



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

March 31, 2021

Rob Wrigley
Ministry of the Environment, Conservation and Parks
733 Exeter Road
London, ON N6E 1L3

Attention: Mr. Wrigley

RE: West Lorne Wastewater Treatment Plant Annual Report 2020

The Ontario Clean Water Agency is the Operating Authority for the West Lorne Wastewater Treatment Plant on behalf of the Municipality of West Elgin. The system is operated under Environmental Compliance Approval 5873-B4RLEJ. Please find attached the 2020 Annual Report for the West Lorne Wastewater Treatment Plant.

Feel free to contact me should you require any additional information regarding the report. I can be reached at 519-312-0847.

Sincerely,

Terri-Lynn Thomson
Process and Compliance Technician,
Ontario Clean Water Agency

c.c. Madga Badura, Municipality of West Elgin
Dale LeBritton, OCWA Regional Hub Manager
Sam Smith, OCWA Senior Operations Manager
Cindy Sigurdson, OCWA Safety, Process and Compliance Manager
Angela Stroyberg, Ministry of the Environment, Conservation and Parks

**MUNICIPALITY OF WEST ELGIN
WEST LORNE WASTEWATER TREATMENT PLANT**

**2020 ANNUAL REPORT
January 1 to December 31, 2020**

Environmental Compliance Approval # 5873-B4RLEJ

Prepared by:



**Ontario Clean Water Agency
Agence Ontarienne Des Eaux**

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Section 1: Overview

Overall the West Lorne Wastewater Treatment Plant provided effective wastewater treatment in 2020. The wastewater treatment plant was operated under Environmental Compliance Approval 5873-B4RLEJ dated November 30, 2018. Upgrades to the plant were completed in December 2019. In January 2020 with higher flows and the plant adjusting after upgrades the plant exceeded the TSS limit but once the flow returned to normal and adjustments made to the filters the plant operated as intended.

Collection System

The collection system contains gravity sewers that lead to the Main Pumping Station located on Marsh Line. It contains a wet well with three submersible pumps that pump to the treatment plant. There is a receptacle for a portable generator should the need arise for backup power. In emergencies, the wet well contains an overflow pipe that discharges to the West Lorne Lagoon.

Plant Description

The West Lorne Wastewater Treatment Plant is an extended aeration facility which consists of: grit removal and screening, extended aeration, settling, phosphorus removal, filtration and UV disinfection (seasonal). The extended aeration process is designed to remove carbonaceous and nitrogenous organic compounds (BOD). Aluminum Sulphate is used for phosphorus removal. After the clarifier the effluent is seasonally disinfected using ultraviolet light, then discharged to Zoller Drain. Zoller Drain is connected to Brock's Creek and then from there it goes to Lake Erie. Sludge is directed to the lagoon for storage and settling. Decant liquid off the lagoon is returned to the influent of the plant for treatment.

Process Details

- Wastewater is directed into the sewage lift station from the Village of West Lorne by gravity. Wastewater is then pumped from the sewage lift station located on Mash Line into a reinforced concrete inlet channel, provided with a mechanical rake bar screen.
- The secondary treatment system consists of two trains each consisting of: aeration tank, clarifier tank, and two return activated sludge pumps.
- The phosphorous removal system consists of one 15,000L plastic tank with 2 diaphragm type metering pumps 1 duty and 1 standby.
- Lime system for pH and alkalinity control (currently not in use)
- The objective of the system is to remove organics, total Kjeldahl nitrogen (TKN), phosphorous and ammonia-nitrogen.
- Three rotary lobe blowers one duty and two standby supply low pressure air to the aeration tanks.
- The tertiary treatment system consists of three continuous back wash, up flow, deep bed, granular single media sand filtration units housed in the filter building. The disinfection system consists of a ultra-violet (UV) unit through which the effluent is discharged.
- Operations are controlled by a programmable logic controller (PLC). A data logging computer system with local monitoring capability
- Laboratory space is also located at the WWTP to allow for basic laboratory analyses to be conducted by the plant operator

Section 2: Influent Monitoring Data

Sample Collection and Testing

All samples are collected and tested as per the requirements of the Environmental Compliance Approval.

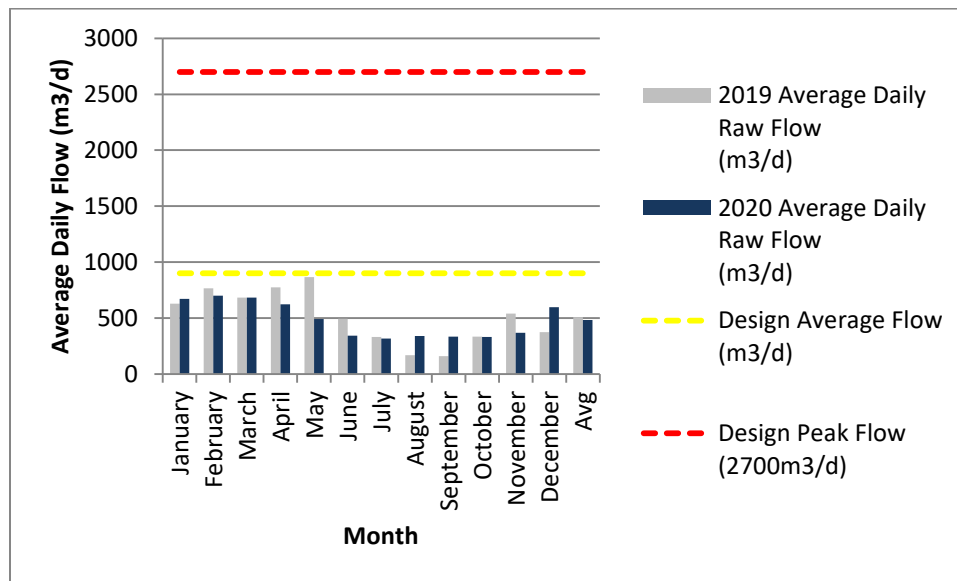
Raw sewage (influent) is sampled bi-weekly and tested for BOD₅, total suspended solids, total phosphorus, total Kjeldahl nitrogen, and alkalinity. The raw samples are collected as 24 hour composite samples.

Flows

Detailed monthly flow information is summarized in Appendix A.

The total flow in 2020 was 173,234m³, which corresponds to a 6.8% decrease from 2019 raw flows, refer to Chart 1. The annual average daily flow in 2020 was 485m³/day, or 54% of the plant's rated design capacity of 900m³/day.

Chart 1. Average daily raw flow for 2020 compared to 2019.

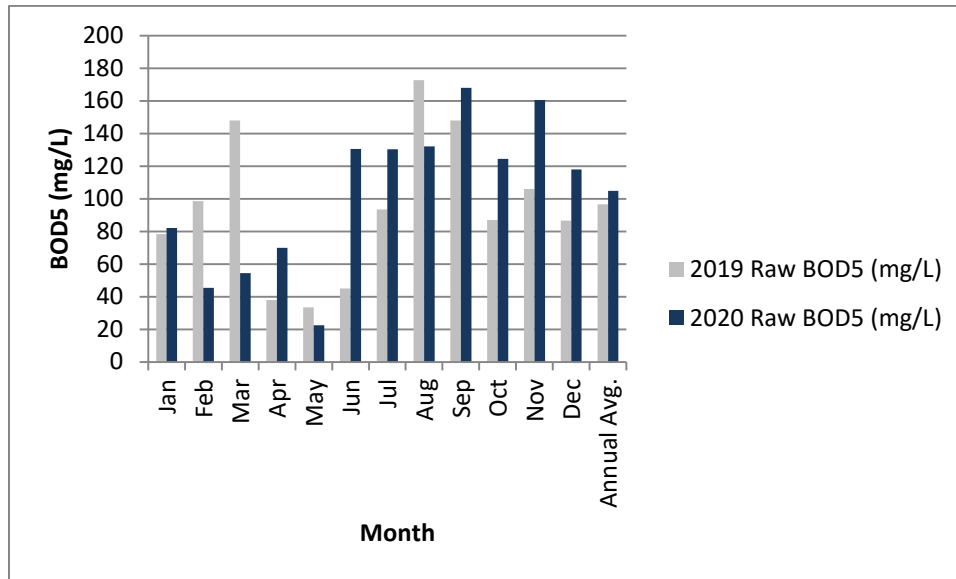


The design average daily flow for the plant was exceeded 10 times during the year, compared to 22 times in 2019. The hydraulic peak flow of 2,700m³/day for the plant was not exceeded in 2020.

Raw Sewage Quality

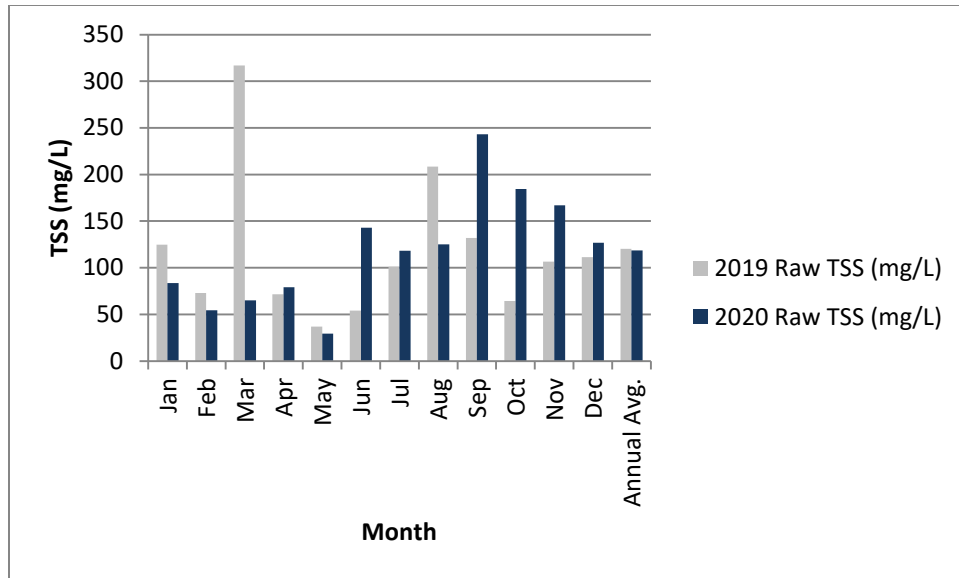
The annual average raw sewage BOD₅ concentration to the plant was 105mg/L with a maximum concentration of 243mg/L. The average concentration of BOD₅ has increased 8.6% from 2019, refer to Chart 3. The average BOD₅ loading to the plant was 49kg/d for 2020. Refer to Appendix A for detailed analytical data.

Chart 3. Raw sewage average monthly concentration of BOD₅ for 2020 compared to 2019 concentrations.



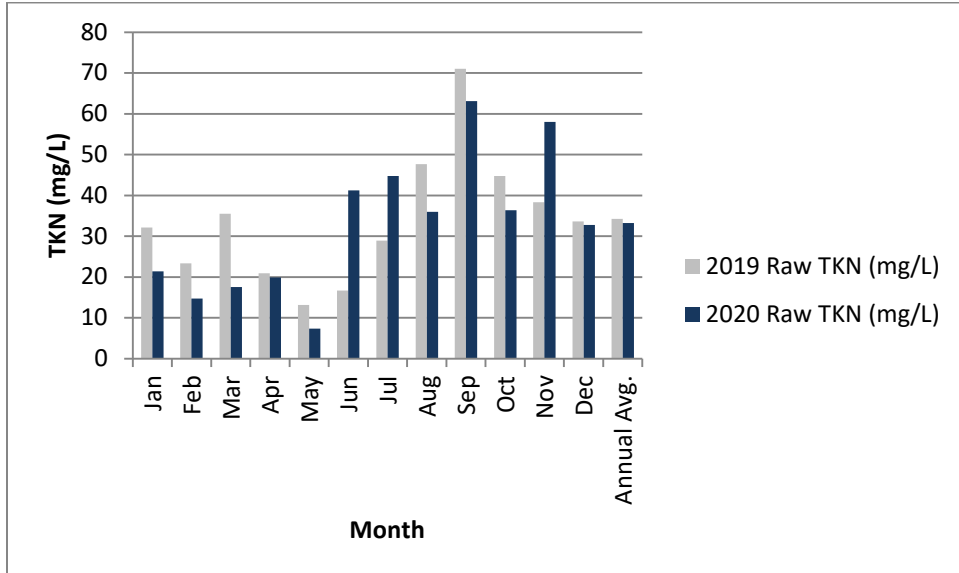
The annual average raw sewage suspended solids (TSS) concentration to the plant was 118.6mg/L, which is a 1.3% decrease from 2019 (refer to Chart 4). This corresponds to an average TSS loading to the plant of 56.1kg/day. Refer to Appendix A for detailed analytical data.

Chart 4. Raw sewage average monthly concentration of TSS for 2020 compared to 2019 concentrations.



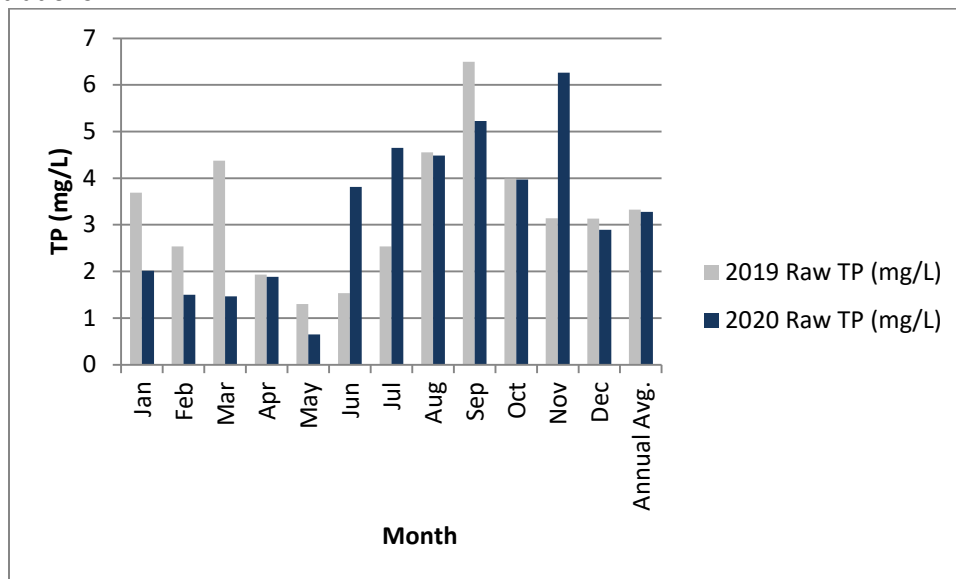
The annual average raw sewage nitrogen concentration (as represented by TKN) to the plant was 33.2mg/L with a loading of 15.7kg/d. This is a decrease of 3.1% from the 2019 annual average concentration, refer to Chart 5. Refer to Appendix A for detailed analytical data.

Chart 5. Raw sewage average monthly concentration of TKN for 2020 compared to 2019 concentrations.



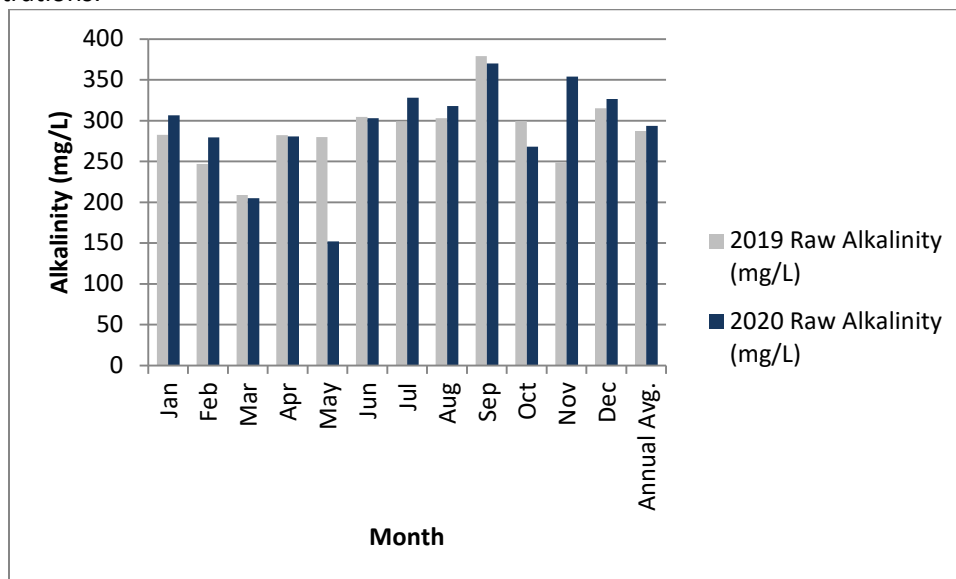
The annual average raw sewage total phosphorus (TP) to the plant was 3.28mg/L, with a loading of 1.55kg/d. This is a decrease of 1.5% from 2019 annual average of TP, refer to Chart 6. Refer to Appendix A for detailed analytical data.

Chart 6. Raw sewage monthly average concentrations of TP for 2020 compared to 2019 concentrations.



The annual average raw sewage alkalinity to the plant was 293.7mg/L. This is an increase of 2.2% from 2019 annual average alkalinity, refer to Chart 7. Refer to Appendix A for detailed analytical data.

Chart 7. Raw sewage average monthly concentrations of alkalinity for 2020 compared to 2019 concentrations.

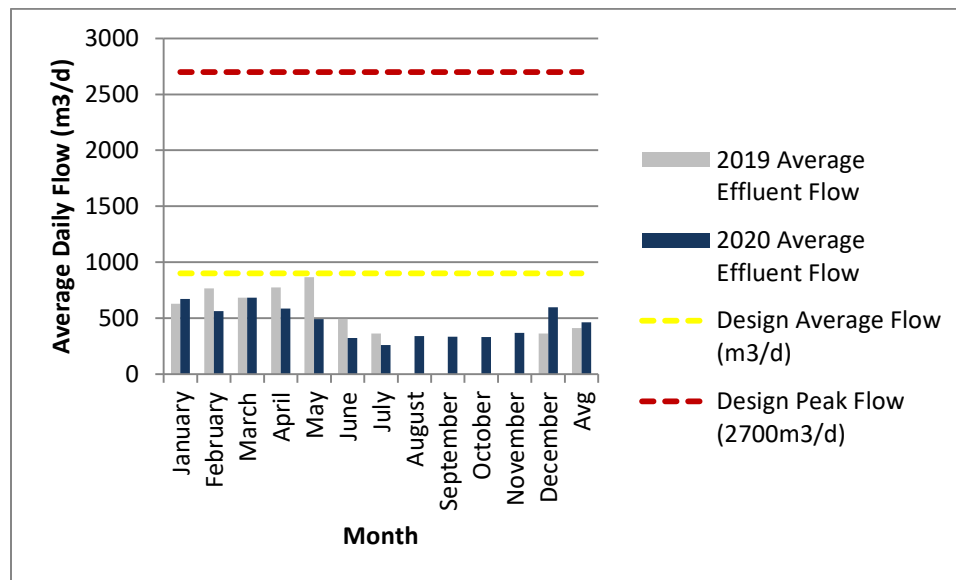


Section 3: Effluent Monitoring Data

Detailed monthly flow information is summarized in Appendix A.

The total effluent flow in 2020 was 169,797.1m³, which corresponds to a 22.7% increase from 2020 effluent flows. This increase is due to the flows being diverted to the lagoons for the plant upgrades in 2019, refer to Chart 8.

Chart 8. Average daily effluent flow for 2020 compared to 2019.



Sample Collection and Testing

Final effluent is sampled bi-weekly and tested for CBOD₅, total suspended solids, total phosphorus, free ammonia nitrogen, total Kjeldahl nitrogen, nitrite, nitrate and alkalinity. Samples are collected using an automatic composite sampler and collected over a 24 hour period. A grab sample of pH, temperature and dissolved oxygen is collected at least bi-weekly. A grab sample for E. coli is sampled bi-weekly during the disinfection period from April 15 to October 15.

In-house tests are conducted on a weekly basis on the final effluent, raw influent and the mixed liquor suspended solids at the plant to check plant performance and to make any operational changes as required.

In 2020, all chemical and microbiological sample analyses were conducted by SGS Lakefield Research. Temperature, pH and dissolved oxygen were conducted by operators at the treatment plant.

The receiving stream temperature is monitored.

Effluent Limits

Detailed analytical data is attached to this report as Appendix A. The following table provides a summary of monthly average effluent result ranges and loading ranges compared to the compliance limits in the Environmental Compliance Approval.

Summary and Comparison of Compliance Data

Table 1. Monthly average Effluent limits and monthly average loading limits compared to sample results received at the West Lorne WWTP.

Parameter	Monthly Average Effluent Limit (mg/L)	Monthly Average Effluent Result Ranges (mg/L)	Average Monthly Loading Limit (kg/d)	Monthly Average Loading Ranges (kg/d)
CBOD ₅	10	<2 – 9	9	0.7 – 6.0
Total Suspended Solids	10	<2 – 21.5	9	1.6 – 14.5
Total Phosphorus	0.5	0.07 – 0.22	0.45	0.05 – 0.15
Total (Ammonia + Ammonium) Nitrogen	3.0(a)	<0.1 – 0.12	2.7(a)	0.04 – 0.08
	5.0(b)	<0.1 – <0.1	4.5(b)	0.03 – 0.05
E. coli (geomean)	200	2 – 16.2		

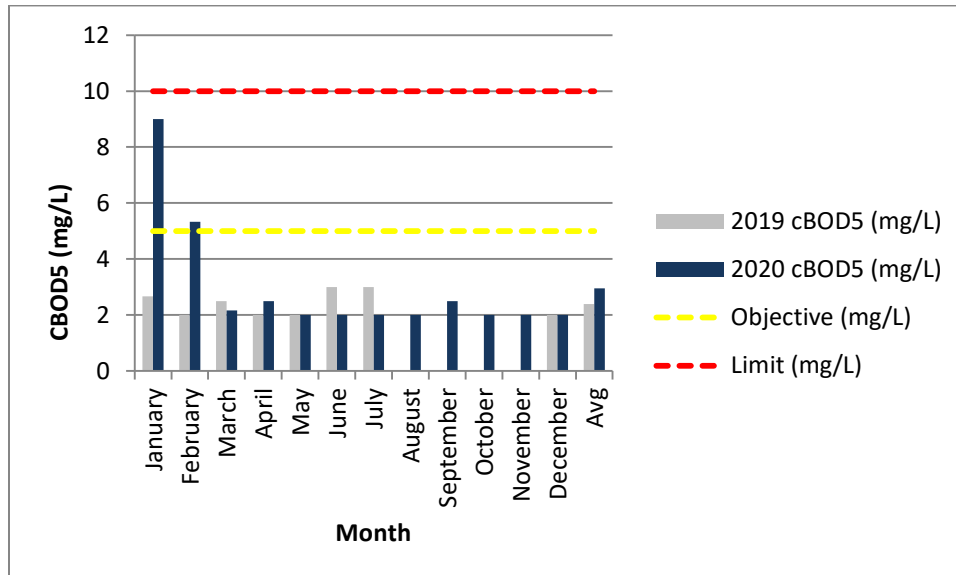
NOTE: (a) limit applies during the non-freezing period May 1 to November 30

(b) limit applies during the freezing period December 1 to April 30

Discussion on Monitoring Data as Compared to the Effluent Limits

The annual average effluent CBOD₅ in 2020 was 2.96mg/L, which is an increased by 23% from 2019 (refer to Chart 9). The annual loading of CBOD₅ was 1.63kg/d. Refer to Table 1 for a list of monthly average effluent limits and loading limits. The limits identified in the ECA for cBOD5 were met in 2020.

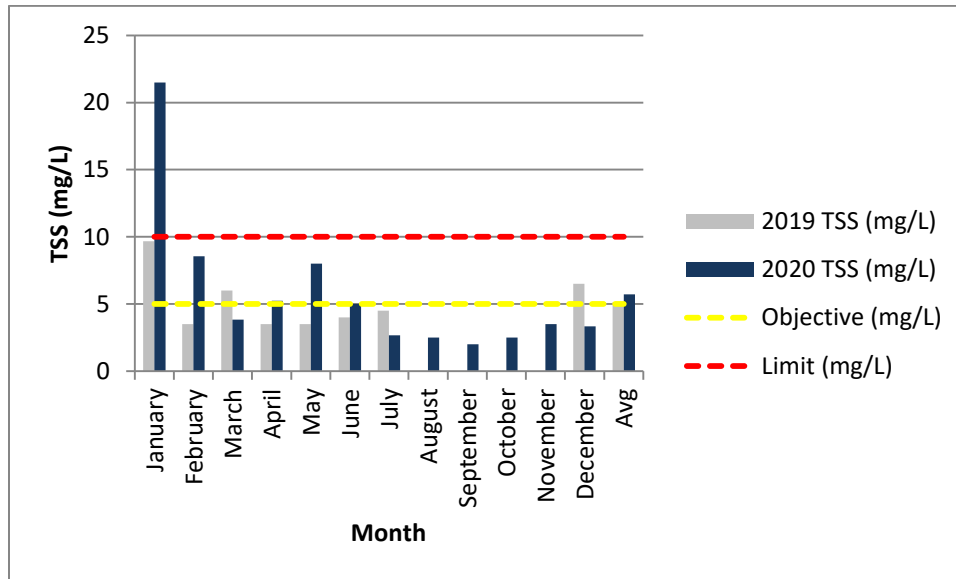
Chart 9. The effluent monthly average concentration of CBOD₅ in 2020 compared to 2019 concentrations.



The annual average effluent Total Suspended Solids (TSS) for 2020 was 5.7mg/L, which is an 11% increase from 2019 (refer to Chart 10). The annual loading of TSS at the plant in 2020 was 3.4kg/d. Refer to Table 1 for a list of monthly average effluent limits and loading limits. The limits identified in the ECA for TSS were met in 2020 for all months with the exception of

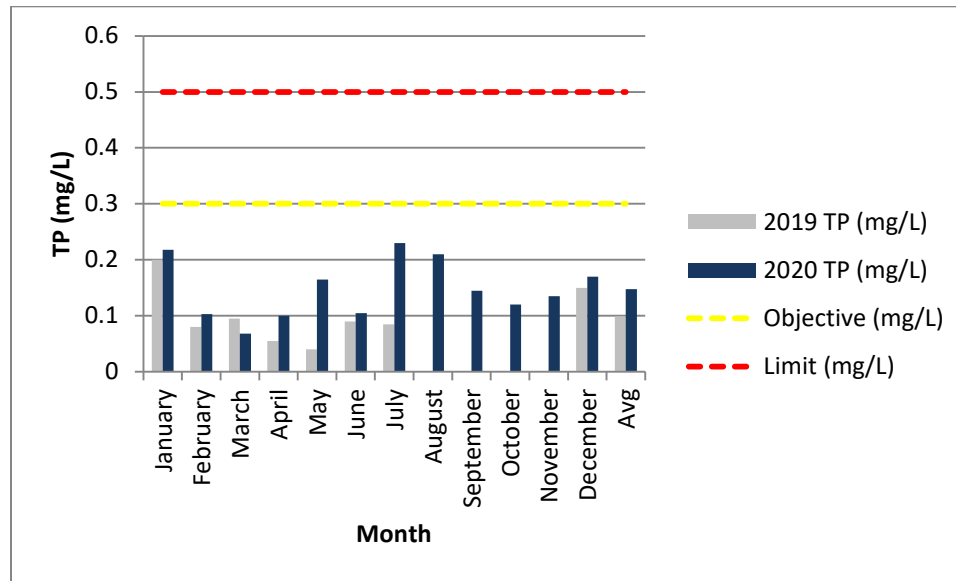
January. This exceedance was the result of commissioning the new filters and high flows being received.

Chart 10. The effluent monthly average concentration of TSS in 2020 compared to 2019 concentrations.



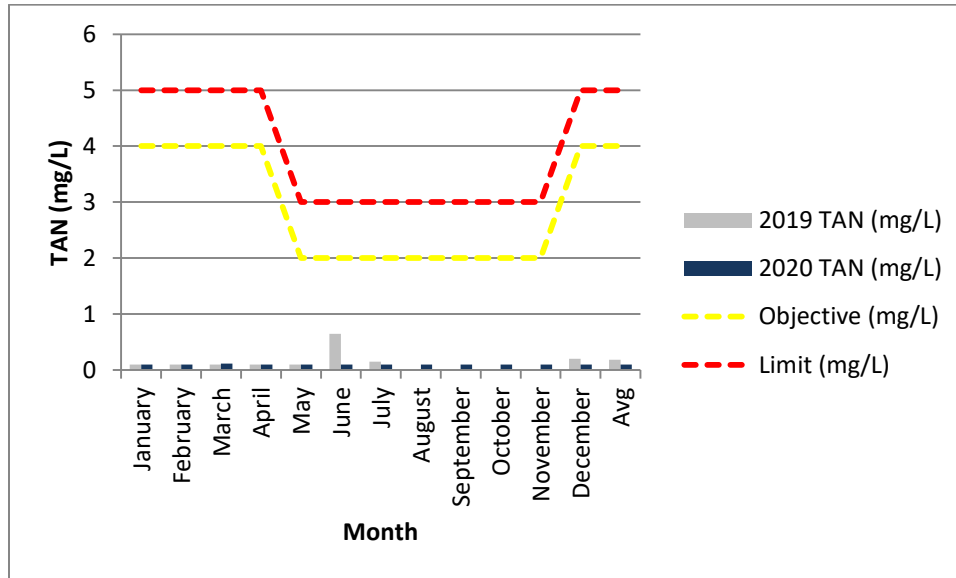
The annual average effluent Total Phosphorus (TP) for 2020 was 0.15mg/L, which is a 48% increase from 2019 (refer to Chart 11). The annual loading of TP at the plant in 2020 was 0.07kg/d. Refer to Table 1 for a list of monthly average effluent limits and loading limits. The limits identified in the ECA for TP were met in 2020.

Chart 11. The effluent monthly average concentration of TP in 2020 compared to 2019 concentrations.



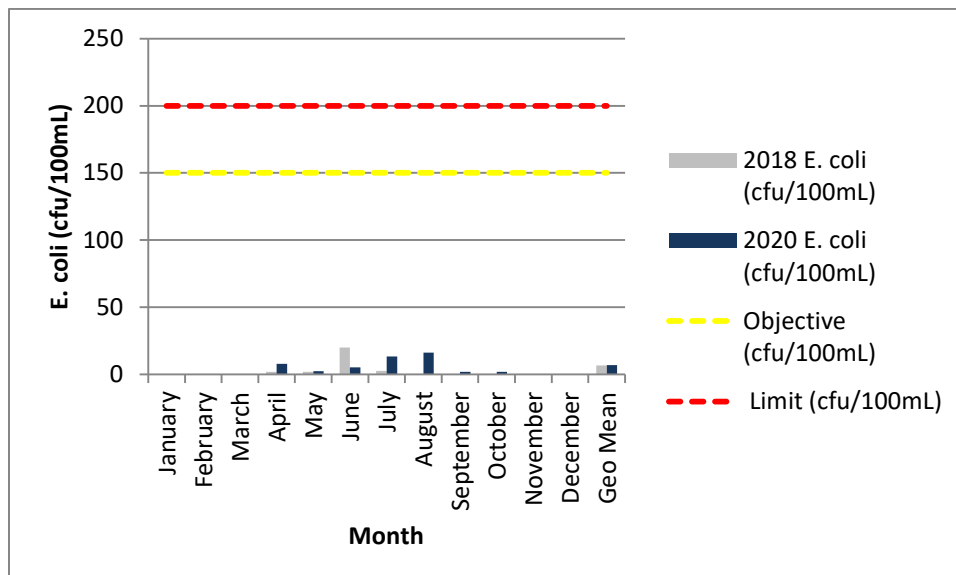
The annual average effluent Total Ammonia + Ammonium Nitrogen (TAN) for 2020 was 0.10mg/L, which is a 46% decrease from 2019 (refer to Chart 12). The annual loading of TAN at the plant in 2020 was 0.05kg/d. Refer to Table 1 for a list of monthly average effluent limits and loading limits. The limits identified in the ECA for TAN were met in 2020.

Chart 12. The effluent monthly average concentration of TAN in 2020 compared to 2019 concentrations.



The annual geometric mean effluent E. coli for 2020 was 7.04cfu/100mL, which is a 5.2% increase from 2019 (refer to Chart 13). E. coli is monitored only during the disinfection season which is from April 15th to October 15th. Refer to Table 1 for a list of monthly geometric mean effluent concentrations. The limits identified in the ECA for E. coli were met in 2020.

Chart 13. The effluent monthly geometric mean concentration of E. coli in 2020 compared to 2019 concentrations.



The West Lorne WWTP provides an effective treatment process complying with all the monthly average limit requirements set out in the Environmental Compliance Approval with the exception of January. The upgrades to the plant were completed in December 2019 and in January high flows along with new sand filters caused the TSS to be elevated exceeding the monthly average limit. Once flows returned to normal the TSS was within the ECA limit.

Effluent Objectives

The following table represents the monthly average effluent result ranges and the monthly average loading ranges compared to the objectives outlined in the Environmental Compliance Approval.

Table 2. Effluent objectives compared to monthly average concentrations and loadings.

Parameter	Effluent Objective (mg/L)	Monthly Average Effluent Ranges (mg/L)	Monthly Loading Objective (kg/day)	Monthly Average Loading Ranges (kg/d)
CBOD ₅	5	<2 – 9	4.5	0.7 – 6.0
Total Suspended Solids	5	<2 – 21.5	4.5	1.6 – 14.5
Total Phosphorus	0.3	0.07 – 0.22	0.27	0.05 – 0.15
Total (Ammonia + Ammonium) Nitrogen	2.0(a)	<0.1 – 0.12	1.8(a)	0.04 – 0.08
	4.0(b)	<0.1 – <0.1	3.6(b)	0.03 – 0.05
E. coli	150	2 – 16.2		
Dissolved Oxygen*	5	4.67 – 8.73		
Design Flow (m ³ /d)**	900	0 – 1,404		

Note: (a) objective applies during the non-freezing period May 1 to November 30

(b) objective applies during the freezing period December 1 to April 30

*Dissolved Oxygen objective is expressed as a minimum, where all other parameters are expressed as maximums.

**design flow is average daily flows, not monthly average flows.

Discussion of Effluent Objectives

Table 3. Identification and best efforts made to achieve effluent objectives.

Parameter	Month	Comments/Best Efforts
Flow	January, March, April	These were all due to infiltration into the collection system when there was snow melt and/or rain. Extra sampling was completed.
CBOD	January, February	High Flows along with new filter sand.
TSS	January, February, April, May	High Flows, adjusted sand filters, increased alum dosage

DO	August	Power outage required plant to be reset including blowers.
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Section 4: Monitoring Schedule

Refer to Appendix B for the monitoring schedule for 2021. In June a sample date was moved due to flow being diverted to the lagoons for Maintenance. All changes and extra samples are documented on the sample calendars that are signed off by the operator.

Section 5: Operating Problems and Corrective Actions

Plant upgrades were completed in December 2019. In January 2020 while working with engineers to set the filters for optimum operation, there were high flows causing the TSS to exceed the ECA limit. Once filter optimization was completed there have been no further limit exceedances.

Section 6: Maintenance

Regular scheduled monthly preventative maintenance is assigned and monitored using the Workplace Management System (WMS) program. Refer to Appendix C for a schedule of work orders. The following is a summary of maintenance performed other than WMS work orders:
Repairs to backwash pumps

There were very little repairs outside of routine maintenance due to the upgrades that were completed in 2019.

Section 7: Effluent Quality Assurance

Effluent quality assurance is evaluated by monitoring parameters and changes throughout the plant processes. The operators monitor the aeration tank by performing weekly tests on the mixed liquor. These tests include dissolved oxygen, pH, temperature, settling tests, Mixed Liquor Suspended Solids (MLSS), and Mixed Liquor Volatile Suspended Solids (MLVSS). As well, monitoring of the alum dosages, wasting volumes and Return Activated Sludge suspended solids is completed. Data collected from these tests provide information to the operator to make the appropriate adjustments in the treatment process and take corrective actions before the plant reaches its effluent limits.

Section 8: Calibration and Maintenance

Regular scheduled monthly preventative maintenance is assigned and monitored using the Workplace Management System program.

Annual maintenance on the generator was completed in June by Albert's Generator Service. Flow Metrix Technical Services Inc. performed the annual calibration on the flow meter in March, refer to Appendix C.

In house meters for pH and dissolved oxygen are calibrated by OCWA operators as per manufacturer's instructions.

Section 9: Design Objectives

The influent flow is currently at 53% of the rated capacity. The effluent objectives were achieved more than 50% of the time in 2020 and there is no increasing trend in deterioration of final effluent quality. Therefore, there is no assessment required to meet objectives identified in the ECA.

Section 10: Sludge Generation

The lagoon is used for sludge digestion and storage as per the Environmental Compliance Approval. The waste activated sludge (WAS) is transferred to the lagoon. The sludge settles on the bottom of the lagoon and the liquid is pumped to the head of the plant for treatment. In 2020, the total amount of WAS transferred to the lagoon was approximately 2,500m³. For 2021 this amount will be approximately be the same. Due to maintenance about 3,437 m³ flow was diverted to the lagoons. The lagoon has ample storage for the sludge and will not require cleanout in the coming year.

Section 11: Community Complaints

On May 24, 2020 a complaint was received concerning a sewage smell from plant. Smell investigated but nothing found. No other complaints received.

Section 12: Bypasses, Overflow, Spills, and Other Situations Outside Normal Operating Conditions

There were no bypasses, overflows or other situations outside normal operating conditions for the West Lorne WWTP or for the Pumping Station during 2020.

On January 8, 2020, the contractors noticed bubbling water coming from the ground near the location of the barscreen. Notification was provided to the Senior Operations Manager who contacted the operator that was doing maintenance at the sewage pumping station to shut off the raw sewage pumps. The flow stopped immediately. To prevent further spill the raw sewage was diverted to the onsite lagoon instead of the treatment plant until the repair could be made. What was thought to be raw sewage froze on the ground and was shoveled into the aeration tanks at the plant for treatment. Upon repair of the line, by the contractors, it was discovered that it was actually the effluent water that feeds the barscreen when the raw sewage pumps are in operation. This is why the when the pumps were shut off the flow stopped.

Section 13: Modifications to Sewage Works

There have been no modifications to sewage works under condition 10 of the ECA.

Section 14: Bypass/Overflow Elimination

There were no bypasses or overflow events for the West Lorne Wastewater Treatment Plant in 2020. There are no projects at this time planned in the sanitary sewer system.

Section 15: Proposed Works Completion and Commissioning

There were significant replacements that took place in 2019 as identified as proposed works in the current ECA. In 2020 improvements were made to the operation of the plant with the upgrades. The flow meter has been installed but is currently not in operation and is scheduled to be completed in 2021.

Section 16: Summary

Overall the West Lorne Wastewater Treatment Plant provided effective treatment in 2020, with only one exceedance with effluent limits.

APPENDIX A

Analytical Data

						Jan-20		Feb-20		Mar-20		Apr-20		May-20		Jun-20		Jul-20		Aug-20		Sep-20		Oct-20		Nov-20		Dec-20		Summary	Annual Loading
		Objective Concentration	Objective Loading	Limits	Loading Limits	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading	Results	Loading		
Raw Flow (m3/d)	Avg	900		900 (ann)		672.17		563.6		684.09		623.85		493.78		344.0		317.69		341.57		334.79		333.5		371.3		371.29		473.32	
	Max			2700		1352.34		686.62		1414.44		965.23		633.52		414.5		481.54		523.66		562.07		426.7		536.0		535.97		1414.44	
	Min					160.74		475.5		496.23		292.75		407.15		292.4		274.84		277.61		293.14		214.9		303.2		303.24		160.74	
	Sum					20837.4		16344		21206.9		18715.59		15307.1		10321		9848.3		10589		10044		10337		11139		11139		173233.99	
Effluent Flow (m3/d)	Avg					672.17		563.6		684.09		607.3		493.78		324.44		261.31		341.57		334.79		333.5		371.29		371.29		463.93	
	Max					1352.34		686.62		1414.44		965.23		633.52		414.53		481.54		523.66		562.07		426.7		535.97		535.97		1414.44	
	Min					160.74		475.5		496.23		0		407.15		0		0		277.61		293.14		214.9		303.24		303.24		0	
	Sum					20837.4		16344		21206.9		17611.82		15307		9733.1		8100.7		10589		10044		10337		11139		11139		169797.11	
Raw BOD5 (mg/L)	Avg					82	55.1	45.5	25.64	54.5	37.28	70	43.67	22.5	11.11	130.5	44.89	130.33	41.41	132	45.09	168	56.24	124.5	41.51	160.5	59.59	118	43.81	104.808	49.61
	Max					122		54		96		78		32		189		137		232		243		130		183		142		243	
	Min					42		37		13		62		13		72		120		32		93		119		138		72		13	
Raw SS (mg/L)	Avg					83.5	56.1	54.5	30.72	65	44.47	79	49.28	29.5	14.57	143	49.19	118.33	37.59	125	42.70	243	81.35	184.5	61.52	167	62.0	127	47.15	118.615	56.14
	Max					101		67		71		95		35		190		146		184		393		258		170		163		393	
	Min					66		42		59		63		24		96		104		66		93		111		164		87		24	
Raw TKN (mg/L)	Avg					21.35	14.4	14.7	8.3	17.55	12.0	19.9	12.4	7.35	3.6	41.25	14.2	44.767	14.2	36	12.3	63.1	21.1	36.4	12.1	58	21.5	32.733	12.2	33.219	15.7
	Max					26.6		17.4		32.2		26.4		12.1		50		49.4		57.4		79.7		45.5		67		35.2		79.7	
	Min					16.1		12		2.9		13.4		2.6		32.5		36.1		14.6		46.5		27.3		49		29.9		2.6	
Raw TP (mg/L)	Avg					2.015	1.35	1.5	0.85	1.465	1.00	1.885	1.18	0.65	0.32	3.815	1.31	4.653	1.48	4.485	1.53	5.225	1.75	3.97	1.32	6.26	2.32	2.893	1.07	3.276	1.55
	Max					2.5		1.54		2.86		2.41		1.13		4.88		5.26		6.19		6.18		4.61		7.3		3.11		7.3	
	Min					1.53		1.46		0.07		1.36		0.17		2.75		3.58		2.78		4.27		3.33		5.22		2.72		0.07	
Raw Alkalinity (mg/L)	Avg					306.5		279.5		205		280.5		152		303		328		318		370		268		354		326.33		293.692	
	Max					319		280		313		292		219		330		339		386		395		304		359		347		395	
	Min					294		279		97		269		85		276		311		250		345		232		349		310		85	
Effluent CBOD5 (mg/L)	Avg	5	4.5	10	9	< 9	6.0	< 5.333	3.0	< 2.167	1.5	< 2.5	1.5	< 2	1.0	< 2	0.6	< 2	0.5	< 2	0.7	< 2.5	0.8	< 2	0.7	< 2	0.7	< 2	0.7	< 3.514	1.63
	Max					16		< 12		< 3		< 4		< 2		< 2		< 2		< 2		3		< 2		< 2		< 2		< 16	
	Min					< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2		< 2	
Effluent TSS (mg/L)	Avg	5	4.5	10	9	21.5	14.5	8.556	4.8	3.833	2.6	5.25	3.2	8	4.0	5	1.6	2.667	0.7	2.5	0.9	< 2	0.7	< 2.5	0.8	< 3.5	1.3	3.333	1.2	< 7.338	3.40
	Max					29		26		6		7		10		6		3		3		< 2		3		4		4		29	
	Min					3		3		2		4		6		4		2		2		< 2		< 2		3		3		< 2	
Effluent TAN (mg/L)	Avg	2 (4)	1.8 (3.6)	3 (5)	2.7 (4.5)	< 0.1	0.07	< 0.1	0.06	< 0.117	0.08	< 0.1	0.06	< 0.1	0.05	< 0.1	0.03	< 0.1	0.03	< 0.1	0.03	< 0.1	0.03	< 0.1	0.03	< 0.1	0.04	< 0.1	0.04	< 0.103	0.05
	Max					< 0.1		< 0.1		< 0.2		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.2	
	Min					< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1	
Effluent TKN (mg/L)	Avg					1.3		< 2.033		< 0.733		< 0.7		< 1.1		1.4		0.967		< 0.7		< 0.5		< 0.8		< 1.85		< 1.4		< 1.105	
	Max					2.2		< 2.9		< 1.2		1.1		< 1.7		1.5		1.2		0.9		< 0.5		< 1.1		< 3.2		< 2.6		< 3.2	
	Min					0.6		< 0.5		< 0.5		< 0.5		< 0.5		1.3		0.6		< 0.5		< 0.5		< 0.5		< 0.5		< 0.5		< 0.5	
Effluent NO2 (mg/L)	Avg					< 0.03		< 0.03		< 0.03		< 0.035		< 0.03		< 0.035		< 0.033		< 0.05		0.065		< 0.03		< 0.03		< 0.03		< 0.034	
	Max					< 0.03		< 0.03		< 0.03		0.05		< 0.03		0.04		< 0.04		< 0.07		0.10		< 0.03		< 0.03		< 0.03		0.1	
	Min					< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03		< 0.03	
Effluent NO3 (mg/L)	Avg					8.907		16.953		14.417		16.275		20.65		25.35		43.033		40.65		33.95		38.4		34.8		22.667		22.719	
	Max					13.6		24.2		18.2		20.4		21		34.9		44.9		41.8		36.6		39.3		35.7		27.7		44.9	
	Min					7.83		7.86		11.2		12.4		20.3		15.8		39.7		39.5		31.3		37.5		33.9		19.7		7.83	
Effluent TP (mg/L)	Avg	0.3	0.27	0.5	0.45	< 0.218	0.15	< 0.103	0.06	0.068	0.05	0.1	0.06	0.165	0.08	0.105	0.03	0.23	0.06	0.21	0.07	0.145	0.05	0.12	0.04	0.135	0.05	0.17	0.06	< 0.146	0.07
	Max					0.33		< 0.24		0.11		0.14		0.19		0.11															

APPENDIX B

Monitoring Schedule

Reviewed by: QEMS Representative

Approved by: Operations Management

January 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 STAT	2
3	4 IH Reduced	5	6 IH Full	7	8 IH Reduced	9
10	11 IH Full Raw & Effluent Samples	12	13 IH Reduced	14	15 IH Reduced	16
17	18 IH Reduced	19	20 IH Full	21	22 IH Reduced	23
24	25 IH Full Raw & Effluent Samples	26	27 IH Reduced	28	29 IH Reduced	30
31						

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)
Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

IH (In House) Reduced:

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

February 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 IH Reduced	2	3 IH Full	4	5 IH Reduced	6
7	8 IH Full Raw & Effluent Samples	9	10 IH Reduced	11	12 IH Reduced	13
14	15 STAT	16	17 IH Full	18	19 IH Reduced	20
21	22 IH Full Raw & Effluent Samples	23	24 IH Reduced	25	26 IH Reduced	27
28						

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

March 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 IH Reduced	2	3 IH Full	4	5 IH Reduced	6
7	8 IH Full Raw & Effluent Samples	9	10 IH Reduced	11	12 IH Reduced	13
14	15 IH Reduced	16	17 IH Full	18	19 IH Reduced	20
21	22 IH Full Raw & Effluent Samples	23	24 IH Reduced	25	26 IH Reduced	27
28	29 IH Reduced	30	31 IH Full			

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

April 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2 STAT	3
4	5 STAT	6 IH Full Raw & Effluent Samples	7	8	9 IH Reduced	10
11	12 IH Reduced	13	14 IH Full	15	16 IH Reduced	17
18	19 IH Full Raw & Effluent Samples	20	21 IH Reduced	22	23 IH Reduced	24
25	26 IH Reduced	27	28 IH Full	29	30 IH Reduced	

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

May 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3 IH Full Raw & Effluent Samples	4	5 IH Reduced	6	7 IH Reduced	8
9	10 IH Reduced	11	12 IH Full Annual H&S Walkthrough	13	14 IH Reduced	15
16	17 IH Full Raw & Effluent Samples	18	19 IH Reduced	20	21 IH Reduced	22
23	24 STAT	25	26 IH Full	27	28 IH Reduced	29
30	31 IH Full Raw & Effluent Samples					

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)
Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

IH (In House) Reduced:

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

June 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2 IH Reduced	3	4 IH Reduced	5
6	7 IH Reduced	8	9 IH Full	10	11 IH Reduced	12
13	14 IH Full Raw & Effluent Samples	15	16 IH Reduced	17	18 IH Reduced	19
20	21 IH Reduced	22	23 IH Full	24	25 IH Reduced	26
27	28 IH Full Raw & Effluent Samples	29	30 IH Reduced			

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)

Raw Samples:

24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)

Effluent Samples:

24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

July 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 STAT	2 IH Reduced	3
4	5 IH Reduced	6	7 IH Full	8	9 IH Reduced	10
11	12 IH Full Raw & Effluent Samples	13	14 IH Reduced	15	16 IH Reduced	17
18	19 IH Reduced	20	21 IH Full	22	23 IH Reduced	24
25	26 IH Full Raw & Effluent Samples	27	28 IH Reduced	29	30 IH Reduced	31

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

August 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 STAT	3	4 IH Full	5	6 IH Reduced	7
8	9 IH Full Raw & Effluent Samples	10	11 IH Reduced	12	13 IH Reduced	14
15	16 IH Reduced	17	18 IH Full	19	20 IH Reduced	21
22	23 IH Full Raw & Effluent Samples	24	25 IH Reduced	26	27 IH Reduced	28
29	30 IH Reduced	31				

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

September 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 IH Full	2	3 IH Reduced	4
5	6 STAT	7 IH Full Raw & Effluent Samples	8	9	10 IH Reduced	11
12	13 IH Reduced	14	15 IH Full	16	17 IH Reduced	18
19	20 IH Full Raw & Effluent Samples	21	22 IH Reduced	23	24 IH Reduced	25
26	27 IH Reduced	28	29 IH Full	30		

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

October 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 IH Reduced	2
3	4 IH Full Raw & Effluent Samples	5	6 IH Reduced	7	8 IH Reduced	9
10	11 STAT	12	13 IH Full	14	15 IH Reduced	16
17	18 IH Full Raw & Effluent Samples	19	20 IH Reduced	21	22 IH Reduced	23
24	25 IH Reduced	26	27 IH Full	28	29 IH Reduced	30
31						

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)
Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

IH (In House) Reduced:

Raw Samples:
Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

November 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 IH Full Raw & Effluent Samples	2	3 IH Reduced	4	5 IH Reduced	6
7	8 IH Reduced	9	10 IH Full	11 STAT	12 IH Reduced	13
14	15 IH Full Raw & Effluent Samples	16	17 IH Reduced	18	19	20
21	22 IH Reduced	23	24 IH Full	25	26 IH Reduced	27
28	29 IH Full Raw & Effluent Samples	30				

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)

IH (In House) Reduced:

Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

Reviewed by: QEMS Representative

Approved by: Operations Management

December 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 IH Reduced	2	3 IH Reduced	4
5	6 IH Reduced	7	8 IH Full	9	10 IH Reduced	11
12	13 IH Full Raw & Effluent Samples	14	15 IH Reduced	16	17 IH Reduced	18
19	20 IH Reduced	21	22 IH Full	23	24 IH Reduced	25
26	27 STAT	28 STAT	29 IH Full Raw & Effluent Samples	30	31 IH Reduced	

IH (In House) Full:

Raw 24hr Composite (pH, Alk)
Aeration (Set Test, MLSS, MLVSS, DO, pH, Temp.)
RAS (SS)
Lagoon Decant (TP, NH₃+NH₄, pH, DO)
Effluent 24hr Composite (TP, NH₃+NH₄, Alk, SS); Grab (pH, DO, Temp.)
Receiving Stream (pH, Temp.)
Aeration (Set Test, DO, pH, Temp.)
Effluent (DO, pH, Temp., TP, NH₃+NH₄)
24hr Composite (BOD₅, SS, TP, TKN, Alkalinity)
24hr Composite (cBOD₅, SS, NH₃+NH₄, TKN, NO₃, NO₂, TP, Alkalinity, pH)
Grab (E. coli—Apr 15 to Oct 15, DO, Temp.)

IH (In House) Reduced:

Raw Samples:

Effluent Samples:

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

Revision History

Date	Revision #	Reason for Revision	Revision By
2020-12-24	0	Create Schedule	Terri-Lynn Thomson

APPENDIX C

Flow Meter Verification



AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER CONTACT OCWA - West Elgin Middlesex
Cindy Sigurdson
Compliance Manager
9210 Graham Road, West Lorne
c: 226-377-3563
e: csigurdson@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER	ROSEMOUNT
MODEL	8712EM
CONVERTER SERIAL NUMBER	14974744
FUSE	Filter Building Panel WLN1 - Breaker CB5140
PLANT ID	West Lorne WWTP
METER ID	Influent Raw Meter
FIT ID	FIT-170
CLIENT TAG	OCWA# 123540
OTHER	ORG# 5526
GPS COORDINATES	N42 35.162 W081 35.77

VER. BY - FM Paris Machuk / Parth Patel

Quality Management Standards Information -
Reference equipment and instrumentation used to
conduct this verification test is found in our AC-
QMS document at the time this test was

VERIFICATION DATE	March 18, 2020
CAL. FREQUENCY	Annual
CAL. DUE DATE	March, 2021

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	200
F.S. FLOW - MAG	LPS	n/a
F.S. RANGE - O/P	LPS	60.000
TUBE CAL. FACTOR		0956005409440005

FORWARD TOTALIZER INFORMATION

AS FOUND	55198	M3
AS LEFT	55234	M3
DIFFERENCE	36	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	Yes
mA OUTPUT	Yes
TOTALIZER	Yes
ACCURACY BASED ON [% o.r.]	Yes
ERROR DOCUMENTED IN THIS REPORT: BASED ON % o.r.	

VERIFICATOR CAL. FACTOR	1000015010000000
[16-digits]	

FLOW TUBE SIMULATION

			0	3	10	30	ft/s
DISPLAY			0.00	3.00	10.00	30.00	ft/s
MUT Reading			0.00	3.00	10.00	30.01	ft/s
MUT % Error			n/a	0.00	0.00	0.03	%
mA OUTPUT			4.000	5.600	9.333	20.000	mA
MUT Reading 4 mA			3.999	5.600	9.334	20.000	mA
MUT % Error 20 mA			-0.02	0.00	0.01	0.00	%
TOTALIZER						30.00	ft/s
TEST Accumulation						2000.00	ft
TIME						66.65	seconds
CALC. Velocity						30.01	ft/s
% Error						0.03	%
			QUALITY MANAGEMENT STANDARDS INFO.				
			<u>[QMS] INFORMATION</u>		<u>IDENT.</u>	<u>ID #</u>	
			[REFERENCE] FTS		ROS	1	

*All values are for "As Found" values.

COMMENTS

NOTE: new unit - this unit is replacement of Fischer+Porter

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.01	PASS
mA OUTPUT	0.00	PASS
TOTALIZER	0.03	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

APPENDIX D

Work Order Schedule

Workorder Summary Report

Report Start Date: Jan 1, 2020 12:00 AM
Report End Date: Dec 31, 2020 11:59 PM
Location: 5526*
Work Order Type: CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details				
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh
1894159			5526, West Lorne WWT P	PM	Health and Safety	3	MONTHS	OHSA Inspection & Report West Lorne (3m) - 5526	CLOSE	9/1/20 12:00 AM	10/19/20 07:41 AM	10/19/20 07:41 AM
1894295			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/15/20 01:22 PM	9/15/20 01:22 PM
1854165			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	8/1/20 12:00 AM	8/31/20 07:33 AM	8/31/20 07:33 AM
1813199			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	7/1/20 12:00 AM	7/29/20 08:10 AM	7/29/20 08:10 AM
1770003			5526, West Lorne WWT P	PM	Health and Safety	3	MONTHS	OHSA Inspection & Report West Lorne (3m) - 5526	CLOSE	6/1/20 12:00 AM	10/19/20 07:38 AM	10/19/20 07:38 AM
1770137			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	6/1/20 12:00 AM	6/16/20 08:04 AM	6/16/20 08:04 AM
1728576			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	5/1/20 12:00 AM	6/2/20 08:25 AM	6/2/20 08:25 AM
1642792			5526, West Lorne WWT P	PM	Health and Safety	3	MONTHS	OHSA Inspection & Report West Lorne (3m) - 5526	CLOSE	3/1/20 12:00 AM	4/30/20 11:08 AM	4/30/20 11:08 AM
1642923			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	3/1/20 12:00 AM	3/24/20 11:01 AM	3/24/20 11:01 AM
1685077			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	4/1/20 12:00 AM	4/27/20 01:26 PM	4/27/20 01:26 PM
1604234			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	2/1/20 12:00 AM	2/18/20 10:05 AM	2/18/20 10:05 AM
1560949			5526, West Lorne WWT P	PM	Health and Safety	1	YEARS	Lifting Device Insp Route (1y) - 5526	CLOSE	1/1/20 12:00 AM	2/13/20 11:42 AM	2/13/20 11:42 AM
1560388			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/28/20 02:39 PM	1/28/20 02:39 PM
1938556			5526, West Lorne WWT P	PM	Health and Safety	1	MONTHS	OHSA Inspection West Lorne (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/13/20 02:53 PM	10/13/20 02:53 PM
1983969			5526, West Lorne WWT P	PM	Compliance	6	MONTHS	FEP Contact List Review West Lorne (6m) - 5526	CLOSE	11/2/20 12:00 AM	12/7/20 11:40 AM	12/7/20 11:40 AM
1985493			5526, West Lorne WWT P	PM	Compliance	1	YEARS	FEP Review West Lorne (1y) - 5526	CLOSE	11/2/20 12:00 AM	12/7/20 11:41 AM	12/7/20 11:41 AM
1732854			5526, West Lorne WWT P	PM	Compliance	6	MONTHS	FEP Contact List Review West Lorne (6m) - 5526	CLOSE	5/1/20 12:00 AM	12/7/20 11:27 AM	12/7/20 11:27 AM
1706133	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	4/2/20 12:00 AM	4/8/20 01:03 PM	4/8/20 01:03 PM
1710046	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	4/30/20 12:00 AM	5/1/20 02:20 PM	5/1/20 02:20 PM
1727407	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	5/1/20 12:00 AM	5/14/20 02:36 PM	5/14/20 02:36 PM
1660886	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	3/2/20 12:00 AM	3/3/20 03:12 PM	3/3/20 03:12 PM
1683882	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	4/1/20 12:00 AM	5/1/20 02:21 PM	5/1/20 02:21 PM
1684406	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	4/1/20 12:00 AM	4/20/20 07:57 AM	4/20/20 07:57 AM

1752124	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	5/30/20 12:00 AM	6/2/20 08:29 AM	6/2/20 08:29 AM
1768750	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	6/1/20 12:00 AM	6/16/20 08:08 AM	6/16/20 08:08 AM
1769359	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	6/1/20 12:00 AM	6/16/20 07:56 AM	6/16/20 07:56 AM
1794878	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	6/30/20 12:00 AM	7/3/20 08:27 AM	7/3/20 08:27 AM
1812004	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	7/1/20 12:00 AM	8/4/20 08:21 AM	8/4/20 08:21 AM
1769923			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	6/1/20 12:00 AM	7/3/20 07:51 AM	7/3/20 07:51 AM
1727904	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	5/1/20 12:00 AM	5/21/20 12:40 PM	5/21/20 12:40 PM
1853985			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	8/1/20 12:00 AM	9/8/20 07:50 AM	9/8/20 07:50 AM
1812528	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	7/1/20 12:00 AM	7/29/20 08:08 AM	7/29/20 08:08 AM
1875650	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	8/30/20 12:00 AM	8/31/20 11:27 AM	8/31/20 11:27 AM
1892986	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	9/1/20 12:00 AM	10/15/20 01:44 PM	10/15/20 01:44 PM
1893551	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/14/20 07:40 AM	9/14/20 07:40 AM
1836912	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	7/30/20 12:00 AM	8/4/20 08:16 AM	8/4/20 08:16 AM
1853026	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	8/1/20 12:00 AM	8/31/20 11:59 AM	8/31/20 11:59 AM
1853494	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	8/1/20 12:00 AM	8/31/20 07:15 AM	8/31/20 07:15 AM
1894073			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	9/1/20 12:00 AM	10/19/20 01:08 PM	10/19/20 01:08 PM
1906436			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Analyzer DO Route Inspection (1m) 5526	CLOSE	9/1/20 12:00 AM	9/24/20 01:38 PM	9/24/20 01:38 PM
1919303	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	9/30/20 12:00 AM	10/27/20 11:58 AM	10/27/20 11:58 AM
1937384	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/30/20 11:42 AM	10/30/20 11:42 AM
1937879	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/27/20 11:59 AM	10/27/20 11:59 AM
1906438			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Drive VFD Insp/Service (1m) 5526	CLOSE	9/1/20 12:00 AM	9/25/20 01:58 PM	9/25/20 01:58 PM
1906444	0000334524	SCADA COMPUTER COMMUNICATION	5526, West Lorne WWT P	PM	Inspection	1	YEARS	Scada Server Insp/Service (1y) 5526	CLOSE	9/1/20 12:00 AM	10/19/20 01:09 PM	10/19/20 01:09 PM
1937391	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/30/20 11:41 AM	10/30/20 11:41 AM
1979579	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/6/20 02:44 PM	11/6/20 02:44 PM
1985548	0000123532	UPS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	YEARS	UPS Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/5/20 02:48 PM	11/5/20 02:48 PM
2017399	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:29 PM	12/23/20 12:29 PM
1892993	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	9/1/20 12:00 AM	10/15/20 01:46 PM	10/15/20 01:46 PM
1812011	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	7/1/20 12:00 AM	8/4/20 08:20 AM	8/4/20 08:20 AM
1853033	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	8/1/20 12:00 AM	8/31/20 11:51 AM	8/31/20 11:51 AM
1558884	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/24/20 07:31 AM	1/24/20 07:31 AM
1603048	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	2/1/20 12:00 AM	3/2/20 07:45 AM	3/2/20 07:45 AM
1641573	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	3/1/20 12:00 AM	3/24/20 03:08 PM	3/24/20 03:08 PM

1683889	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	4/1/20 12:00 AM	4/8/20 01:21 PM	4/8/20 01:21 PM
1727414	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	5/1/20 12:00 AM	5/20/20 10:51 AM	5/20/20 10:51 AM
1768757	0000123533	PANEL ALARM/DIALER 01 PS	5526, West Lorne Sewa ge Pumping Stn	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	6/1/20 12:00 AM	6/16/20 08:09 AM	6/16/20 08:09 AM
1985494			5526, West Lorne WWT P	PM	Inspection	1	YEARS	Emergency Generator Trailer Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/3/20 10:30 AM	11/3/20 10:30 AM
1985537	0000123502	UPS BATTERY BANK PLANT	5526, West Lorne WWT P	PM	Inspection	1	YEARS	UPS Battery Bank Plant Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/5/20 02:47 PM	11/5/20 02:47 PM
1990151			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Analyzer DO Route Inspection (1m) 5526	CLOSE	11/2/20 12:00 AM	11/5/20 03:00 PM	11/5/20 03:00 PM
1990153			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Drive VFD Insp/Service (1m) 5526	CLOSE	11/2/20 12:00 AM	11/5/20 03:03 PM	11/5/20 03:03 PM
2018879			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:33 PM	12/23/20 12:33 PM
2028070			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Analyzer DO Route Inspection (1m) 5526	COMP	12/1/20 12:00 AM	12/21/20 03:29 PM	12/21/20 03:29 PM
2017392	0000123216	PANEL ALARM/DIALER PLANT P	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	COMP	12/1/20 12:00 AM	12/21/20 03:24 PM	12/21/20 03:24 PM
2018073	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:29 PM	12/23/20 12:29 PM
2018092	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:30 PM	12/23/20 12:30 PM
1980551			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/30/20 07:49 AM	11/30/20 07:49 AM
1938370			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	10/1/20 12:00 AM	11/2/20 08:37 AM	11/2/20 08:37 AM
1979572	0000123216	PANEL ALARM/DIALER PLANT P	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/6/20 02:45 PM	11/6/20 02:45 PM
1980041	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/6/20 02:42 PM	11/6/20 02:42 PM
1980060	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/6/20 02:43 PM	11/6/20 02:43 PM
1951190			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Analyzer DO Route Inspection (1m) 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:25 PM	10/27/20 12:25 PM
1951192			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Drive VFD Insp/Service (1m) 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:26 PM	10/27/20 12:26 PM
2028072			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Drive VFD Insp/Service (1m) 5526	COMP	12/1/20 12:00 AM	12/21/20 03:30 PM	12/21/20 03:30 PM
1558877	0000123216	PANEL ALARM/DIALER PLANT P	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/24/20 07:34 AM	1/24/20 07:34 AM
1559951			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	1/1/20 12:00 AM	2/3/20 07:51 AM	2/3/20 07:51 AM
1560170			5526, West Lorne WWT P	OPER	Inspection	1	YEARS	Daily O&M Activities West Lorne WWTP (1y) - 5526	COMP	1/1/20 12:00 AM	12/23/20 12:59 PM	12/23/20 12:59 PM
1603041	0000123216	PANEL ALARM/DIALER PLANT P	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	2/1/20 12:00 AM	2/24/20 08:43 AM	2/24/20 08:43 AM
1603544	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	2/1/20 12:00 AM	2/4/20 02:01 PM	2/4/20 02:01 PM
1603563	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	2/1/20 12:00 AM	2/20/20 03:26 PM	2/20/20 03:26 PM
1559424	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/28/20 09:20 AM	1/28/20 09:20 AM
1559450	0000123677	ENGINE DIESEL STAND-BY LIFE	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/24/20 08:02 AM	1/24/20 08:02 AM
1641566	0000123216	PANEL ALARM/DIALER PLANT P	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Alarm Dialer Test/Insp (1m) - 5526	CLOSE	3/1/20 12:00 AM	4/6/20 09:33 AM	4/6/20 09:33 AM
1642165	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Engine Diesel Test/Insp (1m) - 5526	CLOSE	3/1/20 12:00 AM	3/9/20 07:48 AM	3/9/20 07:48 AM

1642706			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	3/1/20 12:00 AM	4/6/20 09:30 AM	4/6/20 09:30 AM
1604054			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	2/1/20 12:00 AM	3/2/20 07:48 AM	3/2/20 07:48 AM
1813019			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	7/1/20 12:00 AM	8/4/20 08:20 AM	8/4/20 08:20 AM
1728396			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	5/1/20 12:00 AM	6/2/20 08:34 AM	6/2/20 08:34 AM
1684897			5526, West Lorne WWT P	PM	Inspection	1	MONTHS	Building & Grounds Maintenance (1m) - 5526	CLOSE	4/1/20 12:00 AM	5/1/20 02:21 PM	5/1/20 02:21 PM
1689407	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	UV Light Effluent Insp/Service (1y) - 5526	CLOSE	4/1/20 12:00 AM	10/15/20 01:47 PM	10/15/20 01:47 PM
1646088	0000123478	PUMP CENT 110 EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Cent 110 Effluent Insp/Service (1y) - 5526	CLOSE	3/1/20 12:00 AM	3/30/20 02:24 PM	3/30/20 02:24 PM
1646091	0000123480	PUMP CENT P120 FOAM CONTROL	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Cent P120 Foam Control Insp/Service (1y) - 5526	CLOSE	3/1/20 12:00 AM	3/30/20 02:26 PM	3/30/20 02:26 PM
1604001	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	2/1/20 12:00 AM	2/13/20 11:54 AM	2/13/20 11:54 AM
1642653	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	3/1/20 12:00 AM	3/2/20 08:31 AM	3/2/20 08:31 AM
1605087	0000123549	SEPARATOR GRIT CYCLONE	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Separator Grit Cyclone Insp/Service (1y) - 5526	CLOSE	2/1/20 12:00 AM	2/24/20 08:44 AM	2/24/20 08:44 AM
1559898	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	1/1/20 12:00 AM	1/24/20 07:35 AM	1/24/20 07:35 AM
1561097	0000123605	BLOWER POSITIVE DISPLACEMENT B100 AERATION	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	0		Blower B100 Aeration Insp/Service (1y) - 5526	CLOSE	1/1/20 12:00 AM	1/2/20 08:52 AM	1/2/20 08:52 AM
1561102	0000123608	BLOWER POSITIVE DISPLACEMENT B101	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	0		Blower B101 Aeration Insp/Service (1y) - 5526	CLOSE	1/1/20 12:00 AM	1/2/20 08:51 AM	1/2/20 08:51 AM
2018474	0000123505	MCC MCCN1 NORMAL	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	3	YEARS	MCC Insp/Service (3y) - 5526	COMP	12/1/20 12:00 AM	12/21/20 03:26 PM	12/21/20 03:26 PM
2018633	0000123586	PUMP 01 ALUM CHEMIC RM	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Diaphragm 01 Insp/Service (1y) - 5526	COMP	12/1/20 12:00 AM	12/21/20 03:27 PM	12/21/20 03:27 PM
2018651	0000123585	PUMP DIAPHRAGM 02 ALUM CHEMIC RM	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Diaphragm 02 Insp/Service (1y) - 5526	CLOSE	12/1/20 12:00 AM	12/14/20 03:26 PM	12/14/20 03:26 PM
2018788	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	12/1/20 12:00 AM	12/14/20 03:27 PM	12/14/20 03:27 PM
2028086	0000334543	TANK PROCESS CLARIFIER EAST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier East Insp/Service (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:31 PM	12/23/20 12:31 PM
2028089	0000334544	TANK PROCESS CLARIFIER WEST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier West Insp/Service (1m) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:32 PM	12/23/20 12:32 PM
2028092			5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Valve Blower Damper (1m) - 5526	COMP	12/1/20 12:00 AM	12/21/20 03:31 PM	12/21/20 03:31 PM
2029257			5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Monthly H&S Checklist-5526(1m)	COMP	12/1/20 12:00 AM	1/11/21 10:30 AM	1/11/21 10:30 AM
1938317	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:06 PM	10/27/20 12:06 PM
1942297	0000123193	ANALYZER 02 TRI-DETECTOR	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	6	MONTHS	Analyzer Gas Insp/Service (6m) - 5526	CLOSE	10/1/20 12:00 AM	10/15/20 01:49 PM	10/15/20 01:49 PM
2018471	0000123506	MCC MCCE1 EMERGENCY	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	3	YEARS	MCC Insp/Service (3y) - 5526	COMP	12/1/20 12:00 AM	12/23/20 12:31 PM	12/23/20 12:31 PM
1985559	0000123557	PUMP SUBMERSIBLE	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/3/20 10:46 AM	11/3/20 10:46 AM
1985568	0000123571	PUMP SUBMERSIBLE CP7 SCUM PIT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible Cp7 Scum Pit Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/3/20 10:49 AM	11/3/20 10:49 AM
1985577	0000123693	PUMP SUBMERSIBLE SPARE	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible Spare Insp/Service (1y) - 5526	CLOSE	11/2/20 12:00 AM	11/3/20 10:45 AM	11/3/20 10:45 AM
1990170	0000334544	TANK PROCESS CLARIFIER WEST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier West Insp/Service (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/5/20 03:05 PM	11/5/20 03:05 PM
1990173			5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Valve Blower Damper (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/30/20 07:37 AM	11/30/20 07:37 AM
1990167	0000334543	TANK PROCESS CLARIFIER EAST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier East Insp/Service (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/5/20 03:04 PM	11/5/20 03:04 PM

1980498	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	11/2/20 12:00 AM	11/3/20 10:31 AM	11/3/20 10:31 AM
1951207	0000334543	TANK PROCESS CLARIFIER EAST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier East Insp/Service (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:24 PM	10/27/20 12:24 PM
1951210	0000334544	TANK PROCESS CLARIFIER WEST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier West Insp/Service (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:23 PM	10/27/20 12:23 PM
1951213			5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Valve Blower Damper (1m) - 5526	CLOSE	10/1/20 12:00 AM	10/27/20 12:26 PM	10/27/20 12:26 PM
1750430	0000123216	PANEL ALARM/DIALER PLANT	5526, West Lorne WWT P	CORR	Refurbish/Replac e/Repair	0		Replace battery for low power situations	CLOSE		5/15/20 08:34 AM	5/15/20 08:34 AM
1586939			5526, West Lorne WWT P	EMER	Refurbish/Replac e/Repair	0		5526 - Filter building sump	CLOSE		1/21/20 04:00 PM	1/21/20 07:00 PM
1709299			5526, West Lorne WWT P	OPER	Refurbish/Replac e/Repair	0		West Lorne WWTP Effluent Meter Installation	CLOSE		10/19/20 11:33 AM	10/19/20 11:33 AM
1859424	0000123536	PUMP SUBMERSIBLE P102 RAW PS-1	5526, West Lorne Sewa ge Pumping Stn	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible P102 Raw Ps-1 Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	8/10/20 07:38 AM	8/10/20 07:38 AM
1859433	0000123537	PUMP SUBMERSIBLE P101 RAW PS-1	5526, West Lorne Sewa ge Pumping Stn	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible P101 Raw Ps-1 Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	8/10/20 07:42 AM	8/10/20 07:42 AM
1859442	0000123538	PUMP SUBMERSIBLE P100 PS-1	5526, West Lorne Sewa ge Pumping Stn	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible P100 Ps-1 Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	8/10/20 07:55 AM	8/10/20 07:55 AM
1859469	0000123692	PUMP SUBMERSIBLE PS PUMP 100 SPARE	5526, West Lorne Sewa ge Pumping Stn	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible Ps Pump 100 Sp are Scum Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	10/19/20 12:56 PM	10/19/20 12:56 PM
1906459	0000334543	TANK PROCESS CLARIFIER EAST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier East Insp/Service (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/15/20 01:25 PM	9/15/20 01:25 PM
1906462	0000334544	TANK PROCESS CLARIFIER WEST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Tank Process Clarifier West Insp/Service (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/15/20 01:24 PM	9/15/20 01:24 PM
1906465			5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	Valve Blower Damper (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/25/20 02:00 PM	9/25/20 02:00 PM
1894020	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	9/1/20 12:00 AM	9/8/20 07:53 AM	9/8/20 07:53 AM
1859451	0000123565	PUMP 02 SANITARY SUMP	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump 02 Sanitary Sump Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	10/15/20 01:41 PM	10/15/20 01:41 PM
1859460	0000123566	PUMP SUBMERSIBLE 01 SANITARY SUMP	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Pump Submersible 01 Sanitary Sum p Insp/Service (1y) - 5526	CLOSE	8/1/20 12:00 AM	10/15/20 01:41 PM	10/15/20 01:41 PM
1792332			5526, West Lorne Sewa ge Pumping Stn	CAP	Refurbish/Replac e/Repair	0		5526 Installation new auto samplers	CLOSE		6/11/20 12:00 PM	6/11/20 12:00 PM
1918171			5526, West Lorne Sewa ge Pumping Stn	CAP	Refurbish/Replac e/Repair	0		5526 - Hurricane Hydrovac cleanout of WL PS Wet well	CLOSE		10/19/20 11:22 AM	10/19/20 11:22 AM
1853932	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	8/1/20 12:00 AM	8/31/20 11:50 AM	8/31/20 11:50 AM
1818294	0000164709	VALVE BACKFLOW PREVENTER	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Valve Backflow Preventer Insp (1y) - 5526	CLOSE	7/1/20 12:00 AM	10/19/20 12:37 PM	10/19/20 12:37 PM
1812966	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	7/1/20 12:00 AM	7/16/20 02:29 PM	7/16/20 02:29 PM
1818288	0000123009	TANK PROCESS CLARIFIER EAST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Tank Process Clarifier East Insp/Service (1y) - 5526	CLOSE	7/1/20 12:00 AM	7/16/20 02:18 PM	7/16/20 02:18 PM
1818291	0000123010	TANK PROCESS CLARIFIER WEST	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Tank Process Clarifier West Insp/Service (1y) - 5526	CLOSE	7/1/20 12:00 AM	7/16/20 02:22 PM	7/16/20 02:22 PM
1775492	0000123442	ENGINE DIESEL STAND-BY PLANT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Engine Diesel Stand-By Plant Insp/Service (1y) - 5526	CLOSE	6/1/20 12:00 AM	6/22/20 10:15 AM	6/22/20 10:15 AM
1775536	0000123677	ENGINE DIESEL STAND-BY LIFE STATION	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Engine Diesel Stand-By Life Station Insp/Service (1y) - 5526	CLOSE	6/1/20 12:00 AM	6/22/20 10:18 AM	6/22/20 10:18 AM
1728343	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	5/1/20 12:00 AM	5/14/20 02:41 PM	5/14/20 02:41 PM
1732927	0000123415	SAMPLER RAW SEWAGE	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Sampler Raw Sewage Insp/Service (1y) - 5526	CLOSE	5/1/20 12:00 AM	5/29/20 02:57 PM	5/29/20 02:57 PM
1769849	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	6/1/20 12:00 AM	6/22/20 10:19 AM	6/22/20 10:19 AM
1684844	0000123567	UV LIGHT EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	MONTHS	UV Light Insp (1m) - 5526	CLOSE	4/1/20 12:00 AM	4/6/20 09:39 AM	4/6/20 09:39 AM

1732924	0000123443	SAMPLER FINAL EFFLUENT	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	1	YEARS	Sampler Final Effluent Insp/Service (1y) - 5526	CLOSE	5/1/20 12:00 AM	5/29/20 03:01 PM	5/29/20 03:01 PM
1689387	0000123193	ANALYZER 02 TRI-DETECTOR	5526, West Lorne WWT P	PM	Refurbish/Replac e/Repair	6	MONTHS	Analyzer Gas Insp/Service (6m) - 5526	CLOSE	4/1/20 12:00 AM	10/15/20 01:47 PM	10/15/20 01:47 PM
1689402	0000123215	METER FLOW FE170 RAW SEWAGE	5526, West Lorne WWT P	PM	Calibration	1	YEARS	Meter Flow Insp/Service (1y) - 5526	CLOSE	4/1/20 12:00 AM	4/28/20 08:11 AM	4/28/20 08:11 AM
1900445	0000123592	METER FLOW FIT300 AIR	5526, West Lorne WWT P	PM	Calibration	1	YEARS	Meter Flow Insp/Service (1y) - 5526	CLOSE	9/1/20 12:00 AM	10/19/20 02:22 PM	10/19/20 02:22 PM