COMMITMENT & INTEGRITY
DRIVE RESULTS

1111 Nantasket Ave.
Hull, Massachusetts 02045

T 781.925.0906

WOODARD
&CURRAN

January 14, 2020

Ms. Marie J. McDonald
U.S. Environmental Protection Agency
Water Enforcement, OES4-SMR
5 Post Office Square
Boston, MA 02109-3912

Subject: Hull, MA Water Pollution Control Facility (WPCF) – NPDES Permit No. MA0101231
Discharge Monitoring Reports – December 2019 – Discharge 001-A

Dear Ms. McDonald:

Enclosed please find the completed DMR for the month of December 2019. Please note that the facility's effluent was in compliance with NPDES requirements.

Should you have questions concerning this submittal, please contact the undersigned at 781-925-0906. Thank you for your assistance.

Sincerely,

Aram Varjabedian – Woodard & Curran
Project Manager

Enc. DMR forms, support documentation

Cc: David Burns, MA DEP (SERO) Lakeville, MA
John J. Struzziery - Director of Wastewater Operations/Assistant Director of Public Works
Ryan Joyce – Division of Marine Fisheries

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HULL, MA WATER POLLUTION CONTROL FACILITY
NPDES NO. MA0101231

Hull Water Pollution Control Facility – Staffing – December 2019

Project Manager/Chief Operator – Aram Varjabedian	MA Grade 7C
Asst. Project Manager/Asst. Chief Operator – William Boornazian	MA Grade 7C
Lead Operator – Joseph Basler	MA Grade 5C
Operations/Maintenance Tech 2 – Eric Sutton	MA Grade 3M
Operations/Maintenance Tech 2 – David Wilson **Passed MA Gr4 exam on 12/26/19	MA Grade 4M
Operations/Maintenance Tech 1 – Ryan Holman	MA Grade 3M

Supplemental O&M Personnel supporting/assisting the Hull facility

Roger Boltrushek – Part-time Operator	MA Grade 7C
James Gagliard – Sr. Operations Specialist	MA Grade 6C
Jody St. George - Sr. Operations Specialist	MA Grade 7C
Richard Gould – Part-time Operator	MA Grade 5C
Robert Scott – Area Manager	MA Grade 6C

Hull Water Pollution Control Facility – Schedule – December 2019

Schedule for 8 Hour/Day coverage:

	License	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Project Manager	7C	***	X	X	X	X	X	
Asst. Project Manager	7C	***	X	X	X	X	X	
Lead Operator	5C			X	X	X	X	X
O&M Tech 1				X	X	X	X	X
O&M Tech 2	3M		X	X	X	X	X	
O&M Tech 2	4M	X	X	X	X	X		
Part-Time Operator	7C or 5C	*						*
Sr. O&M Specialist	6C	**						

- Part-time operator schedule is usually one day every two weeks and the day can vary, but usually on a Sunday and can vary week-to-week. An asterisk [*] denotes those days that the part-time operator could be scheduled.
- [**] Sr. O&M Specialists coverage is usually part of the Sunday rotation, and also if licensed operations coverage is needed during the week.
- [***] If Sunday coverage is by Sr. O&M or PT operator, then PM and APM schedule is Monday through Friday. PM and APM available and part of the Sunday coverage rotation as needed, and for Saturday coverage if needed.
- PM & APM schedule is Monday through Friday

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

Name HULL W P C F
Address 1111 NANTASKET AVE
HULL MA 02045

Facility HULL W P C F
Location HULL MA 02045
Attn: John Struzziery, Director of WW Ops

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

MA0101231	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	19	12	01	TO	19	12	31

OMB No. 2040-0004

MAJOR
(SUBR E)
F- FINAL
TREATED SANITARY WASTEWATEF

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	79	161	LBS/DY	3	5	5	mg/L	0	1/7	24
	PERMIT REQUIREMENT	768 MO AVG	WKLY AVG	LBS/DY	MO AVG	45 WKLY AVG	DAILY MX	mg/L		WEEKLY	COMP 24
BOD, 5-DAY (20 DEG. C) 00310 G 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	1,919	******	LBS/DY	94	******	******	mg/L	0	1/7	24
	PERMIT REQUIREMENT	REPORT MO AVG	******	LBS/DY	REPORT MO AVG	******	******	mg/L		WEEKLY	COMP 24
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	6.50	******	7.60	SU	0	01/01	GR
	PERMIT REQUIREMENT	******	******	****	MINIMUM	******	MAXIMUM	SU		WEEKLY	GRAB
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	180	368	LBS/DY	7	11	11	mg/L	0	1/7	24
	PERMIT REQUIREMENT	768 MO AVG	1152 WKLY AVG	LBS/DY	MO AVG	45 WKLY AVG	DAILY MX	mg/L		WEEKLY	COMP 24
SOLIDS, TOTAL SUSPENDED 00530 G 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	4,412	******	LBS/DY	212	******	******	mg/L	0	1/7	24
	PERMIT REQUIREMENT	REPORT MO AVG	******	LBS/DY	REPORT MO AVG	******	******	mg/L		WEEKLY	COMP 24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1.66	4.01	MGD	******	******	******	****	0	99/99	RC
	PERMIT REQUIREMENT	3.04 12 MO AVG	DAILY MX	MGD	******	******	******	****		CONTINUOUS	RCORDR
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 0 0 See Comments	SAMPLE MEASUREMENT	******	******	****	2.33	******	******	MGD	0	99/99	RC
	PERMIT REQUIREMENT	******	******	****	REQ MO AVG	******	******	MGD		CONTIN	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Aram Varjabedian - Project Manager John Struzziery, Director of WW Ops	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Aram Varjabedian	781	925-1207	20	01	14
TYPED OR PRINTED		SIGNATURE OF PRICIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT MAXIMUM AND MINIMUM DAILY FLOW RATES AND TOTAL FLOW FOR EACH OPERATING DAY WITH DMR EACH MONTH

WET DATA ON DMR 001B

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

Name HULL W P C F
Address 1111 NANTASKET AVE
HULL MA 02045

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR) MAJOR
(SUBR E)
F- FINAL
TREATED SANITARY WASTEWATER

OMB No. 2040-0004

MA0101231	001 A
PERMIT NUMBER	DISCHARGE NUMBER

Facility HULL W P C F
Location HULL MA 02045
Attn: John Struzziery, Director of WW Ops

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	19	12	01	TO	19	12	31

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Chlorine, Total Residual	SAMPLE MEASUREMENT	******	******	******	0.37	******	0.73	mg/L	0	03/01	GR
50060 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	******	******	******	MO AVG	******	DAILY MAX	mg/L		THREE PER DAY	GRAB
ENTEROCOCCI	SAMPLE MEASUREMENT	******	******	******	<10	******	<10	CFU/100 ml	0	1/7	GR
61211 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	******	******	******	35 MO GEO	******	276 DAILY MAX	CFU/100 ml		WEEKLY	GRAB
COLIFORM, FECAL GENERAL	SAMPLE MEASUREMENT	******	******	******	10	******	10	#/100 ml	0	1/7	GR
74055 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	******	88 MO GEO	******	260 DAILY MX	#/100 ml		WEEKLY	GRAB
BOD, 5-DAY PERCENT REMOVAL	SAMPLE MEASUREMENT	******	******	******	96	******	******	%	0	1/30	CA
81010 K 0 0 PERCENTREMOVAL	PERMIT REQUIREMENT	******	******	******	85 MO AVG	******	******	PER-CEN T		ONCE/ MONTH	CALCTD
SOLIDS, SUSPENDED PERCENT REMOVAL	SAMPLE MEASUREMENT	******	******	******	97	******	******	%	0	1/30	CA
81011 K 0 0 PERCENTREMOVAL	PERMIT REQUIREMENT	******	******	******	85 MO AVG	******	******	PER-CEN T		ONCE/ MONTH	CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		TELEPHONE		DATE		
Aram Varjabedian - Project Manager John Struzziery, Director of WW Ops		Aram Varjabedian	781	925-1207	20	01	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT MAXIMUM AND MINIMUM DAILY FLOW RATES AND TOTAL FLOW FOR EACH OPERATING DAY WITH DMR EACH MO

WET DATA ON DMR 001B

Date

Effluent

Effluent TSS		
Week Start	Week End	Avg
12/01/19	12/07/19	11
12/08/19	12/14/19	9
12/15/19	12/21/19	6
12/22/19	12/28/19	3
	MAX	11

Effluent BOD		
Week Start	Week End	Avg
12/01/19	12/07/19	5
12/08/19	12/14/19	3
12/15/19	12/21/19	3
12/22/19	12/28/19	3
	MAX	5

Data for dates in current month

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
12/01/19				
12/02/19				
12/03/19	11	368	5	161
12/04/19				
12/05/19				
12/06/19				
12/07/19				
12/08/19				
12/09/19				
12/10/19	9	189	3	63
12/11/19				
12/12/19				
12/13/19				
12/14/19				
12/15/19				
12/16/19				
12/17/19	6	134	3	67
12/18/19				
12/19/19				
12/20/19				
12/21/19				
12/22/19				
12/23/19	3	44	3	44
12/24/19				
12/25/19				
12/26/19				
12/27/19				
12/28/19				
12/29/19				
12/30/19	8	163	3	61
12/31/19				
MAX	11	368	5	161
AVG	7	180	3	79

Sunday Thru Saturday (avg placed on Saturday date)

Date	TSS mg/l	TSS LBS	BOD mg/l	BOD LBS
12/01/19				
12/02/19				
12/03/19				
12/04/19				
12/05/19				
12/06/19				
12/07/19	11	368	5	161
12/08/19				
12/09/19				
12/10/19				
12/11/19				
12/12/19				
12/13/19				
12/14/19	9	189	3	63
12/15/19				
12/16/19				
12/17/19				
12/18/19				
12/19/19				
12/20/19				
12/21/19	6	134	3	67
12/22/19				
12/23/19				
12/24/19				
12/25/19				
12/26/19				
12/27/19				
12/28/19	3	44	3	44
12/29/19				
12/30/19				
12/31/19				
MAX	11	368	5	161
Avg	7	184	4	84

Influent TSS		
Week Start	**Week End**	**Avg**
12/01/19	12/07/19	155
12/08/19	12/14/19	175
12/15/19	12/21/19	192
12/22/19	12/28/19	348
	Max	**348**

Influent BOD		
Week Start	**Week End**	**Avg**
12/01/19	12/07/19	45
12/08/19	12/14/19	75
12/15/19	12/21/19	110
12/22/19	12/28/19	140
	Max	140

TSS and BOD Loadings Check Sheet

Influent

Data for dates in current month

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
12/01/19				
12/02/19				
12/03/19	155	5,184	45	1,505
12/04/19				
12/05/19				
12/06/19				
12/07/19				
12/08/19				
12/09/19				
12/10/19	175	3,678	75	1,576
12/11/19				
12/12/19				
12/13/19				
12/14/19				
12/15/19				
12/16/19				
12/17/19	192	4,275	110	2,449
12/18/19				
12/19/19				
12/20/19				
12/21/19				
12/22/19				
12/23/19	348	5,079	140	2,043
12/24/19				
12/25/19				
12/26/19				
12/27/19				
12/28/19				
12/29/19				
12/30/19	188	3,841	99	2,023
12/31/19				
MAX	**348**	**5,184**	**140**	**2,449**
AVG	**212**	**4,411**	**94**	**1,919**

Sunday Thru Saturday (avg placed on Saturday date)

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
12/01/19				
12/02/19				
12/03/19				
12/04/19				
12/05/19				
12/06/19				
12/07/19	155.00		45.00	
12/08/19				
12/09/19				
12/10/19				
12/11/19				
12/12/19				
12/13/19				
12/14/19	175.00		75.00	
12/15/19				
12/16/19				
12/17/19				
12/18/19				
12/19/19				
12/20/19				
12/21/19	192.00		110.00	
12/22/19				
12/23/19				
12/24/19				
12/25/19				
12/26/19				
12/27/19				
12/28/19	348.00		140.00	
12/29/19				
12/30/19				
12/31/19				
MAX	**348**		**140**	
AVG	**218**		**93**	

Hull WWTF
Monthly Rain, Temperature and Flow
December, 2019

Date	Rainfall	Minimum Air Temp	Maximum Air Temp	Effluent Flow
	Inches	F	F	MGD
12/01/19	0.97	23	37	1.950
12/02/19	0.76	31	41	3.720
12/03/19	0.84	30	33	4.010
12/04/19	0.00	29	37	2.920
12/05/19	0.00	32	43	2.360
12/06/19	0.04	29	35	2.090
12/07/19	0.00	26	33	1.850
12/08/19	0.00	21	31	1.700
12/09/19	0.67	35	42	1.860
12/10/19	0.73	41	59	2.520
12/11/19	0.03	31	61	2.490
12/12/19	0.00	26	31	2.230
12/13/19	0.12	26	45	2.040
12/14/19	0.87	47	60	3.950
12/15/19	0.00	43	60	3.320
12/16/19	0.00	30	34	2.390
12/17/19	1.70	28	39	2.670
12/18/19	0.00	29	38	2.930
12/19/19	0.00	14	36	2.300
12/20/19	0.00	17	31	1.890
12/21/19	0.00	22	33	1.790
12/22/19	0.00	22	42	1.750
12/23/19	0.00	34	51	1.750
12/24/19	0.00	35	47	1.700
12/25/19	0.00	34	41	1.640
12/26/19	0.00	32	40	1.560
12/27/19	0.01	34	49	1.560
12/28/19	0.00	36	42	1.370
12/29/19	0.62	35	43	1.600
12/30/19	0.98	36	39	2.450
12/31/19	0.31	36	42	3.840
Min	0.00	14	31	1.37
Max	1.70	47	61	4.01
Avg	0.28	30	42	2.33
Sum	8.65			72.20

Hull Wastewater Treatment Plant Operations Data

December, 2019

Date		Manual Screen Used	Mechanical Screen	GRIT CHAMBER	GRIT CLASSIFIER	PRI CLAR #1	PRI CLAR #2	AT #1	AT #2	AT #3	AT #4	SEC CLAR #1	SEC CLAR #2	CL2 BASIN #1	CL2 BASIN #2	GRAVITY THICK #1
		Yes/No	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF
Sun	01	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Mon	02	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Tue	03	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Wed	04	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	Off
Thu	05	No	On	On	No	Off	Off	On	Off	On	Off	On	On	On	On	On
Fri	06	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sat	07	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	On
Sun	08	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	On
Mon	09	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Tue	10	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Wed	11	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Thu	12	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Fri	13	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sat	14	No	On	On	Yes	On	On	On	Off	On	Off	On	On	On	On	On
Sun	15	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Mon	16	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Tue	17	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Wed	18	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Thu	19	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Fri	20	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sat	21	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sun	22	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Mon	23	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Tue	24	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Wed	25	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Thu	26	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Fri	27	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sat	28	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Sun	29	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Mon	30	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
Tue	31	No	On	On	Yes	Off	On	On	Off	On	Off	On	On	On	On	On
MIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Hull Wastewater Treatment Plant Operations Data

December, 2019

Date		GRAVITY THICK #2	SLUDGE TANK #1	SLUDGE TANK #2	RST	Rainfall	MIN AIR TEMP	MAX AIR TEMP	GRIT REMOVED	SCREENINGS	INF TSS (Report)	INF BOD (Report)	INF FLOW	INFLUENT Q MINIMUM	INFLUENT Q MAXIMUM	PRI TSS
		ON/OFF	ON/OFF	ON/OFF	ON/OFF	Inches	Deg F	Deg F	LBS	CU FT	MG/L	MG/L	MGD	MGD	MGD	MG/L
Sun	01	Off	Off	On	On	0.97	23	37	0	0.7			1.98	0.80	2.91	
Mon	02	Off	Off	On	Off	0.76	31	41	0	0.7			3.28	0.68	5.64	
Tue	03	Off	Off	On	Off	0.84	30	33	0	0.7	155	45	3.95	0.74	4.68	
Wed	04	Off	Off	On	On	0.00	29	37	300	0.7			2.92	0.73	3.49	
Thu	05	Off	Off	On	On	0.00	32	43	0	0.7			2.39	1.91	3.09	
Fri	06	Off	Off	Off	Off	0.04	29	35	50	0.7			2.16	1.78	2.71	
Sat	07	Off	Off	Off	Off	0.00	26	33	0	0.7			1.95	1.58	2.46	
Sun	08	Off	Off	Off	Off	0.00	21	31	0	0.7			1.80	1.39	2.34	
Mon	09	Off	Off	Off	Off	0.67	35	42	100	0.7			1.99	1.22	3.01	
Tue	10	Off	Off	Off	Off	0.73	41	59	25	0.7	175	75	2.62	2.24	3.13	
Wed	11	Off	Off	Off	Off	0.03	31	61	20	0.7			2.49	0.66	3.24	
Thu	12	Off	Off	Off	Off	0.00	26	31	20	0.7			2.27	1.84	3.01	
Fri	13	Off	Off	Off	On	0.12	26	45	15	0.7			2.11	0.61	2.68	
Sat	14	Off	Off	Off	Off	0.87	47	60	200	0.7			3.84	0.70	6.06	
Sun	15	Off	Off	Off	Off	0.00	43	60	75	0.7			3.92	0.69	3.76	
Mon	16	Off	Off	Off	Off	0.00	30	34	100	0.7			2.75	2.19	3.45	
Tue	17	Off	Off	Off	Off	1.70	28	39	50	0.7	192	110	3.03	1.99	3.99	
Wed	18	Off	Off	Off	Off	0.00	29	38	60	0.7			3.28	2.87	3.86	
Thu	19	Off	Off	Off	Off	0.00	14	36	25	0.7			2.64	1.27	3.46	
Fri	20	Off	Off	Off	Off	0.00	17	31	20	0.7			2.36	1.93	2.72	
Sat	21	Off	Off	Off	Off	0.00	22	33	30	0.7			2.20	1.59	2.81	
Sun	22	Off	Off	Off	Off	0.00	22	42	40	0.7			2.13	1.42	2.94	
Mon	23	Off	Off	Off	Off	0.00	34	51	100	0.7	348	140	2.08	1.42	2.80	
Tue	24	Off	Off	Off	Off	0.00	35	47	70	0.7			2.06	1.09	2.91	
Wed	25	Off	Off	Off	Off	0.00	34	41	40	0.7			1.77	1.27	2.91	
Thu	26	Off	Off	Off	Off	0.00	32	40	50	0.7			1.69	0.81	2.99	
Fri	27	Off	Off	Off	Off	0.01	34	49	70	0.7			1.65	1.23	2.77	
Sat	28	Off	Off	Off	Off	0.00	36	42	25	0.7			1.47	0.85	1.96	
Sun	29	Off	Off	Off	Off	0.62	35	43	20	0.7			1.70	1.02	3.64	
Mon	30	Off	Off	Off	Off	0.98	36	39	35	0.7	188	99	2.77	1.46	3.89	
Tue	31	Off	Off	Off	Off	0.31	36	42	30	0.70			3.77	2.45	4.45	
MIN		-	-	-	-	0.00	14	31	0	1	155	45	1.47	0.61		
MAX		-	-	-	-	1.70	47	61	300	1	348	140	3.95		6.06	
AVG		-	-	-	-	0.28	30	42	51	1	212	94	2.48			
SUM		-	-	-	-	8.65	-	-	1,570	22			-	-	-	-

Hull Wastewater Treatment Plant Operations Data

December, 2019

Date	PRI BOD MG/L	PRI #1 BLANKET FT	PRI #2 BLANKET FT	MLS SVI MG/L	MLSS 5 MIN SET MIN	MLSS 30 MIN SET	MLSS 60 MIN SET	MLSS	RAS TSS	RAS FLOW	SEC #1 BLANKET	SEC #2 BLANKET	WAS TSS THCK	WAS FLOW GALLONS THCK	EFF TSS (Report)
	MG/L	FT	FT	MG/L	MG/L	ML	ML	MG/L	MG/L	MGD	FT	FT	MG/L	GAL	MG/L
Sun 01			0.8							0.91	1.3	3.0		11,510	
Mon 02			1.0							0.99	2.0	6.0		13,420	
Tue 03			1.5							0.90	1.5	1.8		13,870	11.0
Wed 04			3.0	52	210	140	140	2,669	23,648	0.87	2.0	2.3		14,320	
Thu 05			1.0							0.79	1.0	4.0		15,700	
Fri 06			1.0	62	290	180	180	2,906		0.89	2.0	2.5		21,150	
Sat 07			0.8							0.93	2.0	2.0		14,640	
Sun 08			1.0							0.93	1.8	2.0		15,030	
Mon 09			1.0							0.88	1.5	2.0		14,300	
Tue 10			1.0							0.90	1.0	2.5		16,480	9.0
Wed 11			1.3	69	270	160	150	2,295	18,202	0.90	3.0	2.0		15,520	
Thu 12			0.3							0.90	1.5	1.5		5,520	
Fri 13			1.3	71	280	180	170	2,519		0.90	2.3	2.5		7,300	
Sat 14			2.0							0.88	2.0	2.0		13,880	
Sun 15			1.3							0.91	1.5	2.0		13,230	
Mon 16			1.5							0.94	1.5	2.0		13,560	
Tue 17			1.5							0.90	1.5	1.8		14,580	6.0
Wed 18			2.8	66	220	150	140	2,248	16,178	0.90	2.0	2.0		14,160	
Thu 19			0.5							0.94	2.0	2.0		12,670	
Fri 20			1.5							0.90	1.8	2.0		11,820	
Sat 21			1.0							0.90	1.5	2.3		11,980	
Sun 22			1.3							0.88	1.5	2.0		12,010	
Mon 23			1.0							0.92	2.0	2.0		11,890	3.0
Tue 24			1.0	60	330	190	180	3,131	9,358	0.89	2.0	2.0		11,980	
Wed 25			1.0							0.89	2.0	2.3		12,010	
Thu 26			1.3							0.89	2.0	2.0		11,850	
Fri 27			1.5	64	400	220	210	3,432		0.96	2.5	2.5		10,680	
Sat 28			1.8							0.98	2.0	2.3		10,490	
Sun 29			1.0							0.96	1.5	1.5		10,540	
Mon 30			1.3	59	470	200	190	3,340		0.94	2.0	1.3		11,240	8.0
Tue 31			1.5	69	220	140	140	2,002	16,958	0.90	1.5	3.0		11,890	
MIN			0.3	52	210	140	140	2,002	9,358	0.79	1.0	1.3		5,520	3.0
MAX			3.0	71	470	220	210	3,432	23,648	0.99	3.0	6.0		21,150	11.0
AVG			1.3	64	299	173	167	2,727	16,869	0.91	1.8	2.3		12,878	7.4
SUM	-	-	-	-	-	-	-	-	-	-	-	-	-	399,220	-

Hull Wastewater Treatment Plant Operations Data

Date		EFF BOD (Report)	EFF FECAL #/100	EFF MAX DAILY FLOW MGD	EFF MIN DAILY FLOW MGD	EFF FLOW MGD	EFF #1pH	CL2 RES #1	CL2 RES #2	CL2 RES #3	CL2 RES Daily Avg	THICKENED SLUDGE TS	THICKENER #1 BLANKET	THICKENER #2 BLANKET	LEACHATE TSS	LEACHATE BOD	LEACHATE COD
		MG/L	ML	MGD	MGD	MGD	SU	MG/L	MG/L	MG/L	MG/L	%	FT	FT	MG/L	MG/L	MG/L
Sun	01			3.69	1.34	1.95	6.80	0.48	0.53	0.07	0.36						
Mon	02			6.02	2.41	3.72	6.90	0.54	0.72	0.67	0.64						
Tue	03	4.8		5.02	3.22	4.01	7.00	0.53	0.54	0.76	0.61	7.0					
Wed	04		10	3.53	2.47	2.92	6.90	0.49	0.55	0.97	0.67						
Thu	05			3.03	1.73	2.36	7.00	0.52	0.18	0.16	0.29						
Fri	06			2.55	1.13	2.09	6.50	0.44	0.78	0.62	0.61	7.4					
Sat	07			2.30	1.40	1.85	6.80	0.61	0.42	0.47	0.50						
Sun	08			2.21	1.21	1.70	6.60	0.51	0.42	0.25	0.39						
Mon	09			5.53	1.11	1.86	6.50	0.68	0.38	0.48	0.51						
Tue	10	3.0		3.22	0.71	2.52	6.60	0.80	0.71	0.19	0.57						
Wed	11		10	3.92	1.57	2.49	6.70	0.74	0.75	0.28	0.59						
Thu	12			3.09	1.20	2.23	6.70	0.80	0.65	0.52	0.66						
Fri	13			4.86	1.10	2.04	6.70	0.48	0.47	0.64	0.53	6.6					
Sat	14			6.57	0.01	3.95	6.80	0.71	0.65	0.73	0.70	6.2					
Sun	15			4.08	1.84	3.32	7.60	0.97	0.69	0.52	0.73						
Mon	16			3.12	1.90	2.39	6.70	0.44	0.36	0.53	0.44						
Tue	17	3.0		3.64	1.74	2.67	7.30	0.01	0.08	0.79	0.29	6.7					
Wed	18		10	3.56	2.48	2.93	6.70	0.68	0.26	0.58	0.51						
Thu	19			2.99	1.18	2.30	6.80	0.20	0.17	0.21	0.19	6.3					
Fri	20			3.78	1.52	1.89	6.80	0.03	0.04	0.24	0.10						
Sat	21			2.30	0.84	1.79	7.30	0.00	0.02	0.03	0.02	6.6					
Sun	22			3.75	1.18	1.75	7.00	0.00	0.02	0.13	0.05						
Mon	23	3.0	10	2.63	1.12	1.75	6.60	0.01	0.03	0.10	0.05						
Tue	24			3.54	1.16	1.70	6.80	0.03	0.17	0.03	0.08	6.5					
Wed	25			2.48	1.09	1.64	6.80	0.03	0.01	0.04	0.03						
Thu	26			3.90	0.99	1.56	6.80	0.04	0.06	0.03	0.04	6.5					
Fri	27			2.52	1.10	1.56	6.80	0.03	0.04	0.16	0.08						
Sat	28			2.24	0.01	1.37	6.80	0.02	0.03	0.02	0.02	5.9					
Sun	29			4.25	1.17	1.60	6.80	0.06	0.10	0.20	0.12						
Mon	30	3.0	10	5.78	1.21	2.45	6.90	0.01	0.37	0.73	0.37						
Tue	31			6.11	2.96	3.84	6.80	0.58	0.64	0.78	0.67	6.2					
MIN		3.0	10		0.01	1.37	6.50	0.00	0.01	0.02	0.02	5.89		-	-	-	-
MAX		4.8	10	6.57		4.01	7.60	0.97	0.78	0.97	0.73	7.42		-	-	-	-
AVG		3.4	10			2.33	6.83	0.37	0.35	0.38	0.37	6.54		-	-	-	-
SUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Hull Wastewater Treatment Plant Operations Data

December, 2019

Date		LEACHATE	Groundwater Underdrain	Potable H2O Calc.	Thickened Feed Sludge Gallons to truck	THICKENED SLDG	Sludge Holding Tank Level	Thickened Sludge Holding Tank Level	EFF TEMP	Enterococci	Toxicity	GALS HEATING OIL	NaOCl	NaOH	Hingham Flow
		GAL	GAL	GAL	GAL	LBS/DAY	FT	FT	DEG C	No/100ml	%	Inches	Gallons	Gallons	MGD
Sun	01			37	0		1.4	6.5	12.4			2,442	132	1.0	
Mon	02			75	0		1.4	5.2	12.3			2,437	107	1.0	
Tue	03			75	8,500	4,949	1.4	8.2	10.9			2,435	98	1.0	
Wed	04			142	0		1.4	3.6	12.0	<10		2,435	122	1.0	
Thu	05			19	0		1.4	2.3	12.7			2,435	87	2.0	
Fri	06			134	9,000	5,569	1.5	2.3	12.0			2,435	85	0.0	
Sat	07			111	0		1.5	3.6	12.2			2,435	61	1.0	
Sun	08			61	0		1.5	3.6	11.2			2,435	73	1.0	
Mon	09			39	0		1.5	3.7	13.0			2,435	71	1.0	
Tue	10			154	0		1.5	1.5	13.6			2,435	83	1.0	
Wed	11			97	0		1.5	9.6	12.3	<10		2,435	63	1.0	
Thu	12			80	0		1.5	12.1	10.9			2,435	96	3.0	
Fri	13			148	8,500	4,676	1.5	9.2	11.9			2,431	57	1.0	
Sat	14			218	8,500	4,382	1.5	4.9	13.5			2,431	76	0.0	
Sun	15			18	0		1.5	4.9	13.2			2,431	77	3.0	
Mon	16			57	0		1.5	4.9	11.6			2,431	88	0.0	
Tue	17			56	8,500	4,779	1.5	4.8	11.6			2,431	59	1.0	
Wed	18			228	0		1.5	4.9	11.2	<10		2,431	78	1.0	
Thu	19			94	8,500	4,466	1.5	4.9	8.9			2,431	79	1.0	
Fri	20			56	0		1.5	4.9	9.7			2,431	60	1.0	
Sat	21			35	8,500	4,523	1.5	4.9	11.2			2,431	80	1.0	
Sun	22			69	0		1.5	4.9	11.5			2,431	81	1.0	
Mon	23			75	0		1.5	4.9	9.9	<10		2,431	58	1.0	
Tue	24			90	9,000	4,883	1.5	4.9	11.8			2,431	95	1.0	
Wed	25			52	0		1.5	4.9	11.7			2,431	73	2.0	
Thu	26			67	9,000	4,895	1.5	4.3	10.3			2,431	76	2.0	
Fri	27			31	0		1.5	3.5	11.5			2,431	62	0.0	
Sat	28			66	9,000	4,420	1.5	3.5	12.4			2,431	83	2.0	
Sun	29			174	0		1.5	3.5	11.6			2,431	79	1.0	
Mon	30			30	0		1.4	3.4	12.3	<10		2,431	51	2.0	
Tue	31			44	8,500	4,402	1.4	3.5	10.6			2,425	82	1.0	
MIN		-	-	18	0	4,382	1	2	9	<10	-	2,431	57	0.0	
MAX		-	-	228	9,000	5,569	2	12	14	<10	-	2,442	132	3.0	
AVG		-	-	85	3,081	4,722	1	5	12	<10	-	2,433	80	1.2	
SUM		-	-	2,632	95,500	51,944	-	-	-		-	-	-	-	

Woodard and Curran
December, 2019
In Plant Sulfide Readings

Date		Wind Direction	Outside Temp	Outside Condition	Front Door	Head Works	Primary Tank No. 1	Primary Tank No. 2	Gravity Thickener	Aeration Tanks	Rotory Sludge Thickener Room	Scrubber In	Roof Exhaust Scrubber Out	% Removal
		Direction	Deg F	Condition	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Sun	01	N-0	24	Mostly cloudy		0.100								
Mon	02	NE 31	45	Rain wind										
Tue	03	NNW-18	30	Snow										
Wed	04	SW-2	27	Cloudy										
Thu	05	W-4	33	Sunny										
Fri	06	W-10	28	Clear										
Sat	07	NW-13	28	Clear										
Sun	08	W-2	23	Clear		0.100								
Mon	09	SSE-0	47	Rain		0.100								
Tue	10	SW-15	54	Cloudy										
Wed	11	N-11	32	Snowy										
Thu	12	NW-13	27	Sunny										
Fri	13	SSE-8	30	Clear										
Sat	14	SSE-12	54	Rain		0.100								
Sun	15	WSW-22	46	Partly cloudy										
Mon	16	W-13	31	Cloudy										
Tue	17	ENE-5	29	Snow										
Wed	18	NW-11	30	Cloudy		0.100								
Thu	19	WNW-20	15	Sunny										
Fri	20	N-11	17	Clear										
Sat	21	NW-5	22	Partly cloudy										
Sun	22	NE-0	42	Clear		0.100								
Mon	23	SSW-0	40	Clear		0.100								
Tue	24	NW-4	34	Clear		0.100								
Wed	25	NE-6	34	Fair										
Thu	26	NE-11	34	Partly cloudy										
Fri	27	S-7	36	Rain/shower										
Sat	28	WNW-8	41	Fair										
Sun	29	NW-5	34	Sunny		0.100								
Mon	30	E-4	39	Rain		0.100								
Tue	31	NE-15	42	Rain										
Min.			15			0.100								
Max.			54			0.100								
Ave.			34			0.100								
Target					<.01	<10.0	<10.0	<10.0	<10.0	.050	.050	<10.0	<1.0	95%

Woodard and Curran

December, 2019

Outside Plant Sulfide Readings

Date		Wind Direction	Outside Temp	Outside Condition	Cemetery Flag Pole	Garage At Cemetery	Duck Lane	Duck Lane And Nantasket Ave	Seawall Across From Plant	Fire Hydrant Across Inland Bay Side	Front Of Aeration Bayside
		Direction	Deg F	Condition	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sun	01	N-0	24	Mostly cloudy							
Mon	02	NE 31	45	Rain wind							
Tue	03	NNW-18	30	Snow							
Wed	04	SW-2	27	Cloudy							
Thu	05	W-4	33	Sunny							
Fri	06	W-10	28	Clear							
Sat	07	NW-13	28	Clear							
Sun	08	W-2	23	Clear							
Mon	09	SSE-0	47	Rain							
Tue	10	SW-15	54	Cloudy							
Wed	11	N-11	32	Snowy							
Thu	12	NW-13	27	Sunny							
Fri	13	SSE-8	30	Clear							
Sat	14	SSE-12	54	Rain							
Sun	15	WSW-22	46	Partly cloudy							
Mon	16	W-13	31	Cloudy							
Tue	17	ENE-5	29	Snow							
Wed	18	NW-11	30	Cloudy							
Thu	19	WNW-20	15	Sunny							
Fri	20	N-11	17	Clear							
Sat	21	NW-5	22	Partly cloudy							
Sun	22	NE-0	42	Clear							
Mon	23	SSW-0	40	Clear							
Tue	24	NW-4	34	Clear							
Wed	25	NE-6	34	Fair							
Thu	26	NE-11	34	Partly cloudy							
Fri	27	S-7	36	Rain/shower							
Sat	28	WNW-8	41	Fair							
Sun	29	NW-5	34	Sunny							
Mon	30	E-4	39	Rain							
Tue	31	NE-15	42	Rain							
Min.			15								
Max.			54								
Ave.			34								
Target					<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005