CITY
OF
NORTHFIELD

PUBLIC WORKS DEPARTMENT

WATER DIVISION
2015

YEAR-END REPORT

STRIVING FOR EXCELLENCE
COMMITTED TO SERVICE

City of Northfield

Vision Statement

STRIVING FOR EXCELLENCE, COMMITTED TO SERVICE

Mission Statement

The City of Northfield is dedicated to providing effective and responsive public services to develop and enhance a livable, vibrant community.

Water Division
Mission Statement

The Northfield Water Division was created in 1895 with the primary purpose of supplying a high quality of water for the publics well being. Also to provide a high quality of customer services in an efficient, cost effective and dependable manner; a safe, potable and adequate supply of water to customers in the service area for domestic, commercial, industrial and fire fighting purposes with reasonable development of water supplies including the promotion of conservation of those supplies.

MEMO

Public Works Department
Water Division

TO: David Bennett, Public Works Director

FROM: Doug Lien, Utilities Manager
Justin Wagner, Utilities Foreperson

DATE: February 15, 2016

SUBJECT: Water Division Year-End Report

Attached to this memo is a copy of the year-end report compiled by the Water Division personnel. It is based on our day-to-day and monthly records.

The information provided by this report allows us the opportunity to compare month-to-month readings on each individual well site along with a year-end total for comparisons. This data allows us to see any discrepancy or abnormal usage that may occur without having to refer back to page after page of hand written information. This information includes water usage, electrical usage, and chemicals used.

The first few pages of the report are retrieved from basic data entry. The data is compiled from daily readings automatically entered into the database or manually entered on a daily or monthly level. This data gives us a comparative reading on any portion of the water records to show us averages or any abnormalities in water pumpages.

All this information provides us with an overview of information used at the Water Division. This data is also used for reports submitted to the Minnesota Department of Health and other agencies. This data was also used to process the graphs, which are included in this report.

The final pages of this report deal with year-end statistics compiled by the Water Division and an overview of the general operation of the division and the water supply system. This includes meters sold and replaced, the Water Division history, and general water supply information.

This report is to be considered as a general overview of our previous year. Additional materials and information will be included in our Annual Report to Consumers on Water Quality which will come out mid-year.

2015 WATER DIVISION DATA

GENERAL ACTIVITY DESCRIPTION:

Provide safe potable drinking water for the citizens of Northfield, maintain the distribution system, and fire hydrants for fire protection. The Water Division also provides locating for the Gopher One-Call locations.

GENERAL PUMPING DATA:

Water for the City of Northfield is pumped from the Jordan Water Aquifer.
In 2015, the City of Northfield pumped a total of 744,744,000 gallons.
The daily average in 2015 was 2,040,395 gallons.
The largest single day pumpage for the year was 4,867,000 on August 30, 2015.
Water accountability in 2015 (Water pumped vs. sold) – Because hydrant flushing, fire department usage and miscellaneous water usages, the records will show we pumped approximately 2.64% more water than we sold.
Industrial water usage is about 31.97% of our yearly pumpage.
In 2015, the City pumped 18,759,000 less gallons than it did in 2014.
The City of Northfield has pumped **35,834,347,158** gallons since 1895 when the Water Division was created.

CITY WELL PUMPAGE / COLLEGE WATER USAGE:

#2 Well	210,190,000 gallons in 2015
#3 Well	132,577,000 gallons in 2015
#4 Well	214,998,000 gallons in 2015
#5 Well	186,979,000 gallons in 2015
City Wells - Total	**744,744,000 gallons in 2015**
Carleton	3,987,448 cu ft
St. Olaf	5,957,571 cu ft.
Total Colleges	9,945,019 cu ft.
Total Gallons by the Colleges (Cu. ft. X 7.48)	74,388,742 gallons
Total Gallons Pumped by the City and Carleton	**774,570,111 gallons**

CITY OF NORTHFIELD AND COLLEGES

	Carleton	St. Olaf	CuFt Total	Gallons	City of Nfld	Total *
January	565,849	478,200	1,044,049	7,809,487	55,592,000	59,824,551
February	252,373	498,800	751,173	5,618,774	50,757,000	52,644,750
March	321,211	554,100	875,311	6,547,326	54,316,000	56,718,658
April	481,725	536,800	1,018,525	7,618,567	53,956,000	57,559,303
May	419,868	615,900	1,035,768	7,747,545	64,579,000	67,719,613
June	250,728	241,200	491,928	3,679,621	68,862,000	70,737,445
July	166,570	374,171	540,741	4,044,743	74,332,000	75,577,944
August	211,673	160,200	371,873	2,781,610	81,195,000	82,778,314
September	353,538	681,900	1,035,438	7,745,076	69,795,000	72,439,464
October	492,609	760,300	1,252,909	9,371,759	67,366,000	71,050,715
November	314,627	551,100	865,727	6,475,638	52,064,000	54,417,410
December	156,677	504,900	661,577	4,948,596	51,930,000	53,101,944
Total	3,987,448	5,957,571	9,945,019	74,388,742	744,744,000	774,570,111
Average	332,287	496,464	828,752	6,199,062	62,062,000	64,547,509

*Carleton has their own well, distribution system, and sewer collection system. St. Olaf switched to City water in March 2001, although they still have their own distribution and sewer collection system. These amounts would be used as usage and infiltration figures. St. Olaf College shows more water usage because they take water from the City and all the water usage is reported. Carleton College only reports sewage (domestic water use) because they still have their own water wells and do not take water from the City of Northfield, other than emergency usage.

CHEMICAL COSTS:

Fluoride, Chlorine and Polyphosphates are fed into the water system at each individual well site as the water is pumped from the wells into the water distribution system.

Hydrofluosilicic Acid	2780 gal. X (10.3lbs/gal X $0.3620)	=	$10,365.51
Chlorine	9,595 lbs. X $.6505	=	$6,241.55
Polyphosphate	1,538gal. X $11.8000	=	$18,148,40
Total Costs for Chemicals			$34,755.46

MISC. WATER SYSTEM INFORMATION:

Water hardness:	18 grains per gal. 320 ppm
Fluoride is fed at a rate of:	0.7 M/L
Chlorine is fed at a rate of:	1.2 M/L
Polyphosphate is fed at a rate of	0.5 M/L
Iron content:	0.2 M/L
Manganese content:	0.11 M/L
P.H.:	7.4

Note: Fluoride feed rate changed in 2015 due to EPA guidance followed by the MDH.

METERS:

At the end of 2015, The City of Northfield has the following amount of service connections:

Residential (single family & townhomes)	5,233
Commercial	310
Industrial	74
City	11
Other (Institutions and Schools)	139
TOTAL SERVICES	**5,767**

METERS SOLD 1962 – PRESENT:

1962	30	1963	18	1964	19	1965	29	1966	40
1967	34	1968	32	1969	18	1970	51	1971	44
1972	49	1973	44	1974	64	1975	33	1976	57
1977	77	1978	93	1979	97	1980	70	1981	64
1982	46	1983	54	1984	62	1985	45	1986	67
1987	92	1988	60	1989	50	1990	45	1991	56
1992	88	1993	103	1994	98	1995	95	1996	99
1997	64	1998	89	1999	95	2000	137*	2001	204
2002	232	2003	241	2004	173	2005	239**	2006	219**
2007	179**	2008	102**	2009	64**	2010	46**	2011	50**
2012	42**	2013	90**	2014	62**	2015	58**		

* Sprinkler Meters began to be installed.
** New Radio Read Meters.

METERS OVERHAULED AND REPLACED 1978 – PRESENT:

1978	166	1979	258	1980	285	1981	230	1982	288
1983	383	1984	396	1985	214	1986	210	1987	250
1988	300	1989	292	1990	300	1991	266	1992	155
1993	180	1994	258	1995	307	1996	128	1997	123
1998	53	1999	80	2000	119	2001	365	2002	453
2003	306	2004	132*	2005	43*	2006	105/50**	2007	458/19**
2008	497/9**	2009	546*	2010	2,316***	2011	721***	2012	0
2013	0	2014	0	2015	0				

* New Radio Read Meters.
** Meters changed / Meters Retro-fitted
*** Accelerated Meter Change-out

METERS SOLD IN 2015:

Ward 1 Business		
5/8X3/4 R900i =		2
1 R900i		1
1-1/2 R900i		2
	Total	5
Ward 1 Residential		
5/8X3/4 R900i =		2
5/8X3/4 R900i 2nd Meter =		5
	Total	7
War 2 Business		
5/8x3/4 R900i =		1
	Total	1
Ward 2 Residential		
5/8X3/4 R900i =		19
5/8X3/4 R900i 2nd Meter =		20
	Total	38
Ward 3 Residential		
5/8X3/4 R900i =		5
5/8X3/4 R900i 2nd Meter =		5
	Total	8

METER SALES 2015:

Meter Size	Price Each	Number Sold	Total Price
5/8X3/4	$244.50	56	$13,692.00
1''	$379.42	1	$379.42
1-1/2"	$615.99	2	$1,225.98
Total Neptune Sales for 2015			$15,297.40

Water meter wards do not represent the same boundaries as voting/council wards. Meter wards represent the following:

Ward 1 – Commercial & Industrial meters, & residential meters primarily in the Northeast area of Northfield
Ward 2 – Primarily residential meters in the south and southeast area of the City.
Ward 3 – Primarily residential meters in the western half of the City.

INVENTORY-RESALE JANUARY 2015 (LESS %):

12 – 5/8X3/4 T10 ecoder i	@ $244.50 =	$2,934

INVENTORY-MAINTENANCE JANUARY 2015:

48 – 5/8X3/4 T10 ecoder i	@ $244.50 =	$11,736
2 – 3/4" T10 ecoder i	@ $297.12 =	$592.24
4 – 1" T10 ecoder i	@ $379.42 =	$1,517.68
3 – 1-1/2'' ecoder I	@ $615.99 =	$1,847.97
6 – MIU v3	@ $107.03 =	$642.18
TOTAL		$16,336.07

A retro-fitted meter involves changing a Badger water meter from a standard straight-read register to a radio-read register, then installing a Neptune MIU transmitter for transmitting the reading to the truck as it drives by.

GOPHER ONE-CALL LOCATES 1998 – PRESENT:

1998	1860	1999	1945	2000	2027	2001	2582	2002	2635
2003	2833	2004	3020	2005	3232	2006	3560	2007	3338
2008	2189	2009	1905	2010	1856	2011	1972	2012	2078
2013	1865	2014	2042	2015	2105				

NORTHFIELD'S TOP 5 WATER USERS IN 2015:

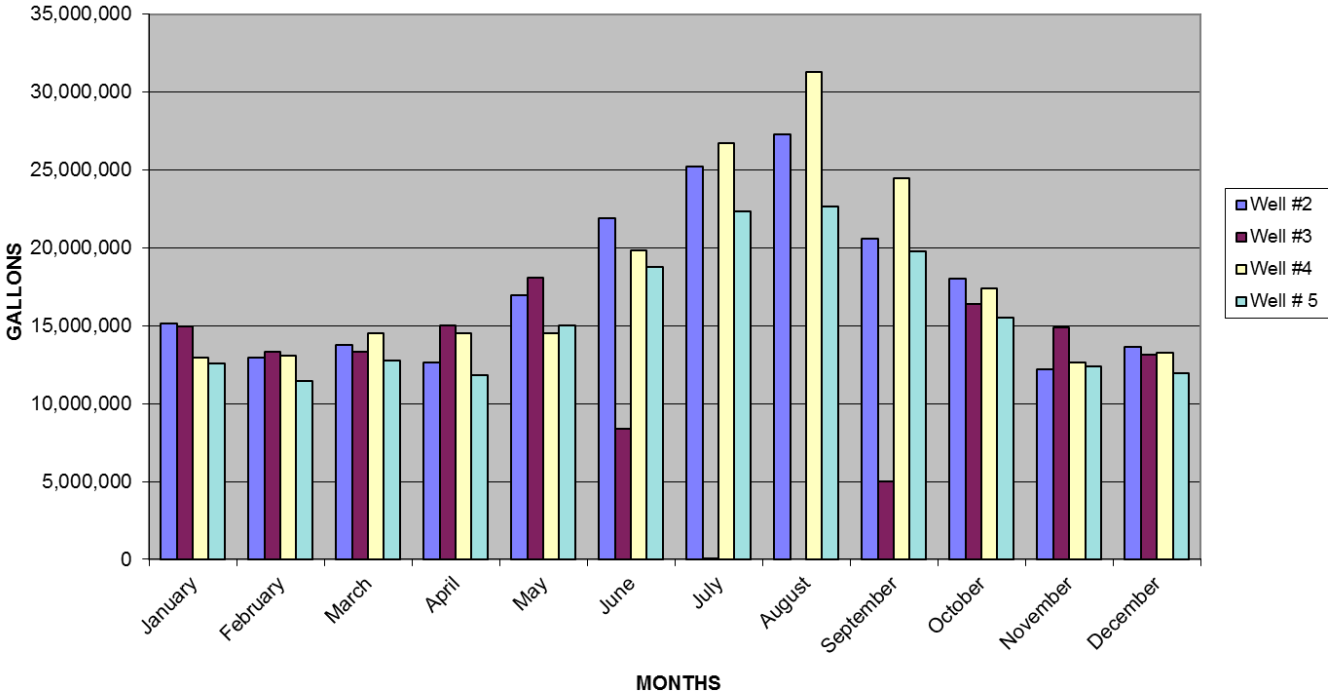
MOM Brands Company	14,407,939 cu ft.	107,771,384 gallons
Multek	10,292,240 cu ft.	76,985,955 gallons
St. Olaf	5,512,700 cu ft.	41,234,996 gallons
Viking Terrace Trailer Park	1,641,471 cu ft.	12,278,203 gallons
All Flex	1,450,130 cu ft.	10,846,972 gallons

WELL SITE AND WATER INFORMATION:

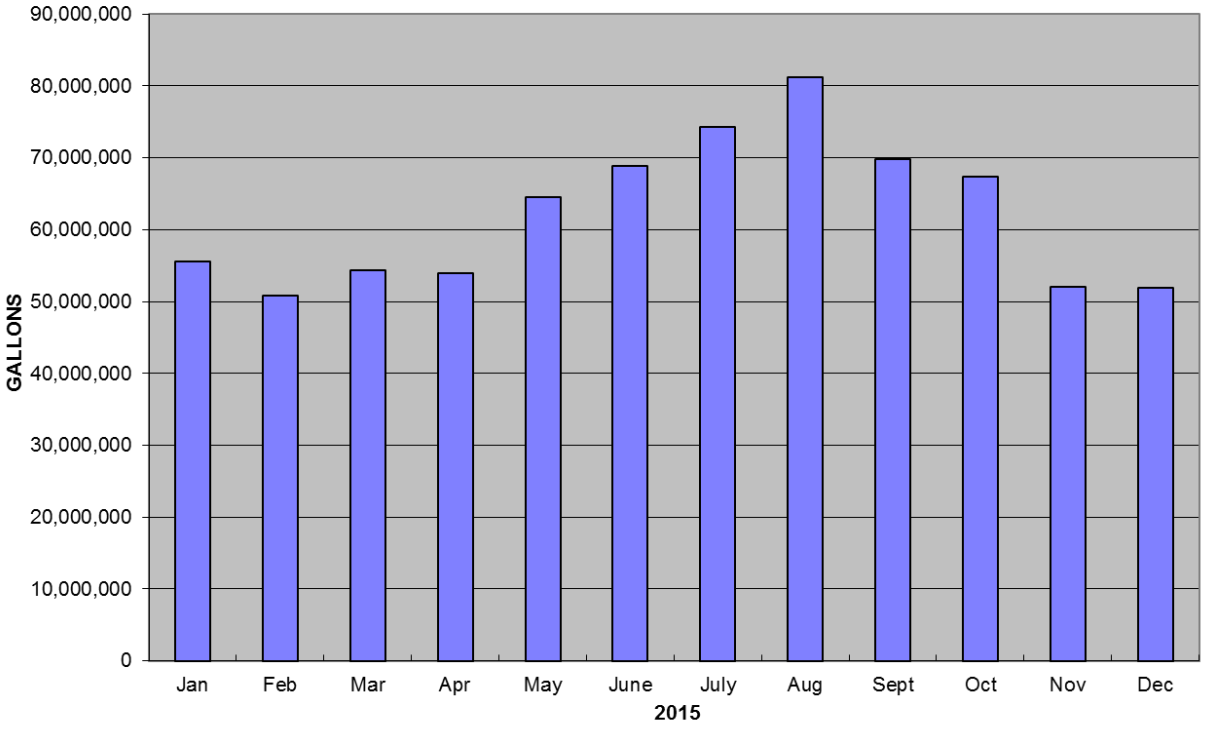
PUMPING INFROMATION

	Gallons Well #2	Gallons Well #3	Gallons Well #4	Gallons Well # 5	Gallons 2,3,4,5 Total	Gallons Daily Avg	Time Daily Avg
January	15,145,000	14,965,000	12,920,000	12,562,000	55,592,000	1,793,290	24.0
February	12,925,000	13,301,000	13,066,000	11,465,000	50,757,000	1,812,750	24.3
March	13,735,000	13,343,000	14,501,000	12,737,000	54,316,000	1,752,129	23.6
April	12,655,000	15,022,000	14,486,000	11,793,000	53,956,000	1,798,533	24.0
May	16,960,000	18,088,000	14,497,000	15,034,000	64,579,000	2,083,194	27.3
June	21,896,000	8,390,000	19,820,000	18,756,000	68,862,000	2,295,400	30.6
July	25,228,000	36,000	26,703,000	22,365,000	74,332,000	2,397,806	33.9
August	27,268,000	0	31,296,000	22,631,000	81,195,000	2,619,194	35.2
September	20,563,000	5,032,000	24,443,000	19,757,000	69,795,000	2,326,500	31.1
October	18,037,000	16,391,000	17,395,000	15,543,000	67,366,000	2,173,097	29.4
November	12,169,000	14,882,000	12,606,000	12,407,000	52,064,000	1,735,467	22.3
December	13,609,000	13,127,000	13,265,000	11,929,000	51,930,000	1,675,161	22.3
Total	210,190,000	132,577,000	214,998,000	186,979,000	744,744,000	24,462,521	328.0
Average	17,515,833	11,048,083	17,916,500	15,581,583	62,062,000	2,040,395	27.3

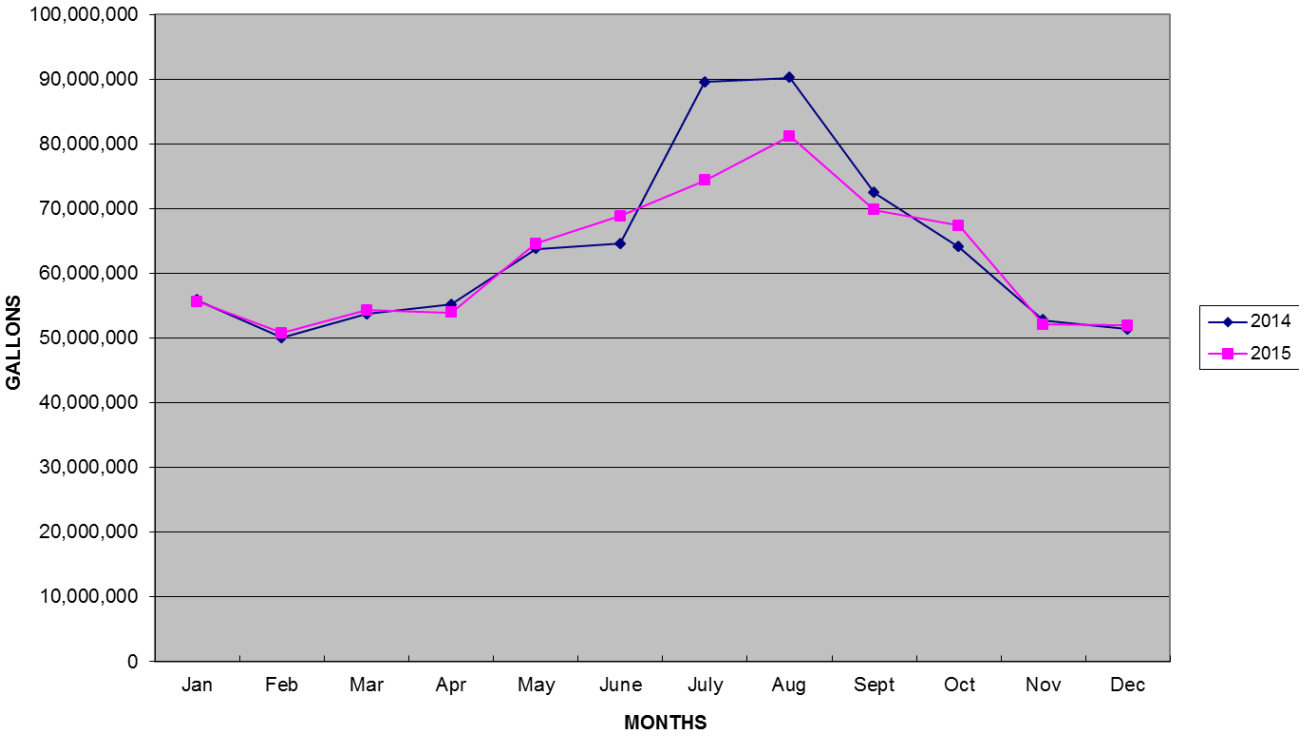
WELL SITE PUMPAGE - 2015

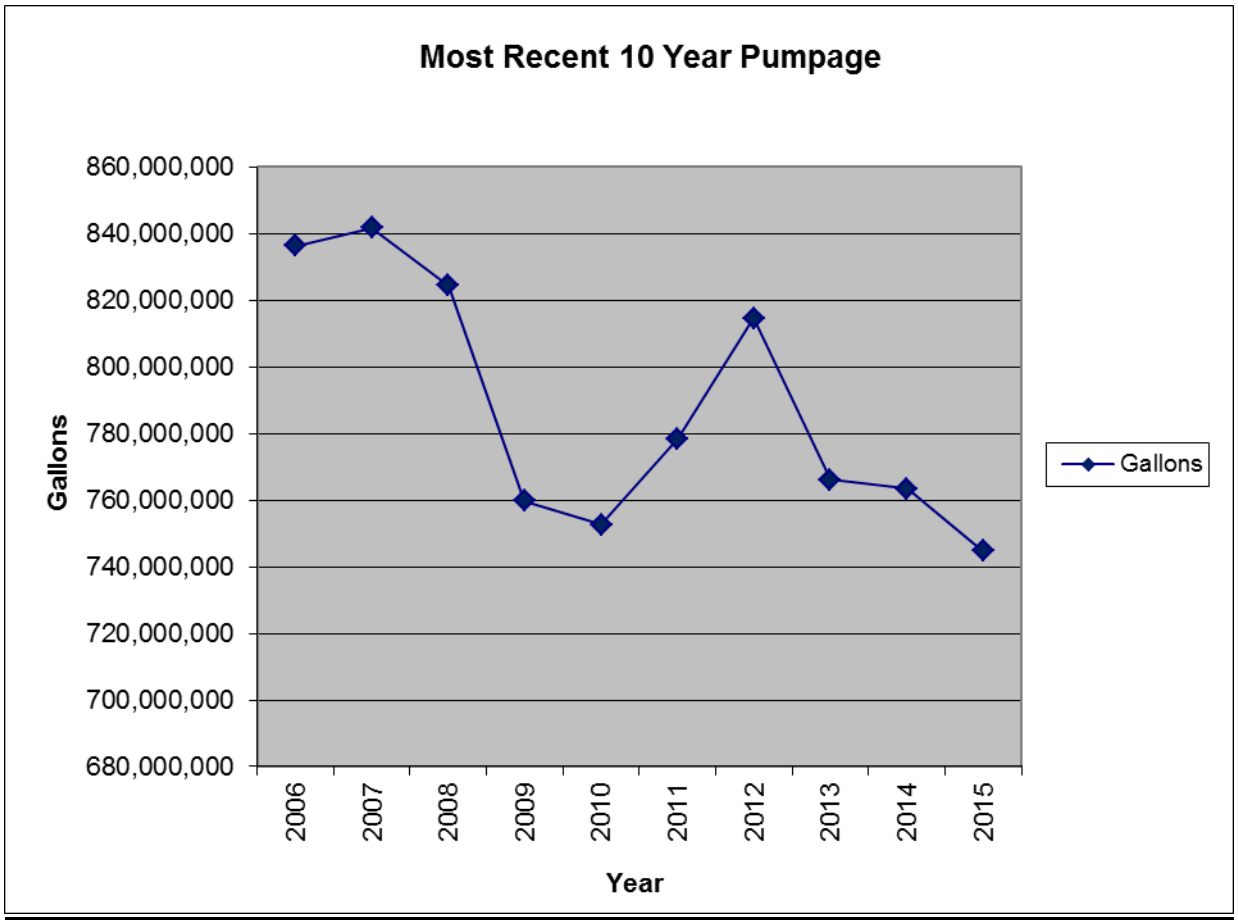


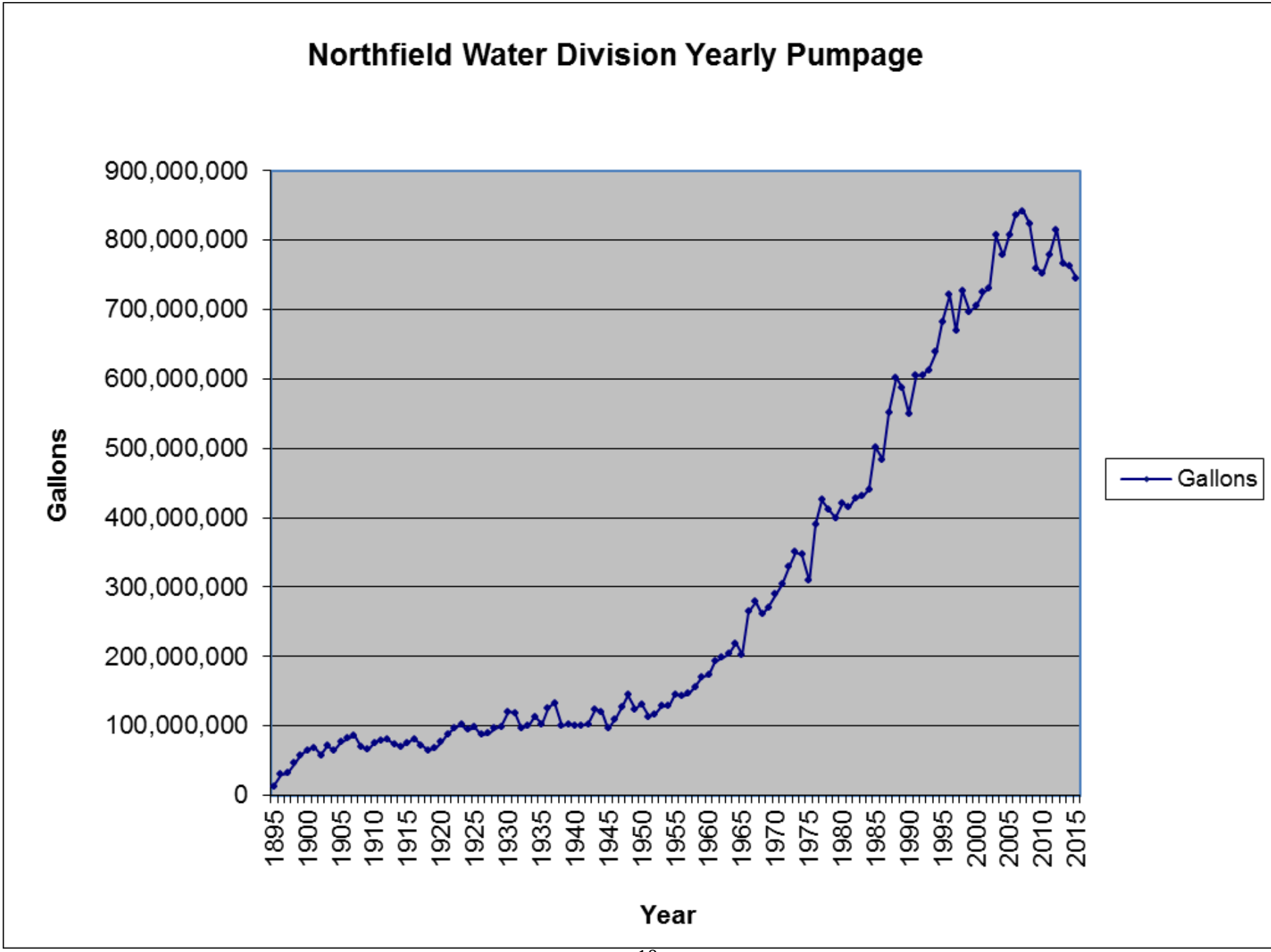
2015 MONTHLY COMPARISON - TOTAL PUMPAGE



WATER USAGE COMPARISON - 2014 VS 2015






Northfield Water Division Yearly Pumpage
900,000,000
800,000,000
700,000,000
600,000,000
500,000,000
400,000,000
300,000,000
200,000,000
100,000,000
0
Gallons
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Year
Gallons

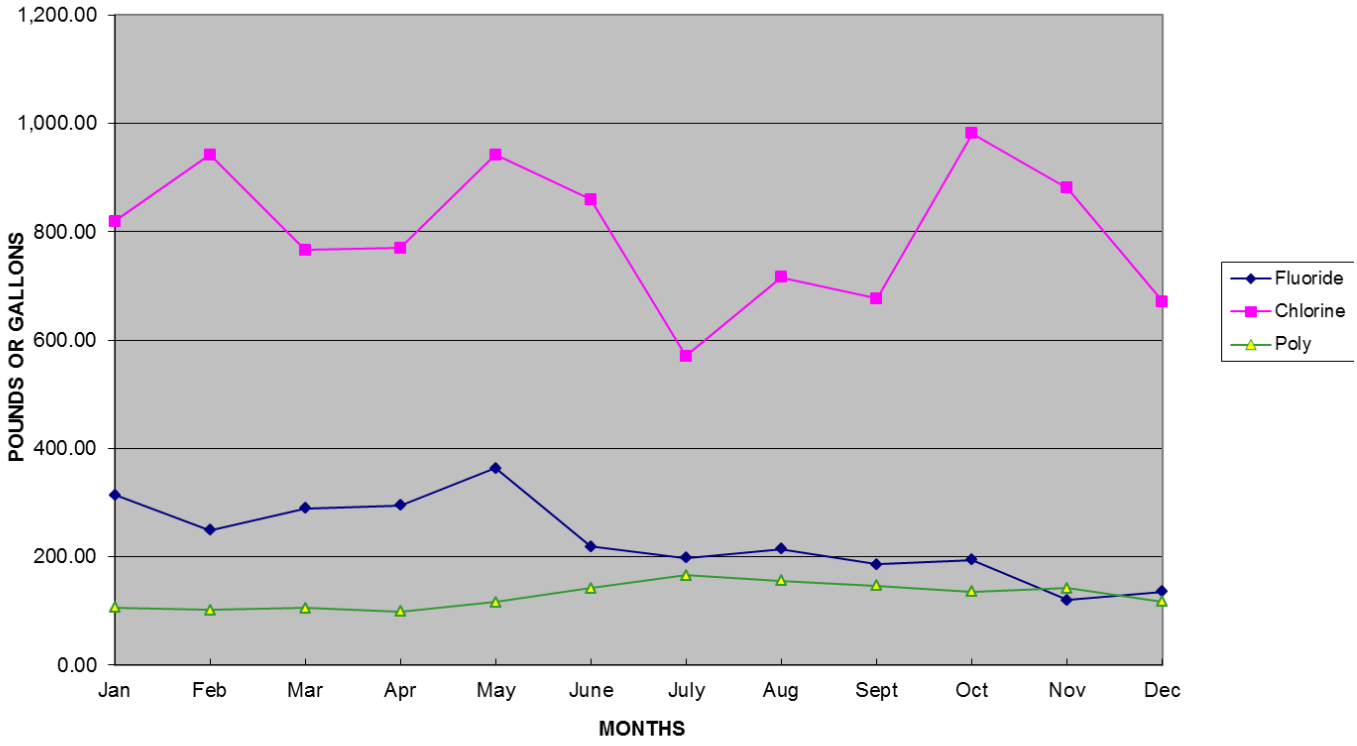
CHLORINE						
	Well #2	Well #3	Well #4	Well #5	Total	Cost
January	182	185	373	79	819	$532.76
February	114	305	462	61	942	$612.77
March	113	210	353	90	766	$498.28
April	130	166	335	139	770	$500.89
May	138	214	436	154	942	$612.77
June	159	189	321	191	860	$559.43
July	221	8	238	103	570	$370.79
August	227	6	275	208	716	$465.76
September	181	61	249	186	677	$440.39
October	147	272	354	208	981	$638.14
November	73	305	386	117	881	$573.09
December	128	156	265	122	671	$436.49
Total	1,813	2,077	4,047	1,658	9,595	$6,241.55
Average	151	173	337	138	800	$520.13

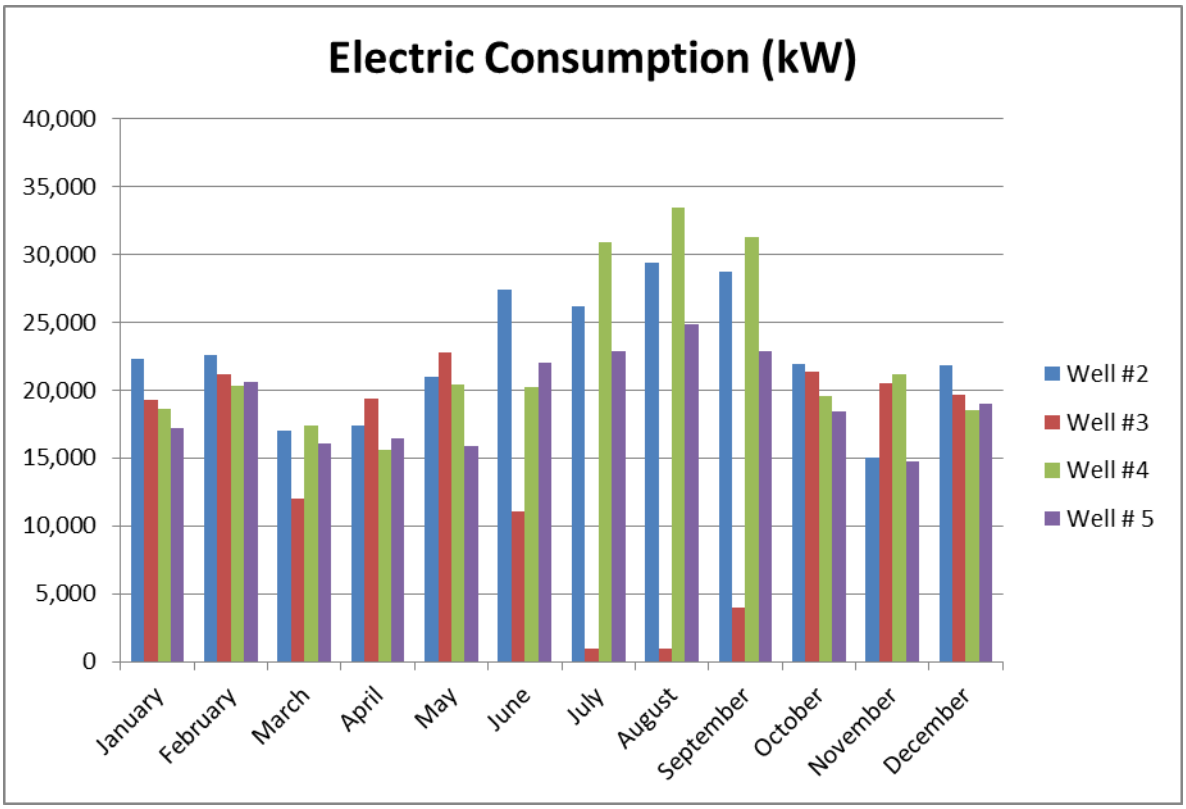
POLYPHOSPHATE						
	Well #2	Well #3	Well #4	Well #5	Total	Cost
January	32	22	30	23	107	$1,262.60
February	29	22	28	23	102	$1,203.60
March	27	22	31	26	106	$1,250.80
April	28	21	26	24	99	$1,168.20
May	28	28	31	30	117	$1,380.60
June	42	15	43	42	142	$1,675.60
July	52	9	59	46	166	$1,958.80
August	47	2	65	42	156	$1,840.80
September	45	7	54	41	147	$1,734.60
October	35	27	39	35	136	$1,604.80
November	28	28	29	57	142	$1,675.60
December	39	25	30	24	118	$1,392.40
Total	432	228	465	413	1,538	$18,148.40
Average	36	19	39	34	128	$1,512.37

HYDROFLUOSILICIC ACID						
	Well #2	Well #3	Well #4	Well #5	Total	Cost
January	95	77	70	72	314	$1,170.78
February	82	64	39	64	249	$928.42
March	87	50	82	71	290	$1,081.29
April	78	76	77	64	295	$1,099.94
May	101	99	79	85	364	$1,357.21
June	70	39	35	75	219	$816.56
July	70	1	71	56	198	$738.26
August	67	1	90	57	215	$801.65
September	52	11	70	53	186	$693.52
October	47	59	50	38	194	$723.35
November	31	31	27	31	120	$447.43
December	38	33	28	37	136	$507.09
Total	818	541	718	703	2780	$10,365.51
Average	68	45	60	59	232	$863.79

ELECTRIC (kW)					
	Well #2	Well #3	Well #4	Well # 5	Total
January	22,320	19,280	18,605	17,232	77,437
February	22,600	21,175	20,290	20,615	84,680
March	17,040	11,980	17,371	16,046	62,437
April	17,400	19,379	15,600	16,441	68,820
May	21,000	22,783	20,384	15,909	80,076
June	27,400	11,034	20,193	22,036	80,663
July	26,160	978	30,930	22,914	80,982
August	29,360	947	33,409	24,805	88,521
September	28,680	3,926	31,231	22,900	86,737
October	21,880	21,389	19,600	18,467	81,336
November	15,000	20,547	21,207	14,707	71,461
December	21,800	19,667	18,563	18,948	78,978
Total	270,640	173,085	267,383	231,020	942,128
Average	22,553	14,424	22,282	19,252	78,511

CHEMICAL USAGE - 2015





HISTORY OF THE WATER DIVISION:

The water system for the City of Northfield was started on May 2, 1895. Coal was the fuel used for powering a steam driven pump for pumping the water. The City used 44,700 lbs. of coal from September 16, 1896 to December 15, 1896. Some other statistics for that time frame were:

- Cost per ton of coal - $2.92
- Gallons of water pumped - 4,496,960 gal.
- Cost per 1 million gallons pumped - $14.00
- Gallons pumped per 1 lb. of coal - 100 gal.
- Average water pressure during pumping - 88 lbs.

Water pumped in the year 1898 was 46,361,170 gallons with a daily average of 127,000 gallons.

Water pumped in the year 1925 was 98,458,290 gallons with a daily average of 270,000 gallons.

No. 1 well at the College Street location was put on line for the 1st time on Oct. 6, 1945.

On July 13, 1950, they cut the main line service from the old Water Division at 103 N. Water Street (old Dairy Fresh building north of the Holiday Gas Station) which discontinued the service from that location.

The Water Division moved into its present location at 1101 College Street and resumed Water Division activities on December 8, 1950.

Total gallons pumped for 1950 was 131,548,900 with a daily average of 361,000 gallons.

No. 2 well was put on line for the 1st time on May 17, 1951.

The two 1,000,000 gallon storage tanks at St. Olaf were constructed in 1962.

Chlorine was added to the water system in 1962.

Fluoride was added to the water system on January 7, 1963.

No. 3 well was put on line for the 1st time on December 9, 1970.

Water pumped for the year of 1971 was 303,660,700 gallons with a daily average of 832,000 gallons.

In 1974, the City of Northfield began to use ductile iron for its water mains.

No. 4 well was put on line for the 1st time on September 29, 1978. The new shop addition was also added in 1978.

Water pumped for the year of 1980 was 421,335,600 gallons with a daily average of 1,151,200 gallons.

Water pumped for the year of 1992 was 605,800,000 gallons with a daily average of 1,659,726 gallons.

Polyphosphate was added to the water system in 1996.

No. 5 well was put on line for the 1st time on November 10, 1997.

The City Water Division began construction on the office and cold storage addition at the current office location of 1101 College Street in late fall of 1997. The construction was completed in the spring of 1998.

We began construction of well #5 in 1996 and had it in operation by November of 1997. There is a total of 890 sq. ft. including the generator garage.
Construction began on a new 1 million gallon elevated storage tank located off of Hall Avenue in 2002 and went into operation in August 2004. In addition, the installation of 200 k.w. standby generators were completed at well's #3 and #4 in 2003.

The Northwest Booster Station on North Avenue was put on line December 13, 2006.

The total facility size including 1101 College Street, 500 Ames, 1500 Maple Street, 1450 North Avenue and 1701 Archibald Street is 59,840 square feet.

From 1971 to 2015, water consumption went from a daily average of 832,000 gallons to a daily average of 2,040,395 gallons. We've only added 1 operator in this time period.

EMPLOYMENT HISTORY:

Employee Name	Position	Started	Resigned	Retired
George Christen	Water Superintendent	28		8/55
Floyd Sellers	Water Superintendent	5/47	6/62	
Roger Ebersole	Utility Director	58		8/74
Larry Turner	Water Operator	5/62		7/95
	Appt. Crew Supervisor			
	Appt. Utility Director			
Rodney Johnson	Water Operator	8/62	4/64	
	Re-hired Water Operator	1/72		
	Appt. Crew Supervisor	5/1/75		
	Appt. Water Superintendent	5/84		12/84 (passed away)
Vic Swanson	Water Operator	1/63	5/64	
Dale Mortonson	Water Operator	5/64	2/66	
Warren DeWolf	Water Operator	5/64	2/67	
Dillard Forss	Water Operator	2/66	8/66	
	Re-hired Water Operator	3/68	4/73	
Dave Canedy	Water Operator	9/66	1/72	
Fred Becker	Water Operator	2/67	2/68	
Ron Taubman	Water Operator	3/73		3/00
Jim Grisim	Water Operator	3/74	8/74	
Doug Lien	Water Operator	5/12/75		
	Appt. Crew Supervisor	3/11/85		
	Appt. Superintendent	6/1/86		
	Appt. Utility Manager	12/14/15		10/12/2016 ☺
Scott Murphy	Water Operator	4/85		
	Appt. Crew Leader	3/9/97		
	Water Operator	4/20/09		2018 ☺
Dean Huschle	Water Operator	12/7/87		8/10 (work comp)
Dale Nelson	Water Operator	4/27/98	7/6/01	
Jay Hall	Water Operator	7/18/01		
	Appt. Water Systems Tech.	4/20/09		
	Appt. Utility Supervisor	7/23/12	6/21/13	
Lenny Moore	Water Operator	9/23/09		10/1/2016 ☺
Justin Wagner	Utility Operator	9/20/12		
	Appt. Utility Supervisor	11/4/13		
	Appt. Utility Foreperson	12/21/15		
Tim Valley	Utility Technician	9/20/12		
Andrew Tussing	Utility Operator	12/30/13		

Current Employees are Bold

THE NORTHFIELD WATER SUPPLY SYSTEM:

The primary purpose of the Northfield Water Division is to provide safe drinking water to the community. In addition, the water supply system must be capable of handling emergency situations such as firefighting. The Water Division has 4 Utility Operators, a Utilities Foreperson, a Utilities Technician, a Utility Manager and 4 seasonal employees to fill in during the busy summer months.

Northfield has 6 wells of which 4 are in current operation. These wells are approximately 400 feet deep connected to a very large underground body of water called the Jordan Aquifer. 3 of these wells are capable of producing up to 1400 gallons of water per minute and the 4th well produces 1250 gallons per minute. Well No. 6 pump house is currently in the design phase. The well will be put into production late 2016.

The Northfield Water Division provides water to over 20,000 people through services in over 5,000 homes and businesses. It is estimated that the average daily use of water per person is over 100 gallons per day St Olaf and Carleton Colleges each have their own distribution systems and sewer collection systems, but St. Olaf started buying water from the City of Northfield starting in February of 2001 because of high radium levels in their own well water. Carleton College still supplies their water from their own well.

The Northfield water system also has the reserve capacity of 3 one million gallon storage tanks. These tanks are used as backup should the wells not produce the amount of water needed during high volume hours or during emergencies. An SCADA (supervisory and control and data acquisition) system is used to constantly monitor water usage and storage capacity. In 1997, a metering station was constructed to tie the water distribution systems of Dundas and Northfield. In 2006, a booster station was constructed on North Avenue to boost the water pressure at the hospital and the adjoining northwest properties.

Fluoride, chlorine and polyphosphates are fed into the water system at each individual well site as the water is pumped from the wells into the water distribution system. Fluoride is fed into the system at a rate of 0.7 parts per million, chlorine is fed at 1.2 parts per million and polyphosphates at a rate of 0.5 parts per million. Some other facts regarding the chemistry of the water are the water hardness of 320 p.p.m., an iron content of 0.2 parts per million, a manganese content of 0.11 parts per million, an alkalinity of 270 p.p.m. and a PH of 7.4.

Costs for electrical and gas usage in 2015 for the 4 wells, booster station, storage tanks and office amounted to $111,426.23. During high peak power demands, the Water Division works in cooperation with Excel Energy in reducing electrical consumption. This conservation policy saves $3,500 per year and energy by not operating certain wells during this peak time. The Northfield Water Division also has emergency backup in case of power failure. Well #5 and #2 have a 175 k.w. electrical hookup for the emergency generator if there was a need for an emergency power supply at those locations, with a standby portable generator stored at #5 well. This portable generator can be moved to #2 well if needed. In 2003, the Water Division installed two natural gas powered, 200 kw stationary standby generators as back-up power supplies at well's #3 and #4. Wells #3, #4 and the booster station will come on automatically if we lose excel power. Well #5 and #2 have to share the portable 175 kW gen-set and we have to operate the gen-set manually. The 2 one million gallon storage tanks on the St. Olaf campus receives electrical power free from St. Olaf College. The College has their own backup generator for campus needs, so the Water Division does not have to provide backup power at that location. In 2015 the Hall Ave. storage tank has a 11 kw standby generator.

With the amount of new homes and businesses growing in Northfield, the water demand and distribution system are constantly growing. Water conservation is an important topic for all residents and businesses. This is the time to consider water usage for future generations. The two main areas of water conservation are the savings of our natural resources and your personal financial savings. Although at the present time we have an adequate supply of water coming from the Jordan Aquifer, we must consider that it has taken thousands of years to build this supply and without protective measures, major problems could arise in the distant future.

The City of Northfield is doing its part in preparing for the future of Northfield's water supply by organizing a Wellhead Protection Committee. This committee includes City staff, township board members, county leaders

and concerned business people and residents from the area. The Wellhead Protection Committee takes an active role in protecting the ground water, researching potential contaminant sources of water and provides informational materials to the public on how to protect our valuable water resource.

The other area of importance is your pocketbook. Savings could be very substantial by reducing water consumption. The costs of drilling and developing new wells and the higher costs for treatment at the waste treatment plant are all handed down to the consumer through higher utility bills.

The normal household water usage is broken down into percentages: toilets 41%, bathing/washing 37%, kitchen 6%, laundry 4%, and misc. use 12%. By less water use, you are decreasing your water bill and reducing your electrical consumption by having to heat less water. If a family of four saves 21,900 gallons of showering water per year, that family would save approximately 3,460 KWH per year. At a typical rate of 10 cents per KWH, this savings amounts to approximately $346 per year. As you can see by the example, saving of water is important to each and everyone in the community. By reducing our water usage now, we can save this precious natural resource for future generations.

An important aspect of water that is being studied is the amount of lead and copper in the drinking water. During the summer of 1992, the Northfield Water Division completed its first sampling for lead and copper. A minimum of 40 samples were taken. Half in homes with lead services and half in homes with lead solder in the plumbing. The samples were tested by the Minnesota Department of Health and the results from the first sampling showed that Northfield is well under the guidelines set forth by the Department of Health in both copper and lead. Another sampling period was completed in the spring of 1993, 1995, 1998, 2001, 2003, 2004, 2007, 2010 and 2013 with equal results. Besides the discontinuation of lead water service pipes, changes in solder materials used in soldering water pipes has had a positive effect on water systems. A combination of 50% lead and 50% tin solder was discontinued in 1985. The current combination of 5% lead and 95% tin (or 95/5) is a standard in the water industry today.

Should you have additional questions regarding the Northfield water system, please call Doug Lien, Northfield Utility Manager, at 645-3088 or Justin Wagner, Northfield Utilities Foreperson, at 645-3083.