

Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: HEART OF THE VALLEY METRO SEWERAGE DISTRICT
Contact Address: 801 Thilmany Rd
Kaukauna, WI 54130
Facility Contact: Brian Helminger, District Director
Phone Number: 920-766-5731
Reporting Period: 09/01/2024 - 09/30/2024
Form Due Date: 10/21/2024
Permit Number: 0031232

Date Received:	
DOC:	550115
FIN:	6375
FID:	445005220
Region:	Northeast Region
Permit Drafter:	Sarah J Adkins
Reviewer:	Barti Oumarou
Office:	Oshkosh

Sample Point(s) active?

- Yes - 701 sample point (Influent)
- Yes - 001 sample point (Effluent)
- Yes - 101 sample point (Effluent Reuse)
- Yes - 601 sample point (River Monitoring)
- Yes - 006 sample point (WLA BOD5 Discharge Compliance)
- No - 112 sample point (In-Plant Diversion)

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	Sample Point	001	701	701	701	701
	Description	Effluent	Influent	Influent	Influent	Influent
	Parameter	211	211	66	457	87
	Description	Flow Rate	Flow Rate	BOD5, Total	Suspended Solids, Total	Cadmium, Total Recoverable
	Units	MGD	MGD	mg/L	mg/L	ug/L
	Sample Type	CONTINUOUS	CONTINUOUS	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP
	Frequency	DAILY	DAILY	5/WEEK	5/WEEK	MONTHLY
Sample Results	Day 1	2.181	5.638	254	144	
	2	2.532	5.988	244	200	
	3	2.258	5.703	236	244	
	4	2.648	5.647	226	196	
	5	2.130	5.758	238	224	<1.3
	6	2.165	5.526	142	144	
	7	1.962	5.079	237	208	
	8	2.263	5.509	290	260	
	9	1.831	5.569	234	236	
	10	1.628	5.357	275	224	
	11	1.597	5.309	275	252	
	12	1.953	5.369	305	260	
	13	1.910	5.278	287	212	
	14	1.526	5.163	348	228	
	15	1.506	5.281	292	268	
	16	1.600	5.186	234	256	
	17	1.429	4.886	314	280	
	18	1.055	4.747	286	364	
	19	1.376	4.970	319	224	
	20	1.522	5.091	342	248	
	21	1.795	4.991	273	244	
	22	3.714	6.820	210	204	
	23	2.627	6.292	208	204	
	24	2.198	5.505	264	216	
	25	1.828	5.314	215	212	
	26	1.715	5.273	218	228	
	27	1.812	5.099	243	204	
	28	4.876	4.991	234	208	
	29	5.152	5.152	251	228	
	30	5.104	5.104	298	256	
	31					

	Sample Point	001	701	701	701	701
	Description	Effluent	Influent	Influent	Influent	Influent
	Parameter	211	211	66	457	87
	Description	Flow Rate	Flow Rate	BOD5, Total	Suspended Solids, Total	Cadmium, Total Recoverable
	Units	MGD	MGD	mg/L	mg/L	ug/L
Summary Values	Monthly Avg	2.2631	5.3865	259.733333333	229.2	0
	Daily Max	5.152	6.82	348	364	<1.3
	Daily Max - Variable					
	Daily Min	1.055	4.747	142	144	<1.3
	Geometric Mean -					
	Geometric Mean -					
	Week 1 Avg					
	Week 2 Avg					
	Week 3 Avg					
	Week 4 Avg					
Limit(s) in Effect	Monthly Avg					
	Daily Max					
	Daily Max - Variable					
	Daily Min					
	Geometric Mean -					
	Geometric Mean -					
	Weekly Avg					
QA/QC Information	LOD					1.3
	LOQ					5
	QC Exceedance	N	N	Y	N	N
	Lab Certification			445005220	445005220	405132750

	Sample Point	701	701	701	701	701
	Description	Influent	Influent	Influent	Influent	Influent
	Parameter	133	147	264	315	553
	Description	Chromium, Total Recoverable	Copper, Total Recoverable	Lead, Total Recoverable	Nickel, Total Recoverable	Zinc, Total Recoverable
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5	14.7	69.5	5.9	17.3	115
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
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	22					
	23					
	24					
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	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	701	701	701	701	701
	Description	Influent	Influent	Influent	Influent	Influent
	Parameter	133	147	264	315	553
	Description	Chromium, Total Recoverable	Copper, Total Recoverable	Lead, Total Recoverable	Nickel, Total Recoverable	Zinc, Total Recoverable
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
Summary Values	Monthly Avg	14.7	69.5	5.9	17.3	115
	Daily Max	14.7	69.5	5.9	17.3	115
	Daily Max - Variable					
	Daily Min	14.7	69.5	5.9	17.3	115
	Geometric Mean -					
	Geometric Mean -					
	Week 1 Avg					
	Week 2 Avg					
	Week 3 Avg					
	Week 4 Avg					
Limit(s) in Effect	Monthly Avg					
	Daily Max					
	Daily Max - Variable					
	Daily Min					
	Geometric Mean -					
	Geometric Mean -					
	Weekly Avg					
QA/QC Information	LOD	2.5	3.4	5.9	2.6	11.6
	LOQ	10	10	20	10	40
	QC Exceedance	N	N	N	N	N
	Lab Certification	405132750	405132750	405132750	405132750	405132750

	Sample Point	001	001	001	001	001
	Description	Effluent	Effluent	Effluent	Effluent	Effluent
	Parameter	66	377	204	112	457
	Description	BOD5, Total	pH Field	Fecal Coliform	Chlorine, Total Residual	Suspended Solids, Total
	Units	mg/L	su	#/100ml	ug/L	mg/L
	Sample Type	24 HR FLOW PROP	GRAB	GRAB	GRAB	24 HR FLOW PROP
	Frequency	DAILY	5/WEEK	WEEKLY	5/WEEK	5/WEEK
Sample Results	Day 1	7	7.6			6.4
	2	8	7.7		<100	11.2
	3	8	7.7	*	<100	10.0
	4	9	7.6	*	<100	18.0
	5	8	7.7		<100	14.0
	6	8	7.8		<100	12.4
	7	9	7.9			9.6
	8	9	7.7			16.5
	9	8	7.6	60	<100	12.0
	10	8	7.6		<100	12.4
	11	8	7.5		<100	12.4
	12	9	7.5		<100	15.2
	13	8	7.8		<100	12.8
	14	7	7.6			12.4
	15	7	7.7			12.8
	16	7	7.7	25	<100	14.4
	17	10	7.6		<100	16.0
	18	6	7.2		<100	14.0
	19	5	7.3		<100	11.2
	20	5	7.9		<100	5.2
	21	5	7.7			6.8
	22	4	7.2			10.0
	23	4	7.3	58	<100	8.0
	24	5	7.4		<100	12.0
	25	5	7.2		<100	10.0
	26	5	7.5		<100	8.0
	27	5	7.8		<100	8.0
	28	6	7.9			7.6
	29	6	7.8		<100	10.4
	30	5	8.0		<100	10.4
	31					

	Sample Point	001		001		001		001		001	
	Description	Effluent		Effluent		Effluent		Effluent		Effluent	
	Parameter	66		377		204		112		457	
	Description	BOD5, Total		pH Field		Fecal Coliform		Chlorine, Total Residual		Suspended Solids, Total	
	Units	mg/L		su		#/100ml		ug/L		mg/L	
Summary Values	Monthly Avg	6.8		7.616666667		47.666666667		0		11.336666667	
	Daily Max	10		8		60		<100		18	
	Daily Max - Variable										
	Daily Min	4		7.2		25		<100		5.2	
	Geometric Mean -					44.310476217					
	Geometric Mean -					25					
	Week 1 Avg	8.142857143								11.657142857	
	Week 2 Avg	8.142857143								13.385714286	
	Week 3 Avg	6.428571429								11.485714286	
	Week 4 Avg	4.857142857								9.085714286	
Limit(s) in Effect	Monthly Avg	30	0					38	0	30	0
	Daily Max			9	0			38	0		
	Daily Max - Variable										
	Daily Min			6	0						
	Geometric Mean -					400	0				
	Geometric Mean -					656	1				
	Weekly Avg	45	0							45	0
QA/QC Information	LOD							100			
	LOQ							100			
	QC Exceedance	N		N		Y		N		N	
	Lab Certification	445005220								445005220	

	Sample Point	001	001	001	001	001
	Description	Effluent	Effluent	Effluent	Effluent	Effluent
	Parameter	457	1348	1347	388	388
	Description	Suspended Solids, Total	WQT Credits Used (TSS)	WQT Computed Compliance (TSS)	Phosphorus, Total	Phosphorus, Total
	Units	lbs/day	lbs/month	lbs/day	mg/L	lbs/day
	Sample Type	CALCULATED	CALCULATED	CALCULATED	24 HR FLOW PROP	CALCULATED
	Frequency	5/WEEK	MONTHLY	5/WEEK	5/WEEK	5/WEEK
Sample Results	Day 1	116	0	116	0.35	6.37
	2	237	0	237	0.40	8.45
	3	188	0	188	0.35	6.59
	4	398	0	398	0.48	10.60
	5	249	0	249	0.29	5.15
	6	224	0	224	0.26	4.69
	7	157	0	157	0.30	4.91
	8	311	0	311	0.47	8.87
	9	183	0	183	0.15	2.29
	10	168	0	168	0.14	1.90
	11	165	0	165	0.16	2.13
	12	248	0	248	0.28	4.56
	13	204	0	204	0.25	3.98
	14	158	0	158	0.21	2.67
	15	161	0	161	0.22	2.76
	16	192	0	192	0.23	3.07
	17	191	0	191	0.25	2.98
	18	123	0	123	0.16	1.41
	19	129	0	129	0.15	1.72
	20	66	0	66	0.14	1.78
	21	102	0	102	0.17	2.54
	22	310	0	310	0.10	3.10
	23	175	0	175	0.08	1.75
	24	220	0	220	0.13	2.38
	25	152	0	152	0.12	1.83
	26	114	0	114	0.09	1.29
	27	121	0	121	0.12	1.81
	28	309	0	309	0.16	6.51
	29	447	0	447	0.15	6.45
	30	443	0	443	0.12	5.11
	31					

	Sample Point	001	001	001	001	001	
	Description	Effluent	Effluent	Effluent	Effluent	Effluent	
	Parameter	457	1348	1347	388	388	
	Description	Suspended Solids, Total	WQT Credits Used (TSS)	WQT Computed Compliance (TSS)	Phosphorus, Total	Phosphorus, Total	
	Units	lbs/day	lbs/month	lbs/day	mg/L	lbs/day	
Summary Values	Monthly Avg	208.7	0	208.7	0.216	3.988333333	
	Daily Max	447	0	447	0.48	10.6	
	Daily Max - Variable						
	Daily Min	66	0	66	0.08	1.29	
	Geometric Mean -						
	Geometric Mean -						
	Week 1 Avg			224.142857143			
	Week 2 Avg			205.285714286			
	Week 3 Avg			137.714285714			
	Week 4 Avg			200.142857143			
Limit(s) in Effect	Monthly Avg			801	0	1	0
	Daily Max						
	Daily Max - Variable						
	Daily Min						
	Geometric Mean -						
	Geometric Mean -						
	Weekly Avg			1345	0		
QA/QC Information	LOD					0.026	
	LOQ					0.087	
	QC Exceedance	N	N	N	N	N	N
	Lab Certification					445005220	

	Sample Point	001	001	001	001	001
	Description	Effluent	Effluent	Effluent	Effluent	Effluent
	Parameter	789	87	133	147	264
	Description	Nitrogen, Ammonia (NH3-N) Total	Cadmium, Total Recoverable	Chromium, Total Recoverable	Copper, Total Recoverable	Lead, Total Recoverable
	Units	mg/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP	24 HR FLOW PROP
	Frequency	5/WEEK	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1	0.05				
	2	0.12				
	3	0.02				
	4	0.08				
	5	0.04	<1.3	<2.5	5.4	<5.9
	6					
	7					
	8	0.09				
	9	0.09				
	10	0.14				
	11	0.09				
	12	1.93				
	13					
	14					
	15	0.84				
	16	0.34				
	17	0.31				
	18	0.32				
	19	0.19				
	20					
	21					
	22	0.25				
	23	0.61				
	24	0.63				
	25	0.21				
	26	0.60				
	27					
	28					
	29	1.65				
	30	1.67				
	31					

	Sample Point	001	001	001	001	001
	Description	Effluent	Effluent	Effluent	Effluent	Effluent
	Parameter	789	87	133	147	264
	Description	Nitrogen, Ammonia (NH3-N) Total	Cadmium, Total Recoverable	Chromium, Total Recoverable	Copper, Total Recoverable	Lead, Total Recoverable
	Units	mg/L	ug/L	ug/L	ug/L	ug/L
Summary Values	Monthly Avg	0.466818182	0	0	5.4	0
	Daily Max	1.93	<1.3	<2.5	5.4	<5.9
	Daily Max - Variable					
	Daily Min	0.02	<1.3	<2.5	5.4	<5.9
	Geometric Mean -					
	Geometric Mean -					
	Week 1 Avg	0.062				
	Week 2 Avg	0.468				
	Week 3 Avg	0.4				
	Week 4 Avg	0.46				
Limit(s) in Effect	Monthly Avg	4.4	0			
	Daily Max	17	0			
	Daily Max - Variable					
	Daily Min					
	Geometric Mean -					
	Geometric Mean -					
	Weekly Avg	11	0			
QA/QC Information	LOD	0.027	1.3	2.5	3.4	5.9
	LOQ	0.09	5	10	10	20
	QC Exceedance	N	N	N	N	N
	Lab Certification	445005220	405132750	405132750	405132750	405132750

	Sample Point	001	001	101	601	601
	Description	Effluent	Effluent	Effluent Reuse	River Monitoring	River Monitoring
	Parameter	315	553	671	400	399
	Description	Nickel, Total Recoverable	Zinc, Total Recoverable	Flow Unregulated	WLA Previous Day River Flow	WLA Previous 4 Day Avg River Flow
	Units	ug/L	ug/L	MGD	cfs	cfs
	Sample Type	24 HR FLOW PROP	24 HR FLOW PROP	CONTINUOUS	GAUGE STN	CALCULATED
	Frequency	MONTHLY	MONTHLY	DAILY	DAILY	DAILY
Sample Results	Day 1			3.457	3720	4040
	2			3.456	3670	3805
	3			3.445	3690	3730
	4			2.999	3700	3728
	5	10.1	12.6	3.628	3340	3695
	6			3.361	2980	3600
	7			3.117	2880	3428
	8			3.246	2880	3225
	9			3.738	2470	3020
	10			3.729	1940	2803
	11			3.712	2080	2543
	12			3.416	2100	2343
	13			3.368	2050	2148
	14			3.637	2100	2043
	15			3.775	2170	2083
	16			3.586	2190	2105
	17			3.457	2170	2128
	18			3.692	2280	2165
	19			3.594	2280	2165
	20			3.569	2410	2193
	21			3.196	2340	2248
	22			3.106	2500	2290
	23			3.665	2950	2383
	24			3.307	3770	2550
	25			3.486	3800	2890
	26			3.558	3770	3255
	27			3.287	3650	3573
	28			0.115	3720	3748
	29			0	3830	3735
	30			0	3930	3743
	31					

	Sample Point	001	001	101	601	601
	Description	Effluent	Effluent	Effluent Reuse	River Monitoring	River Monitoring
	Parameter	315	553	671	400	399
	Description	Nickel, Total Recoverable	Zinc, Total Recoverable	Flow Unregulated	WLA Previous Day River Flow	WLA Previous 4 Day Avg River Flow
	Units	ug/L	ug/L	MGD	cfs	cfs
Summary Values	Monthly Avg	10.1	12.6	3.1234	2912	2913.5
	Daily Max	10.1	12.6	3.775	3930	4040
	Daily Max - Variable					
	Daily Min	10.1	12.6	0	1940	2043
	Geometric Mean -					
	Geometric Mean -					
	Week 1 Avg					
	Week 2 Avg					
	Week 3 Avg					
	Week 4 Avg					
Limit(s) in Effect	Monthly Avg					
	Daily Max					
	Daily Max - Variable					
	Daily Min					
	Geometric Mean -					
	Geometric Mean -					
	Weekly Avg					
QA/QC Information	LOD	2.6	11.6			
	LOQ	10	40			
	QC Exceedance	N	N	N	N	N
	Lab Certification	405132750	405132750			

	Sample Point	601	006	006	006	006
	Description	River Monitoring	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance
	Parameter	401	544	12	843	543
	Description	WLA Previous Day River Temp	WLA BOD5 Value	WLA Adjusted Value	WLA BOD5 Discharged	WLA 7 Day Sum Of WLA Values
	Units	degF	lbs/day	lbs/day	lbs/day	lbs/day
	Sample Type	CALCULATED	SEE TABLE	CALCULATED	CALCULATED	CALCULATED
	Frequency	DAILY	DAILY	DAILY	DAILY	DAILY
Sample Results	Day 1	74	2866	3955	130	23112
	2	73	2785	3843	171	22043
	3	73	2785	3843	144	21485
	4	72	2785	3843	201	20927
	5	72	2785	3843	150	19858
	6	71	2785	3843	142	19717
	7	69	2761	3810	142	19552
	8	67	2761	3810	172	19447
	9	66	2761	3810	123	19423
	10	67	2455	3388	111	19093
	11	68	2234	3083	111	18542
	12	69	2031	2803	148	17788
	13	69	1845	2546	120	16848
	14	70	1676	2313	84	15763
	15	71	1676	2313	90	14678
	16	73	1676	2313	88	13593
	17	74	1558	2150	115	12696
	18	74	1558	2150	55	11547
	19	74	1558	2150	55	11547
	20	74	1558	2150	67	11260
	21	74	1558	2150	70	11142
	22	73	1827	2521	135	11293
	23	72	1827	2521	91	11444
	24	69	2234	3083	97	12120
	25	68	2455	3388	74	13017
	26	69	2761	3810	66	14220
	27	69	3053	4213	73	15715
	28	69	3053	4213	230	17210
	29	70	2785	3843	255	18168
	30	70	2785	3843	209	19126
	31					

	Sample Point	601	006	006	006	006
	Description	River Monitoring	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance	WLA BOD5 Discharge Compliance
	Parameter	401	544	12	843	543
	Description	WLA Previous Day River Temp	WLA BOD5 Value	WLA Adjusted Value	WLA BOD5 Discharged	WLA 7 Day Sum Of WLA Values
	Units	degF	lbs/day	lbs/day	lbs/day	lbs/day
Summary Values	Monthly Avg	70.766666667	2307.9	3184.8	123.966666667	16412.466666667
	Daily Max	74	3053	4213	255	23112
	Daily Max - Variable				255	
	Daily Min	66	1558	2150	55	11142
	Geometric Mean -					
	Geometric Mean -					
	Week 1 Avg					
	Week 2 Avg					
	Week 3 Avg					
	Week 4 Avg					
Limit(s) in Effect	Monthly Avg					
	Daily Max					
	Daily Max - Variable				0	0
	Daily Min					
	Geometric Mean -					
	Geometric Mean -					
	Weekly Avg					
QA/QC Information	LOD					
	LOQ					
	QC Exceedance	N	N	N	N	N
	Lab Certification					

	Sample Point	006
	Description	WLA BOD5 Discharge Compliance
	Parameter	541
	Description	WLA 7 Day Sum Of BOD5 Discharged
	Units	lbs/day
	Sample Type	CALCULATED
	Frequency	DAILY
Sample Results	Day 1	1146
	2	1178
	3	1188
	4	1233
	5	1233
	6	1132
	7	1079
	8	1121
	9	1073
	10	1040
	11	950
	12	949
	13	927
	14	869
	15	787
	16	752
	17	756
	18	604
	19	604
	20	551
	21	536
	22	581
	23	584
	24	566
	25	588
	26	599
	27	606
	28	766
	29	886
	30	1004
	31	

	Sample Point	006	
	Description	WLA BOD5 Discharge Compliance	
	Parameter	541	
	Description	WLA 7 Day Sum Of BOD5 Discharged	
	Units	lbs/day	
Summary Values	Monthly Avg	862.9333333333	
	Daily Max	1233	
	Daily Max - Variable	1233	
	Daily Min	536	
	Geometric Mean -		
	Geometric Mean -		
	Week 1 Avg		
	Week 2 Avg		
	Week 3 Avg		
	Week 4 Avg		
Limit(s) in Effect	Monthly Avg		
	Daily Max		
	Daily Max - Variable	0	0
	Daily Min		
	Geometric Mean -		
	Geometric Mean -		
	Weekly Avg		
QA/QC Information	LOD		
	LOQ		
	QC Exceedance	N	
	Lab Certification		

General Remarks

Laboratory Quality Control Comments

9-3-24 TNTC on a fecal coliform using a 20 mL sample.
9-4-24 TNTC on a fecal coliform using a 5 mL sample.
GGA Exceedances: 9-5 (160.1)9-12 (164.7) 9-18 (256.5)
BOD Blank Exceedance: 9-7 (0.40mg/L)

Exceedence Comments

The week of August 22 the District and Veolia were commissioning the effluent disk filters with chemical addition to obtain the 30 day filter contractually required standards. Various addition dosages were being evaluated to optimize phosphorus removal and suspended solids capture. Seasonal challenges with our Biostyr resulted in higher TSS and TP results in the filter influent further compounding the operability issues. The effluent took on a cloudiness and haze, which we now realize is indicative in excess alum feed and/or unoptimized chemical feed, which created interference with the sodium hypochlorite effectiveness to achieve a fecal kill. The week of September 3, we had a 0.10 mg/L residual chlorine at the end of our contact tank and the fecal came out as TNTC. The hypochlorite dose was increased a few times on September 4th and yet no increase in the effluent residual chlorine was observed. At the end of the work day a fecal test was run with a 0.08 mg/L residual chlorine and it too produced another TNTC count. We have since optimized our polymer and alum feed rates and had no other issues the remainder of the month. Furthermore, our operating experience now allows us to recognize when floc formation and chemical feed is off and needing adjustment for the operating condition. With Disk filter performance testing now completed, we do not anticipate similar operating challenges in the future. We were however, unable to produce a reportable fecal result for days 1-7 of September despite numerous hypochlorite feed increases and fecal tests run that week and with more chemical being dosed than any other week of the 2024 disinfection season.

Submitted by mantywwtfsupt2004 on 10/23/2024 9:15:38 AM