwise degraded.

**Commercial/Institutional Water Use** - Water used by motels, hotels, restaurants, office buildings, commercial facilities and institutions (both civilian and military). Consider maintaining separate institutional water use records for emergency planning and allocation purposes. Water used by multi-family dwellings, apartment buildings, senior housing complexes, and mobile home parks should be reported as Residential Water Use.

**Commercial/Institutional/Industrial (C/I/I) Water Sold** - The sum of water delivered for commercial/institutional or industrial purposes.

**Conservation Rate Structure** - A rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user. A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

**Date of Maximum Daily Demand** - The date of the maximum (highest) water demand. Typically this is a day in July or August.

**Declining Rate Structure** - Under a declining block rate structure, a consumer pays less per additional unit of water as usage increases. This rate structure does not promote water conservation.

**Distribution System** - Water distribution systems consist of an interconnected series of pipes, valves, storage facilities (water tanks, water towers, reservoirs), water purification facilities, pumping stations, flushing hydrants, and components that convey drinking water and meeting fire protection needs for cities, homes, schools, hospitals, businesses, industries and other facilities.

**Flat Rate Structure** - Flat fee rates do not vary by customer characteristics or water usage. This rate structure does not promote water conservation.

**Industrial Water Use** - Water used for thermonuclear power (electric utility generation) and other industrial use such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

**Low Flow Fixtures/Appliances** - Plumbing fixtures and appliances that significantly reduce the amount of water released per use are labeled "low flow". These fixtures and appliances use just enough water to be effective, saving excess, clean drinking water that usually goes down the drain.

**Maximum Daily Demand** - The maximum (highest) amount of water used in one day.

**Metered Residential Connections** - The number of residential connections to the water system that have meters. For multifamily dwellings, report each residential unit as an individual user.

**Percent Unmetered/Unaccounted For** - Unaccounted for water use is the volume of water withdrawn from all sources minus the volume of water delivered. This value represents water "lost" by miscalculated water use due to inaccurate meters, water lost through leaks, or water that is used but unmetered or otherwise undocumented. Water used for public services such as hydrant flushing, ice skating rinks, and public swimming pools should be reported under the category "Water Supplier Services".

**Population Served** - The number of people who are served by the community's public water supply system. This includes the number of people in the community who are connected to the public water supply system, as well as people in neighboring communities who use water supplied by the community's public water supply system. It should not include residents in the community who have private wells or get their water from neighboring water supply.

**Residential Connections** - The total number of residential connections to the water system. For multifamily dwellings, report each residential unit as an individual user.

**Residential Per Capita Demand** - The total residential water delivered during the year divided by the population served divided by 365 days.

**Residential Water Use** - Water used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Should include all water delivered to single family private residences, multi-family dwellings, apartment buildings, senior housing complexes, mobile home parks, etc.

**Smart Meter** - Smart meters can be used by municipalities or by individual homeowners. Smart metering generally indicates the presence of one or more of the following:

- Smart irrigation water meters are controllers that look at factors such as weather, soil, slope, etc. and adjust watering time up or down based on data. Smart controllers in a typical summer will reduce water use by 30%-50%. Just changing the spray nozzle to new efficient models can reduce water use by 40%.
- Smart Meters on customer premises that measure consumption during specific time periods and communicate it to the utility, often on a daily basis.
- A communication channel that permits the utility, at a minimum, to obtain meter reads on demand, to ascertain whether water has recently been flowing through the meter and onto the premises, and to issue commands to the meter to perform specific tasks such as disconnecting or restricting water flow.

**Total Connections** - The number of connections to the public water supply system.

**Total Per Capita Demand** - The total amount of water withdrawn from all water supply sources during the year divided by the population served divided by 365 days.

**Total Water Pumped** - The cumulative amount of water withdrawn from all water supply sources during the year.

**Total Water Delivered** - The sum of residential, commercial, industrial, institutional, water supplier services, wholesale and other water delivered.

**Ultimate (Full Build-Out)** - Time period representing the community's estimated total amount and location of potential development, or when the community is fully built out at the final planned density.

**Unaccounted (Non-revenue) Loss** - See definitions for "percent unmetered/unaccounted for loss".

**Uniform Rate Structure** - A uniform rate structure charges the same price-per-unit for water usage beyond the fixed customer charge, which covers some fixed costs. The rate sends a price signal to the customer because the water bill will vary by usage. Uniform rates by class charge the same price-per-unit for all customers within a customer class (e.g. residential or non-residential). This price structure is generally considered less effective in encouraging water conservation.

**Water Supplier Services** - Water used for public services such as hydrant flushing, ice skating rinks, public swimming pools, city park irrigation, back-flushing at water treatment facilities, and/or other uses.

**Water Used for Nonessential Purposes** - Water used for lawn irrigation, golf course and park irrigation, car washes, ornamental fountains, and other non-essential uses.

**Wholesale Deliveries** - The amount of water delivered in bulk to other public water suppliers.

## Acronyms and Initialisms

**AWWA** – American Water Works Association  
**C/I/I** – Commercial/Institutional/Industrial  
**CIP** – Capital Improvement Plan  
**GIS** – Geographic Information System  
**GPCD** – Gallons per capita per day  
**GWMA** – Groundwater Management Area – North and East Metro, Straight River, Bonanza,  
**MDH** – Minnesota Department of Health  
**MGD** – Million gallons per day

**MG** – Million gallons  
**MGL** – Maximum Contaminant Level  
**MnTAP** – Minnesota Technical Assistance Program (University of Minnesota)  
**MPARS** – MN/DNR Permitting and Reporting System (new electronic permitting system)  
**MRWA** – Minnesota Rural Waters Association  
**SWP** – Source Water Protection  
**WHP** – Wellhead Protection

## APPENDICES TO BE SUBMITTED BY THE WATER SUPPLIER

### Appendix 1: Well records and maintenance summaries

Go to [Part 1C](#) for information on what to include in appendix

### Appendix 2: Water level monitoring plan

Go to [Part 1E](#) for information on what to include in appendix

### Appendix 3: Water level graphs for each water supply well

Go to [Part 1E](#) for information on what to include in appendix

### Appendix 4: Capital Improvement Plan

Go to [Part 1E](#) for information on what to include in appendix

### Appendix 5: Emergency Telephone List

Go to [Part 2C](#) for information on what to include in appendix

### Appendix 6: Cooperative Agreements for Emergency Services

Go to [Part 2C](#) for information on what to include in appendix

### Appendix 7: Municipal Critical Water Deficiency Ordinance

Go to [Part 2C](#) for information on what to include in appendix

### Appendix 8: Graph of Ten Years of Annual Per Capita Water Demand for Each Customer Category

Go to [Objective 4 in Part 3B](#) for information on what to include in appendix

### Appendix 9: Water Rate Structure

Go to [Objective 6 in Part 3B](#) for information on what to include in appendix

### Appendix 10: Ordinances or Regulations Related to Water Use

Go to [Objective 7 in Part 3B](#) for information on what to include in appendix

### Appendix 11: Implementation Checklist

Provide a table that summarizes all the actions that the public water supplier is doing, or proposes to do, with estimated implementation dates.

### Appendix 12: Sources of Information for Table 10

Provide links or references to the information used to complete Table 10. If the file size is reasonable, provide source information as attachments to the plan.

## **Appendix 2 – Water Level Monitoring Plan**

There are currently no set parameters for monitoring water level readings at any city well location. In 2018 the City of Lake Elmo implemented monthly water level readings at all city wells.

The City of Lake Elmo will construct a new observation well in the Jordan Aquifer at the time that the City constructs Well No. 6, anticipated for 2023 construction per the projected growth and water demands. The City acknowledges that the DNR will not amend the DNR Water Appropriation Permit 1961-1031 to authorize the use of Well No. 6 until the observation well has been constructed and a transducer and data logger installed in the observation well. The observation well will be located strategically to approximate the middle area of the Lake Elmo current and future well field.

The City of Lake Elmo will obtain hourly water level readings from the observation well using a data logger and transducer. The water level information that is collected from the observation well will be submitted to the DNR on an annual basis. The water level data shall be submitted using the DNR water level reporting spreadsheet template, including hand readings.

### **Appendix 3**

Current data is scattered and difficult to retrieve from SCADA. In 2018 the SCADA computer will be modified to make the information more accessible and easier to read. Also monthly water level readings will be documented.





**City of Lake Elmo  
Capital Improvement Program  
2018 – 2022**

DRAFT 10-12-17 Finance Committee

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# INTRODUCTION

## What is a CIP?

A Capital Improvement Program, or CIP, is a multi-year (typically 5 years) capital expenditure plan for a City's infrastructure (such as streets, parks and utility systems), vehicles, equipment and public buildings. It identifies the major projects needed and desired by the community, their potential costs and how they would be financed. Including a project in a CIP does not commit the city to that project. The City Council must specifically authorize each one, and the associated funding, before any project may proceed. When the CIP is reviewed (ideally annually, in conjunction with the budgeting process) projects may go forward as planned, advance ahead of schedule, be removed entirely, or new projects may be added, depending upon changes in circumstances and priorities.

The Minnesota Land Planning Act requires that the implementation plan portion of the Comprehensive Plan include a CIP for major infrastructure needs (transportation, wastewater, water supply, parks and open space) for a five-year time period. Cities often expand the scope of their CIPs to include other capital needs (major equipment replacements, for example) and sometimes look beyond the five-year time period, up to 20 years in the future for some projects. Such projects represent more of a "wish-list" that can be evaluated each time the plan is updated.

As a part of the Comprehensive Plan, the CIP has some legal standing. Minnesota Statutes Chapter 473.865 provides that "a local governmental unit shall not adopt any official control or fiscal device which is in conflict with its comprehensive plan." A fiscal device includes a budget or bond issue; so it is important that the plan and CIP be kept up to date and in synch with city budgets.

The primary benefit of a CIP is as a financial planning tool, to help the city plan for the impact of capital needs on future budgets and property taxes, and to help forecast the need for borrowing to undertake major projects. The information developed as part of the capital planning process can help document the need for various projects and help the City Council sort out competing priorities.

## Scope of the CIP

Lake Elmo's CIP includes all capital projects that **cost at least \$25,000 and have a useful life span of five years or longer**. Projects include **all capital needs including major repairs to buildings and equipment purchases and replacements**. Any projects not meeting these parameters would be reviewed as part of the annual operating budget, but would not be included in the CIP.

## Funding Sources

The CIP identifies a possible funding source(s) for each project listed. The various funding sources are as follows:

Debt Service Fund	<i>Projects financed by borrowing, later to be repaid with property taxes, and potentially special assessments depending upon the characteristics of the project.</i>
General Fund	<i>Annual operating budget, primarily funded by property tax revenues.</i>
Park Improvement Fund	<i>Existing City fund, receipts from cash-in-lieu of land park dedication fees paid by developers and others who subdivide their land.</i>
Stormwater Fund	<i>Funds come from fees paid by users of the system</i>
Wastewater Fund	<i>Funds come from fees paid by users on the Wastewater System</i>
Water Fund	<i>Funds come from fees paid by users on the Water System</i>
Municipal State Aid (MSA)	<i>State aid funds allocated to the City each year; annual allocation grows as the City grows.</i>

In addition to these sources, it is possible that future projects could be funded from donations, grants, user fees or other sources not listed. The City also has a City Facility Fund that was created during the building of the public works barn. There is no plan to continue contributing to the fund however there is \$272,000 currently and that is projected to be \$258,500 by the end of the year. Approximately \$77,000 has been reserved for paving the library parking lot in 2018. The remaining funds could be transferred to the General Fund or used for some of the projects in the CIP, i.e the new facilities planned. The Finance Committee recommends they be transferred to the General Fund.

## Project Priorities

Capital improvement projects should be prioritized in some way so that limited funding can be allocated to those which are most important. This is difficult because the varying nature of the projects and their benefits and objectives are so disparate as to be essentially not comparable. Some public agencies have developed elaborate rating and ranking systems to try to set priorities. Complicated scoring systems may have some disadvantages because they may give a false sense of objectivity or precision to the priority setting process. Others use simpler systems, or simply do not

try to compare projects that are like “apples and oranges.” There is no accepted system or “industry standard” for prioritizing projects.

The following system has been utilized by staff:

- 1 Critical or urgent, high-priority projects that should be done if at all possible; a special effort should be made to find sufficient funding for all of the projects in this group.
- 2 Very important, high-priority projects that should be done as funding becomes available.
- 3 Important and worthwhile projects to be considered if funding is available; may be deferred to a subsequent year.
- 4 Less important, low-priority projects; desirable but not essential.
- 5 Future Consideration

## **2018-2022 CIP OVERVIEW**

For 2018 through 2022, the draft CIP includes 82 separate projects (active, pending and new recommendations) with a total estimated cost of \$49,043,666. All cost estimates are preliminary and based on current dollars. No assumptions have been made about inflation. It will be important to refine and update costs when the plan is reviewed, especially for projects in the first year or two of the plan.

Some projects beyond the five-year planning period are also included in the CIP. Most of these projects are replacements for equipment and vehicles (such as fire trucks) which may have a life span of 10, 15 to 20 years or even more. The plan may include “pending” projects for which timelines (and in most cases, cost estimates) have not yet been identified. As more information is developed about the need for, cost, and possible funding sources for these projects, they will be included in future CIP updates.

### **Street Projects**

The update includes the following street projects in the CIP:

- PW-010, Lake Elmo Ave turn lanes at 5<sup>th</sup> St for \$50,000 in 2018.
- PW-011, South Tri Lakes roads and Phase Four of the downtown area are planned for reconstruction in 2018 for a revised estimated cost of \$1,760,000
- PW-013, 36<sup>th</sup>, 37<sup>th</sup>, 38<sup>th</sup>, 39<sup>th</sup>, Irwin and Innsdale streets are planned for reconstruction in 2019 at a revised estimated cost of \$1,390,000.
- PW-026, Reclaim roads in Heritage Farms, Stonegate 2<sup>nd</sup> at a cost of \$1,050,000 in 2020
- PW-027, Reconstruction of roads in Fields of St Croix, Tamarack Farms, and Hamlet on Sunfish Lake and Old Village Phase 5 for \$3,109,000 in 2021.
- PW-029, CSAH 19/Hudson Blvd Signal and Turn Lanes for an estimated \$500,000 has been moved up to 2018 from 2019.

- PW-030, CSAH 15/30th St Signal (Manning) for \$100,000 in 2020
- PW-031, CSAH 6/Inwood Signal for \$100,000 in 2022
- PW-034, 15<sup>th</sup> St N (MSA Street) for \$950,000 in 2020
- PW-035, UP RR Crossing-Village Parkway for \$500,000 moved to 2019 from 2018
- PW-036, UP RR Crossing-Private Drive Closure for \$100,000 moved to 2019 from 2018
- PW-037, UP RR Crossing-Klondike Ave for \$250,000 moved to 2019 from 2018
- PW-038, 2022 Street Improvements and Old Village Phase 6 streets, \$1,300,000 (new)
- PW-051, CSAH 14/CSAH 15 realignment payment in 2019 (new)

## **Project Highlights by Department**

### ***Administration/Finance:***

- AF-001, New City Hall, Fire Station and Public Works Improvements, is the only request in this department. The scope of the space needs study was expanded to include a new fire station and improvements to the main public works facility as well. The Finance Committee recommendation was to break these projects out over multiple years. A new fire station would be built in 2019/2020 with borrowing split amongst the two years (\$3.5 million each year). The improvements to the public works facility were split amongst three years with a new salt shed planned for 2018 at \$250,000; an office addition for \$500,000 in 2019, and improvements to the yard (paving) for \$250,000 in 2020. A new city hall is programmed for 2021/2022 with borrowing of \$3.5 million each year.

### ***Fire:***

- F-001, Rescue Engine E2 replacement at a revised estimated cost of \$625,000 in 2018
- F-004, Replace Tender 1 for revised estimated cost of \$400,000 in 2019
- F-005, Replacement of the parking lot at Station 2 for \$87,560 in 2018. This item was recommended to move to pending by the Finance Committee.
- F-006, Replacement of U2 Truck for \$75,000 in 2019 could be removed if combined with E2 engine
- F-007, Self-Contained Breathing Apparatus (SCBA) replacements for \$207,000 in 2019
- F-010, Replace B1 for \$70,000 in 2021.
- F-011, Engine E1 replacement for \$500,000 in 2022
- F-017, Turnout Gear Replacements for \$60,000 in 2022 (new)

### ***Parks and Recreation:***

- PR-003, Demontreville Park Improvements for \$75,000 in 2018. The Park Commission is again requesting this funding for a new field, regrading the existing field, and a new backstop.
- PR-004, Lions Park Improvements, Phase 2 in 2018. This includes a new pavilion and picnic tables but would only occur if the items are donated.(new)
- PR-005, Pebble Park Improvements for \$72,000 in 2019 (paving parking area and two volleyball courts, lighting and security features).
- PR-006, Reid Park Improvements for \$50,000 in 2018 (this would be a grant or in-kind donation for mountain bike trails) and \$25,000 for widening the walking trails. In 2019

(tot lot, outdoor gym stations, bleachers), extending fencing, and elimination of basketball court (Phase II) for \$34,250

- PR-007, Sunfish Lake Park Improvements for \$90,000 in 2021 includes paving trails to meet ADA standards.
- PR-008, Tablyn Park Improvements includes additional lighting at the top of the hill and better use of the parking lot space to address safety concerns for \$55,000 in 2018. The 2019 improvements would be \$45,000 related to setting up a skating rink at the park.
- PR-009, Lake Elmo Regional Trail for \$827,316 in 2021 and \$765,600 in 2022. This project would be 75% grant funded and is dependent upon County participation. The City share is estimated at \$398k.
- PR-012, Service Truck for \$200,000 in 2019 with costs split equally amongst water, sewer, streets and parks (new)
- PR-013, Trac Hoe for \$60,000 in 2020 with costs split equally amongst water, stormwater, streets and parks (new)
- PR-014, Tri Deck Mower for \$70,000 in 2020 (new)
- PR-015, One Ton Truck for \$130,000 in 2022 (new)
- PR-016, Cushman replacement for \$25,000 in 2018 (new)
- PR-017, New Ballfields for \$1 million in 2022. (new)
- PR-018, New Park Development for \$150,000 in 2020 (new)

***Public Works:***

- Street Projects were mentioned above
- PW-004. Loader, for \$185,000 in 2019 was moved to 2023
- PW-006, Tractor, for \$80,000 in 2018 was moved to 2020
- PW-019, Pickup Replacement, for \$30,000 in 2020 was moved to 2022
- PW-020, Pickup Replacement, for \$30,000 in 2021 was moved to 2024
- PW-021. 1 Ton Replacement, for \$70,000 in 2019 was moved up to 2018
- PW-022, Dump Truck with Plow Wing and Sander, for revised estimated cost of \$240,000 in 2019 was moved up to 2018
- PW-023, Vac Trailer, for \$45,000 in 2018
- PW-043, Service Truck for \$200,000 in 2019 with costs split equally amongst water, sewer, streets and parks (new)
- PW-044, Trac Hoe for \$60,000 in 2020 with costs split equally amongst water, stormwater, streets and parks (new)
- PW-045, Tandem Plow Truck for \$265,000 in 2019 (new)
- PW-046, Asphalt Roller for \$30,000 in 2018 (new)
- PW-047, Dump Truck with Plow for \$240,000 in 2020 (new)
- PW-048, Mini Loader for \$120,000 in 2020 (new)
- PW-049, Asphalt Hot Box for \$60,000 in 2021 (new)
- PW-050, Dump Truck with Plow for \$245,000 in 2022 (new)

***Sewer System:***

- S-003, Sunfish Lake Sewer (Includes Hamlet), for \$240,000 in 2018. This is per an agreement with MPCA
- S-004, Old Village Sewer Extension Phase Four, for revised estimated cost of \$585,000 in 2018

- S-005, Old Village Sewer Extension Phase Five, for revised estimated cost of \$1,100,000 in 2021
- S-007, Utility Vehicle, cost split between water and sewer funds in 2018. Sewer portion is \$32,500
- S-012, Section 36 Trunk Sewer for \$1,500,000 in 2021
- S-013, Sewer Oversizing for \$52,500 in 2018
- S-014, Service Truck for \$200,000 in 2019 with costs split equally amongst water, sewer, streets and parks (new)
- S-015, Utility Truck for \$70,000 in 2021 with costs split equally amongst water and sewer (new).
- S-016, Old Village Sewer Extension Phase Six for \$510,000 in 2022
- S-017, Old Village Sewer Extension Phase Seven for \$475,000 in 2023

***Storm Water System:***

- SW-001, Phase 2 Regional Drainage Improvements for \$1,200,000 in 2019 and \$800,000 in 2020
- SW-002, Phase 3 Regional Drainage Improvements for \$500,000 in 2020
- SW-003, Kramer Lake Floodplain Study for \$60,000 in 2022 assumes a grant from the watershed district
- SW-004, Surface Water Management Plan (Comp Plan) update for \$40,000 in 2018
- SW-006, Trac Hoe for \$60,000 in 2020 with costs split equally amongst water, stormwater, streets and parks (new)

***Water System:***

- W-001, 36<sup>th</sup>, 37<sup>th</sup>, 38<sup>th</sup>, 39<sup>th</sup>, Innsdale and Irwin water main for \$900,000 in 2019
- W-003, Old Village water extension Phase Four, for \$350,000 in 2018
- W-004, Pressure reduction Station-Hammes Bypass for \$120,000 in 2020
- W-005, Old Village water main Phase Five, for revised estimated cost of \$885,000 in 2021
- W-006, Elevated Storage Tank #3, for \$200,000 in 2019 and 2,800,000 in 2020
- W-008, Village East Trunk Water main, for \$120,000 in 2019
- W-009, Utility Vehicle, shared with sewer fund. Water fund portion is \$32,500
- W-013, Water main Oversizing for \$105,000 in 2018, \$42,000 in 2019 and \$119,000 in 2022.
- W-014, Well & Pumphouse #5 for \$2,100,000 in 2021
- W-017, Water Main replacement consistent with 2020 Street Replacement for \$50,000 in 2020
- W-018, Water Main replacement consistent with 2021 Street Replacement for \$50,000 in 2021.
- W-019, SCADA System Upgrade for \$30,000 in 2022
- W-020, Service Truck for \$200,000 in 2019 with costs split equally amongst water, sewer, streets and parks (new)
- W-021, Trac Hoe for \$60,000 in 2020 with costs split equally amongst water, stormwater, streets and parks (new)



- W-022, Utility Truck for \$70,000 in 2021 with costs split equally amongst water and sewer (new).
- W-023, Water Meter Change out for \$47,000 each year in 2018-2022 (new)
- W-024, Automated Radio Read System for \$300,000 in 2022 (new)
- W-025, Old Village water extension Phase Six for \$200,000 in 2022
- W-026, Old Village water extension Phase Seven for \$230,000 in 2023
- W-027, Pressure Reduction Station-Connection to WT #3 for \$120,000 in 2022

**City of Lake Elmo  
Capital Improvement Program  
2018-2022**

**Appendix**

**Attachment 5**  
**City of Lake Elmo**  
**Emergency Telephone List**

<b>Emergency Response Team</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
Emergency Response Lead	Rob Weldon	651-747-3941	715-222-5557
Alternate Emergency Response Lead	Jamie Colemer	651-747-3945	651-248-1688
Water Operator	Jim Sachs	651-747-3942	651-248-8468
Alternate Water Operator	Mike Coleman		651-491-8561
Public Communications	Kristina Handt	651-747-3905	

<b>State and Local Emergency Response Contacts</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
State Incident Duty Officer	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
County Emergency Director		651-430-7938	651-439-9381
National Guard	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
Mayor/Board Chair	Mike Pearson	651-748-9955	651-775-3724
Fire Chief	Greg Malmquist	651-770-5006	651-775-1137
Sheriff		911	651-439-9381
Police Chief		911	
Ambulance			
Hospital			
Doctor or Medical Facility			

<b>State and Local Agencies</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
MDH District Engineer	Lucas Martin	651-201-4144	
MDH	Drinking Water Protection	651-201-4700	
State Testing Laboratory	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
MPCA		651-296-6300	
DNR Area Hydrologist	John Freitag	651-201-4669	
County Water Planner			

<b>Utilities</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
Electric Company	Xcel Energy	1-800-895-1999	
Gas Company	Xcel Energy	1-800-895-1999	
Telephone Company			
Gopher State One Call	Utility Locations	800-252-1166	651-454-0002
Highway Department	Washington County PW	651-430-4300	651-439-9381

<b>Mutual Aid Agreements</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
Neighboring Water System	City of Oakdale	651-730-2740	651-755-4422
Emergency Water Connection	City of Oakdale	651-730-2740	651-755-4422
Materials			

<b>Technical/Contracted Services/Supplies</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
MRWA Technical Services	MN Rural Water Association	800-367-6792	
Well Driller/Repair	McCarthy Well	952-854-5333	
Pump Repair	McCarthy Well	952-854-5333	
Electrician	Mercury Electric	651-464-1660	
Plumber	Miller Excavating	651-439-1637	651-269-8176
Backhoe	Miller Excavating	651-439-1637	651-269-8176
Chemical Feed	Hawkins Chemical	651-730-1115	612-804-5427

Meter Repair	Core & Main	715-386-6010	
Generator	Kodiak Power Systems		
Valves	Core & Main	715-386-6010	
Pipe & Fittings	Core & Main	715-386-6010	
Water Storage			
Laboratory	Tri-City Lab	952-563-8777	
Engineering firm	FOCUS Engineering	651-300-4264	

<b>Communications</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
News Paper	Stillwater Gazette	651-439-3130	
Radio Station			
School Superintendent	School District of Stillwater	651-351-8340	
Property & Casualty Insurance	League of Minnesota Cities	651-281-1200	

<b>Critical Water Users</b>	<b>Name</b>	<b>Work Telephone</b>	<b>Alternate Telephone</b>
Hospital Critical Use:			
Nursing Home Critical Use:			
Public Shelter Critical Use:			

## **Appendix 6**

A Cooperative Agreement for Emergency Services does not currently exist for the City of lake Elmo Public Works/Water Supply System.

## Appendix 7

### § 50.40 WATER USE RESTRICTIONS.

(A) *Emergency authority.* To protect the health and safety of the consumers, as well as the general welfare, the Mayor or City Council may impose emergency regulations pertaining to city water use. Whenever the city shall determine that a critical water deficiency prevails, it may limit the times and hours during which water may be used from the city water system for lawn and garden sprinkling, irrigation, car washing, air conditioning, and other nonessential uses. It is unlawful for any water consumer to cause or permit water to be used in violation of such determination after public announcement thereof has been made through publication or by posting in the City Hall and city website specifically indicating the restrictions thereof.

(1) The Mayor or City Council may declare a critical water deficiency to prevail within the city whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the city to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

(2) The Mayor or City Council shall thereupon enact such regulations and restrictions on the delivery of water and the consumption within the city to conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

(3) When the Governor of the State of Minnesota declares a critical water deficiency, the Mayor or City Council will enact and enforce water conservation restrictions in accordance with M.S. § 103G.291.

(4) Water use regulations and restrictions may include the right to deny applications for new or additional service connections, and provisions for their enforcement by discontinuing service to customers willfully violating the regulations and restrictions.

(B) *Permanent water use restrictions.* To encourage water conservation and allow flexibility in the city's water system in meeting peak demands, and to reduce the required water supply and storage capacity requirements allowing for a lower cost water system, certain limitations must be placed on the city's water supply.

(1) *Odd/even sprinkling ban.* Property owners having even numbered postal addresses may water, sprinkle, or irrigate their lawns only on even numbered days, and property owners having odd numbered postal addresses may water, sprinkle, or irrigate their lawns only on odd numbered days.

(2) *Time of day sprinkling ban.* All property owners are prohibited from watering, sprinkling, or irrigating their lawns between the hours of 10:00 a.m. and 5:00 p.m. daily.

(3) *Exceptions.* The permanent water use restrictions do not apply in the following situations.

(a) Private wells.

(b) Recently established lawns if permission is granted through a watering restriction waiver form, allowing daily watering for up to 30 days after installation. Watering must still adhere to the restricted hours for the time of day sprinkling ban. New sod or seeded lawns or other landscaping requiring watering, sprinkling, or irrigation, shall not be installed during a water shortage emergency.

(c) Attended hand watering of plants, shrubs, trees, and gardens.

(C) *Lawn watering, sprinkling, and irrigation.* All lawn sprinkler systems and irrigation systems connected to the municipal water system, whether such systems are aboveground or

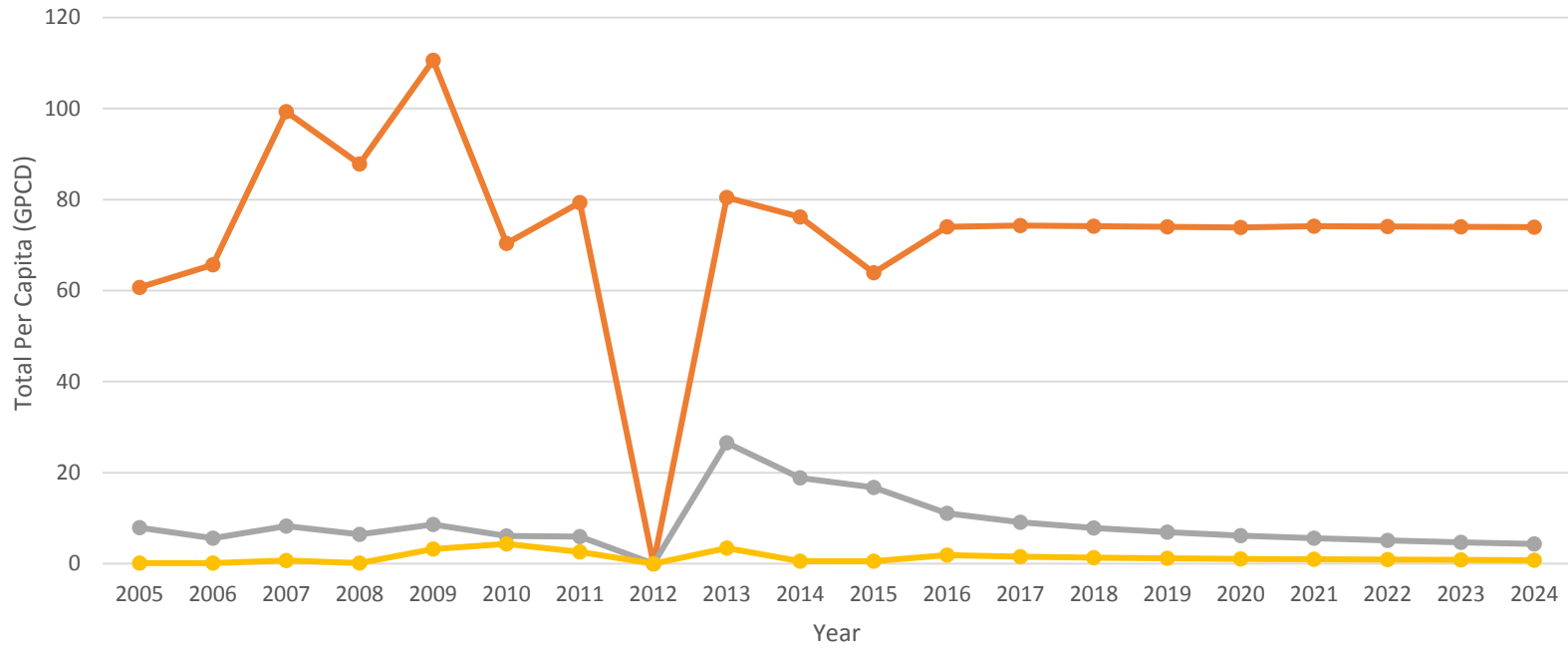
underground, shall require a permit for connection and shall be installed in accordance with the Minnesota State Plumbing Code. To conserve water, all lawn sprinkler systems and irrigation systems which are automatic or are equipped to operate automatically and which are connected to the municipal water system, shall be equipped with a rain-detection device such to prevent the system from operating when it rains (per M.S. § 103G.298). All lawn sprinkler systems and irrigation systems connected to the municipal water system shall be constructed and operated to prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, over spray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures.

(D) *Enforcement.* Failure to comply with restrictions or prohibitions imposed under this section shall result in a surcharge for water service for each violation in an amount determined by resolution of the City Council, which shall be added to the water bill for the property on which such violation occurs. Each day of violation shall be deemed a separate violation. Continued violation shall be cause for discontinuing water service.

(Ord. 08-018, passed 11-4-2009)

### City of Lake Elmo Total Per Capita Demand

Residential C/I/I Wholesale







# City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
Amateur Radio Antenna	\$875.00		Planning
Appeal (to Board of Adjustment and Appeals)	\$250.00		Administration
Bee Keeping Permit	\$25.00	Valid for 2 years from issuance	Administration
Building Regulations		* State Sur Charge Collected per MN Statute 326B.148 on all permits	Building
Building Permit Fee Schedule			
Total Valuation			
\$1.00 to \$500.00	\$29.50		Building
\$501.00 to \$2,000.00	\$28.00 for the first \$500.00 plus \$3.70 for each additional \$100.00, or fraction thereof, to and including \$2,000.00.		
\$2,001.00 to \$25,000.00	\$83.50 for the first \$2,000.00 + \$16.55 for each additional \$1,000.00, or fraction thereof, to and including \$25,000.00.		
\$25,001.00 to \$50,000.00	\$464.15 for the first \$25,000.00 + \$12.00 for each additional \$1,000.00, or fraction thereof, to and including \$50,000.00.		
\$50,001.00 to \$100,000.00	\$764.15 for the first \$50,000.00 + \$8.45 for each additional \$1,000.00, or fraction thereof, to and including \$100,000.00.		
\$100,001.00 to \$500,000.00	\$1,186.65 for the first \$100,000.00 + \$6.75 for each additional \$1,000.00, or fraction thereof, to and including \$500,000.00.		
\$500,001.00 to \$1,000,000.00	\$3,886.65 for the first \$500,000.00 + \$5.50 for each additional \$1,000.00, or fraction thereof, to and including \$1,000,000.00.		
\$1,000,001.00 and up	\$6,636.65 for the first \$1,000,000.00 + \$4.50 for each additional \$1,000.00, or fraction thereof.		Building
Planning and Zoning Compliance Review and Verification	\$100.00		Building
Plan Review Fee	65% of building permit fee		Building
Plan review for similar plans	25% of normal building permit fee (MN Rules 1300.0160 subp. 5)		Building
Single Family Decks	Fee based on Valuation		Building
Single Family Residential Basement Finish	Fee Based on Valuation		Building
Swimming Pool In-Ground	\$150.00		Building
Swimming Pool Above-Ground	\$75.00		Building
Reinspection Fee	\$75.00		Building
Inspection outside normal business hours	\$120.00 per hour - 2 hour minimum		Building
Investigation fee - work started without required permit	Equal to permit fee amount		Building
Replace Inspection Record Card	\$25.00		Building
Additional Plan Review required by changes, addendum or revisions to plans	\$75.00 per hour, one hour minimum		Building
Building Demolition - Residential	\$200.00		Building
Building Demolition - Commercial	\$300.00		Building
Fuel Tank Removal (Underground)	\$250.00		Building
Fuel Tank Installation	2% Value of the work		Building
Roofing - Residential	Fee Based on Valuation		Building
Roofing - Commercial	Fee Based on Valuation		Building
Siding - Residential	Fee Based on Valuation		Building



## City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
Siding - Commercial	Fee Based on Valuation		Building
Retaining Walls over 4'	Fee Based on Valuation		Building
Commercial Plumbing	\$60.00 per unit, Up to 3 Units or 1.5% Value of work, whichever is greater		Building
Residential Plumbing	\$60.00 per Unit, max fee \$180.00		Building
Sewer Service Installation Inspection	\$60.00		Building
Water Service Installation Inspection	\$60.00		Building
Sewer & Water Service Installation Inspection when completed together	\$60.00		Building
Investigation fee - Plumbing work started without required permit	Equal to permit fee amount		Building
Commercial HVAC	\$60.00 per unit, Up to 3 Units or 1.5% Value of work, whichever is greater		Building
Residential HVAC	\$60.00 per Unit, max fee \$180.00		Building
Fireplace Installation	\$60 per unit		Building
Investigation fee - HVAC work started without required permit	Equal to permit fee amount		Building
Manufactured Home Move In	\$200.00		Building
Manufactured Home Move Out	\$200.00		Building
Moving House or Primary Structure into the City	2% Value of the Work plus security amount determined by the Building Official		Building
Moving Accessory Structure into the City	2% Value of the Work plus security amount determined by the Building Official		Building
Automatic Fire Extinguishing Systems	2% Value, \$100.00 minimum		Building
Investigation fee - Fire Suppression work started without required permit	Equal to permit fee amount		Building
Fire Alarm Systems	2% Value, \$100.00 minimum		Building
Investigation fee - Fire Alarm work started without required permit	Equal to permit fee amount		Building
Annual Retail Consumer Fireworks (retailers only selling fireworks)	\$350.00		Building
Annual Retail Consumer Fireworks (all other retailers)	\$100.00		Building
Outdoor Public Fireworks Display	\$150.00		Building
Residential Day Care Inspections	\$50.00		Building
Residential Adult Care/Foster Care/Adoption Inspections	\$50.00		Building
Escrow Administration Fee	\$100.00		Building
New Single Family Dwelling Construction Escrow	\$2,000.00		Building
Two or more dwelling units per building Construction Escrow	\$1,000.00 per unit		Building
Commercial/Industrial and Other structures	\$5,000.00 or amount determined by the Building Official		Building



# City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
<b>Burning Permit</b>			Fire
Residential	\$45.00		Fire
Commercial	\$80.00		Fire
Illegal Burn	see notes →	Additional fees may be incurred based on Wash. Cty. Chief's fee schedule and # of responding units	Fire
<b>Chicken Keeping Permit</b>	\$25.00	Initial permit expires on 12/31 of 2nd year.	Administration
<b>Comprehensive Plan Amendment</b>	\$1,300.00	Land Use Escrow \$2500	Planning
<b>Conditional Use Permit (CUP)</b>		Wireless Communication Facilities Fee Escrow \$6,000.00. Flood Plain Ordinance Fee Escrow \$500.00 Land Use Escrow \$2500	Planning
New	\$1,050.00		Planning
Amended	\$500.00		Planning
<b>Contractor License Fees</b>			Licensing
Driveway	\$50.00		Licensing
Solid Waste Hauler	\$120.00		Licensing
<b>Copy Services (Paper/Electronic)</b>			Administration
Copies (B&W)	\$0.25 per page	100 pages or more are charged at actual cost of production	Administration
Copies (Color)	\$0.50 per page	100 pages or more are charged at actual cost of production	Administration
Copies (B&W) 11x17	\$1.00 per page	100 pages or more are charged at actual cost of production	Administration
Copies (Color) 11x17	\$2.00 per page	100 pages or more are charged at actual cost of production	Administration
Data DVD Fee	\$15.00		Administration
GIS Scaled Aerial	\$25.00		Administration
Existing Maps	\$5.00		Administration
Custom (Per Hour Rate)	\$70.00		Administration
Plan Size Maps (Larger than 11x17)	\$15.00		Administration
Development Standards Specs/Details	\$55.00		Administration
Video reproduction	\$10.00		Administration
<b>Culverts in Developments with Rural Section</b>	\$160.00		Administration
<b>Dog License- altered</b>	\$20.00		Licensing
<b>Dog License- unaltered</b>	\$25.00		Licensing
<b>Dog License- late fee</b>	\$2.50 per month	Maximum \$10	Licensing
Service Dog License	No Charge		Licensing
Duplicate License or Tag	\$1.00		Licensing
First Impound- Unlicensed Dog	\$60.00	All Impound Fees plus \$20/day Boarding Fee	Licensing
First Impound- Licensed Dog	\$42.00		Licensing
First Impound- Cat	\$42.00		Licensing



# City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
Subsequent dog/ cat impound	\$85.00		Licensing
<b>Driveway</b>			Planning
Residential	\$70.00		Planning
Commercial	\$160.00		Planning
<b>Easement Encroachment</b>	\$100.00	Staff & Recording Fee	Planning
<b>Electronic Fund Withdrawal/Bill Payment</b>	Fee + Trans. Charge		Administration
<b>Environmental Review (EAW/EIS)</b>	\$1,500.00	\$2,500 Land Use escrow	
Village Area AUAR Fee	\$230.00	Per REC Unit. To be charged to development applications that increase the number of REC units above existing conditions within the Village AUAR Area. The fee will be based on the difference between the proposed and existing REC units. Fee to be paid as part of a developer's agreement for larger projects or at the time a building permit is issued for smaller projects. Once paid, the same land will not be charged again.	Planning
<b>Erosion Control</b>			Building
Re-inspection Fee (portal to portal from City Hall: 1 Hr. min)	\$50.00 per hour	\$5,000.00 Security	Building
<b>Excavating &amp; Grading ≥ 50 cubic yards, up to 400 cubic yds</b>	\$125.00	Security \$500.00	Building
<b>Excavating &amp; Grading ≥ 400 cubic yards/acre of site area</b>	\$500.00	\$500.00 fee escrow. Plus Security as Determined by the Planning Department	Engineering
<b>False Alarms (12 Month Period)* (*1-3 no charge)</b>			Fire
Residential			Fire
4-6 False Alarms	\$110.00		Fire
In Excess of 6 False Alarms	\$185.00		Fire
Commercial			Fire
4-6 False Alarms	\$315.00		Fire
In Excess of 6 False Alarms	\$520.00		Fire
<b>Flood Plain District Delineation</b>	\$500.00		Planning
<b>Interim Use Permit (IUP)</b>			
Fee	\$1,050.00	\$2,500.00 Escrow	Planning
Renewal	\$300.00		Planning
<b>Liquor License</b>			Licensing
Club On-Sale Intoxicating	\$100.00		Licensing



## City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
On-Sale Intoxicating	\$1,500.00		Licensing
Off-Sale Intoxicating	\$200.00		Licensing
Off-Sale Non-Intoxicating	\$150.00		Licensing
On-Sale Intoxicating- 2nd Building	\$750.00		Licensing
On-Sale Non-Intoxicating	\$100.00		Licensing
Investigation	\$350.00		Licensing
On-Sale Sunday Intoxicating	\$200.00		Licensing
Temporary Intoxicating	\$25.00		Licensing
Wine	\$300.00		Licensing
<b>Lot Line Adjustment</b>	\$325.00	None	Planning
<b>Massage Therapy Premises License</b>			Licensing
Application Fee	\$100.00	Fee includes one Therapist	Licensing
Investigation Fee	\$100.00		Licensing
<b>Massage Therapy Practitioner License</b>			Licensing
Application Fee	\$50.00		Licensing
Investigation Fee	\$25.00		Licensing
<b>Massage Therapy Premises License Renewal</b>	\$50.00	Fee includes one Therapist	Licensing
<b>Massage Therapy Practitioner License Renewal</b>	\$25.00		Licensing
<b>Massage Therapy License Amendment</b>	\$25.00		Licensing
<b>Minor Subdivision</b>	\$525.00	\$1,000.00 escrow	Planning
<b>Park Dedication</b>			Planning
Residential - Up to three lots	\$3,600.00 per lot	Four or more lots per \$153.14	Planning
Commercial	\$4,500.00 per acre		Planning
<b>Parking Lots</b>			Planning
Commercial	\$200.00	\$500 Fee Escrow. Plus Security as Determined by the Planning Department	Planning
<b>Platting</b>			
Sketch Plan Review (Subdivision)	\$500.00	\$3,500.00 Fee Escrow	Planning
Preliminary Plat (Subdivision)	\$1,850.00	\$10,000.00 Fee Escrow	Planning
Final Plat (Subdivision)	\$1,250.00	\$8,000.00 Fee Escrow	Planning
<b>Planned Unit Development</b>			
General Concept Plan	\$1,250.00	\$7,500 Fee Escrow (Waive Subdivision Escrow)	Planning
Development Stage Plan	\$1,850.00	\$10,000 Fee Escrow (Waive Subdivision Escrow)	Planning



## City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
Final Plan	\$1,250.00	\$8,000 Fee Escrow (Waive Subdivision Escrow)	Planning
		(City will retain escrows to reimburse review costs for each stage plan of development)	
<b>Private Roads (Permitted only in AG zone)</b>	\$150.00		Planning
<b>Restrictive Soils and Wetland Restoration Protection and Preservation Permit</b>	\$800.00		Planning
<b>Returned Check (NSF)</b>	\$25.00		Administration
<b>Right-of-way Permit</b>			
annual Registration	\$200.00	\$5,000 Security	Engineering
Excavation Permit	\$275.00 + \$.60/foot		Engineering
Joint Trench Permit (per lot per utility)	\$275.00 + \$.60/foot		Engineering
Obstruction Permit	\$275.00		Engineering
Small Wireless Permit Fee	\$275.00		Engineering
Permit Extension	\$100.00		Engineering
Delay Penalty (per calendar day)	\$25.00		Engineering
<b>SAC Charge (City) (Sewer Availability Charge)</b>	\$3,000.00	Per REC Unit: collected at time of plat for new lot. This fee may be deferred through special assessment for parcels with existing structures.	Engineering
<b>SAC Charge (Met Council) (Sewer Availability Charge)</b>	\$2,485.00	Per REC Unit: \$2,485.00 to Met Council at time of connection.	Engineering
<b>Sewer Connection Charge</b>	\$1,000.00	Per REC Unit collected at time of plat for new lot. This fee may be deferred through special assessment for parcels with existing structures.	Engineering
<b>Sewer Lateral Benefit Charge</b>	\$11,000.00	Per REC Unit connecting to a Trunk Sewer Main and that has never been assessed	Engineering
<b>Sewer Rate</b>	\$4.50/1,000 Gal		Administration
<b>201 Off-Site Maintenance Fee</b>	\$75.00/unit/quarter		Administration
<b>Real Estate Searches</b>	\$15.00/Search	For special assessment or utility search	Administration
<b>Signs - Permanent</b>	\$180.00		Planning
<b>Signs - Temporary</b>	\$75.00		Planning
Temporary Renewal	\$25.00		Planning
Re-inspection Fee	\$25.00		Planning
<b>Special Event Permit</b>	\$75.00	City must be listed as additional insured	Planning
<b>Surface Water</b>			Administration
Residential	\$50.00		Administration
Non-Residential (Commercial etc.)	\$50.00	Utility rate factor per code	Administration
Review Fee	\$125.00	\$75 Review/\$50 Storm Water Fund	Administration



# City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
<b>Vacations (Streets or Easements)</b>			Planning
Easements	\$515.00	\$500.00 Fee Escrow	Planning
Streets	\$515.00	\$500.00 Fee Escrow	Planning
<b>Variance</b>	\$750.00	\$500.00 Fee Escrow	Planning
Shoreland Variance	\$1,500.00	\$500.00 Fee Escrow	Planning
<b>Water Availability Charge (WAC)</b>	\$3,000.00	Per REC Unit; collected at time of plat for new lot. This fee may be deferred through special assessment for parcels with existing structures.	Engineering
<b>Water Connection Charge</b>	\$1,000.00	Per REC Unit, collected at time of plat for new lot. This fee may be deferred through special assessment for parcels with existing structures.	Administration
<b>Water Equipment/Set up</b>			Administration
Meter (3/4" or less)	\$350.00	Additional fees apply to larger sized meters	Administration
Driveway Curb Stop Lid	\$100.00		Administration
Disconnect Service	\$80.00		Administration
Reconnect Service	\$80.00		Administration
<b>Water Lateral Benefit Charge</b>	\$5,800.00	Per REC Unit connecting to a Trunk Water Main and that has never been assessed	Engineering
<b>Water Usage</b>			Administration
Residential - Quarterly Rate	\$20.00 Base		Administration
Residential - Plus Rate per 1,000 Gallons			Administration
Plus Rate for 0-15,000 Gallons	\$2.00		Administration
Plus Rate for 15,001-30,000 Gallons	\$2.40		Administration
Plus Rate for 30,001-50,000 Gallons	\$2.88		Administration
Plus Rate for 50,001-80,000 Gallons	\$3.46		Administration
Plus Rate for 80,001 + Gallons	\$4.15		Administration
<b>Water Usage</b>			Administration
Commercial - Quarterly Rate	\$25.00 Base		Administration
Commercial - Plus Rate Per 1,000 Gallons			Administration
Plus Rate for 0 - 15,000 Gallons	\$3.11		Administration
Plus Rate for 15,001 - 30,000 Gallons	\$3.26		Administration
Plus Rate for 30,001 - 50,000 Gallon	\$3.77		Administration



# City of Lake Elmo Fee Schedule 2017

APPLICATION/FEE/PERMIT TYPE	2017 FEE	ESCROW OR ADDITIONAL CHARGE	DEPARTMENT
Plus Rate for 50,001 - 80,000 Gallons	\$5.00		Administration
Plus Rate for 80,001 + Gallons	\$6.63		Administration
<b>Water Usage</b>		For metered non-irrigation (domestic) consumption	Administration
Hotel / Motel - Quarterly Rate	\$25.00 Base		Administration
Hotel / Motel - Plus Rate Per 1,000 Gallons			Administration
Plus Rate for 0 -30,000 Gallons	\$3.11		Administration
Plus Rate for 30,001 - 50,000 Gallons	\$3.26		Administration
Plus Rate for 50,001 + Gallons	\$4.00		Administration
<b>Water Usage Delinquent Accounts</b>			Administration
Regular	6% per quarter	Plus \$25.00 or 8%, whichever is greater, if certified to County for collection with taxes	Administration
Storm Water	10% per year	Plus \$25.00 or 8%, whichever is greater, if certified to County for collection with taxes	Administration
<b>Bulk Water Purchase</b>			Administration
Water from Hydrant	\$100.00 mininum	Plus \$3.26/additional 1,000 gallons	Administration
Sod Installation (New Construction)	\$100.00 mininum	Plus \$3.26 per 1,000 gallons. Good for up to 45 days from sod install. Residents must contact the City in advance.	Administration
Swimming Pool Fill	\$100.00 mininum	Plus \$3.26 per 1,000 gallons. Good for up to 45 days from sod ins	Administration
<b>Wind Generator</b>	\$850.00	\$2,000.00 Fee Escrow	Planning
<b>Wireless Communication Permit</b>	\$500.00	\$6,000.00 Fee Escrow	Planning
<b>Zoning Amendment (Text or Map)</b>	\$1,245.00	\$2,500.00 Escrow	Planning
<b>Zoning Certification Letter</b>	\$25.00		Planning
<b>Zoning Permit - Certificate of Zoning Compliance</b>			Planning
Accessory Structures < 200 SF	\$75.00		Planning
Fence (less than 6')	\$75.00		Planning
Other	\$75.00		
<b>Definition of Terms</b>			
* <b>Fee Escrow:</b> City will maintain a fee escrow to cover all City review costs. Application fees include all professional fees and expenses incurred by the City.			
** <b>Security:</b> City will retain a security escrow to ensure completion of work as directed by the approved permit/application and compliance with the State Building Code and the City of Lake Elmo Municipal Code.			
Approved by CC 7.18.17; effective 7.19.17			



## Appendix 10

### § 50.40 WATER USE RESTRICTIONS.

(A) *Emergency authority.* To protect the health and safety of the consumers, as well as the general welfare, the Mayor or City Council may impose emergency regulations pertaining to city water use. Whenever the city shall determine that a critical water deficiency prevails, it may limit the times and hours during which water may be used from the city water system for lawn and garden sprinkling, irrigation, car washing, air conditioning, and other nonessential uses. It is unlawful for any water consumer to cause or permit water to be used in violation of such determination after public announcement thereof has been made through publication or by posting in the City Hall and city website specifically indicating the restrictions thereof.

(1) The Mayor or City Council may declare a critical water deficiency to prevail within the city whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the city to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

(2) The Mayor or City Council shall thereupon enact such regulations and restrictions on the delivery of water and the consumption within the city to conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

(3) When the Governor of the State of Minnesota declares a critical water deficiency, the Mayor or City Council will enact and enforce water conservation restrictions in accordance with M.S. § 103G.291.

(4) Water use regulations and restrictions may include the right to deny applications for new or additional service connections, and provisions for their enforcement by discontinuing service to customers willfully violating the regulations and restrictions.

(B) *Permanent water use restrictions.* To encourage water conservation and allow flexibility in the city's water system in meeting peak demands, and to reduce the required water supply and storage capacity requirements allowing for a lower cost water system, certain limitations must be placed on the city's water supply.

(1) *Odd/even sprinkling ban.* Property owners having even numbered postal addresses may water, sprinkle, or irrigate their lawns only on even numbered days, and property owners having odd numbered postal addresses may water, sprinkle, or irrigate their lawns only on odd numbered days.

(2) *Time of day sprinkling ban.* All property owners are prohibited from watering, sprinkling, or irrigating their lawns between the hours of 10:00 a.m. and 5:00 p.m. daily.

(3) *Exceptions.* The permanent water use restrictions do not apply in the following situations.

(a) Private wells.

(b) Recently established lawns if permission is granted through a watering restriction waiver form, allowing daily watering for up to 30 days after installation. Watering must still adhere to the restricted hours for the time of day sprinkling ban. New sod or seeded lawns or other landscaping requiring watering, sprinkling, or irrigation, shall not be installed during a water shortage emergency.

(c) Attended hand watering of plants, shrubs, trees, and gardens.

(C) *Lawn watering, sprinkling, and irrigation.* All lawn sprinkler systems and irrigation systems connected to the municipal water system, whether such systems are aboveground or

underground, shall require a permit for connection and shall be installed in accordance with the Minnesota State Plumbing Code. To conserve water, all lawn sprinkler systems and irrigation systems which are automatic or are equipped to operate automatically and which are connected to the municipal water system, shall be equipped with a rain-detection device such to prevent the system from operating when it rains (per M.S. § 103G.298). All lawn sprinkler systems and irrigation systems connected to the municipal water system shall be constructed and operated to prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, over spray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures.

(D) *Enforcement.* Failure to comply with restrictions or prohibitions imposed under this section shall result in a surcharge for water service for each violation in an amount determined by resolution of the City Council, which shall be added to the water bill for the property on which such violation occurs. Each day of violation shall be deemed a separate violation. Continued violation shall be cause for discontinuing water service.  
(Ord. 08-018, passed 11-4-2009)

#### **A. Landscaping Standards**

1. A landscape plan for the entire site is required and shall consist of at least 10 trees per building site; and trees shall not be not less than 1.5 inch in caliper measured at 54 inches above grade level.
2. Boulevard landscaping is required along all streets to consist of at least 1 tree per every 30 feet or placed in clusters at the same ratio.

#### **B. Impervious Surface Standards**

The maximum impervious surface allowable within an open space planned unit development shall be 20% of the land area not dedicated as preserved open space subject to the following:

1. Impervious surfaces created by roads, trails, and other planned impervious improvements shall count against the maximum allowed impervious coverage.
2. Remaining allowed impervious surface acreage may be distributed between the planned building sites, and maximums for each lot shall be clearly documented within the overlay district ordinance governing the development.
3. On individual lots, areas covered by pervious pavers or comparable systems may receive a 25% credit against the lot's hardcover if the system is installed consistent with the *City of Lake Elmo Engineering Standards Manual*, and adequate storm water mitigation measures (as may be necessary) are installed to mitigate potential runoff created by the additional coverage above the allowed impervious surface threshold. All such credits shall be at the discretion of the City Engineer.

**Tree Requirements-**

A. *Landscaping of Setback Areas.* All required setbacks not occupied by buildings, parking, paths or plazas shall be landscaped with turf grass, native grass, trees, shrubs, vines, perennial flowering plants, and surrounding pervious ground cover.

1. A minimum of one (1) tree shall be planted for every fifty (50) feet of street frontage, lake shore or stream frontage, or fraction thereof.

- a. Trees adjacent to streets shall be planted within the front yard and may be arranged in a cluster or placed at regular intervals to best complement existing landscape design patterns in the area.
- b. Salt tolerance and root structure should be considered when selecting tree species adjacent to streets, sidewalks and parking areas.
- c. Where property abuts a lake or stream, trees shall be planted at intervals of no more than fifty (50) feet along the shoreline, except where natural vegetation is sufficient to meet this requirement.

2. In addition to the requirements of C.1 above, a minimum of five (5) trees shall be planted for every one (1) acre of land that is developed or disturbed by development activity. Such trees may be used for parking lot landscaping or screening as specified in subsections D and E below.

**Impervious Surface -**

Rural Districts	RT	A	RR	RS	RE
Maximum Impervious Coverage	-	-	-	25%	15%

Urban Residential	GCC	LDR	MDR	HDR
Maximum Impervious Coverage	30%	40%	50%	75%

Village mixed use	V-LDR	VMX
Maximum Impervious Coverage		
Residential Lots	35%	75%
Other	-	No Limit

**Public Facility**

<i>Maximum Parcel Area</i>	Buffer Width (Feet)	Maximum Impervious Site Coverage
0 to 5 acres	50	39.5%
5.1 to 10 acres	100	38%
10.1 to 20 acres	150	35%

## **Appendix 11**

Establish a Water level monitoring plan – February 2018

Update Capital Improvement Plan – June 2018

Explore Cooperative Agreements for Emergency Services – March 2018

Revisit Water Rate Structure – annually

Update Ordinances and Regulations – as needed

## Appendix 12

City of Lake Elmo Website

<http://www.lakeelmo.org/>

**CERTIFICATE OF ADOPTION  
WATER SUPPLY PLAN**

City or Water System Name:

Name of Person Authorized to Sign  
Certificate on Behalf of the System:

Title:

Address:

Telephone:

E-mail:

*I certify that the Water Supply Plan approved by the Department of Natural Resources has been adopted by the city council or utility board that has authority over water supply services.*

Signed:

Date:

[Submit Certificate of Adoption through MPARS](#)

Or mail this certificate to: DNR Waters  
Water Permit Program Supervisor  
500 Lafayette Road  
St. Paul, MN 55155-4032

9/6/17



**Ecological and Water Resources**

**1200 Warner Road**

**St. Paul, MN 55106**

April 21, 2020

Marty Powers

Public Works Director

City of Lake Elmo

3800 Laverne Ave N, Suite 100

Lake Elmo, MN 55042

**RE: Water Supply Plan Approval, City of Lake Elmo, Appropriation Permit No. 1961-1031**

Dear Mr. Powers,

In accordance with Minnesota Statutes, Section 103G.291, Subdivision 3, and on behalf of the Commissioner of the DNR, I hereby **approve your Water Supply Plan submitted March 12, 2020.**

Please complete the following action items to finalize the water supply planning process:

*Certificate of Adoption*

We encourage the City to complete the attached "Certification of Adoption" form. Please upload the form to MPARS as an attachment as soon as the City officially adopts the Plan.

*Check if you need to send an updated version of this water supply plan to Metropolitan Council*

If the version of the plan submitted to us on March 12, 2020 differs from the one submitted with your Comprehensive Plan, please send a copy of that version to your Metropolitan Council contact. They will attach this final version of the water supply plan to your Comprehensive plan as an appendix.

*DNR and Metropolitan Council Comments*

Attached to this letter is a copy of a Water Supply Plan Review checklist containing comments from both the DNR and the Metropolitan Council. These comments should be used to improve the management of the City of Lake Elmo water supply system and improve the next City of Lake Elmo Water Supply Plan. We particularly would like the City of Lake Elmo to consider



short- and long-term demand reduction conditions, triggers and actions (Table 22 was incomplete), make changes necessary to begin to track the actual unaccounted-for water volumes (instead of estimating them at 1%), and expand efforts to reduce the peaking factor and conserve water during the summer.

The Metropolitan Council has requested that the following comments be sent to the City of Lake Elmo:

“Within 30 days following the adoption of the City of Lake Elmo Water Comprehensive Plan, of which the Water Supply Plan is a part, please adopt and submit copies of the local controls identified in the Water Supply Plan to the Metropolitan Council, as required by Minnesota Statutes 473.865. If changes are made to the Water Supply Plan during the full comprehensive plan update, Lake Elmo will need to submit the updated information to the DNR and Metropolitan Council.”

#### *Future Well Activity and Installation(s)*

The approval of the City of Lake Elmo Water Supply Plan is not a pre-approval of either proposed future volumes or proposed wells that are indicated in Table 7. According to Table 7, the City of Lake Elmo will exceed the authorized volume of 260 million gallons per year for DNR Water Appropriation Permit 1961-1021 **this year**. An amendment request must be submitted to the DNR for increasing the authorized volume of the permit, as well as adding the new well to the permit before it is used.

#### *Monitoring*

The DNR is pleased to see that the City of Lake Elmo is measuring water elevations in the production wells. We ask that these data continue be submitted to the DNR Region 3 Groundwater Data Coordinator at [region3s\\_waterdata.dnr@state.mn.us](mailto:region3s_waterdata.dnr@state.mn.us) (new email address) in the [Ground Water Level Monitoring Spreadsheet](#) on a quarterly basis.

Thank you for your efforts in planning for the future of the City of Lake Elmo water supply and for conserving the water resources of the State of Minnesota. If you have any questions or need additional assistance with the City's water appropriation permit, please contact me at (651) 259 - 5877.

Sincerely,



Joe Richter  
District Appropriations Hydrologist  
Minnesota Department of Natural Resources  
[joe.richter@state.mn.us](mailto:joe.richter@state.mn.us)

CC: Sara Mielke, DNR Groundwater Hydrologist  
Jack Griffin, Focus Engineering  
Raya Esmaili, Metropolitan Council Reviews Coordinator  
Brian Davis, Metropolitan Council  
Carmelita Nelson, DNR Water Supply Plan Coordinator  
Jack Gleason, EWR South District Hydrologist Manager  
Jason Spiegel; EWR Area Hydrologist

*Equal Opportunity Employer*