City of Hinckley Water Supply Plan
Third Generation for 2016-2018

Revised February 2025

Formerly called Water Emergency & Water Conservation Plan

DEPARTMENT OF NATURAL RESOURCES

Cover photo by Molly Shodeen

DEPARTMENT OF NATURAL RESOURCES

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.

This information is available in an alternative format upon request.

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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 DNRs 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

Requested Information	Description
DNR Water Appropriation Permit Number(s)	**1973-1399**
Ownership	☒ Public or ☐ Private
Metropolitan Council Area	☐ Yes or ☐ No (and county name)
Street Address	**106 1ST Street SE, PO Box 366**
City, State, Zip	**Hinckley, MN 55037**
Contact Person Name	Kyle Morell
Title	City Administrator
Phone Number	320-384-7491
MDH Supplier Classification	Municipal

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:

Water used under Water Supplier Services for water plant backwashes and hydrant flushing is included under C/I/I Water Delivered.

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	1365	470	23.381	93.249	0	0	116.630	129.844	0	10%	0.356	.675	08/18/2005	47	261
2006	1432	492	24.453	90.459	0	0	114.912	129.579	0	11%	0.355	.675	08/05/2006	47	248
2007	1438	498	24.474	91.974	0	0	116.448	126.971	0	8%	0.348	.552	08/06/2007	47	242
2008	1438	494	23.909	94.488	0	0	118.937	133.345	0	11%	0.365	.890	07/20/2008	46	254
2009	1428	496	23.036	85.860	0	0	108.896	122.703	0	11%	0.336	.718	07/10/2009	44	235
2010	1428	516	23.084	89.503	0	0	112.587	125.526	0	10%	0.344	.605	10/29/2010	44	241
2011	1800	518	22.810	88.405	0	0	111.215	123.297	0	10%	0.338	.639	4/23/2011	35	188
2012	1800	521	23.277	88.838	0	0	112.115	125.272	0	11%	0.343	.623	10/11/2012	35	191
2013	1800	524	23.079	83.061	0	0	106.140	110.849	0	4%	0.304	.613	11/16/2013	35	169
2014	1800	525	22.651	81.128	0	0	103.779	147.228	0	30%	0.403	.719	05/13/2014	34	224
2015	1792	520	24.700	82.618	0	0	107.318	120.086	0	11%	0.329	.438	12/31/2015	38	184
Avg. 2010-2015	1736	520	23.267	85.592	0	0	108.859	125.376	0	13%	0.344	.610	N/A	37	200

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. CASINO- HOTEL	COMMERCIAL	30,541,000	27%	UNKNOWN
2. MORRIS AVE LAUNDRY FACILITY	COMMERCIAL	13,251,000	12%	UNKNOWN
3. GRAND HINCKLEY INN	COMMERCIAL	6,523,800	6%	UNKNOWN
4. GRAND CASINO	COMMERCIAL	5,951,100	5%	UNKNOWN
5.GRAND NORTHERN INN	COMMERCIAL	2,616,000	2%	UNKNOWN
6. TOBIES	COMMERCIAL	2,541,900	2%	UNKNOWN
7. GRILLE HOUSE	COMMERCIAL	2,194,100	2%	UNKNOWN
8. DAYS INN	COMMERCIAL	1,549,500	1%	UNKNOWN
9.TOBIES CARWASH	COMMERCIAL	1,510,900	1%	UNKNOWN
10.CASSIDY'S	COMMERCIAL	1,358,000	1%	UNKNOWN
11. MINI MART	COMMERCIAL	1,122,000	1%	UNKNOWN
12. ABVI	COMMERCIAL	970,000	.8%	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?
Water Treatment Plant #1	1997	576,000	Pressure filtration & Chemical addition	Iron, Radium, Manganese, removal. Fluoridation Chlorination Corrosion Control	1,166,00 Gallons	Seepage Basin	No

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?
Water Treatment Plant #2	1999	576,000	Gravity filtration & Chemical addition	Iron, Radium, Manganese, removal. Fluoridation Chlorination Corrosion Control	1,248,000 Gallons	Sanitary Sewer	No
Total	NA	1,152,000	NA	NA	2,414,000	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)
Tower #1	Elevated storage	1981	Steel	150,000
Tower #2	Elevated Storage	2001	Steel	300,000
Total	NA	NA	NA	450,000

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):

The maximum projected daily demand over the next 10 years of 416,000 GPD is within the current storage capacity of 450,000 gallons. The maximum projected daily demand is significantly under the total treatment capacity of 1,152,000 gallons and also below the 576,000 GPD mean production capacity with one water plant out of service.

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 #3	538117	1995	400	69	Active	Yes
Ground Water	Well #4	562973	1996	350	145	Active	No
Ground Water	Well #5	752101	2007	400	473	Active	No

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.

Wells 4 and 5 are operated simultaneously and throttled at 200 GPM each to minimize the pumping of shale from wells 4 and 5. Wells 4 and 5 pump to water plant number 1 which has a capacity of 400 GPM. No other known limitations exist. There are no available interconnections with other water suppliers.

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?

1. Population increased 30% from 2005-2015 and has remained stable since 2011.
2. Total per capita water demand has trended downward from the high of 261 in 2005. The average total per capita water demand for 2010-2015 was 200 GPCD.
3. Average daily demand has remained relatively stable between 2005 and 2015 other than a spike in 2014.
4. The Maximum daily demand appears to have demonstrated a slight downward trend between 2005 and 2015. But this does not appear to be a reliable indicator due to volatility caused by water plant operations such as greensand filter media recharging and hydrant flushing as a part of distribution system maintenance.

Despite a population increase of 30% between 2005 and 2015 the Average daily demand over that same time period has remained relatively stable other than a spike in 2014 that appears to be related to a 30% unaccounted for water loss (most likely a distribution system leak). This does indicate that as time goes on and population grows, that same population has become more efficient with its water usage. This is verified in the 27% reduction of the Residential Per Capita Demand from 2005 vs the average of 2010–2015. There is also a documented 23% reduction in Total Per Capita Demand from 2005 vs the average of 2010-2015 indicating that the Commercial, Institutional, and Utility water usage is also becoming more efficient over time.

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	1812	1737	200	0.362	0.610
2017	1825	1750	200	0.365	0.610
2018	1838	1763	200	0.368	0.615
2019	1858	1783	200	0.372	0.615
2020	1878	1803	200	0.376	0.620
2021	1898	1823	200	0.380	0.620
2022	2018	1843	200	0.404	0.625
2023	2038	1863	200	0.408	0.625
2024	2058	1883	200	0.412	0.630
2025	2078	2003	200	0.416	0.630

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:

Projection growth estimates from 2018 City Engineer Feasibility Report. Projected Total Per Capita Water Demand taken from table 2. Projected Average Daily Demand = Total Population x Total Per Capita Water Demand.

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
538117 (Well 3)	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☐ SCADA ☐ grab sampling ☒ steel tape ☐ stream gauge
562973 (Well 4)	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☐ SCADA ☐ grab sampling ☒ steel tape ☐ stream gauge
752101 (Well 5)	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☐ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ 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
538117 (Well 3)	Fond du Lac		☐ Falling ☒ Stable ☐ Rising	MM/DD/YY:____ MM/DD/YY:08/01/18 MM/DD/YY:____
562973 (Well 4)	Fond du Lac		☐ Falling ☒ Stable ☐ Rising	MM/DD/YY:____ MM/DD/YY:08/01/18 MM/DD/YY:____
752101 (Well 5)	Fond du Lac		☐ Falling ☒ Stable ☐ Rising	MM/DD/YY:____ MM/DD/YY:08/01/18_ MM/DD/YY:____
			☐ Falling ☐ Stable ☐ 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
☒ River or stream	Grindstone River	☒ None anticipated ☐ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☐ Modeling ☐ Monitoring ☐ Aquifer testing ☐WRAPS or other watershed report ☒Proximity (<1.5 miles) ☐ Other: _____	☒ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ No data available ☐ Other: _____	☒Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☒Not applicable ☐ Newly collected data will be analyzed ☒ Regular check-in with these partners: _____ ☐ Other: _____
☐ Calcareous fen		☐ None anticipated ☐ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☐ Modeling ☐ Monitoring ☐ Aquifer testing ☐WRAPS or other watershed Report ☐Proximity (<5 miles) ☐ Other: _____ ☐ Other: ___	☐ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ Other: _____	☐Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☐Not applicable ☐ Newly collected data will be analyzed ☐ Regular check-in with these partners: _____ ☐ 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
☒ Lake	Lower Grindstone Lake	☒ None anticipated ☐ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☐ Modeling ☐ Monitoring ☐ Aquifer testing ☐WRAPS or other watershed report ☒Proximity (<1.5 miles) ☐ Other: _____ ☐ Other: ___	☒ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ Other: _____	☒Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☒Not applicable ☐ Newly collected data will be analyzed ☐ Regular check-in with these partners: _____ ☐ Other: _____
☒ Wetland	N/A	☒ None anticipated ☐ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☐ Modeling ☐ Monitoring ☐ Aquifer testing ☐WRAPS or other watershed report ☒Proximity (<1.5 miles) ☐ Other: _____	☒ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ Other: _____	☒Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☒Not applicable ☐ Newly collected data will be analyzed ☐ Regular check-in with these partners: _____ ☐ 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
☒ Trout stream	Spring Creek Mission Creek Pelkey Creek	☒ None anticipated ☐ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☐ Monitoring ☐ Aquifer testing ☐WRAPS or other watershed report ☒Proximity (< 5 miles) ☐ Other: _____	☒ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ Other: _____	☒Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☒Not applicable ☐ Newly collected data will be analyzed ☐ Regular check-in with these partners: _____ ☐ Other: _____
☒ Aquifer	Fond du Lac	☐ None anticipated ☒ Flow/water level decline ☐ Degrading water quality trends ☐ Impacts on endangered, threatened, or special concern species habitat ☐ Other: _____	☐ Geologic atlas or other mapping ☐ Modeling ☒ Monitoring ☐ Aquifer testing ☐Proximity (obwell < 5 miles) ☐ Other: _____	☒ Not applicable ☐ Additional data is needed to establish ☐ See report: _____ ☐ Other: _____	☒Not applicable ☐ Change groundwater pumping ☐ Increase conservation ☐ Other: _____	☐Not applicable ☒ Newly collected data will be analyzed ☐ Regular check-in with these partners: _____ ☐ 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	☐ In Process ☒ Completed ☐ Not Applicable	April 2013	April 2023
SWP	☐ In Process ☐ Completed ☒ 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	☐ No action planned - adequate ☐ Repair/replacement ☒ Expansion/addition	2022	Drill well #6 as a backup well for well #3
Water Storage Facilities	☐ No action planned - adequate ☒ Repair/replacement ☒ Expansion/addition	2022	Replace 150,000 gallon legged with pedestal
Water Treatment Facilities	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		
Distribution Systems (Pipes, valves, etc.)	☐ No action planned - adequate ☐ Repair/replacement ☒ Expansion/addition	2022	Looping of existing mains and limited expansion for tribal development

System Component	Planned action	Anticipated Construction Year	Notes
Pressure Zones	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		
Other:	☐ No action planned - adequate ☐ Repair/replacement ☐ 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	Water Plant #2	Well #6	400 GPM	2022	
Surface Water	N/A				
Interconnection to another supplier	N/A				

Water Source Alternatives - *Key Metropolitan Council Benchmark*

Do you anticipate the need for alternative water sources in the next 10 years? Yes ☐ No ☒

For metro communities, will you need alternative water sources by the year 2040? 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
☐ Groundwater	N/A					
☐ Surface Water	N/A					

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
☐ Reclaimed stormwater	N/A					
☐ Reclaimed wastewater	N/A					
☐ Interconnection to another supplier	N/A					

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? __2007_____

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	KYLE MORELL	320-384-7491	CITYADMIN@CITYOFHINCKLEY.COM
Alternate Emergency Response Lead	MAYOR DON ZEMAN	320-384-7491	

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
None N/A			
Add rows as needed			

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
River N/A				
School Pool N/A				
Hotel Pools N/A				

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

Bottled water may be purchased and supplied pending City approval at multiple local grocery stores as well as the WalMart located at Pine City, Cloquet or other available locations.

Water may also be made available by contacting the American Red Cross 612-871-7676 or 800-560-7640

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 (GDP)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	71,825	18,488
Institutional	1	5,785	0
Commercial	1	212,034	0
Industrial	1	INCLUDE IN COMMERCIAL	INCLUDE IN COMMERCIAL
Irrigation-Casino Outdoor	6	16,250	16,250
Wholesale	5	110	110
Non-Essential (Car Wash)	6	5,428	5,428
TOTAL	NA	311,432	40,276

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
☒ Contamination ☒ Loss of production ☒ Infrastructure failure ☒ Executive order by Governor ☐ Other: _____	☐ Supply augmentation through ____ ☒ 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. ☐ Water allocation through____ ☒ Meet with large water users to discuss their contingency plan.	☐ Supply augmentation through ____ ☒ 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. ☐ Water allocation through____ ☒ 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
☒ Short-term demand reduction declared (< 1 year)	☒ Website ☐ Email list serve ☒ Social media (e.g. Twitter, Facebook) ☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☒ Meeting with large water users (> 10% of total city use) ☐ Other: _____	☒ Daily ☒ Weekly ☒ Monthly ☐ Annually	Website and Social Media daily or weekly. Newspaper and radio weekly or monthly. Meetings as necessary.
☒ Long-term Ongoing demand reduction declared	☒ Website ☐ Email list serve ☒ Social media (e.g. Twitter, Facebook) ☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☒ Meeting with large water users (> 10% of total city use) ☐ Other: _____	☒ Daily ☒ Weekly ☒ Monthly ☐ Annually	Website and Social Media daily or weekly. Newspaper and radio weekly or monthly. Meetings as necessary.
☒ Governor's critical water deficiency declared	☒ Website ☐ Email list serve ☒ Social media (e.g. Twitter, Facebook)	☒ Daily ☒ Weekly ☒ Monthly ☐ Annually	Website and Social Media daily or weekly. Newspaper and radio weekly or

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
	☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☒ Meeting with large water users (> 10% of total city use) ☐ Other: _____		monthly. Meetings as necessary.

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**. Attach Water Emergency and Conservation Plan

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.

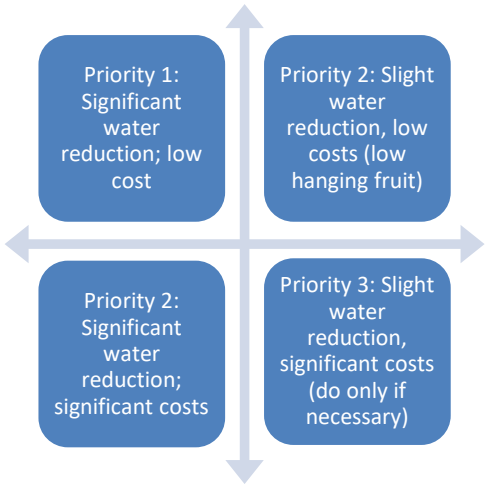
Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions? Yes ☒ No ☐

If yes, cite the regulatory authority reference: _Water Emergency and Conservation Plan.

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

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.

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	☐ Yes ☒ No
Water supply system improvements (e.g. leak repairs, valve replacements, etc.)	☒ Yes ☐ No
Educational efforts-City distributes a semi-annual newsletter. Recent newsletter contained information on what to do in the event of a water leak.	☒ Yes ☐ No
New water conservation ordinances	☐ Yes ☒ No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.	☐ Yes ☒ No
Enforcement	☐ Yes ☒ No
Describe other-Implemented a meter upgrade program in 2017. New meters have leak detection capability. Water users with leaks are notified from daily leak reports.	☐ Yes ☐ No

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

Despite a population increase of 30% between 2005 and 2015 the Average daily demand over that same time period has remained relatively stable other than a spike in 2014 that appears to be related to a 30% unaccounted for water loss (most likely a distribution system leak). This does indicate that as time goes on and population grows, that same population has become more efficient with its water usage. This is verified in the 27% reduction of the Residential Per Capita Demand from 2005 vs the average of 2010–2015. There is also a documented 23% reduction in Total Per Capita Demand from 2005 vs the average of 2010-2015 indicating that the Commercial, Institutional, and Utility water usage is also becoming more efficient over time.

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 N/A	☐ Low stream flow conditions ☐ Reports of declining wetland and lake levels ☐ Other: _____	☐ Increase promotion of conservation measures ☐ Other: _____
Short-term demand reduction (less than 1 year	☒ Extremely high seasonal water demand (more than double winter demand) ☒ Loss of treatment capacity ☒ Lack of water in storage ☒ State drought plan ☒ Well interference ☐ Other: _____	☒ 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. ☐ Supply augmentation through ____ ☐ Water allocation through____ ☒ Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	☐ Per capita demand increasing ☒ Total demand increase (higher population or more industry). Water level in well(s) below elevation of _____ ☐ Other: _____	☒ 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. ☒ 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. ☒ Meet with large water users to discuss user's contingency plan. ☒ Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	Governor's "Critical Water Deficiency Order" declared	☒ 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. ☒ 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. ☒ Meet with large water users to discuss user's contingency plan. ☒ Enhanced monitoring and reporting: audits, meters, billing, etc.

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 (2010-2015) 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)

N/A

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? February 2018 with 2017 DNR Water Use Report

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: __N/A_____

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

Implement monthly water audits of water pumped versus water sold in 2019 to identify water loss incidents in a timely fashion. Utilize MNRWA for water leak detection as needed based on water audit results.

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	491	491	61		___ / ___
Irrigation meters	6	6			___ / ___
Institutional	19	19			___ / ___
Commercial	95	95	7		___ / ___
Industrial					___ / ___
Public facilities	6	6	2		___ / ___
Other					___ / ___
TOTALS				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.

N/A

Table 24. Water source meters

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years
Water source (wells/intakes)	N/A	N/A	N/A	N/A / N/A
Treatment plant	3	2	2	21 / N/A

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? 37 g/person/day

Describe the water use trend over that timeframe:

There was a modest reduction of the Residential Per Capita Demand from 2010–2015.

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
☐ Revise city ordinances/codes to encourage or require water efficient landscaping.	
☐ Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	
☐ Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	
☐ 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.	
☒ Make water system infrastructure improvements	As needed
☐ Offer free or reduced cost water use audits) for residential customers.	
☒ Implement a notification system to inform customers when water availability conditions change.	As needed
☐ 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.)	
☐ 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.)	
☐ Identify supplemental Water Resources	
☒ Conduct audience-appropriate water conservation education and outreach.	On-going education in news letter
☐ 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
☐ Conduct a facility water use audit for both indoor and outdoor use, including system components	
☒ Install enhanced meters capable of automated readings to detect spikes in consumption	On-going meter upgrade program
☐ 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.)	
☒ Install water conservation fixtures and appliances or change processes to conserve water	State Plumbing Code in place
☒ Repair leaking system components (e.g., pipes, valves)	As needed
☒ Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	Casino currently storing basement dewatering discharge water in cistern for fire suppression.
☐ Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
☐ Train employees how to conserve water	
☒ Implement a notification system to inform non-residential customers when water availability conditions change.	As needed
☐ 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. Plumbing code 4714.1702, Published October 31, 2016	
☒ Describe other plans:	Grindstone Laundry reuses laundry rinse water.

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.

Per capita water demand is trending lower for each year, although we do see an occasional spike in demand. It appears that this trend is due to improvements in detecting water leaks, continued

education efforts regarding water conservation to residents and customers, and installation of water conserving fixtures in new construction and remodeling work. We predict that the trend of reduced per capita water demand will continue into the next decade.

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: 1.92_

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: __January 2017___

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

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
Residential	☒ Monthly billing ☐ Increasing block rates (volume tiered rates) ☐ Seasonal rates ☐ Time of use rates ☐ Water bills reported in gallons ☐ Individualized goal rates ☐ Excess use rates ☐ Drought surcharge ☐ Use water bill to provide comparisons ☒ Service charge not based on water volume ☐ Other (describe)	☒ Uniform ☐ Odd/even day watering	☐ Service charge based on water volume ☐ Declining block ☐ Flat ☐ Other (describe)
Commercial/ Industrial/ Institutional	☒ Monthly billing ☐ Increasing block rates (volume tiered rates) ☐ Seasonal rates ☐ Time of use rates ☐ Water bills reported in gallons ☐ Individualized goal rates ☐ Excess use rates ☐ Drought surcharge ☐ Use water bill to provide comparisons ☒ Service charge not based on water volume ☐ Other (describe)	☒ Uniform	☐ Service charge based on water volume ☐ Declining block ☐ Flat ☐ Other (describe)
☐ 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:

We provide many opportunities and education including online account access where customers can view historical usage and compare to previous usage, leak detection tablets, and water conservation strategies in our newsletter and educational materials.

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 <u>least two</u> 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

☐	Participate in the GreenStep Cities Program, including implementation of at least one of the 20 "Best Practices" for water
☐	Prepare a master plan for smart growth (compact urban growth that avoids sprawl)
☐	Prepare a comprehensive open space plan (areas for parks, green spaces, natural areas)
☒	Adopt a water use restriction ordinance (lawn irrigation, car washing, pools, etc.)
☒	Adopt an outdoor lawn irrigation ordinance
☒	Adopt a private well ordinance (private wells in a city must comply with water restrictions)
☐	Implement a stormwater management program

☐	Adopt non-zoning wetlands ordinance (can further protect wetlands beyond state/federal laws- for vernal pools, buffer areas, restrictions on filling or alterations)
☐	Adopt a water offset program (primarily for new development or expansion)
☒	Implement a water conservation outreach program
☐	Hire a water conservation coordinator (part-time)
☐	Implement a rebate program for water efficient appliances, fixtures, or outdoor water management
☐	Other

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

A decrease in the ratio between the maximum daily usage and the average daily usage would show that conservation efforts are working.

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)?
☐ Rainfall sensors required on landscape irrigation systems	☐ Ongoing ☐ Seasonal ☐ Only during declared Emergencies
☐ Water efficient plumbing fixtures required	☐ New development ☐ Replacement ☐ Rebate Programs

Regulations Utilized	When is it applied (in effect)?
☒ Critical/Emergency Water Deficiency ordinance	☐ Only during declared Emergencies
☐ Watering restriction requirements (time of day, allowable days, etc.)	☐ Odd/even ☐ 2 days/week ☐ Only during declared Emergencies
☐ Water waste prohibited (for example, having a fine for irrigators spraying on the street)	☐ Ongoing ☐ Seasonal ☐ Only during declared Emergencies
☒ Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	☒ New development ☐ Shoreland/zoning ☐ Other
☐ Soil preparation requirement s (after construction, requiring topsoil to be applied to promote good root growth)	☐ New Development ☐ Construction Projects ☐ Other
☐ Tree ratios (requiring a certain number of trees per square foot of lawn)	☐ New development ☐ Shoreland/zoning ☐ Other
☐ Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	☐ Ongoing ☐ Seasonal ☐ Only during declared Emergencies
☐ Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	☐ 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
☐ Low flush toilets, ☒ Toilet leak tablets, ☐ Low flow showerheads, ☐ Faucet aerators;	☐ Education about ☒ Free distribution of ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☐ Watershed organization
☐ Water conserving washing machines, ☐ Dish washers, ☐ Water softeners;	☐ Education about ☐ Free distribution of ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☐ Watershed organization
☐ Rain gardens, ☐ Rain barrels, ☐ Native/drought tolerant landscaping, etc.	☐ Education about ☐ Free distribution of ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☐ 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.):

We distribute toilet leak tablets to approximately five residential households on an annual basis.

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	Most common leaks to check	12	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Consumer Confidence Reports		1	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)		3	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Social media distribution (e.g., emails, Facebook, Twitter)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Presentations to community groups			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Staff training			☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Facility tours			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Displays and exhibits		1	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community news letters		2	☐ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Direct mailings (water audit/retrofit kits, showerheads, brochures)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Information kiosk at utility and public buildings		12	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Public service announcements			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Cable TV Programs		1	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Demonstration projects (landscaping or plumbing)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
K-12 education programs (Project Wet, Drinking Water Institute, presentations)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community events (children's water festivals, environmental fairs)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community education classes			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Water week promotions			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Website (include address: www.hinckley.govoffice2.com)		3	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Targeted efforts (large volume users, users with large increases)		12	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Notices of ordinances			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Emergency conservation notices			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Other:			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies

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

Water Conservation displayed at City Hall- Notices sent to high users as well as when a leak is detected through their meter- posters at City Hall Library

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
☐ None at this time		
☐ Comprehensive planning that guides development in vulnerable drinking water supply management areas		
☐ Zoning overlay		
☐ Other:		

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 1

E.H. Renner & Sons
Incorporated

WELL DRILLING FOR FIVE GENERATIONS
15688 Jarvis Street NW * Elk River, Minnesota 55330
Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL

LINESHAFT TURBINE PUMP INSPECTION

City of Hinckley
Jerry Williams
320-630-5304

Location: North of golf course
Installed: 2010
Pump: 4
File: 3898
Unique No:

		Date	6/25/2015	08/04/14	06/18/13	06/09/11	06/19/09	06/19/08
		Report	9	8	7	6	6	5
Protection			CB	CB	CB	CB	CB	CB
Size			150	150	150	150	150	150
Starter Danfoss VFD			VFD	VFD	VFD	VFD	ESS	ESS
Hertz			48	46	47.2	51	60	60
Estimated RPM Full Load		1770	1445	1357	1430	1504.5	1770	1770
Wiring			OK	OK	OK	OK	OK	OK
Line Voltage		A-B	208	208	208	208	208	Running
		B-C	208	208	208	208	210	Running
		A-C	208	208	208	208	211	Running
Running Voltage		A-B	139	129.9	137	167	208	206
		B-C	139	129.9	137	167	205	204
		A-C	139	129.9	137	167	207	205
Amperage - Full Load		**98**	**98**	**98**	**98**	**98**	**98**	**98**
		L1	50	49.4	49.4	64	88	86
		L2	50	49.4	49.4	64	89	87
		L3	50	49.4	49.4	64	87	80
DC Buss Volts			283	284			Megs - Ok	Megs - Ok
Driver: **Yaskawa 40 Hp**								
Static Water Level		(Ft)	30	27	31	42	30	
Pumping Water Level		(Ft)	47	44	50	66	75	86
Gallons per Minute			180	176	200	300	380	350
Draw Down		(Ft)	17	17	19	24	45	
Gallons per Ft of D. D.			10.6	10.4	10.5	12.5	8.4	
Pressure		(PSI)	65	65	58	51	72	74
Est. Friction Loss		(Ft)	3.13	3.13	3.13	3.13	3.13	3.13
Est. Total Head		(Ft)	200.3	197.3	187.1	186.9	244.5	
Pump: **Layne 9BL - 6 Stage 350 GPM at 240', 120' x 6" x 1"**								
Vibration - Parallel With Discharge Line (Displacement - Inches)								
		Top	0.0022	0.0005	0.0014	0.0010	**0.0060**	**0.0040**
		Bottom	0.0018	0.0004	0.0004	0.0008	**0.0050**	0.0020
		Head	0.0004	0.0001	0.0001	0.0002	0.0012	0.0014
Vibration - Ninety Degrees From Discharge Line (Displacement - inches)								
		Top	0.0012	0.0016	0.0006	0.0010	**0.0044**	**0.0040**
		Bottom	0.0006	0.0010	0.0002	0.0004	0.0014	0.0014
		Head	0.0002	0.0001	0.0001	0.0001	0.0004	0.0002
Noise - Decibels		Top	81	82	80	Normal	Normal	Normal
		Bottom	86	89	81	Normal	Normal	Normal
		Head	79	75	78	Normal	Normal	Normal
Check Valve (Singer)			Ok	OK	OK	OK	OK	OK
Oil			15-Jun	Jul-14	OK	OK	OK	OK
Packing			Ok	OK	OK	OK	OK	OK
Hours - VFD Running			12067.0	3149	6146		27601.7	25587.0
Other								

E.H. Renner & Sons

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

*15688 Jarvis Street NW * Elk River, Minnesota 55330*

*Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL*

LINESHAFT TURBINE PUMP INSPECTION

City of Hinckley | Steve Hays | 320-630-6989 | Pump: 3

Jerry Williams | Location | Installed | File: 1626

320-630-5304 | Northeast of Treatment Plant in town | 1995 | Unique No: 538117

		Date	6/18/2018	6/25/2015	8/4/2014	06/18/13	06/07/12	06/09/11	06/19/09
		Report	11	10	9	8	7	6	5
Protection			CB	CB	CB	CB	CB	CB	CB
Size			150	150	150	150	150	150	150
Starter - Danfoss VFD			VFD	VFD	VFD	VFD	VFD	VFD	ESS
Hertz			44	44	44	44	44	44	60
Estimated RPM Full Load		1770	1320	1320	1298	1298	1298	1298	1770
Drive Faults				Over	NA	NA	NA	NA	NA
Reset				Current	NA	NA	NA	NA	NA
Wiring			Ok		OK	OK	OK	OK	OK
Line Voltage		A-B	240	Running	Running	Running	Running	244	243
		B-C	240	Running	Running	Running	Running	244	240
		A-C	240	Running	Running	Running	Running	244	241
Running Voltage		A-B	146	146.8	146.8	146.8	146.8	175	236
		B-C	146	146.8	146.8	146.8	146.8	175	237
		A-C	146	146.8	146.8	146.8	146.8	175	237
Amperage - Full Load		**74.2**	**74.2**		**74.2**	**74.2**	**74.2**	**74.2**	**74.2**
		L1	45	45.3	44.9	45.2	45.2	45	69.9
		L2	45	45.3	44.9	45.2	45.2	45	70
		L3	45	45.3	44.9	45.2	45.2	45	67.4
DC Buss Volts			323	324	323	321	380		
Driver: **US 30 Hp 260 TP Type KS 12" BD**									
Static Water Level		(Ft)	13		13	13		12	26
Pumping Water Level		(Ft)	41		46	41	41	25	41
Gallons per Minute			380	400	340	380	380	420	500
Draw Down		(Ft)	28		33	28		13	15
Gallons per Ft of D. D.			13.6		10.3	13.6		32.3	33.3
Pressure (20 Foot Pumping Heights)		(PSI)	18	18	9	9	9	9	9
Est. Friction Loss		(Ft)	2	2	2	2	2	2	2
Est. Total Head		(Ft)	85	44	68	63	63	47	63
Pump: **Floway**									
Vibration - Parallel With Discharge Line (Displacement - Inches)									
	Top		0.0002	0.0002	0.0002	0.0002	0.0001	0.0004	0.0004
	Bottom		0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
	Head		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Vibration - Ninety Degrees From Discharge Line (Displacement - inches)									
	Top		0.0002	0.0002	0.0002	0.0002	0.0004	0.0008	0.0009
	Bottom		0.0001	0.0001	0.0001	0.0001	0.0001	0.0004	0.0005
	Head		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003
Noise - Decibels	Top		85	85	82	86	86	Normal	Normal
	Bottom		87	85	89	87	87	Normal	Normal
	Head		84	84	86	86	87	Normal	Normal
Check Valve		Ok		Ok	OK	OK	OK	OK	OK
Oil		Grease		Grease	Grease	Grease	Grease	Grease	Grease
Packing		Ok		Ok	OK	OK	OK	OK	OK
Hours - VFD Running			57955	15336	12539	8560	37777	34614	29747
Other		Careful with beads can get caught on edge of vent							Throttled

E.H. Renner & Sons

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

*15688 Jarvis Street NW * Elk River, Minnesota 55330*

*Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL*

SUBMERSIBLE TURBINE PUMP INSPECTION

City of Hinckley
Jerry Williams
320-630-5304

Location: North of golf course

Installed: 2008

Well Pump: 5
File:
Unique No. 752101

		Date Report	6	5	4	3	6/18/2018 2	**7/13/2004** 1
Protection							C.B.	C.B.
Size								
Condition of wiring							New	New
Starter - Allen Bradley							New	New
Hertz							51	60
Estimated RPM Full Load		1741					1530	1800
Faults							NA	
Reset							NA	
Line Voltage	A-B						480	480
	B-C						480	480
	A-C						480	480
Running Voltage	A-B						392	
	B-C						392	
	A-C						392	
Buss Voltage							657	
Amps - Full Load							**51.7**	
	L1						30.0	
	L2						30.0	
	L3						30.0	
Average Amps							30.0	0.0
5 Percent Amp Variance							1.5	0.0

Driver: 40 Hp 230/60/3

Static Water Level	(Ft)							
Pumping Water Level	(Ft)							
Gallons per Minute							250	
Draw Down	(Ft)							
Gallons per Ft of D. D.								
Pressure	(PSI)						62	
Est. Friction Loss	(Ft)							
Est. Total Head	(Ft)							

Pump: Gould Pump 9WAHC - 2 Stage

Below Base Noise							None	None
Vac/Air Release Valve							Ok	New
Check Valve							Ok	New
Throttled							No	
Hours							15459	0.0
Other								

Appendix 2

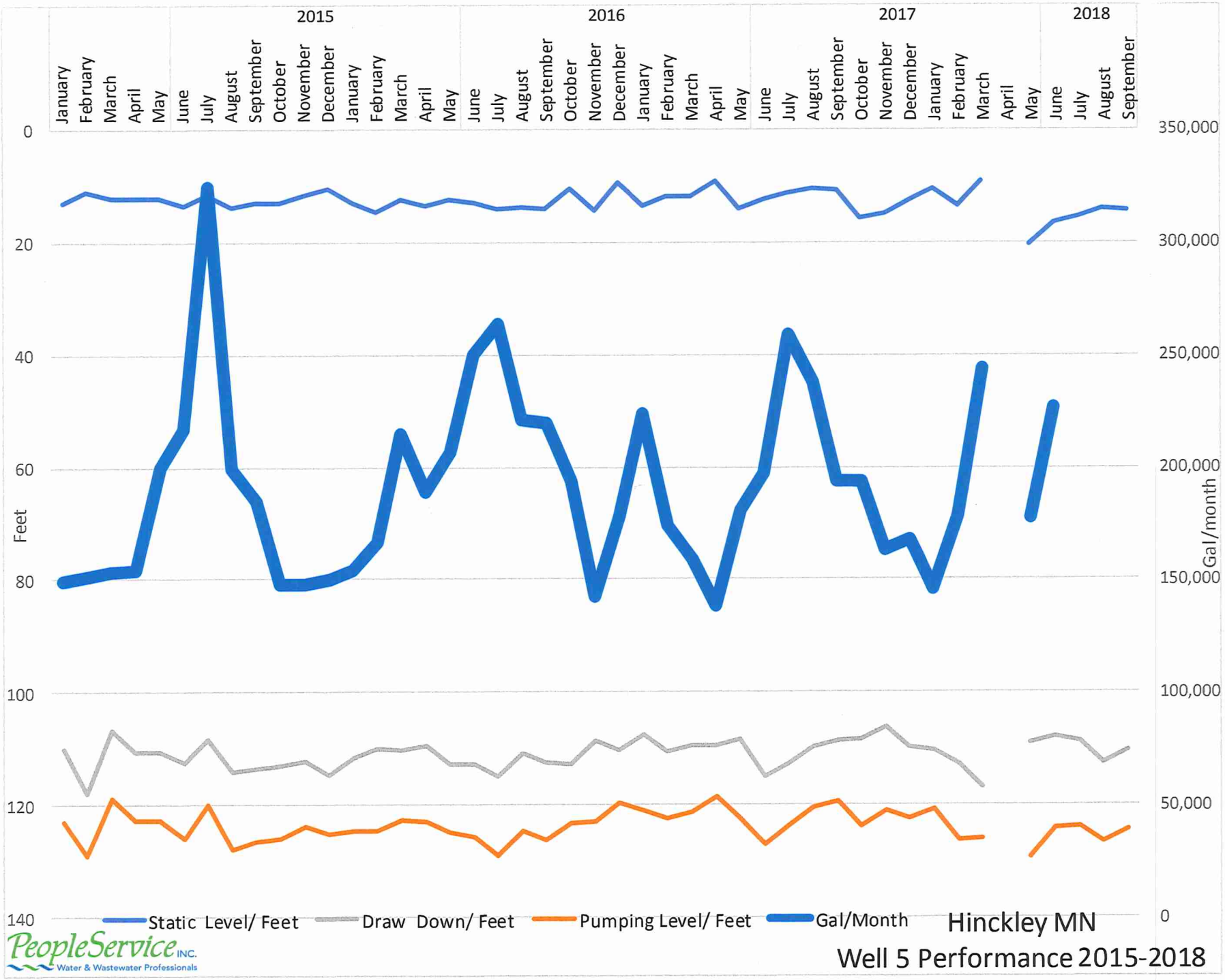
City of Hinckley Municipal Well Water Level Monitoring Plan

The City of Hinckley operates three municipal drinking water wells.

The static and drawdown levels in Wells #3 and #4 are monitored with the use of an electric well sounder and the levels in well #5 are monitored with a pressure transducer that is connected to the SCADA system.

All wells are to be monitored at least monthly and all readings are to be documented on the Water Level Log Sheets that are maintained at each well house location.

Appendix 3


2015
2016
2017
2018
January
February
March
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August
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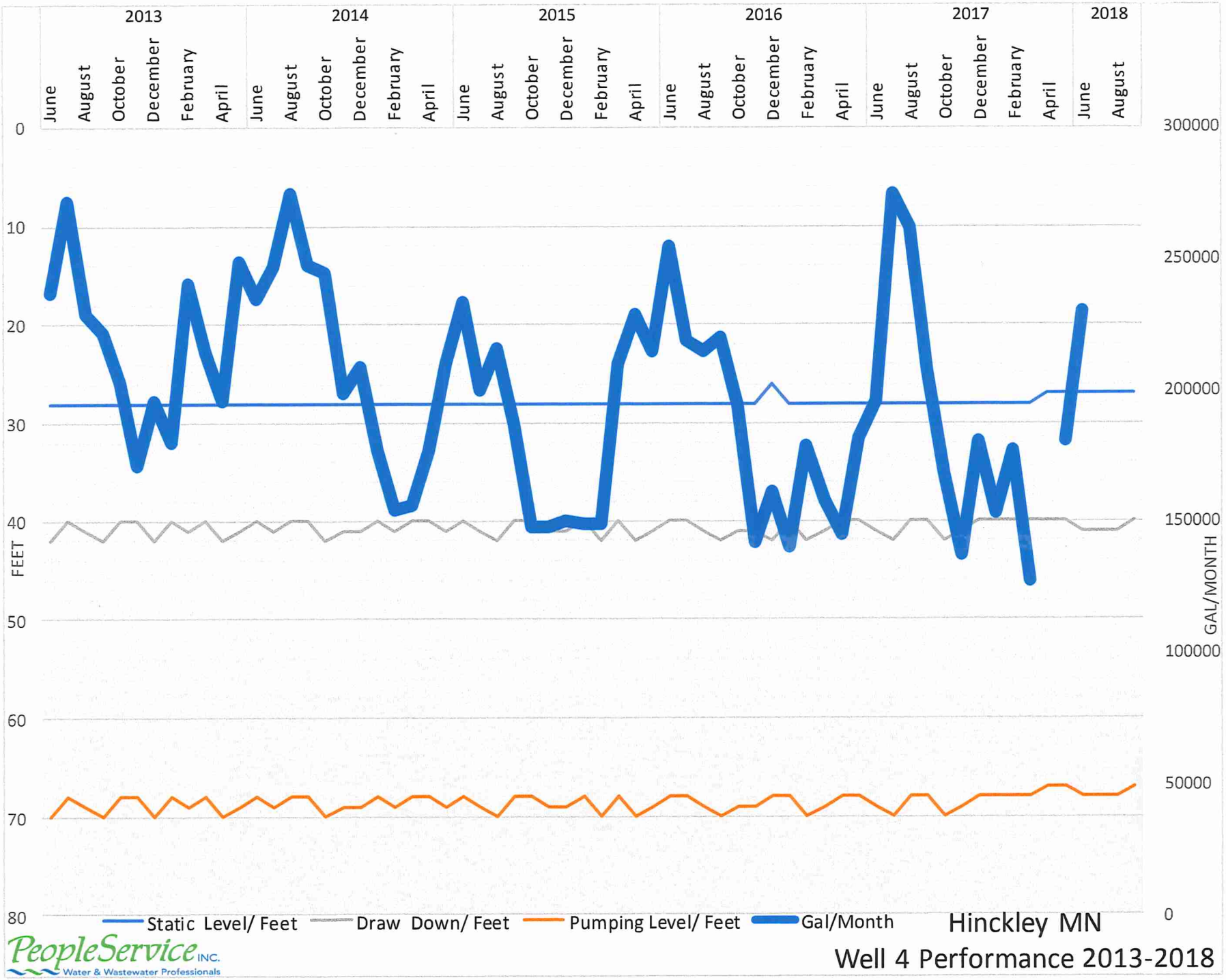
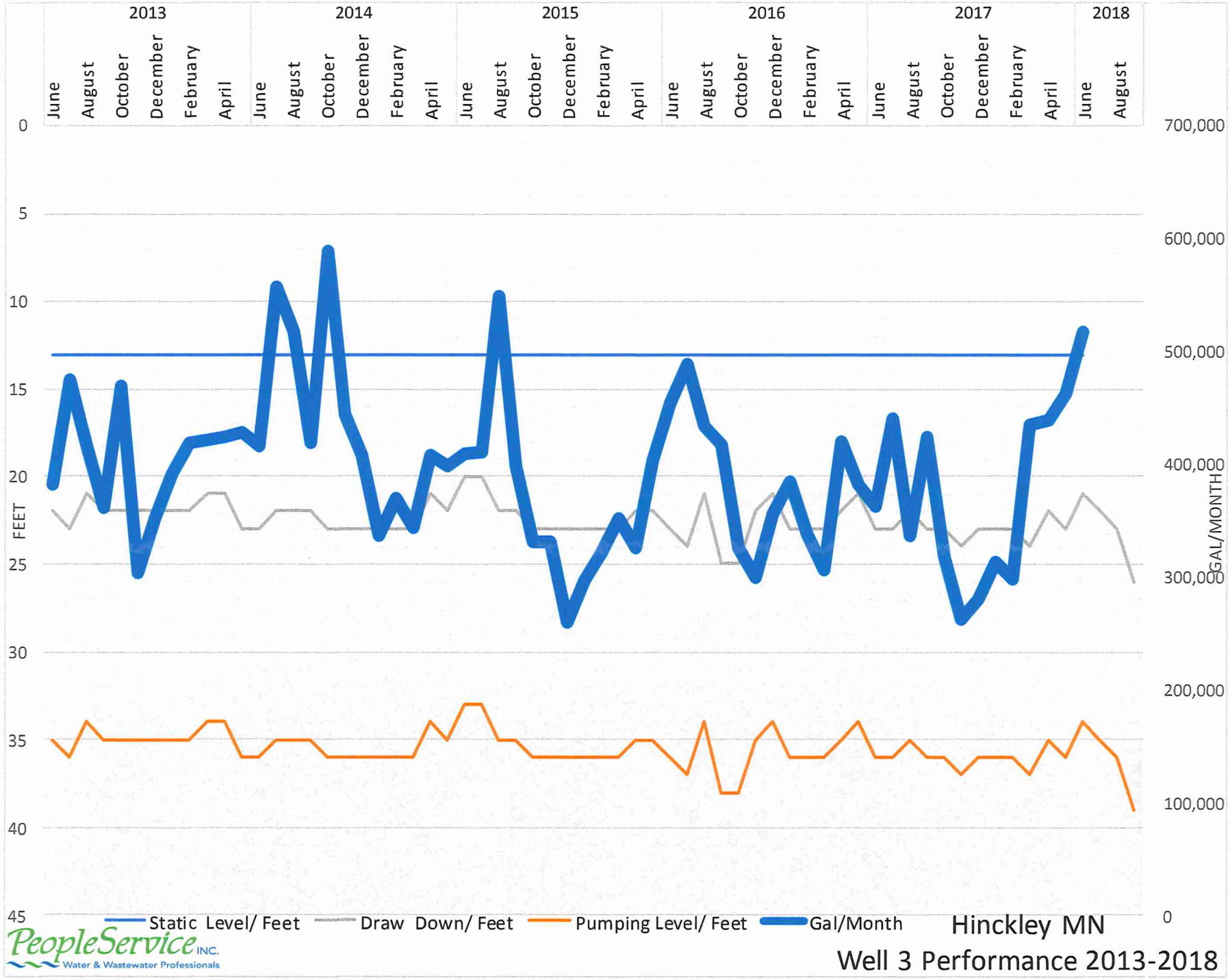
December
January
February
March
April
May
June
July
August
September
0
20
40
60
80
100
120
140
Feet
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Gal/month
Static Level/ Feet
Draw Down/ Feet
Pumping Level/ Feet
Gal/Month
Hinckley MN
Well 5 Performance 2015-2018
PeopleService INC.
Water & Wastewater Professionals


2013
2014
2015
2016
2017
2018
June
August
October
December
February
April
0
10
20
30
40
50
60
70
80
FEET
300000
250000
200000
150000
100000
50000
0
GAL/MONTH
Static Level/ Feet
Draw Down/ Feet
Pumping Level/ Feet
Gal/Month
Hinckley MN
Well 4 Performance 2013-2018
PeopleService INC.
Water & Wastewater Professionals


2013
2014
2015
2016
2017
2018
June
August
October
December
February
April
0
5
10
15
20
25
30
35
40
45
FEET
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
GAL/MONTH
Static Level/ Feet
Draw Down/ Feet
Pumping Level/ Feet
Gal/Month
Hinckley MN
Well 3 Performance 2013-2018
PeopleService INC.
Water & Wastewater Professionals

Appendix 4

City of Hinckley, Minnesota August 2019
Projects, Debt & Revenue Allocation Worksheet

	-			Annual Amount to Fire Fund >>	42,234
					0%
Baseline	Cap. Outlay				Increased Tsfrs to Gen Fund
General Fund	-	Historic	150,000	Funds to Street Reserves	Liquor -
General Fund	-	New (2019+)	-	Annual Transfer Street / Equip Funds (Sewer Fund be	Water -
Sewer Fund	50,000	New (2019+)	-	Annual Transfer to Fund Street / Equip Funds (Water I	Sewer -
Water Fund	35,000	New (2019+)	-	Annual Transfer Fund Street / Equip Funds (Liquor Fund beg 2014)	
Liquor Fund	-	New (2019+)			

Graph Options

yes	< prevent rate reductions? (yes,no)	5	Population Growth/Year	150,000	Annual Street Spending Fund 400
125,000	< value of "typical" homestead for impact	2	Households/Year		2020+
5,000	< typical water usage per month				
950,000	< value of business for impact				
1%	< market value inflation factor	10.0%	Water 2020	-	LGA Cuts (increase) 2020+
3%	< construction inflation factor	2.0%	Water 2021+	-	Offsets
2%	< Spending Increase % (GF, Water, Sewer)	0.0%	Sewer 2020+	-	Net Increase in Levy
2%	< Tax Base Growth Assumption	1.5%	Liquor Store 2020+		

Projects & Debt

# Project	Pumper & Tanker 2	Road & Utility for Hsg Project	Grass Rig & J-5	Water Meters & Network	Water Tower Maintenance (PFA?)	Sewer Project PFA?		
Est Year 2019 Cost	**450,000**	**700,000**	**175,000**	**200,000**	**800,000**	**2,000,000**	-	-
NET Financed (Inflation Less Cash)	453,443	721,000	191,227	206,000	955,242	2,687,833	-	-
Type Bond	GO	GO	GO		GO	GO	GO	GO
Term	15	10	15	12	20	20	20	20
Rate	3.25%	3.00%	3.25%	0.00%	2.00%	2.00%	2.00%	2.00%
Bond Pymt	38,674	84,523	16,309	17,167	58,419	164,379	-	-
Yr Built	**2026**	**2020**	**2022**	**2020**	**2025**	**2029**	**0**	**0**

Repayment Sources

CASH	Capital Reserves	-	-	-	-	-	-	-	-
	Liquor Funds	-	-	-	-	-	-	-	-
	Other Funds (Fire, etc.)	100,000	-	-	-	-	-	-	-
	Water Fund	-	-	-	-	-	-	-	-
	Sewer Fund	-	-	-	-	-	-	-	-
DEBT	Other Funds (Fire, etc.)	0%	0%	0%	0%	0%	0%	0%	0%
	NET Assmts	0%	0%	0%	0%	0%	0%	0%	0%
	Liquor Fund	0%	0%	0%	0%	0%	0%	0%	0%
	Sewer Rates/Fees	0%	100%	0%	0%	0%	100%	0%	100%
	Water Rates/Fees	0%	0%	0%	100%	0%	0%	100%	0%
	Tax Levies	100%	0%	100%	0%	100%	0%	0%	0%
		100%	100%	100%	100%	100%	100%	100%	100%

Appendix 5

EMERGENCY RESPONSE PERSONAL:

Fire	911
Police	911
Ambulance	911
Hawkins Chemical	John Clemens: Cell # 1-612-670-2759 Office # 612-331-9100 Mike Clemens: Cell # 651-246-5031 Home# 651-464-2700
Braun Pump	1-800-211-6432
Chemtrec (Information on all Chemical leaks)	1-800-296-9300
Minnesota Pollution Control Agency Duty Officer Report Leak within one (1) Hour	1-612-296-8100

Backhoe's

Name	Location	Phone Number
Randy Rabe	Home	320-384-7509
	Cell	500-730-1672
Ron Rabe	Home	320-384-6168
	Cell	
Scott Jensen	Home	320-384-7397
	Cell	800-630-9014

Septic Service

Name	Location	Phone Number
American Septic	Home	320-384-7401
	Cell	320 630 7401
Purple Pumper	Home	320-384-6314
Schlomka Septic	Cell	320-390-0105

Utilities

Name	Location	Phone Number
USWest (Qwest)		800-228-4966
MN Power	Sandstone	218-720-2764
People's Energy One		800-303-0357
SCI Cable	Hinckley	384-7442

Electricians

Name	Location	Phone Number	
John Papenfuhs	Home	384-0429	
	Cell	500-241-6666	
Steve Chaffee	Home	384-7323	
	Cell		
Matt Maser	Home	320-384-0701	Cell 320-280-0783

Plumbers

Name	Location	Phone Number
Paul Holmes	Home	384-7271
	Cell	
Greg Kendall	Home	384-7711
	Cell	
Wayne Mans	Home	384-6414
	Cell	
Toms Plumbing	Cell	612-221-6625

Other Numbers

Name	Location	Phone Number
Total Control	Braham	320-396-4442
Braun Pump	Danbury	800-211-6432
Hawkins Chemical	Office	800-513-2901
John Clemons	Home	
	Cell	612-670-2759
Mike Clemons	Home	763-464-2700
General Repair	Office	800-767-5151
Minnesota Duty Officer		800-422-0798
Katolight Generator		507-625-7973
Trojan Technologies		800-666-9459
Dept of Health		
Lucas Martin	Office	651-201-4144
MPCA	Office	800-657-3864
Mora Medical Center	Office	384-6189
Kanabec County Hospital		679-1212
Pine Medical Center		245-2211
Hinckley Dental Center	Office	384-6118
	Home	384-7944
City Hall	Office	384-7491

Appendix 6

Cooperative Agreements for Emergency Water Supply

There are no Cooperative Agreements for Emergency Water Supply.

To date we have not identified any significant Emergency Water Supply sources.

Appendix 7

CERTIFICATION OF ADOPTION
WATER EMERGENCY AND CONSERVATION PLAN

City or Water System Name: **City of Hinckley**

Name of Person Authorized to Sign
Certification on Behalf of the System: **Jim Ausmus**

Title: **Clk/Administrator**

Address: **106 First Street, P.O., Box 366, Hinckley MN 55037**

Telephone: **320 384 7491** Fax: **320 384 7492**

E-mail: **jausmus@sciable.net**

I certify that the Water Emergency and Conservation 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:

Jim Ausmus 10-3-06

✓

Fax (651/296-0445) or mail this certification to: DNR Waters
10-3-06
Water Permit Programs Supervisor
500 Lafayette Road
St. Paul, MN 55155-4032

TRANSACTION REPORT

OCT-04-2006 WED 10:48 AM

TX (MEMORY)

#	DATE	START TM	RECEIVER	COM TIME	PGS	TYPE/NOTE	DEPT	FILE
1	OCT-04	10:48 AM	16512960445	0:00:17	1	SG3 OK		446
TOTAL				0:00:17	1			

DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WATERS and METROPOLITAN COUNCIL
WATER EMERGENCY AND CONSERVATION PLANS

These guidelines are divided into four parts. The first three parts, Water Supply System Description and Evaluation, Emergency Response Procedures and Water Conservation Planning apply statewide. Part IV, relates to comprehensive plan requirements that apply only to communities in the Seven-County Twin Cities Metropolitan Area. If you have questions regarding water emergency and conservation plans, please call (651) 296-0512 or (651) 297-4600 or e-mail your question to wateruse@dnr.state.mn.us. Metro Communities can also direct questions to the Metropolitan Council at watersupply@metc.state.mn.us or (651) 602-1066.

DNR Water Appropriation Permit Number(s)	731399 Wells 3 & 4
Name of Water Supplier	**City of Hinckley**
Address	106 First Street SE
Contact Person	Jim Ausmus
Title	Administrator
Phone Number	320 384 7491
E-Mail Address	jausmus@scicable.net

PART I. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

The first step in any water supply analysis is to assess the current status of demand and supplies. Information in Part I, can be used in the development of Emergency Response Procedures and Conservation Plans.

A. ANALYSIS OF WATER DEMAND.

Fill in Table 1 for the past 10 years water demand. If your customer categories are different than the ones listed in Table 1, please note the changes below.

TABLE 1 Historic Water Demand

Year	Total Population	Population Served	Total Connections	Residential Water Sold (MG)	C/I/I Water Sold (MG)	Wholesale Deliveries (MG)	Total Water Sold (MG)	Total Water Pumped (MG)	Percent Unmetered/ Unaccounted	Average Demand (MGD)	Maximum Demand (MGD)	Residential gallons/ capita/day	Total gallons/ capita/day
1996	1141	1121	445	24.7	74	5	104	103	-1	.282	.515	60	254
1997	1150	1130	460	24.7	74	5	104	99	-5	.271	.466	59	252
1998	1164	1144	460	29.7	89	5	124	120	-3	.328	.519	71	297
1999	1165	1145	462	31.5	94	5	131	126	-3	.345	.626	75	313
2000	1291	1271	450	29.25	87	5	122	125	2	.342	.714	63	262
2001	1305	1286	450	29.25	87	5	122	122	0	.334	.594	62	259
2002	1307	1291	465	30.7	92	5	128	123	-4	.336	.718	65	271
2003	1347	1327	468	29	87	5	121	132	8.3	.361	.522	59	249
2004	1365	1345	499	29.7	89	5	124	133	6.7	.364	.614	60	252
2005	1375(e)	1355	497	29	87	5	121	130	6.9	.356	.675	58	245

MG – Million Gallons **MGD** – Million Gallons per Day **C/I/I**- Commercial, Industrial, Institutional

Residential. Water used for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.

Institutional. Hospitals, nursing homes, day care centers, and other facilities that use water for essential domestic requirements. This includes public facilities and public metered uses. You may want to maintain separate institutional water use records for emergency planning and allocation purposes.

Commercial. Water used by motels, hotels, restaurants, office buildings, commercial facilities, both civilian and military.

Industrial. Water used for thermoelectric power (electric utility generation) and other industrial uses such as steel, chemical and allied products, food processing, paper and allied products, mining, and petroleum refining.

Wholesale Deliveries. Bulk water sales to other public water suppliers.

Unaccounted. Unaccounted for water is the volume of water withdrawn from all sources minus the volume sold.

Residential Gallons per Capita per Day = total residential sales in gallons/population served/365 days **Total Gallons per Capita per Day** = total water withdrawals/population served/365 days

NOTE: Non-essential water uses defined by Minnesota Statutes 103G.291, include lawn sprinkling, vehicle washing, golf course and park irrigation and other non-essential uses. Some of the above categories also include non-essential uses of water.

Water Use Trends. Discuss factors that influence trends in water demand (i.e. growth, weather, industry, conservation). If appropriate, include a discussion of other factors that affect daily water use, such as use by non-resident commuter employees or large water consuming industry.
From 1996-2005 the population of Hinckley has increased by 20.5%. The average annual population growth over the last ten years was 2%. The residential gallons/capita/day saw a reduction in the 2001- 2005 when compared to 1996-2000. This would indicate that residential usage customers are becoming more conservative with water usage over time. One conclusion is that as homeowners remodel or as new homes are built, the water fixtures that are being installed are more efficient. Lawn irrigation has only a limited effect on the overall water use of the community. Approximately 25% of the water sold is used for residential purposes with the remaining 75% used by commercial/industrial/institutional customer. Grand Casino, with its hotels and restaurants is by far the largest customer of the water utility and accounts for approximately 55% of the water sold. It is anticipated that future water demands will primarily be driven expansion of the Grand Casino industries and secondly by continued gradual population growth. The master water production meters at each of the water plants were recalibrated in 2003, this would account for the spike in unaccounted for water that occurred at that same time.

TABLE 2 Large Volume Users - List the top 10 largest users.

Customer	Gallons per year	% of total annual use
GRAND CASINO	24,707,200	19%
CASINO HOTEL	17,823,000	14%
GRAND GRILL	9,696,800	8%
GRAND HINCKLEY INN	7,443,400	6%
GRAND NORTHERN INN	3,653,000	3%
TOBIES	4,143,000	4%
PLATINUM HOSPITALITY	3,066,800	3%

B. TREATMENT AND STORAGE CAPACITY.

TABLE 3(A) Water Treatment

Water Treatment Plant Capacity	1,252,800 Gallons per day
Describe the treatment process used (ie, softening, chlorination, fluoridation, Fe/Mn removal, reverse osmosis, coagulation, sedimentation, filtration, others). Also, describe the annual amount and method of disposal of treatment residuals, if any.	
Two iron and manganese removal water treatment plants. A gravity filter plant at well #3 and a pressure filter plant at well #4, each with chemical addition of chlorine, potassium permanganate, and fluoride; each plant also has the addition of manganese sulfate for radium removal and orthophosphate for corrosion control. Residuals are land filled annually from the pressure plant drying bed and sewered from the gravity filter.	

TABLE 3(B) Storage Capacity - List all storage structures and capacities.

Total Storage Capacity		**Average Day Demand** (average of last 5 years)
450,000 Gallons		350,000 Gallons per day
Type of Structure	Number of Structures	Gallons
Elevated Storage	2	450,000
Ground Storage	0	0
Other:	N/A	N/A

C. **WATER SOURCES.** List all groundwater, surface water and interconnections that supply water to the system. Add or delete lines to the tables as needed.

TABLE 4(A) Total Water Source Capacity for System (excluding emergency connections)

Total Capacity of Sources	750 Gallons per minute
Firm Capacity (largest pump out of service)	350 Gallons per minute

TABLE 4(B) Groundwater Sources - Copies of water well records and well maintenance information should be included with the public water supplier's copy of the plan in Attachment A.

Well # or name	Unique Well Number	Year Installed	Well & Casing Depth (ft)	Well Diameter (in)	Capacity (GPM)	Geologic Unit	Status
3	538117	1995	69	20	400	FOND DU LAC	Active Use
4	562973	1996	145	20	350	FOND DU LAC	Active Use

Status: Active use, Emergency, Standby, Seasonal, Peak use, etc. GPM – Gallons per Minute
Geologic Unit: Name of formation(s), which supplies water to the well

TABLE 4(C) Surface Water Sources

Intake ID	Resource name	Capacity (GPM/MGD)
	N/A	

GPM – Gallons per Minute MGD – Million Gallons per Day

TABLE 4(D) Wholesale or Retail Interconnections - List interconnections with neighboring suppliers that are used to supply water on a **regular basis** either wholesale or retail.

Water Supply System	Capacity (GPM/MGD)	Wholesale or retail
N/A		

GPM – Gallons per Minute MGD – Million Gallons per Day

TABLE 4(E) Emergency Interconnections - List interconnections with neighboring suppliers or private sources that can be used to supply water on an emergency or occasional basis. Suppliers that serve less than 3,300 people can leave this section blank, but must provide this information in Section II C.

Water Supply System	Capacity (GPM/MGD)	Note any limitations on use
N/A		

GPM – Gallons per Minute MGD – Million Gallons per Day

D. DEMAND PROJECTIONS.

TABLE 5 Ten Year Demand Projections

Year	Population Served	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Projected Demand (MGY)
2006	1361	.53	1.12	132
2007	1430	.51	1.14	134
2008	1499	.55	1.16	136
2009	1568	.56	1.18	138
2010	1640	.57	1.21	141
2011	1670	.57	1.23	144
2012	1700	.57	1.25	147
2013	1730	.58	1.28	150
2014	1760	.58	1.30	153
2015	1790	.58	1.34	156

MGD – Million Gallons per Day MGY – Million Gallons per Year

Projection Method. Describe how projections were made, (assumptions for per capita, per household, per acre or other methods used).
Per City Engineer Feasibility Report – 6/29/05

E. RESOURCE SUSTAINABILITY

Sustainable water use: use of water to provide for the needs of society, now and in the future, without unacceptable social, economic, or environmental consequences.

Monitoring. Records of water levels should be maintained for all production wells and source water reservoirs/basins. Water level readings should be taken monthly for a production well or observation well that is representative of the wells completed in each water source formation.

TABLE 6 **Monitoring Wells** - List all wells being measured.

Unique well number	**Type of well (production, observation)**	**Frequency of Measurement (daily, monthly etc.)**	**Method of Measurement (steel tape, SCADA etc.)**
538117	Production	Monthly	Water Level Meter
562973	Production	Monthly	Water Level Meter

Water Level Data. Summarize water level data including seasonal and long-term trends for each ground and/or surface water source. If water levels are not measured and recorded on a routine basis then provide the static water level (SWL) when the well was constructed and a current water level measurement for each production well. Also include all water level data taken during well and pump maintenance.

The overall stability of the water level data indicates that both the resource and the wells have been adequate to meet the demand of the consumers with out being overtaxed. The relatively constant static water levels would indicate that the aquifer does not appear to be overly effected by precipitation or pumping rates. The stable drawdown levels indicate that the well screens and aquifer are in good condition and able to provide the water needed to meet demand.

Attachment A: Provide monitoring data (graph or table) for as many years as possible.

Ground Water Level Monitoring – DNR Waters in conjunction with federal and local units of government maintain and measure approximately 750 observation wells around the state. Ground water level data are available online www.dnr.state.mn.us/waters. Information is also available by contacting the Ground Water Level Monitoring Manager, DNR Waters, 500 Lafayette Road, St. Paul, MN 55155-4032 or call (651) 296-4800.

Natural Resource Impacts. Indicate any natural resource features such as calcareous fens, wetlands, trout streams, rivers or surface water basins that are or could be influenced by water withdrawals from municipal production wells. Also indicate if resource protection thresholds have been established and if mitigation measures or management plans have been developed.

Not Applicable

Sustainability. Evaluate the adequacy of the resource to sustain current and projected demands. Describe any modeling conducted to determine impacts of projected demands on the resource.

Well static water levels and the size of the aquifer indicate that the resource will be able to sustain current and projected demands.

Source Water Protection 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.	
Date WHP Plan Adopted:	In Process
Date for Next WHP Update:	
SWP Plan:	☐ In Process ☐ Completed ☒ Not Applicable

F. CAPITAL IMPROVEMENT PLAN (CIP)

Adequacy of Water Supply System. Are water supply installations, treatment facilities and distribution systems adequate to sustain current and projected demands? ☒ Yes ☐ No If no, describe any potential capital improvements over the next ten years and state the reasons for the proposed changes (CIP Attachment).

Proposed Water Sources. Does your current CIP include the addition of new wells or intakes? ☒ Yes ☐ No If yes, list the number of new installations and projected water demands from each for the next ten years. Plans for new production wells must include the geologic source formation, well location, and proposed pumping capacity.
The city is considering plans to add one new well to provide firm capacity of 700 gallons per minute. The water produced from this well is included in the overall projected water demands a noted earlier in this plan.

Water Source Alternatives. If new water sources are being proposed, describe alternative sources that were considered and any possibilities of joint efforts with neighboring communities for development of supplies.
There are no feasible alternative water sources available, nor would it be cost effective to develop a new supply with a neighboring community. However, it should be noted that Grand Casino has

initiated the construction of a non-potable water system that utilizes recovered ground water to serve its fire and irrigation needs as a way to reduce the demand on the Hinckley water utility.

Preventative Maintenance. Long-term preventative programs and measures will help reduce the risk of emergency situations. Identify sections of the system that are prone to failure due to age, materials or other problems. This information should be used to prioritize capital improvements, preventative maintenance, and to determine the types of materials (pipes, valves, couplings, etc.) to have in stock to reduce repair time.

The mechanical conditions at the wells, and the water treatment plants are good. The water mains have had a very limited number of breaks within the last ten years. Nearly all of the water mains west of Hwy 61 have been replaced within the last five years. The most frequent emergency repairs conducted are the repair of curb stops and customer service lines. Spare parts that are kept in inventory for these repairs include; curb stop risers, curb stops, corporation stops, and one inch copper tubing. Annual well inspections are completed by an outside well contractor to monitor well performance and well and pump condition.

PART II. EMERGENCY RESPONSE PROCECURES

Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failures, 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. If your community already has written procedures dealing with water emergencies we recommend that you use these guidelines to review and update existing procedures and water supply protection measures.

Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (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. **Community water suppliers that have completed the Federal Emergency Response Plan and submitted the required certification to the U.S. Environmental Protection Agency have satisfied Part II, Sections A, B, and C of these guidelines and need only provide the information below regarding the emergency response plan and source water protection plan and complete Sections D (Allocation and Demand Reduction Procedures), and E (Enforcement).**

Provide the following information regarding your completed Federal Emergency Response Plan:

Emergency Response Plan	Contact Person	Contact Number
Emergency Response Lead	JIM AUSMUS	320-384-7491
Alternate Emergency Response Lead	MAYOR TOM LYMBURNER	320-384-7467
Emergency Response Plan Certification Date	April 20, 2005	

Operational Contingency Plan. An operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance is recommended for all utilities. Check here ☒ if the utility has an operational contingency plan. At a minimum a contact list for contractors and supplies should be included in a water emergency telephone list.

Communities that have completed Federal Emergency Response Plans should skip to Section D.

EMERGENCY RESPONSE PROCEDURES

A. **Emergency Telephone List.** A telephone list of emergency contacts must be included as Attachment to the plan (complete template or use your own list). The list should include key utility and community personnel, contacts in adjacent communities, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list on a regular basis (once each year recommended). 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. Responsibilities and services for each contact should be defined.

B. **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, water well and maintenance records should be maintained in a central secured location so that the records are accessible for emergency purposes and preventative maintenance. 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. Check here ☐ if these records and maps exist and staff can access the documents in the event of an emergency.

C. **Procedure for Augmenting Water Supplies.** List all available sources of water that can be used to augment or replace existing sources in an emergency. 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. Copies of cooperative agreements should be maintained with your copy of the plan and include in Attachment . Be sure to include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MN Department of Health are required for interconnections and reuse of water.

TABLE 7 (A) Public Water Supply Systems – List interconnections with other public water supply systems that can supply water in an emergency.

Water Supply System	Capacity (GPM/MGD)	Note any limitations on use
NONE		

GPM – Gallons per Minute MGD – Million Gallons per Day

TABLE 7 (B) - Private Water Sources – List other sources of water available in an emergency.

Name	Capacity (GPM/MGD)	Note any limitations on use
RIVER		
SCHOOL POOL		
HOTEL POOLS		

GPM – Gallons per Minute MGD – Million Gallons per Day

D. **Allocation and Demand Reduction Procedures.** The plan must include procedures to

address gradual decreases in water supply as well as emergencies and the sudden loss of water due to line breaks, power failures, sabotage, etc. During periods of limited water supplies public water suppliers are required to allocate water based on the priorities established in Minnesota Statutes 103G.261.

Water Use Priorities (Minnesota Statutes 103G.261)

First Priority. Domestic water supply, excluding industrial and commercial uses of municipal water supply, and use for power production that meets contingency requirements.

NOTE: Domestic use is defined (MN Rules 6115.0630, Subp. 9), as use for general household purposes for human needs such as cooking, cleaning, drinking, washing, and waste disposal, and uses for on-farm livestock watering excluding commercial livestock operations which use more than 10,000 gallons per day or one million gallons per year.

Second Priority. Water uses involving consumption of less than 10,000 gallons per day.

Third Priority. Agricultural irrigation and processing of agricultural products.

Fourth Priority. Power production in excess of the use provided for in the contingency plan under first priority.

Fifth Priority. Uses, other than agricultural irrigation, processing of agricultural products, and power production.

Sixth Priority. Non-essential uses. These uses are defined by Minnesota Statutes 103G.291 as lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses.

List the statutory water use priorities along with any local priorities (hospitals, nursing homes, etc.) in Table 8. 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. Local allocation priorities 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. In Table 8, list the priority ranking, average day demand and demand reduction potential for each customer category (modify customer categories if necessary).

Table 8 Water Use Priorities

Customer Category	Allocation Priority	Average Day Demand (GPD)	Demand Reduction Potential (GPD)
Residential	1	89,000	39,500
Institutional	1	38,000	20,000
Commercial	2	215,993	75,000
Industrial	3		
Irrigation	4	N/A	
Wholesale	4	13,007	13,000 (one day only)
Non-essential	5	(included in residential)	
	TOTALS	356,000	147,500

GPD – Gallons per Day

Demand Reduction Potential. The demand reduction potential for residential use will typically be the base

demand during the winter months when water use for non-essential uses such as lawn watering do not occur. The difference between summer and winter demands typically defines the demand reduction that can be achieved by eliminating non-essential uses. In extreme emergency situations lower priority water uses must be restricted or eliminated to protect first priority domestic water requirements. Short-term demand reduction potential should be based on average day demands for customer categories within each priority class.

Triggers for Allocation and Demand Reduction Actions. Triggering levels must be defined for implementing emergency responses, including supply augmentation, demand reduction, and water allocation. Examples of triggers include: water demand >100% of storage, water level in well(s) below a certain elevation, treatment capacity reduced 10% etc. Each trigger should have a quantifiable indicator and actions can have multiple stages such as mild, moderate and severe responses. Check each trigger below that is used for implementing emergency responses and for each trigger indicate the actions to be taken at various levels or stages of severity in Table 9.

- ☐ Water Demand
- ☒ Treatment Capacity
- ☒ Storage Capacity
- ☒ Groundwater Levels
- ☐ Surface Water Flows or Levels
- ☒ Pump, Booster Station or Well Out of Service
- ☒ Governor's Executive Order – Critical Water Deficiency (required by statute)
- ☒ Water Main Break
- ☒ Loss of Production
- ☒ Security Breach
- ☒ Contamination
- ☐ Other (list in Table 9)

Table 9 Demand Reduction Procedures

Condition	Trigger(s)	Actions
Stage 1 (Mild)	Well Out of Service Water Main Break Loss of Production Security Breach Contamination	Monitor system demand and ability to meet demand on an hourly basis and prepare to restrict water use.
Stage 2 (Moderate)	System Demand >100% of available Production, Treatment or Storage Capacity	Restrict lawn watering and irrigation, vehicle washing and other nonessential uses. Continue to monitor ability to meet system demand and prepare to advance to Stage 3.
Stage 3 (Severe)	Failure to meet system demand after implementation of Stage 2 actions.	Suspend lawn water and irrigation, vehicle washing and other nonessential uses. If needed suspend service to customer categories, low priority customers first, as determined in above "Table 8 Water Use Priorities".
Critical Water Deficiency (M.S. 103G.291)	Executive Order by Governor & as provided in above triggers	Stage 1: Restrict lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses Stage 2: Suspend lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses

Note: The potential for water availability problems during the onset of a drought are almost impossible to predict. Significant increases in demand should be balanced with preventative measures to conserve supplies in the event of prolonged drought conditions.

Notification Procedures. List methods that will be used to inform customers regarding conservation requests, water use restrictions, and suspensions. Customers should be aware of emergency procedures and responses that they may need to implement.
Phone notification of major users and Residential by radio, postings at City Hall and on Cable TV Access Channel.

E. Enforcement. Minnesota Statutes require public water supply authorities to adopt and enforce water conservation restrictions during periods of critical water shortages.

Public Water Supply Appropriation During Deficiency.
Minnesota Statutes 103G.291, Subdivision 1.

Declaration and conservation.
(a) If the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner.
(b) The restrictions must limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.

An ordinance that has been adopted or a draft ordinance that can be quickly adopted to comply with the critical water deficiency declaration must be included in the plan (include with other ordinances in Attachment 7 for Part III, Item 4). Enforcement responsibilities and penalties for non-compliance should be addressed in the critical water deficiency ordinance.
Sample regulations are available at www.dnr.state.mn.us/waters

Authority to Implement Water Emergency Responses. Emergency responses could be delayed if city council or utility board actions are required. Standing authority for utility or city managers to implement water restrictions can improve response times for dealing with emergencies. Who has authority to implement water use restrictions in an emergency?

☐ Utility Manager ☒ City Manager ☐ City Council or Utility Board
☐ Other (describe): See Attahment B1 & B2

Emergency Preparedness. If city or utility managers do not have standing authority to implement water emergency responses, please indicate any intentions to delegate that authority. Also indicate any other measures that are being considered to reduce delays for implementing emergency responses.

PART III. WATER CONSERVATION PLAN

Water conservation programs are intended to reduce demand for water, improve the efficiency in use and reduce losses and waste of water. Long-term conservation measures that improve overall water use efficiencies can help reduce the need for short-term conservation measures. Water conservation is an important part of water resource management and can also help utility managers satisfy the ever-increasing demands being placed on water resources.

Minnesota Statutes 103G.291, requires public water suppliers to implement demand reduction measures before seeking approvals to construct new wells or increases in authorized volumes of water. Minnesota Rules 6115.0770, require water users to employ the best available means and practices to promote the efficient use of water. Conservation programs can be cost effective when compared to the generally higher costs of developing new sources of supply or expanding water and/or wastewater treatment plant capacities.

A. Conservation Goals. The following section establishes goals for various measures of water demand. The programs necessary to achieve the goals will be described in the following section.

Unaccounted Water (calculate five year averages with data from Table 1)		
Average annual volume unaccounted water for the last 5 years	4,800,000	gallons
Average percent unaccounted water for the last 5 years	3.58	percent
AWWA recommends that unaccounted water not exceed 10%. Describe goals to reduce unaccounted water if the average of the last 5 years exceeds 10%.		
Not Applicable		

Residential Gallons Per Capita Demand (GPCD)	
Average residential GPCD use for the last 5 years (use data from Table 1)	60.8 GPCD
In 2002, average residential GPCD use in the Twin Cities Metropolitan Area was 75 GPCD. Describe goals to reduce residential demand if the average for the last 5 years exceeds 75 GPCD.	
Not Applicable	

Total Per Capita Demand: From Table 1, is the trend in overall per capita demand over the past 10 years X☐ increasing or ☒ decreasing? If total GPCD is increasing, describe the goals to lower overall per capita demand or explain the reasons for the increase.
Total Per Capita Demand over the last three years has been less than what it was over the first two years.

Peak Demands (calculate average ratio for last five years using data from Table 1)	
Average maximum day to average day ratio	1.79
If peak demands exceed a ratio of 2.6, describe the goals for lowering peak demands.	
Not Applicable	

B. **Water Conservation Programs.** Describe all short-term conservation measures that are available for use in an emergency and long-term measures to improve water use efficiencies for each of the six conservation program elements listed below. Short-term demand reduction measures must be included in the emergency response procedures and must be in support of, and part of, a community all-hazard emergency operation plan.

1. **Metering.** The American Water Works Association (AWWA) recommends that every water utility meter all water taken into its system and all water distributed from its system at its customer's point of service. An effective metering program relies upon periodic performance testing, repair, repair and maintenance of all meters. AWWA also recommends that utilities conduct regular water audits to ensure accountability. Complete Table 10 (A) regarding the number and maintenance of customer meters.

TABLE 10 (A) Customer Meters

	Number of Connections	Number of Metered Connections	Meter testing schedule (years)	Average age/meter replacement schedule (years)
Residential	413	413	Not Applicable	3 / 15
Institutional	2	2	3	2 / as needed
Commercial	106	106	3	10 / as needed
Industrial	N/A			/
Public Facilities	5	5	N/A	3 / 15
Other	16	16	Not Applicable	3 / 15
TOTALS	540	540		

Unmetered Systems. Provide an estimate of the cost to install meters and the projected water savings from metering water use. Also indicate any plans to install meters.
N/A

TABLE 10 (B) Water Source Meters

	Number of Meters	Meter testing schedule (years)	Average age/meter replacement schedule (years)
Water Source (wells/intakes)	2	Annually	18 / As needed due to availability of repair work
Treatment Plant	0		

2. **Unaccounted Water.** Water audits are intended to identify, quantify, and verify water and revenue losses. The volume of unaccounted-for water should be evaluated each billing cycle. The AWWA recommends a goal of ten percent or less for unaccounted-for water. Water audit procedures are available from the AWWA and MN Rural Water Association.

Frequency of water audits: [X]- each billing cycle [ ] yearly [ ] other:

Leak detection and survey: [ ]every year [ ] every years [X]- periodic as needed
Year last leak detection survey completed:

Reducing Unaccounted Water. List potential sources and efforts being taken to reduce unaccounted water. If unaccounted water exceeds 10% of total withdrawals, include the timeframe for completing work to reduce unaccounted water to 10% or less.
Unaccounted for water loss is monitored at each monthly billing cycle by the conduction of a water audit. Results of the audits are used to direct operations staff to initiate further investigation of the source for the unaccounted for water.

3. **Conservation Water Rates.** Plans must include the current rate structure for all customers and provide information on any proposed rate changes. Discuss the basis for current price levels and rates, including cost of service data, and the impact current rates have on conservation.

Billing Frequency: [X]- Monthly [ ] Bimonthly [ ] Quarterly
[ ] Other (describe):

Volume included in base rate or service charge: 1000- gallons or cubic feet

Conservation Rate Structures
[ ] Increasing block rate: rate per unit increases as water use increases
[ ] Seasonal rate: higher rates in summer to reduce peak demands
- Service charge or base fee that does not include a water volume

Conservation Neutral Rate Structure
X Uniform rate: rate per unit is the same regardless of volume

Non-conserving Rate Structures
[ ] Service charge or base fee that includes a large volume of water
[ ] Declining block rate: rate per unit decreases as water use increases
[ ] Flat rate: one fee regardless of how much water is used (unmetered)

Other (describe):

Water Rates Evaluated: [X]- every year [ ] every years [ ] no schedule
Date of last rate change: 2003

Declining block (the more water used, the cheaper the rate) and flat (one fee for an unlimited volume of water) rates should be phased out and replaced with conservation rates. Incorporating a seasonal rate structure and the benefits of a monthly billing cycle should also be considered along with the development of an emergency rate structure that could be quickly implemented to encourage conservation in an emergency.

Current Water Rates. Include a copy of the actual rate structure in Attachment or list current water rates including base/service fees and volume charges below.
$3.65 / 1,000 gallons

Non-conserving Rate Structures. Provide justification for the rate structure and its impact on reducing demands or indicate intentions including the timeframe for adopting a conservation rate structure.
N/A

4. **Regulation.** Plans should include regulations for short-term reductions in demand and long-term improvements in water efficiencies. Sample regulations are available from DNR Waters. Copies of adopted regulations or proposed restrictions should be included in Attachment B1 and B2 of the plan. Indicate any of the items below that are required by local regulations and also indicate if the requirement is applied each year or just in emergencies.

☒ Time of Day: no watering between am/pm and am/pm
(reduces evaporation) ☐ year around ☐ seasonal ☐ emergency only
☒ Odd/Even: (helps reduce peak demand) ☐ year around ☐ seasonal ☒ emergency only
☐ Water waste prohibited (no runoff from irrigation systems)
Describe ordinance:
☐ Limitations on turf areas for landscaping (reduces high water use turf areas)
Describe ordinance:
☐ Soil preparation (such as 4"-6" of organic soil on new turf areas with sandy soil)
Describe ordinance:
☐ Tree ratios (plant one tree for every square feet to reduce turf evapotranspiration)
Describe ordinance:
☐ Prohibit irrigation of medians or areas less than 8 feet wide
Describe ordinance:
☐ Permit required to fill swimming pool ☐ every year ☐ emergency only
☐ Other (describe):

State and Federal Regulations (mandated)

☐ Rainfall sensors on landscape irrigation systems. Minnesota Statute 103G.298 requires "All automatically operated landscape irrigation systems shall have furnished and installed technology that inhibits or interrupts operation of the landscape irrigation system during periods of sufficient moisture. The technology must be adjustable either by the end user or the professional practitioner of landscape irrigation services."

☒ Water Efficient Plumbing Fixtures. The 1992 Federal Energy Policy Act established manufacturing standards for water efficient plumbing fixtures, including toilets, urinals, faucets, and aerators.

Enforcement. Are ordinances enforced? ☒ Yes ☐ No If yes, indicate how ordinances are enforced along with any penalties for non-compliance.
Ordinance violation is an Administrative Fine of $100.

5. **Education and Information Programs.** Customers should be provided information on how to improve water use efficiencies a minimum of two times per year. Information should be provided at appropriate times to address peak demands. Emergency notices and educational materials on how to reduce water use should be available for quick distribution during an emergency. If any of the methods listed in the table below are used to provide water conservation tips, indicate the number of times that information is provided each year and attach a list of education efforts used for the last three years.

Current Education Programs	**Times/Year**
Billing inserts or tips printed on the actual bill	3
Consumer Confidence Reports	1
Local news papers	1
Community news letters	
Direct mailings (water audit/retrofit kits, showerheads, brochures)	
Information at utility and public buildings	2
Public Service Announcements	
Cable TV Programs	Continuous
Demonstration projects (landscaping or plumbing)	
K-12 Education programs (Project Wet, Drinking Water Institute)	
School presentations	
Events (children's water festivals, environmental fairs)	
Community education	
Water Week promotions	
Information provided to groups that tour the water treatment plant	
Website (include address: hinckley.govoffice2.com)	Continuous
Targeted efforts (large volume users, users with large increases)	12
Notices of ordinances (include tips with notices)	
Emergency conservation notices (recommended)	
Other: Offer free leak test tablets	

List education efforts for the last three years in Attachment C of the plan. Be sure to indicate whether educational efforts are on-going and which efforts were initiated as an emergency or drought management effort.

Proposed Education Programs. Describe any additional efforts planned to provide conservation information to customers a minimum of twice per year (required if there are no current efforts).
Water conservation information distributed at City Hall – Notices sent to high users – Posters at City Hall Library. Provide reminder on water bill to consider water saving devises.

A packet of conservation tips and information can be obtained by contacting DNR Waters or the Minnesota Rural Water Association (MRWA). The American Water Works Association (AWWA) www.awwa.org or www.waterwiser.org also has excellent materials on water conservation that are available in a number of formats. You can contact the MRWA 800/367-6792, the AWWA bookstore 800/926-7337 or DNR Waters 651/296-0512 for information regarding educational materials and formats that are available.

6. **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 communities develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and that the benefits of retrofitting be included in public education programs. You may also want to contact local electric or gas suppliers to see if they are interested in developing a showerhead distribution program for customers in your service area.

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. Describe any education or incentive programs to encourage the retrofitting of inefficient plumbing fixtures (toilets, showerheads, faucets, and aerators) or appliances (washing machines).
SCDG provided free upgrades to qualified homes

Plan Approval. Water Emergency and Conservation Plans must be approved by the Department of Natural Resources (DNR) every ten years. Please submit plans for approval to the following address:

DNR Waters
Water Permit Programs Supervisor
500 Lafayette Road
St. Paul, MN 55155-4032

or Submit electronically to
wateruse@dnr.state.mn.us.

Adoption of Plan. All DNR plan approvals are contingent on the formal adoption of the plan by the city council or utility board. Please submit a certificate of adoption (example available) or other action adopting the plan.

Metropolitan Area communities are also required to submit these plans to the Metropolitan Council. Please see PART IV. ITEMS FOR METROPOLITAN AREA PUBLIC SUPPLIERS.

PART IV. ITEMS FOR METROPOLITAN AREA PUBLIC SUPPLIERS

Minnesota Statute 473.859 requires water supply plans 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 required information is contained in Parts I-III of these guidelines. However, the following additional information is necessary to make the water supply plans consistent with the Metropolitan Land Use Planning Act upon which local comprehensive plans are based. Communities should use the information collected in the development of their plans to evaluate whether or not their water supplies are being developed consistent with the Council's Water Resources Management Policy Plan.

Policies. Provide a statement(s) on the principles that will dictate operation of the water supply utility: for example, "It is the policy of the city to provide good quality water at an affordable rate, while assuring this use does not have a long-term negative resource impact."

Impact on the Local Comprehensive Plan. Identify the impact that the adoption of this water supply plan has on the rest of the local comprehensive plan, including implications for future growth of the community, economic impact on the community and changes to the comprehensive plan that might result.

Demand Projections

Year	Population Served*	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Projected Demand (MGY)
2010				
2020				
2030				
Ultimate				

* Population projections should be consistent with those in the Metropolitan Council's *2030 Regional Development Framework.*

REVIEW OF THE PLAN

The plan must be prepared by the city according to the sequence outlined in Minnesota Statutes 473.175, and submitted to the Metropolitan Council, adjacent communities, and the county for review and comment. The Council determines if the plan is complete for review within 10 days. If incomplete, the Council will notify the community and request the necessary information. When complete the Council will complete its review within 60 days or a mutually agreed upon extension. The community officially adopts the plan after it is returned with comments by the Council.

PLAN SUBMITTAL

Plans can be submitted electronically to the Council; however, the review process will not begin until the Council receives a paper copy of the materials. Electronic submissions can be via a CD, 3 ½" floppy disk or to the email address below. Metropolitan communities should submit their plans to:

Reviews Coordinator
Metropolitan Council
230 E 5th Street,
St. Paul, MN 55101

electronically to:
watersupply@metc.state.mn.us

WELL DATA AND RECORDS
Well #3
Hinckley, MN
Attachment A Page 1

DATE	INITIALS	STATIC LEVEL	PUMPING LEVEL	DRAWDOWN	COMMENTS
11/4/1999	BD	29	45	16	
2/27/2000	BD	27	44	17	
4/16/2000	BD/JW	26	44	18	
6/17/2000	JW	26	44	18	
8/20/2000	JW	27	44	17	
10/12/2000	JW	26	45	19	
7/19/2002	JW	13			
7/25/2002	JW/JL		48.5	35.5	
8/2/2002	JW	13	48	35	
9/2/2002	JW	12	48	36	
10/2/2002	JW	12	47	35	
11/26/2002	JW	12	46	34	
12/15/2002	JW	12	47	35	
1/19/2003	JHL	13	50		
2/14/2003	JHL	15	55		
3/19/2003	JHL	21	41	20	
4/20/2003	JHL	15	47		
5/14/2003	JHL	15	47		
6/15/2003	JHL	16	50		
7/23/2003	JHL	32	47		
8/16/2003	JW	17	48		
9/15/2003	JHL	18	48		
10/17/2003	JHL	15	47		
11/15/2003	JHL	16	48		
12/9/2003	JHL	19	50		
1/15/2004	JHL	18	49		
2/10/2004	JHL	19	48		
3/15/2004	JHL	19	47		
4/5/2004	TCC	15	47		
5/10/2004	SH	16	48		
6/4/2004	SH	19	49		
7/17/2004	SH	15	47		
8/10/2004	SH	17	48		
9/12/2004	SH	15	47		
10/10/2004	SH	18	49		
11/3/2004	SH	16	48		
12/20/2004	JW	16	45		
1/15/2005	SH	19	47		
2/11/2005	SH	14	46		
3/17/2005	SH	18	49		
4/15/2005	SH	19	48		
5/20/2005	JW	15	47		
6/14/2005	SH	19	49		
7/12/2005	SH	15	46		
8/17/2005	JW	17	47		
9/15/2005	SH	16	45		
10/15/2005	SH	16	48		
11/20/2005	JW	15	47		
12/23/2005	ML	27	46		STATIC LEVEL MUCH LOWER
3/6/2006	ML	14.5'	22.5	8'	

WELL DATA AND RECORDS
Well #3
Hinckley, MN
Attachment A Page 2

DATE	INITIALS	STATIC LEVEL	PUMPING LEVEL	DRAWDOWN	COMMENTS	
4/10/2006	SH	15	45			
5/15/2006	JW	19	48			
6/17/2006	ML	15	46			
7/19/2006	SH	18	48			

WELL DATA AND RECORDS
Well #4
Hinckley, MN
Attachment A Page 1

DATE	INITIALS	STATIC LEVEL	PUMPING LEVEL	DRAWDOWN	COMMENTS
7/16/	JW	34	95'	61'	
7/29/	JW	34	101'	67'	
8/21/	BD	34	98	64'	
9/24/	BD	32	94	62'	
10/18/1999	BD/JW	32	97	65	
11/17/1999	BD	37	98	61'	
12/20/1999	BD	36	100	64'	
1/10/2000	BD	35	97	62'	
2/23/2000	BD/JW	34	100	66'	TIGHTER PACKING NUTS ON PUMP E
3/29/2000	JW	35	97	62'	GREASED BEARINGS
5/23/2000	BD	36	99	63'	
6/24/2000	BD	34	98	64	
7/8/2000	BD	35	92.5	66'	YEARLY CHECKED
7/24/2000	BD	32	99	67'	
8/7/2000	BD	35	101	66'	
8/29/2000	BD/JW	36	100	64	
9/8/2000	JW	32	101	69	
9/29/2000	JW	35	99	64	
10/9/2000	JW	34	100	64	
11/3/2000	JW	32	100	68	TIGHTENED PACKING NUTS & GREASED
12/15/2000	JW	33	99	66	
2/17/2001	SH	33	100	67	TIGHTENED PACKING NUTS
2/22/2001		41	100	59	
3/29/2001	SH	41	90	49	TIGHTENED PACKING NUTS
5/29/2001	JW	40	95	55	
7/5/2001	SH				TIGHTENED PACKING NUTS
7/30/2001	SH	40	97	52	TIGHTENED PACKING NUTS
9/15/2001	JW	40	95	55	
10/22/2001	JW	32	99	67	
11/14/2001	JW	38	98	60	
12/20/2001	JW	40	96	56	
1/3/2002	JW	33	99	66	
2/15/2002	JW	34	100		
3/14/2002	JW	34	101		
7/29/2002	SH	34	101		CHANGED PUMP OIL
8/11/2002	JW	34	101		
9/15/2002	JW	34	100		
10/25/2002	JW	33	101		
11/26/2002	JW	34	100		
12/10/2002	JW	34	100		
11/12/2003	JW	30	100		
2/14/2003	JW	27			
3/19/2003	JHL	32	81	55	
4/15/2003	JHL	33	95		
5/14/2003	JHL	29	84		
6/17/2003	JHL	28	86		YEARLY CHECK (E.H. RENNER)
7/3/2003	JHL				TIGHTENED PACKING NUTS
7/23/2003	JHL	30	82		
8/26/2003	JHL	29	95		CHANGED PUMP OIL
9/15/2003	JHL	30	90		
10/17/2003	JHL	29	85		
11/14/2003	JHL	29	90		
12/9/2003	JHL	27	95		CHANGED PUMP OIL
1/16/2004	JHL	28	90		

WELL DATA AND RECORDS
Well #4
Hinckley, MN
Attachment A Page 2

DATE	INITIALS	STATIC LEVEL	PUMPING LEVEL	DRAWDOWN	COMMENTS
2/15/2004	JW	27	95		
3/4/2004	JW	28	92		
4/5/2004	JW	28	97		
5/3/2004	JHL	28.5	95		
6/10/2004	SH	29	92		
7/7/2004	JW	28	95		
8/3/2004	SH	29	92		
9/7/2004	SH	28	95		
10/5/2004	SH	29	90		
11/24/04	JW	28	82		
12/20/2004	JW	28	82		
2/18/2005	ML	29	78.5		
3/16/2005	SH	29	89		
4/10/2005	SH	28	84		TIGHTENED PACKING NUTS/CLEANED TUBE
5/6/2005	SH	28	82		CHANGED OIL
6/16/2005	JW	29	88		
7/20/2005	JW	28	84		
7/25/2005	SH	28	84		TRAUT WELL UP (ADJUST PUMP)
9/13/2005	ML	29	86		
10/15/2005	SH	28	86		
11/20/2005	29	84			
12/15/2005	SH	28	86		
3/6/2006	ML	35	50	15'	
4/10/2006	SH	29	84		
5/15/2006	JW	28	86		
6/7/2006	ML	29	86		
7/19/2006	SH	28	85		

§ 50.07 USE OF WATER FOR AIR CONDITIONING; PERMITS.

(A) All air conditioning systems which are connected directly or indirectly with the public water system must be equipped with water conserving and water regulating devices as approved by the City Engineer or City Building Inspector.

(B) Permits shall be required for the installation of all air conditioning systems to the public water system.
Penalty, see § 10.99

§ 50.08 USE OF WATER FROM FIRE HYDRANTS; TEMPORARY CONNECTIONS.

(A) *Use of fire hydrants.* Except for extinguishment of fires, no person, unless authorized by the Public Works Director or Public Utilities Department, shall operate fire hydrants or interfere in any way with the water system without first obtaining a permit to do so from the city as follows:

(1) A permit to use a fire hydrant shall be issued for each individual job or contract and for a minimum of 30 days and for such additional 30 day periods as the city shall determine. The permit shall state the location of the hydrant and shall be for the use of that hydrant and none other.

(2) The user shall make an advance cash deposit to guarantee payment for water used and to cover breakage and damage to the hydrant and meter, which shall be refunded upon expiration of the permit, less applicable charges for use.

(3) The user shall relinquish the use of the hydrant to authorized city employees in emergency situations.

(4) The user shall pay a rental charge as set by City Council resolution for each day including Sundays and legal holidays, and a fee as set by City Council resolution for each 1,000 gallons of water used.

(B) *Temporary connection to fire hydrants.* An owner of a private water system may make a temporary above ground connection to a fire hydrant, subject to the time periods, conditions, and payment specified in § 50.51. In addition, the method of connection to the private system shall conform to all existing requirements of this chapter and city ordinance and the type of meter used shall meet the approval of the Public Utilities Department.
Penalty, see § 10.99

§ 50.09 WATER DEFICIENCY, SHUT OFF AND USE RESTRICTIONS.

The city shall not be liable for any deficiency or failure in the supply of water to consumers, whether occasioned by shutting the water off for the purpose of making repairs or connections or from any other cause whatsoever. In case of fire, or alarm of fire, or in making repairs of construction of new works, water may be shut off without notice at any time and kept off as long as necessary. In addition, the City Council shall have the right to impose reasonable restrictions on the use of the city water system in emergency situations. For non-payment of charges, water service may be discontinued according to the procedures established in § 50.72.

WATER REGULATIONS

§ 50.25 SUPPLY FROM ONE SERVICE.

No more than one housing unit or building shall be supplied from one service connection except by permission of City Council. Each unit served shall have a separate water meter.
Penalty, see § 10.99

§ 50.26 TAPPING OF MAINS RESTRICTED.

No person, except persons authorized by the City Council, shall tap any distributing main or pipe of the water supply system or insert stopcocks or ferrules therein.
Penalty, see § 10.99

Attachment B2

ADMINISTRATIVE OFFENSE
(non-criminal code violation)

0024

State of Minnesota - City of Hinckley

Date of Offense_____ Time of Offense_____am/pm ICR#_____

Name_____

Address_____ Apt._____

City_____ State_____ Zip_____

Vehicle Lic. Plate_____ 20____ State_____ Make_____ Model_____

located in the City of Hinckley, State of Minnesota did commit the following offense:

OFFENSE	CODE	PENALTY	OFFENSE	CODE	PENALTY
❑ Barking Dog	Ch. 90.07	$25.00	❑ Building Demo w/out Permit	Ch. 150	$100.00
❑ Dog at Large	Ch. 90.03;90.05;90.25	$25.00	❑ Raw Sewage Discharge	Ch. 51	$100.00
❑ 2nd Offense	Ch. 90.01;90.05	$50.00	❑ Construct Sign w/out Permit	Ch. 153	$25.00
❑ 3rd Offense	Ch. 90.01;90.05	$75.00	❑ Fail to Call For Inspection	Ch. 150	$50.00
❑ Dog Enclosure	Ch. 90.01	$25.00	❑ Move Building w/out Permit	Ch. 150	$100.00
❑ Dog Vaccination Required	Ch. 90.27	$25.00	❑ Zoning Code Violation	Ch. 155	$100.00
❑ Unlicensed Dog	Ch. 90.26	$25.00	❑ Noise Nuisance	Ch. 94.04	$25.00
❑ Too Many Animals	Ch. 90.28	$25.00	❑ Junk Vehicle	Ch. 94.05	$50.00
❑ Vicious Animal	Ch. 90.40	$50.00	❑ Misc. Debris/Junk Storage	Ch. 94.04	$50.00
❑ Dog Defecation Removal	Ch. 94.02	$25.00	❑ Trash Dumping	Ch. 94.04	$50.00
❑ Open Burning	Ch. 94.02	$25.00	❑ Parking Violation	MSS 169	$25.00
❑ Winter Parking Violation	Ch. 71.01	$25.00	❑ Fire Lane Parking	MSS 169	$25.00
❑ Solicitor/Peddler Unlicensed	Ch. 113.03	$50.00	❑ Blocked Fire Hydrant	MSS 169	$50.00
❑ Weed/Tall Grass Violation	Ch. 94.02	$25.00	❑ Handicap Parking Violation	MSS 169	$25.00
❑ Hazardous Tree Abatement	Ch. 94.04	$50.00	❑ Curfew Violation	Ch. 130.05	$25.00
❑ Illegal Sump Hook-Up	Ch. 51	$25.00	→ ❑ Unauthorized Water Use	Ch. 50	$100.00
❑ Unauthorized Sewer Use	Ch. 51	$100.00	❑ General Public Nuisance	Ch. 94	$25.00
❑ Rodent/Vermin Control	Ch. 94.04	$50.00			

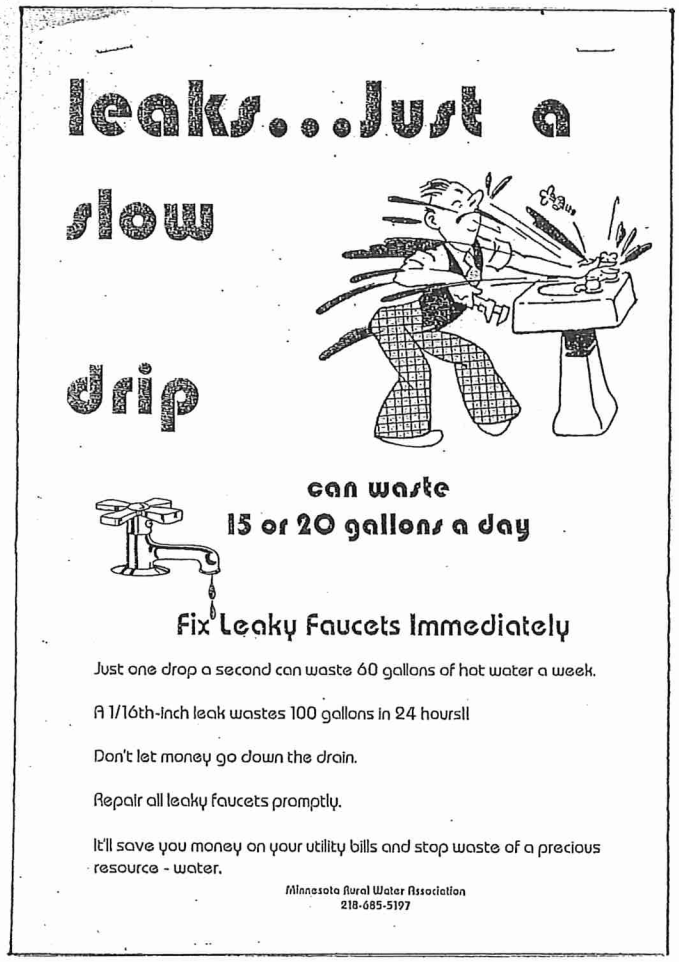
❑ Other_____

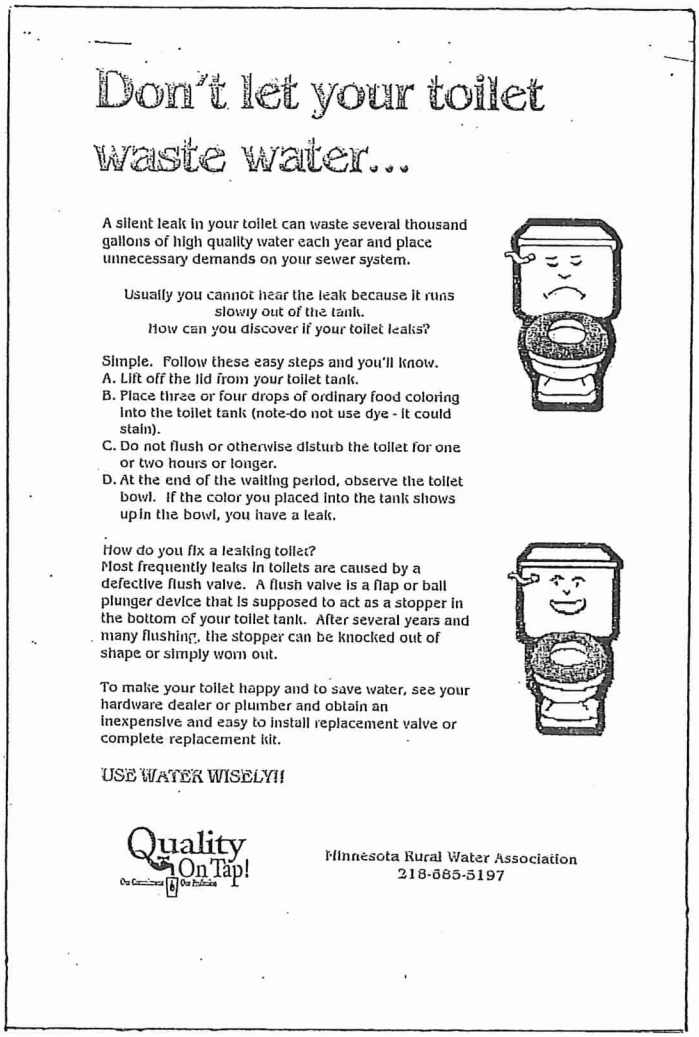
Code Enforcement Officer_____ PENALTY AMOUNT $_____

WHITE COPY - ORIGINAL PINK COPY - ADMINISTRATIVE HARD COPY - VIOLATOR

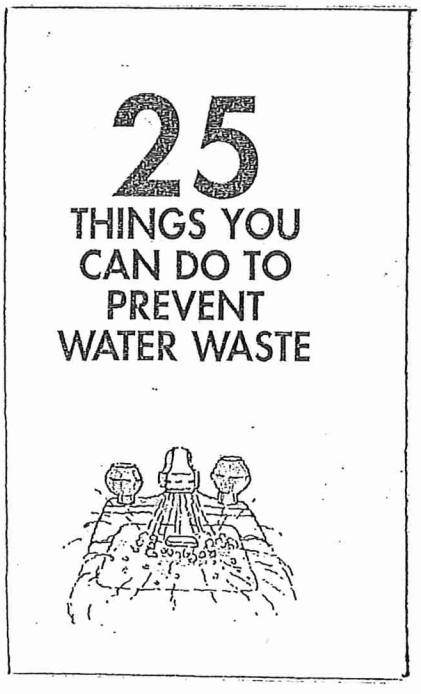
Attachment C

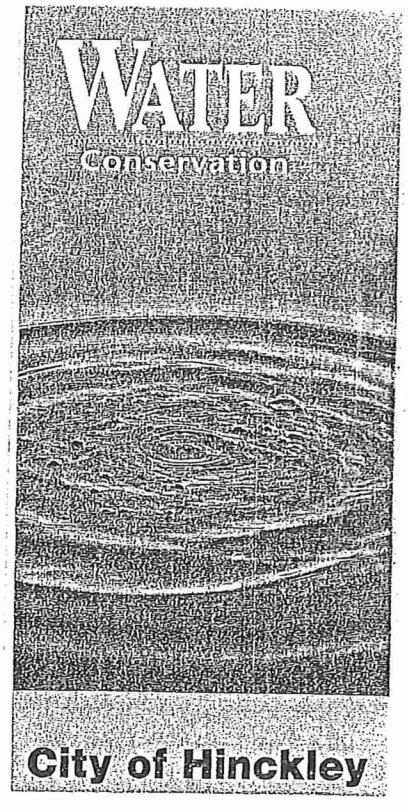
Posters





Brochures





S & S Custom Springs And Truck Repair

7110 560th Street
Pine City MN 55063

Estimate

Date	Estimate #
9/9/2019	15

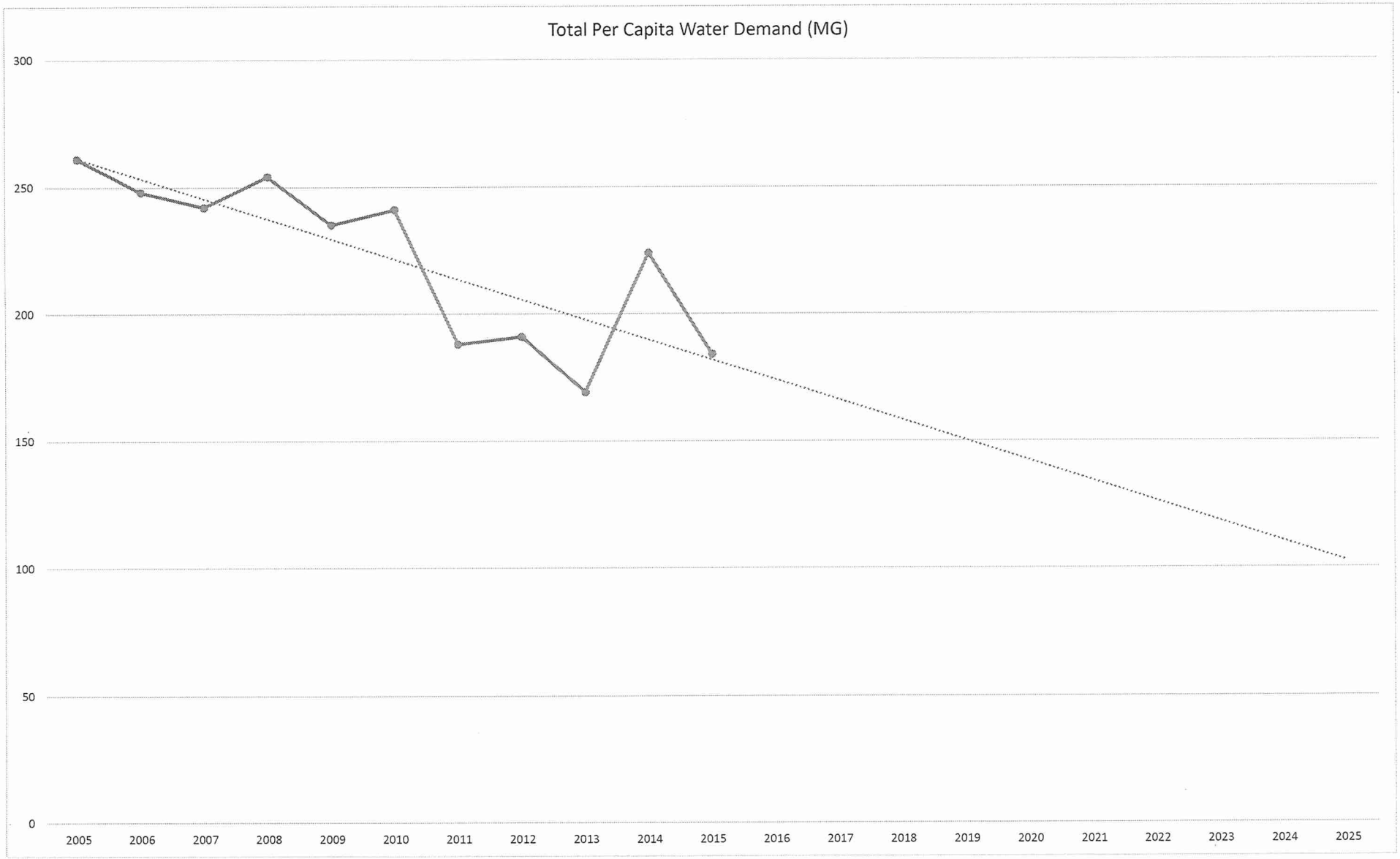
Name / Address
CITY OF HINCKLEY 106 1st Street SE Hinckley, MN 55037

To fix rust holes in plow Truck

Project

Description	Qty	Cost	Total
STEEL			
GREASE, OIL, CLEANER, WELDING SUPPLIES, MISC.		540.00	540.00
STEEL, WIRE, WIRE CONNECTORS, CABLE TIES, MISC.		150.00	150.00
BOLTS, NUTS & WASHERS, FUSES			
TO WELD PLATES DOWN RIGHT SIDE TOP OF BOX OVER RUST HOLES. WELD PLATE ACROSS BACK OF TRUCK (UNDER TAILGATE). WELD PLATE ON INSIDE OF TAILGATE. MAKE NEW BRACKET FOR SANDER TO BOLT TO ON LEFT REAR CORNER OF TRUCK AND WELD TO TRUCK. WELD IN 2 NEW TAILGATE GUIDES ON INSIDE OF BOX. WELD PLATE ACROSS TOP FRONT OF BOX. FIX OTHER RUST HOLES INSIDE OF BOX	20	80.00	1,600.00
		Subtotal	$2,290.00

Appendix 8


Total Per Capita Water Demand (MG)
300
250
200
150
100
50
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Appendix 9

ORDINANCE #1-2019
ORDINANCE ADOPTING 2019 FEE SCHEDULE
THIS ORDINANCE SHALL REPLACE CHAPTER 38 OF THE HINCKLEY CODE OF ORDINANCES

2019 FEE SCHEDULE

CHARGES FOR SERVICES	**FEE**
Assessment Searches	$30.00
Copy of City Ordinance / Zoning	$.25 per page
Photo Copies	$.25 per page
Fax / Sending or Receiving	$2.00 1st page $1.00 additional
NFS Checks	$30.00
Private Sewer Inspection	$250.00
Point of sale inspection	$100.00
Emergency Response by Fire Department	$750 plus $350/hr after 2
Respond only no action taken	$500
Ambulance Assist	N/C
Fire Dept. Foam	$30.00/per gallon
Notary	$1.00
Building Permits	1997 UBC fees
Right of Way Permits – Excavation	$75.00
Right of Way Permits – Obstruction	$50.00
Work without a permit and delay penalties	double the permit fee amount
Small Cell Wireless Permit	$75.00

ANIMAL LICENSE	***FEE***
Dog - / spayed or neutered	$7.50 / $5.00
Duplicate tag	$2.00
Kennel Permit	Not Permitted by Ordinance (90.28)

COMMUNITY CENTER RENTAL	**RENT**	**SALES TAX**	**DEPOSIT**
I. Social Event Rate			
A. Monday – Thursday, Sunday	**$75.00**	**$5.53**	**$300.00**
B. Friday/Saturday	**$275.00**	**$20.28**	**$300.00**
C. Friday noon – Sunday noon	**$550.00**	**$40.56**	**$300.00**
D. Kitchen Only	**$100.00**	**$7.38**	**$300.00**

All rentals require a $300.00 refundable damage deposit

COMMUNITY ROOM RENTAL $ 35.00 (no tax) – non-recreational building

LIQUOR LICENSE	**FEE**
On Sale	$2,800.00
Temporary On Sale (beer)	$10.00 / day
Temporary On Sale (liquor)	$50.00 / day
On-Sale Wine / Beer	$100.00

Sunday On-Sale	$200.00
Beer Off-Sale	$50.00
WATER CONNECTION	**FEE**
New per EDU	$700.00
Hookup fee	$450.00
Acre Charge	$1300.00
Reconnect (turn on or off before 4 p.m.)	$75.00
Meter	Actual Cost if commercial (1" or larger)
Monthly Meter Charge	$4.00
Water Rate	$4.12 per thousand
Water Haulers Water Rate	*$5.00 per 1,000 gallons*
Late Payment Fee - City	20% of current balance (compounded monthly)
Delinquent Bill – County	Delinquent balance (submitted annually)

Sewer Connection	**FEE**
New per EDU	$1,600.00
Hookup fee/inspection (includes saddle)	$50.00
Acre Charge	$1500.00
Sewer Base Charge	$5.25 per month
Sewer Rate	$8.38 per thousand gallons of water used
Late Payment Fee - City	20% of current balance (compounded monthly)
Delinquent Bill – County	Delinquent balance (submitted annually)
Street Excavation/opening Permit	$450.00
Installers license water/sewer	$50.00 annual

Consultant Fees	**FEE**
City Attorney Hourly Fee	Actual Cost
Clerk/Zoning Administrator's Hourly Fee	$50.00
Engineer Hourly Fee	Actual Cost

ZONING & SUBDIVISION FEES (BY ORD)	**FEE**
Appeal, Amendment or Variance	$300.00
Conditional Use	$300.00
Interim Use Permit	$300.00
Planned Unit Development	$500.00
General Concept plan	+Pay all eng. & City Attorney fees
Development Stage plan	
Preliminary Plat Application	$450.00
	+ Pay all eng. & City Attorney fees
Final Plat Application	$Admin. Staff time (hourly rate)
	+ Pay all eng. & City Attorney fees
Minor Subdivision	$100.00 – plus hourly staff time after 2 hours
Recording Fees	Recorder Fee + staff time
Sign Permit	$50.00
Street or Alley Vacation	All administrative costs
Zoning Map	$2.00
Zoning Letter	$20.00

EQUIPMENT RENTAL	
Street Sweeper	$100.00 / hour
SERVICE FEE	
Lawn Mowing	$300.00 per event

PASSED AND APPROVED by the City Council of the City of Hinckley this 8th day of January, 2019. This ordinance will take affect February 1, 2019 after its publication.

_____
Donald Zeman, Mayor

ATTEST:

_____
Kyle H. Morell, City Clerk/Administrator

Appendix 10

See Appendix 7

Implementation Task List

TASK	DUE DATE	NOTES	DATE COMPLETED
Water Conservation Education and Outreach	Ongoing		
Distribute Leak Detection Tablets	As Needed		
Compare Water Usage Rates to Industry Benchmarks	Annually		
Repair Leaks in System	As needed		
Consumer Confidence Report – Including Conservation Tips	Annually		
City Newsletter	Biannually		
Community Access Channel Water Conservation Information	Quarterly		
Assist Property Owners with Leak Identification	As Needed		
Monitor High Use Water Meter Reports	Daily		
Water Conservation Tips on City Website	Updated Biannually		