



Town of Friday Harbor Water, Wastewater, and Solid Waste Utilities Summary Reports

www.fridayharbor.org

Period ending: May 2022

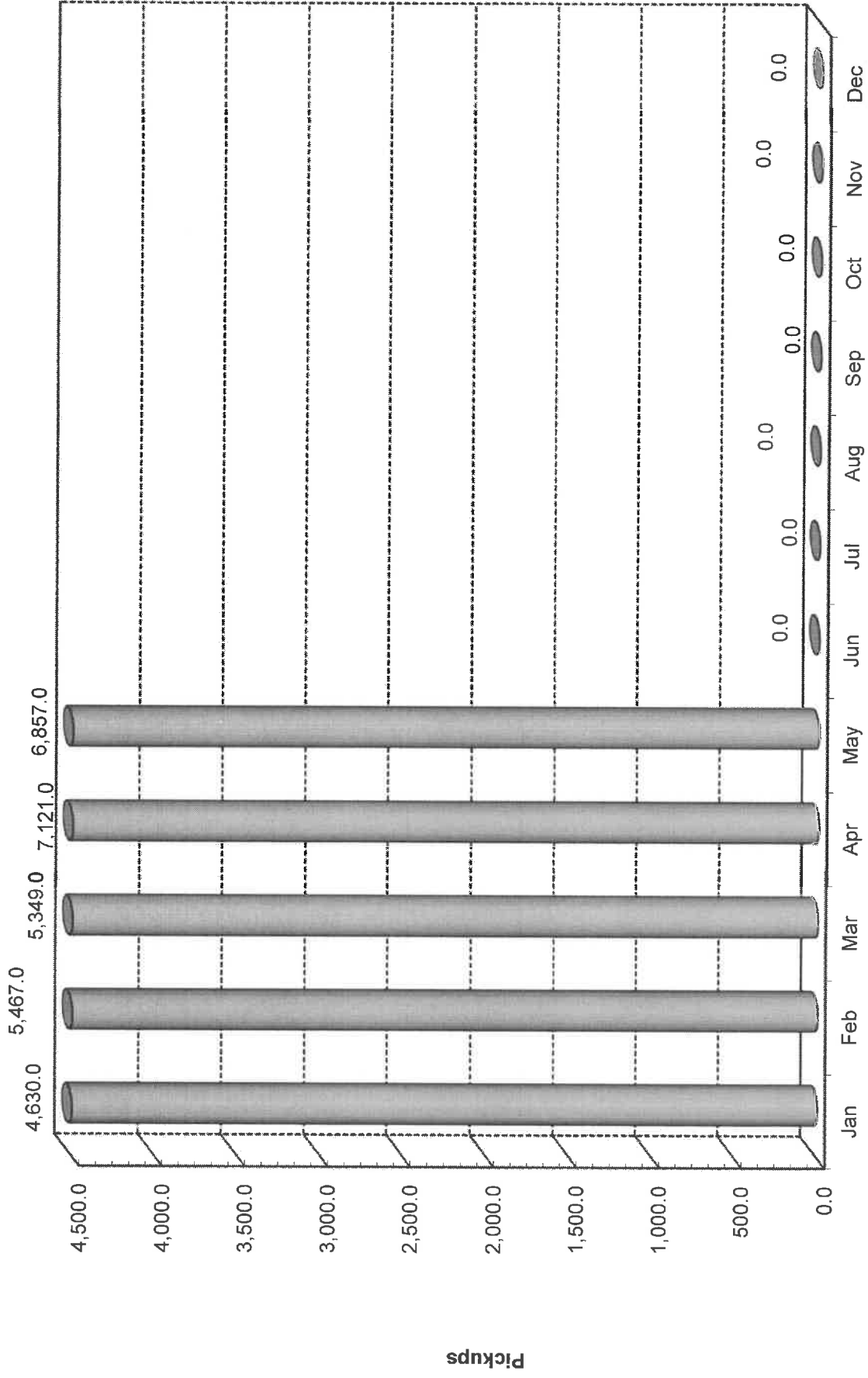
Data provided by
Wayne Haefele, PE, Public Works Director
Water Utility, Mike Deegan, Water System Mgr.
Frank Byrne, Water Treatment Plant Operator
Wastewater Utility, Don Reitan, Leadman
Solid Waste Utility, Dave Smith, Leadman

Analysis & Reports prepared by
Mike Greene, System Administrator

Refuse Pickups - 2022 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	2,031.0	264.5	107.0	566.0	17.5	1,639.0	5.0	4,630.0
Feb	1,828.0	277.0	170.0	523.0	23.0	2,640.5	5.5	5,467.0
Mar	1,776.0	213.0	145.5	497.5	20.0	2,692.0	5.0	5,349.0
Apr	2,375.0	310.0	166.5	621.0	19.0	3,625.5	4.0	7,121.0
May	2,255.0	297.0	191.0	556.5	26.0	3,525.0	6.5	6,857.0
Jun								0.0
Jul								0.0
Aug								0.0
Sep								0.0
Oct								0.0
Nov								0.0
Dec								0.0
YTD	10,265.0	1,361.5	780.0	2,764.0	105.5	14,122.0	26.0	29,424.0

Refuse Pickups by Month - 2022



Refuse - pickups by Class

sourceDate
/
5 / 2022

Location	Class	Pickups
IN	Sfr	2,255.0
	RefuseOnly	297.0
	PA	191.0
	Mfr	556.5
	Ind	26.0
	Com	3,525.0
		6,850.5
Out	Mfr	6.5
		6.5
TOTAL		6,857.0

Refuse - active accounts

sourceDate
/
5 / 2022

Location	Refuse Type	Accounts
IN	Small Dumpster	41
	PA	41
	Medium Dumpste	54
	Large Dumpster	72
	Compactors	4
	Cans Low Rate	6
	Cans	887
		1,105
Out	Large Dumpster	1
		1
TOTAL		1,106

Recycle - pickups by Class

sourceDate
/
5 / 2022

Location	Class	Pickups
IN	Sfr	908
	RefuseOnly	29
	PA	0
	Mfr	108
	Ind	5
	Com	3
		1,053
Out	Mfr	0
		0
TOTAL		1,053

Water - use MTD

sourceDate
/
5 / 2022

Spe=Special, Sfr=Single Family Residential, P.A= Public Authority, Mfr=Multi-family, Ind=Industrial, Com=Commerc

Water Class	Accounts	Gallons
Spe	3	25,247
Sfr	1015	2,679,584
PA	83	720,239
Mfr	133	1,709,947
Ind	14	134,610
Com	221	1,482,764
TOTAL	1,469	6,752,391

Water use MTD - accounts with sewer

sourceDate

/
5 / 2022

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	59	620,411
Com In/lo Strength	164	823,834
Dot In/lo Strength	3	33,010
Ind In/hi Strength	1	53,500
Ind In/lo Strength	10	71,270
Lmf In/lo Strength	1	5,100
Com In/hi Strength	43	621,046
Mfr In/lo Strength	63	644,598
Mhp In/lo Strength	2	245,800
PA In/hi Strength	3	83,851
PA In/lo Strength	46	330,239
Sfr IN Town	638	1,776,931
Low Rate / IN Town	6	7,230
	1039	5,316,820

Location: Out		
UW Out/hi Strength	1	174,700
Mfr Out/lo Strength	1	17,250
Sfr Out of Town	4	12,908
	6	204,858

Sewer Class	Accounts	Gallons
TOTAL	1045	5,521,678

Water - use MTD by Location

sourceDate

/
5 / 2022

Spe=Special, Sfr=Single Family Residential, P.A= Public Authority, Mfr=Multi-family, Ind=Industrial, Com=Commerc

Water Class	Accounts	Gallons
Location: IN		
Spe	2	24,924
Sfr	660	1,807,111
PA	74	508,896
Mfr	128	1,612,667
Ind	13	133,740
Com	218	1,467,624
	1,095	5,554,962
Location: Out		
Spe	1	323
Sfr	355	872,473
PA	9	211,343
Mfr	5	97,280
Ind	1	870
Com	3	15,140
	374	1,197,429
TOTAL	1,469	6,752,391

Finish Water Flow to Town
source: Water Treatment Facility Monthly Report

Revised reporting period: per K. Anderson 03/06/17
to reflect meter reading dates (?).
Start/End dates may change monthly.

31 :count of days in reporting period.

	April 15, 2022 flow (total flow)		May 15, 2022 flow (total flow)
13		1	243
14		2	253
15	275	3	197
16	248	4	308
17	270	5	241
18	213	6	249
19	234	7	289
20	268	8	270
21	243	9	272
22	238	10	314
23	265	11	295
24	240	12	232
25	276	13	233
26	278	14	216
27	272	15	324
28	218	16	
29	260		
30	307		
31			
days		days	
16	4105	15	3936
	TOTAL DAYS	31	
	TOTAL FLOW		8041
			1,000's gallons

TOWN OF FRIDAY HARBOR

Flow to Town (Gross Water Production) 2020

Revised reporting period: per K. Anderson 03/06/17
to reflect meter reading dates (?).

Reporting (meter reading) period			days in period	Gross flow to Town	Flow to Town (millions)
<i>from WTP Chem. Wts. & Finish Flow to Town Report</i>					
15-Dec	<i>to</i>	13-Jan	30	7,491,000	7,491
14-Jan	<i>to</i>	14-Feb	32	7,118,000	7,118
15-Feb	<i>to</i>	14-Mar	28	6,844,000	6,844
15-Mar	<i>to</i>	14-Apr	31	8,245,000	8,245
15-Apr	<i>to</i>	15-May	31	8,041,000	8,041
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
			152	37,739,000	37739.0

WATER CONSUMPTION (Use) BY CUSTOMER CLASS

source: utilTry08 & 13.mdb

2021

CLASS:	COM	IND	MFR	P.A	SFR	Special	other uses	TOTAL	% of Use	Avg. Daily Use
JAN	1,245,000	106,800	1,477,460	778,750	2,353,930	8,953	519,909	6,490,802	6.4%	209,381
FEB	1,472,570	103,550	1,708,290	877,370	2,579,290	31,010	586,762	7,358,842	7.2%	253,753
MAR	1,269,760	79,450	1,581,430	597,760	2,269,100	15,009	668,075	6,480,584	6.4%	209,051
APR	855,070	67,640	1,845,470	421,860	2,823,760	41,241	621,772	6,676,813	6.6%	222,560
MAY	979,450	83,580	1,960,930	673,160	3,435,470	102,507	630,453	7,865,550	7.7%	253,727
JUN	1,163,080	85,270	2,111,320	827,450	3,654,370	42,123	699,038	8,582,651	8.4%	286,088
JUL	1,887,081	227,720	2,157,360	1,425,030	4,208,750	64,034	730,079	10,700,054	10.5%	345,163
AUG	2,827,729	284,390	2,761,380	2,072,320	5,553,590	139,076	800,183	14,438,668	14.2%	465,763
SEP	2,207,410	222,810	2,194,420	1,543,250	4,211,890	112,212	579,688	11,071,680	10.9%	369,056
OCT	1,679,380	128,740	2,014,950	1,065,460	2,981,580	41,258	675,971	8,587,339	8.4%	277,011
NOV	1,265,230	97,420	1,931,840	618,010	2,785,370	30,930	557,304	7,286,104	7.1%	242,870
DEC	993,490	89,190	1,717,840	424,420	2,518,610	28,300	604,796	6,376,646	6.3%	205,698
TOTAL	17,845,250	1,576,560	23,462,690	11,324,840	39,375,710	656,653	7,674,030	101,915,733	100.0%	278,458
AVERAGE	1,487,104	131,380	1,955,224	943,737	3,281,309	54,721	639,503	8,492,978	-4,520,267 :LOSS for Year	
% of USE	17.5%	1.5%	23.0%	11.1%	38.6%	0.6%	7.5%	100.0%	106,436,000 :FLOW (Use+Loss)	
% of FLOW	16.8%	1.5%	22.0%	10.6%	37.0%	0.6%	7.2%	95.8%	-4.2%	Loss as % of Flow

2022

CLASS:	COM	IND	MFR	P.A	SFR	Special	other uses	TOTAL	% of Use	Avg. Daily Use
JAN	1,349,356	106,940	1,859,134	390,738	2,869,118	6,043	446,290	7,027,619	20.2%	226,697
FEB	1,044,244	99,730	1,679,131	523,331	2,437,867	16,677	757,389	6,558,369	18.9%	226,151
MAR	1,111,601	108,470	1,526,387	851,547	2,141,873	12,600	506,934	6,259,412	18.0%	201,917
APR	1,469,179	129,010	1,726,635	865,333	2,521,525	5,281	1,001,349	7,718,312	22.2%	257,277
MAY	1,482,764	134,610	1,709,947	720,239	2,679,584	25,247	393,312	7,145,703	20.6%	230,507
JUN							0	0	0.0%	0
JUL							0	0	0.0%	0
AUG							0	0	0.0%	0
SEP							0	0	0.0%	0
OCT							0	0	0.0%	0
NOV							0	0	0.0%	0
DEC							0	0	0.0%	0
TOTAL	6,457,144	578,760	8,501,234	3,351,188	12,649,967	65,848	3,105,274	34,709,415	100.0%	228,351
AVERAGE	1,291,429	115,752	1,700,247	670,238	2,529,993	13,170	258,773	2,892,451	-3,029,585 :LOSS for Year	
% of USE	18.6%	1.7%	24.5%	9.7%	36.4%	0.2%	8.9%	100.0%	37,739,000 :FLOW (Use+Loss)	
% of FLOW	17.1%	1.5%	22.5%	8.9%	33.5%	0.2%	8.2%	92.0%	-8.0%	Loss as % of Flow

Net Water Production - 2022

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	7,491,000	7,118,000	6,844,000	8,245,000	8,041,000	0
3% meter loss	197,440	174,029	172,574	201,509	202,572	0
Flushing	143,850	107,560	173,980	99,840	108,440	0
SJC#3 FD use	5,000	5,000	15,000	655,000	32,300	
Leaks	100,000	170,800	145,380	45,000	50,000	
notes						
other non-metered use		300,000				
notes						
Additional water in storage						
notes						
lifecare fire main leak						
Total other uses	-446,290	-757,389	-506,934	-1,001,349	-393,312	0
Net production	7,044,710	6,360,611	6,337,066	7,243,651	7,647,688	0

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	0	0	0	0	0	0
3% meter loss	0	0	0	0	0	0
Flushing						
SJC#3 FD use						
Leaks						
notes						
other non-metered use						
notes						
Total other uses	0	0	0	0	0	0
Net production	0	0	0	0	0	0

TOWN OF FRIDAY HARBOR

Water Consumption & Production

Revised meter loss reporting begin 07/09 (per Robert Krebs, Evergreen Rural Water Assoc.)

Period	USE (consumption)	Cumulative Use YTD	Flow (production)	Unaccounted over / (under)	Cumulative Flow YTD	Average Daily Flow	
2020							
<i>gallons</i>							
Jan-20	6,490,802		6,771,000	-280,198		218,419	
Feb-20	7,358,842	13,849,644	7,991,000	-632,158	14,762,000	285,393	
Mar-20	6,480,584	20,330,228	7,169,000	-688,416	21,931,000	231,258	
Apr-20	6,676,813	27,007,042	6,984,000	-307,187	28,915,000	232,800	
May-20	7,865,550	34,872,592	7,971,000	-105,450	36,886,000	257,129	
Jun-20	8,582,651	43,455,243	9,137,000	-554,349	46,023,000	304,567	
Jul-20	10,700,054	54,155,297	10,903,000	-202,946	56,926,000	351,710	YTD
Aug-20	14,438,668	68,593,965	14,737,000	-298,332	71,663,000	475,387	Unaccounted
Sep-20	11,071,680	79,665,645	11,463,000	-391,320	83,126,000	382,100	as % of Flow
Average	8,587,339	88,252,984	8,823,000	-235,661	91,949,000	284,613	4.25%
Monthly Use	7,286,104	95,539,088	7,733,000	-446,896	99,682,000	257,767	
8,492,978	6,376,646	101,915,733	6,754,000	-377,355	106,436,000	217,871	-4,520,267
YEAR TOTAL:	12	108,722,907	Cumulative	-7,064,093	Cumulative	317,242	
		Metered/Other	Use YTD	Unaccounted	3% meter loss	2,989,222	
2021							
<i>gallons</i>							
Jan-21	6,818,211		7,320,000	-501,789		236,129	
Feb-21	7,124,868	13,943,079	7,539,000	-414,132	14,859,000	269,250	
Mar-21	6,271,616	20,214,695	7,160,000	-888,384	22,019,000	230,968	
Apr-21	7,669,307	27,884,002	8,464,000	-794,693	30,483,000	282,133	
May-21	9,525,250	37,409,253	10,115,000	-589,750	40,598,000	326,290	
Jun-21	10,293,730	47,702,983	10,626,000	-332,270	51,224,000	354,200	
Jul-21	13,591,377	61,294,359	13,725,000	-133,623	64,949,000	442,742	YTD
Aug-21	14,723,426	76,017,785	14,978,000	-254,574	79,927,000	483,161	Unaccounted
Sep-21	11,630,682	87,648,467	12,019,000	-388,318	91,946,000	400,633	as % of Flow
Average	8,004,636	95,653,104	8,502,000	-497,364	100,448,000	274,258	5.11%
Monthly Use	7,027,754	102,680,858	7,580,000	-552,246	108,028,000	252,667	
9,093,646	6,442,893	109,123,751	6,975,000	-532,107	115,003,000	225,000	-5,879,249
YEAR TOTAL:	12	109,123,751	Cumulative	-5,879,249	Cumulative	314,786	
		Metered/Other	Use YTD	Unaccounted	3% meter loss	2,827,251	
2022							
<i>gallons</i>							
Jan-22	7,027,619		7,491,000	-463,381		241,645	
Feb-22	6,558,369	13,585,988	7,118,000	-559,631	14,609,000	254,214	
Mar-22	6,259,412	19,845,401	6,844,000	-584,588	21,453,000	220,774	
Apr-22	7,718,312	27,563,713	8,245,000	-526,688	29,698,000	274,833	
May-22	7,145,703	34,709,415	8,041,000	-895,297	37,739,000	259,387	
Jun-22	0	34,709,415	0	0	37,739,000	0	
Jul-22	0	34,709,415	0	0	37,739,000	0	YTD
Aug-22	0	34,709,415	0	0	37,739,000	0	Unaccounted
Sep-22	0	34,709,415	0	0	37,739,000	0	as % of Flow
Average	0	34,709,415	0	0	37,739,000	0	8.03%
Monthly Use	0	34,709,415	0	0	37,739,000	0	
6,941,883	0	34,709,415	0	0	37,739,000	0	-3,029,585
YEAR TOTAL:	5	34,709,415	Cumulative	-3,029,585	Cumulative	250,171	
		Metered/Other	Use YTD	Unaccounted	3% meter loss	948,124	

3 YEAR	Use	Flow	Daily Flow	3 Year Loss
AVERAGES:	4,945,942 :gal/month	9,259,621 :gal/month	188,319	as % of Flow 5.18%

source: Monthly Water Treatment Plant Report & utility.mdb's
 3 yr cumulative flow 259,178,000
 3 yr unaccounted -13,429,100

Utilization of Sustainable Annual Water System Capacity

Period start: Jun-21

Period end: May-22

Sustainable Annual Yield (TFH
Comprehensive Water System Plan
Update, June, 2013, page 3-6)

205 million gallons

Annual use - 12 month period
percent of Sustainable Annual Yield

112.1 million gallons
54.7%

Exceeds Sustainable Yield?

No

Trout Lake Reservoir Level

Months with positive levels may reflect that a removable 7.25 inch riser has been added to the top of the original spillway.

end of	Inches above/(below) original spillway	end of	Inches above/(below) original spillway	end of	Inches above/(below) original spillway
Jan-15	0.00	Jan-18	0.00	Jan-21	0.00
Feb-15	0.00	Feb-18	0.00	Feb-21	0.00
Mar-15	0.00	Mar-18	8.75	Mar-21	8.25
Apr-15	6.50	Apr-18	8.25	Apr-21	4.30
May-15	0.00	May-18	1.50	May-21	4.30
Jun-15	-13.00	Jun-18	-10.50	Jun-21	-5.50
Jul-15	-29.50	Jul-18	-29.50	Jul-21	-34.00
Aug-15	-42.25	Aug-18	-42.00	Aug-21	-48.00
Sep-15	-49.50	Sep-18	-50.00	Sep-21	-48.00
Oct-15	-54.50	Oct-18	-54.50	Oct-21	-54.50
Nov-15	-17.25	Nov-18	-55.50	Nov-21	-55.00
Dec-15	0.00	Dec-18	-26.00	Dec-21	3.00
Jan-16	0.00	Jan-19	0.00	Jan-22	8.00
Feb-16	0.00	Feb-19	0.00	Feb-22	8.00
Mar-16	0.00	Mar-19	2.75	Mar-22	8.75
Apr-16	6.00	Apr-19	2.75	Apr-22	8.75
May-16	-2.50	May-19	-0.75	May-22	7.75
Jun-16	-11.00	Jun-19	-2.00	Jun-22	
Jul-16	-21.00	Jul-19	-16.00	Jul-22	
Aug-16	-36.50	Aug-19	-26.25	Aug-22	
Sep-16	-49.50	Sep-19	-40.00	Sep-22	
Oct-16	-51.00	Oct-19	-46.25	Oct-22	
Nov-16	-45.50	Nov-19	-49.75	Nov-22	
Dec-16	-10.35	Dec-19	-49.50	Dec-22	
Jan-17	0.00	Jan-20	-11.00	Jan-23	
Feb-17	0.00	Feb-20	0.00	Feb-23	
Mar-17	2.75	Mar-20	0.00	Mar-23	
Apr-17	9.00	Apr-20	4.00	Apr-23	
May-17	4.75	May-20	0.00	May-23	
Jun-17	-4.00	Jun-20	-0.75	Jun-23	
Jul-17	-19.00	Jul-20	-8.50	Jul-23	
Aug-17	-32.00	Aug-20	-22.50	Aug-23	
Sep-17	-43.00	Sep-20	-34.00	Sep-23	
Oct-17	-50.50	Oct-20	-42.50	Oct-23	
Nov-17	-48.00	Nov-20	-45.25	Nov-23	
Dec-17	-11.50	Dec-20	-28.25	Dec-23	

Rainfall - Trout Lake Water Treatment Facility

source: Water Treatment Plant Weather Reports

all figures in inches

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	average (2005-14)
JAN	5.49	6.87	6.51	2.34	3.82	4.73	5.90	3.46	4.14	2.86	4.61
FEB	1.01	1.61	2.83	1.78	1.50	1.24	2.74	3.38	1.32	4.22	2.16
MAR	2.33	0.91	3.70	1.99	2.05	3.30	3.37	3.09	3.63	3.88	2.83
APR	1.37	2.23	1.49	1.32	2.07	1.47	2.96	1.91	2.70	1.94	1.95
MAY	1.08	1.24	0.78	1.26	1.69	2.09	3.07	1.09	2.20	1.06	1.56
JUN	1.63	0.56	1.03	1.16	0.35	1.10	0.68	2.60	0.83	0.52	1.05
JUL	0.70	0.26	1.56	0.21	0.45	0.11	0.84	1.04	0.00	0.36	0.55
AUG	1.60	0.03	0.64	1.88	0.81	0.72	0.29	0.00	0.95	0.49	0.74
SEP	0.94	1.15	0.54	0.84	1.58	4.35	0.72	0.12	5.08	1.34	1.67
OCT	3.50	1.89	2.12	1.83	5.24	1.38	2.29	6.40	1.42	4.00	3.01
NOV	4.28	10.43	2.32	5.15	6.76	2.94	4.50	3.32	2.49	4.00	4.62
DEC	2.89	3.74	4.59	3.70	1.80	6.55	1.88	4.79	2.28	3.37	3.56
Total	26.82	30.92	28.11	23.46	28.12	29.98	29.24	31.20	27.04	28.03	28.29

Cumulative thru

DEC	26.82	30.92	28.11	23.46	28.12	29.98	29.24	31.20	27.04	28.03
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all figures in inches

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
JAN	3.97	2.17	1.60	5.10	3.87	7.32	4.36	4.49		
FEB	2.95	4.83	2.99	3.80	1.76	5.34	3.41	1.38		
MAR	3.62	2.88	3.27	1.48	0.87	1.25	1.18	2.64		
APR	0.51	0.75	2.20	3.10	1.61	1.38	1.12	2.25		
MAY	0.30	0.48	1.61	0.07	1.29	1.49	0.40	1.70		
JUN	0.14	1.22	0.75	0.72	0.61	1.25	0.69			
JUL	0.36	0.32	0.15	0.18	0.75	0.86	0.00			
AUG	0.94	0.11	0.11	0.01	0.84	0.68	0.30			
SEP	1.28	1.40	0.71	1.27	2.74	2.34	3.76			
OCT	3.53	4.80	4.28	2.23	3.33	3.39	4.34			
NOV	6.19	3.47	4.32	4.32	2.1	4.68	11.31			
DEC	5.26	4.02	3.83	4.26	3.63	6.81	4.59			
Total	29.05	26.45	25.82	26.54	23.40	36.79	35.46	12.46	0.00	0.00

Cumulative thru

DEC	29.05	26.45	25.82	26.54	23.40	36.79	35.46	12.46	0.00	0.00
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Prevention of Wastewater Facility Overloading

Period start: Jan-20
 Period end: Dec-20

INFLUENT BOD LOADING (pounds per day)	AVG. EFFLUENT FLOW (millions of gallons per day)	SUSPENDED SOLIDS LOADING (pounds per day)
Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 1,600 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 1,360	Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 0.69000 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 0.58650	Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 1,110 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 944
Month with highest average loading in period Jan-19	Month with highest average flow in period Jan-19	Month with highest average loading in period Jan-19
Highest average monthly loading in period (pounds per day) 559	Highest average monthly flow in period (millions of gallons per day) 0.4088414	Highest average monthly loading in period (pounds per day) 488
% of Design Criteria 35%	% of Design Criteria 59%	% of Design Criteria 44%
exceeds Design Criteria? No	exceeds Design Criteria? No	exceeds Design Criteria? No
Previous month's loading 509	Previous month's flow 0.2541	Previous month's loading 319
Following month's loading 524	Following month's flow 0.2799	Following month's loading 245
exceeds Planning Threshold for 3 consecutive months? No	exceeds Planning Threshold for 3 consecutive months? No	exceeds Planning Threshold for 3 consecutive months? No