

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

www.fridayharbor.org

Period ending: Oct 2018

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

Water - use MTDsourceDate
10 / 2018

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

Water Class	Accounts	Gallons
Spe	3	66,688
Sfr	987	3,550,430
PA	76	1,131,560
Mfr	121	1,478,860
Ind	15	113,160
Com	218	1,895,490
TOTAL	1,420	8,236,188

Water - use MTD by LocationsourceDate
10 / 2018

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

Water Class	Accounts	Gallons
Location: IN		
Spe	3	66,688
Sfr	633	1,683,260
PA	69	701,520
Mfr	116	1,386,590
Ind	13	111,370
Com	214	1,842,730
	1,048	5,792,158
Location: Out		
Sfr	354	1,867,170
PA	7	430,040
Mfr	5	92,270
Ind	2	1,790
Com	4	52,760
	372	2,444,030
TOTAL	1,420	8,236,188

Water use MTD - accounts with sewersourceDate
10 / 2018

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	50	460,840
Com In/lo Strength	162	1,025,880
Dot In/lo Strength	3	52,420
Ind In/hi Strength	1	41,730
Ind In/lo Strength	10	66,750
Lmf In/lo Strength	1	1,950
Com In/hi Strength	41	786,340
Mfr In/lo Strength	60	600,540
Mhp In/lo Strength	2	277,500
PA In/hi Strength	3	83,250
PA In/lo Strength	43	484,180
Sfr IN Town	612	1,659,220
Low Rate / IN Town	5	5,550
	<hr/> 993	<hr/> 5,546,150
Location: Out		
UW Out/hi Strength	1	285,100
Mfr Out/lo Strength	1	4,740
Sfr Out of Town	4	7,040
	<hr/> 6	<hr/> 296,880
TOTAL	999	5,843,030

Refuse - pickups by ClasssourceDate
10 / 2018

Location	Class	Pickups
IN	Sfr	1,358.0
	RefuseOnly	272.5
	PA	231.5
	Mfr	382.5
	Ind	23.0
	Com	2,390.5
		<hr/> 4,658.0
Out	Sfr	0.0
	Mfr	4.5
		<hr/> 4.5
	TOTAL	4,662.5

Refuse - active accountssourceDate
10 / 2018

Location	Refuse Type	Accounts
IN		
	Small Dumpster	47
	PA	40
	Medium Dumpste	51
	Large Dumpster	63
	Compactors	3
	Cans Low Rate	5
	Cans	806
		<hr/>
		1,015
Out		
	Large Dumpster	1
	Cans	1
		<hr/>
		2
		<hr/>
	TOTAL	1,017

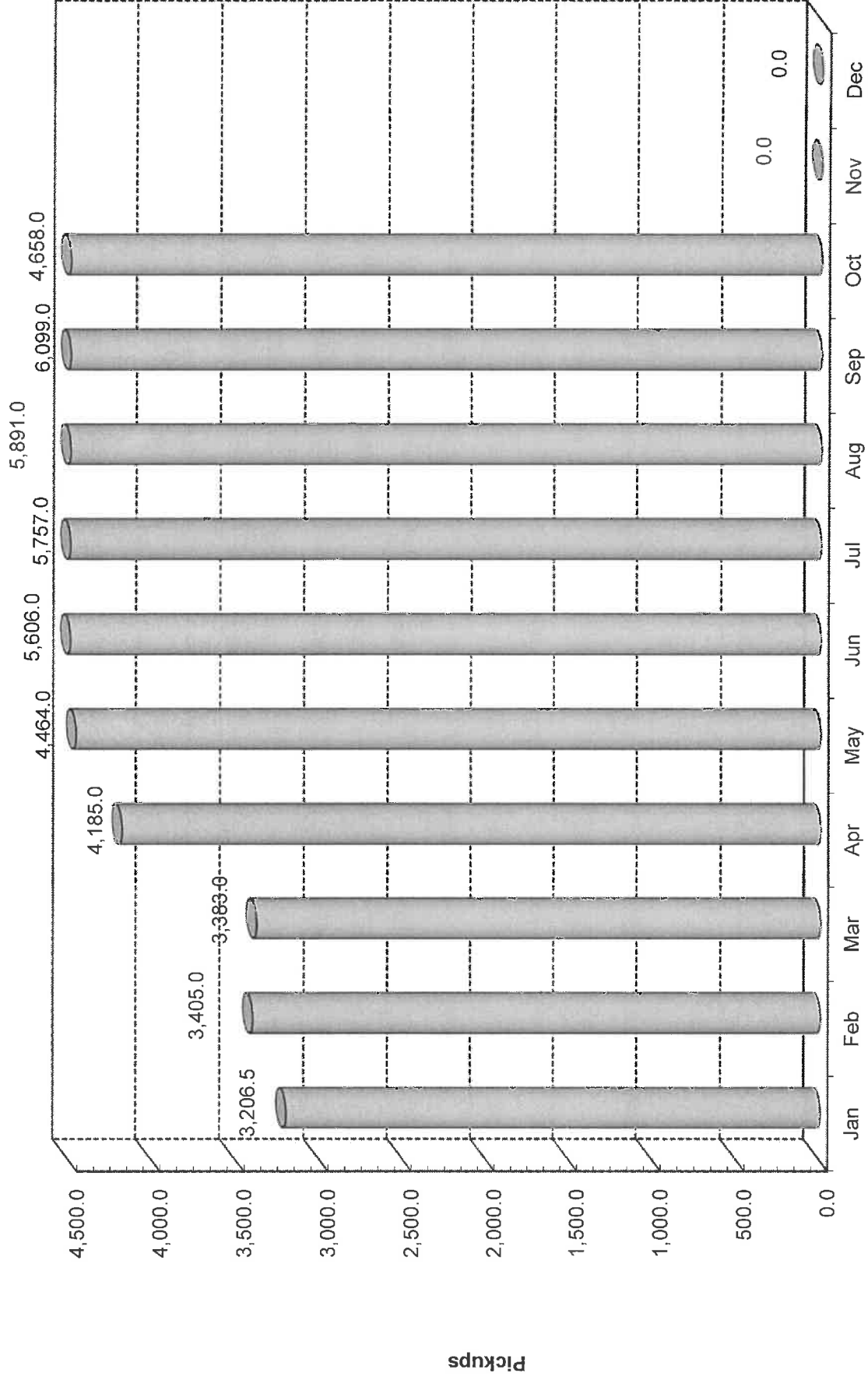
Recycle - pickups by ClasssourceDate
10 / 2018

Location	Class	Pickups
IN	Sfr	625
	RefuseOnly	15
	PA	0
	Mfr	53
	Ind	3
	Com	8
		<hr/> 704
Out	Sfr	0
	Mfr	0
		<hr/> 0
	TOTAL	704

Refuse Pickups - 2018 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,433.0	151.5	145.5	435.5	24.5	1,016.5		3,206.5
Feb	1,347.0	149.0	172.5	385.5	18.0	1,333.0		3,405.0
Mar	1,218.0	166.0	165.5	389.0	15.5	1,429.0		3,383.0
Apr	1,635.0	206.0	205.5	458.5	21.0	1,659.0		4,185.0
May	1,558.0	247.5	210.5	421.0	19.0	2,008.0		4,464.0
Jun	1,871.5	452.5	252.5	487.0	20.0	2,522.5		5,606.0
Jul	1,697.0	577.5	199.5	480.5	22.5	2,780.0		5,757.0
Aug	1,567.0	669.0	217.0	455.0	20.5	2,962.5		5,891.0
Sep	1,771.0	561.0	290.5	473.5	22.0	2,981.0		6,099.0
Oct	1,358.0	272.5	231.5	382.5	23.0	2,390.5		4,658.0
Nov								0.0
Dec								0.0
YTD	15,455.5	3,452.5	2,090.5	4,368.0	206.0	21,082.0	0.0	46,654.5

Refuse Pickups by Month - 2018



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.

30 :count of days in reporting period.

Sep-18		Oct-18	
day	flow (total flow)	day	flow (total flow)
15	374	1	214
16	317	2	378
17	295	3	272
18	432	4	326
19	279	5	300
20	303	6	300
21	300	7	293
22	345	8	286
23	342	9	347
24	248	10	271
25	236	11	342
26	394	12	226
27	257	13	232
28	308	14	304
29	354	15	
30	301	16	
31			

<u>days</u> 16 5085	<u>days</u> 14 4091
TOTAL DAYS	<u><u>30</u></u>
TOTAL FLOW	<u><u>9176</u></u> 1,000's gallons

TOWN OF FRIDAY HARBOR

Flow to Town (Gross Water Production) 2018

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>	<i>to</i>				
15-Dec	<i>to</i>	14-Jan	31	7,347,000	7,347
15-Jan	<i>to</i>	14-Feb	31	7,054,000	7,054
15-Feb	<i>to</i>	14-Mar	28	6,566,000	6,566
15-Mar	<i>to</i>	15-Apr	32	8,256,000	8,256
16-Apr	<i>to</i>	14-May	29	7,932,000	7,932
15-May	<i>to</i>	15-Jun	32	11,939,000	11,939
16-Jun	<i>to</i>	15-Jul	30	14,181,000	14,181
16-Jul	<i>to</i>	14-Aug	30	15,364,000	15,364
15-Aug	<i>to</i>	16-Sep	33	13,769,000	13,769
17-Sep	<i>to</i>	14-Oct	28	9,176,000	9,176
	<i>to</i>		0	0	
	<i>to</i>		0	0	
			304	101,584,000	101584.0

TOWN OF FRIDAY HARBOR

Net Water Production - 2018

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	7,347,000	7,054,000	6,566,000	8,256,000	7,932,000	11,939,000
3% meter loss	181,712	177,273	160,076	200,073	214,798	326,464
Flushing	230,042	227,445	143,800	216,200	232,500	187,190
SJC#3 FD use	5,000	5,000	5,000	5,000	5,000	23,400
Leaks			216,000	247,840	14,400	0
notes			University Road	1st St.N	Tucker/Larson	
other non-metered use						
notes				Strider-Tucker Ave.	849 Spring St.	
Additional water in storage						
notes						
Total other uses	-416,754	-409,718	-524,876	-747,713	-527,178	-537,054
Net production	6,930,246	6,644,282	6,041,124	7,508,287	7,404,822	11,401,946

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	14,181,000	15,364,000	13,769,000	9,176,000	0	0
3% meter loss	273,310	292,320	256,401	275,280	0	0
Flushing	108,000	108,000	108,000	108,000		
SJC#3 FD use	5,000	5,000	5,000	5,000		
Leaks	72,000					
notes						
other non-metered use						
notes						
notes						
Total other uses	-458,310	-405,320	-369,401	-388,280	0	0
Net production	13,722,690	14,958,680	13,399,599	8,787,720	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	
2016							
<i>gallons</i>	Jan-16	6,904,531	6,697,000	207,531		216,032	
	Feb-16	6,043,999	12,948,530	-177,001	12,918,000	222,179	
	Mar-16	5,087,613	18,036,143	-972,387	18,978,000	195,484	
	Apr-16	7,613,121	25,649,264	-6,879	26,598,000	254,000	
	May-16	8,678,417	34,327,681	-317,583	35,594,000	290,194	
	Jun-16	10,308,890	44,636,572	-414,110	46,317,000	357,433	
	Jul-16	12,724,140	57,360,712	-241,860	59,283,000	418,258	YTD
	Aug-16	14,723,626	72,084,337	-1,091,374	75,098,000	510,161	Unaccounted
	Sep-16	12,583,251	84,667,588	-12,749	87,694,000	419,867	as % of Flow
Average	Oct-16	8,473,803	93,141,391	421,803	95,746,000	259,742	0.38%
Monthly Use	Nov-16	6,714,525	99,855,916	1,656,525	100,804,000	168,600	
8,877,761	Dec-16	6,677,221	106,533,136	1,356,221	106,125,000	171,645	408,136
YEAR TOTAL:	12	107,043,584	Cumulative Metered/Other Use YTD	106,125,000	408,136 Unaccounted	Cumulative 3% meter loss	290,300 2,915,731
2017							
<i>gallons</i>	Jan-17	8,403,985	8,484,000	-80,015		273,677	
	Feb-17	6,321,628	14,725,613	-770,372	15,576,000	253,286	
	Mar-17	6,110,787	20,836,401	-688,213	22,375,000	219,323	
	Apr-17	8,344,725	29,181,126	-1,394,275	32,114,000	324,633	
	May-17	7,085,245	36,266,371	672,245	38,527,000	206,871	
	Jun-17	10,048,456	46,314,827	-256,544	48,832,000	343,500	
	Jul-17	14,681,313	60,996,140	-353,687	63,867,000	485,000	YTD
	Aug-17	13,661,250	74,657,390	-1,147,750	78,676,000	477,710	Unaccounted
	Sep-17	14,093,015	88,750,405	-874,985	93,644,000	498,933	as % of Flow
Average	Oct-17	7,823,149	96,573,554	-216,851	101,684,000	259,355	5.10%
Monthly Use	Nov-17	6,680,806	103,254,360	-592,194	108,957,000	242,433	
9,176,124	Dec-17	6,859,133	110,113,492	-211,867	116,028,000	228,097	-5,914,508
YEAR TOTAL:	12	110,113,492	Cumulative Metered/Other Use YTD	116,028,000	-5,914,508 Unaccounted	Cumulative 3% meter loss	317,735 2,989,222
2018							
<i>gallons</i>	Jan-18	6,473,834	7,347,000	-873,166		237,000	
	Feb-18	6,318,823	12,792,658	-735,177	14,401,000	251,929	
	Mar-18	5,860,732	18,653,389	-705,268	20,967,000	211,806	
	Apr-18	7,416,815	26,070,204	-839,185	29,223,000	275,200	
	May-18	7,687,108	33,757,312	-244,892	37,155,000	255,871	
	Jun-18	11,419,190	45,176,502	-519,810	49,094,000	397,967	
	Jul-18	13,151,864	58,328,366	-1,029,136	63,275,000	457,452	YTD
	Aug-18	14,508,241	72,836,607	-855,759	78,639,000	495,613	Unaccounted
	Sep-18	12,454,526	85,291,133	-1,314,474	92,408,000	458,967	as % of Flow
Average	Oct-18	8,624,468	93,915,601	-551,532	101,584,000	296,000	7.55%
Monthly Use	Nov-18	0	93,915,601	0	101,584,000	0	
9,391,560	Dec-18	0	93,915,601	0	101,584,000	0	-7,668,399
YEAR TOTAL:	10	93,915,601	Cumulative Metered/Other Use YTD	101,584,000	-7,668,399 Unaccounted	Cumulative 3% meter loss	333,780 2,673,930

3 YEAR AVERAGES:	Use :gal/month	Flow :gal/month	Daily Flow	3 Year Loss as % of Flow
	5,910,564	9,521,676	217,172	4.07%

source: Monthly Water Treatment Plant Report & utility.mdb's
 3 yr cumulative flow 323,737,000
 3 yr unaccounted -13,174,770

Utilization of Sustainable Annual Water System Capacity

Period start: Nov-17

Period end: Oct-18

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

115.9 million gallons
56.6%

exceeds Sustainable Yield?

No

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	1.05	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

OCT	19.65	16.75	21.20	14.61	19.56	20.49	22.86	23.09	22.27	20.66
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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						
FEB	2.95	4.83	2.99	3.80						
MAR	3.62	2.88	3.27	1.48						
APR	0.51	0.75	2.20	3.10						
MAY	0.30	0.48	1.61	0.07						
JUN	0.14	1.22	0.75	0.72						
JUL	0.36	0.32	0.15	0.18						
AUG	0.94	0.11	0.11	0.01						
SEP	1.28	1.40	0.71	1.27						
OCT	3.53	4.80	4.28	2.23						
NOV	6.19	3.47	4.32							
DEC	5.26	4.02	3.83							
Total	29.05	26.45	25.82	17.96	0.00	0.00	0.00	0.00	0.00	0.00

Cumulative thru

OCT	17.60	18.96	17.67	17.96	0.00	0.00	0.00	0.00	0.00	0.00
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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-12	-1.75	Jan-15	0.00	Jan-18	0.00
Feb-12	0.00	Feb-15	0.00	Feb-18	0.00
Mar-12	0.00	Mar-15	0.00	Mar-18	8.75
Apr-12	8.00	Apr-15	6.50	Apr-18	8.25
May-12	0.00	May-15	0.00	May-18	1.50
Jun-12	7.00	Jun-15	-13.00	Jun-18	-10.50
Jul-12	-19.00	Jul-15	-29.50	Jul-18	-29.50
Aug-12	-32.75	Aug-15	-42.25	Aug-18	-42.00
Sep-12	-45.00	Sep-15	-49.50	Sep-18	-50.00
Oct-12	-48.00	Oct-15	-54.50	Oct-18	-54.50
Nov-12	-24.25	Nov-15	-17.25	Nov-18	
Dec-12	0.00	Dec-15	0.00	Dec-18	
Jan-13	0.00	Jan-16	0.00	Jan-19	
Feb-13	0.00	Feb-16	0.00	Feb-19	
Mar-13	0.00	Mar-16	0.00	Mar-19	
Apr-13	8.50	Apr-16	6.00	Apr-19	
May-13	3.75	May-16	-2.50	May-19	
Jun-13	-3.75	Jun-16	-11.00	Jun-19	
Jul-13	-21.00	Jul-16	-21.00	Jul-19	
Aug-13	-34.25	Aug-16	-36.50	Aug-19	
Sep-13	-39.25	Sep-16	-49.50	Sep-19	
Oct-13	-43.50	Oct-16	-51.00	Oct-19	
Nov-13	-44.75	Nov-16	-45.50	Nov-19	
Dec-13	-26.00	Dec-16	-10.35	Dec-19	
Jan-14	0.00	Jan-17	0.00	Jan-20	
Feb-14	0.00	Feb-17	0.00	Feb-20	
Mar-14	0.00	Mar-17	2.75	Mar-20	
Apr-14	8.25	Apr-17	9.00	Apr-20	
May-14	5.00	May-17	4.75	May-20	
Jun-14	7.00	Jun-17	-4.00	Jun-20	
Jul-14	-20.50	Jul-17	-19.00	Jul-20	
Aug-14	-30.25	Aug-17	-32.00	Aug-20	
Sep-14	-42.75	Sep-17	-43.00	Sep-20	
Oct-14	-45.25	Oct-17	-50.50	Oct-20	
Nov-14	-46.50	Nov-17	-48.00	Nov-20	
Dec-14	0.00	Dec-17	-11.50	Dec-20	

Prevention of Wastewater Facility Overloading

Period start: Oct-17
 Period end: Sep-18

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	Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 0.69000	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) 1,360	85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 0.58650	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 Jul-16	Month with highest average flow in period Feb-16	Month with highest average loading in period Oct-16
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