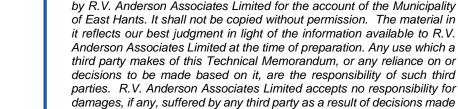


East Hants Servicing Capacity Study

Technical Memorandum #1: Sanitary Sewer Pump Stations Assessment & Conditions Summary

Final

Prepared for: Municipality of East Hants



or actions based on this Technical Memorandum.

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Table of Contents

1.0	INTRODUCTION							
	1.1	Backg	round		3			
2.0	CON	CONDITION SUMMARY						
	2.1 2.2	Condi Lift Sta	Condition Rating FrameworkLift Stations Investigation - Methodology					
		2.2.1 Background Mapping Development 2.2.2 Existing Database Review 2.2.3 Field Inspection Technology 2.2.4 Communications With the Municipality of East Hants 2.2.5 Field Investigations 2.2.6 Lift Station Inspections						
3.0	CON	CLUSIO	N	31				
Tab	le of l	Figure	S					
Figur	e 1: Co	ndition R	Rating Matrix		2			
			Lift Station Overall Condition					

Appendicies

Appendix A – Lift Station Inspection Forms

Appendix B – Site Photos

Appendix C - Forecasted Upgrades to 2047

Appendix D - Lift Station Mapping

1.0 INTRODUCTION

1.1 Background

The Municipality of East Hants owns and maintains a Regional sanitary sewer system to provide wastewater collection services to residents and businesses within Enfield, Elmsdale, Lantz and Shubenacadie. The Municipality had an infrastructure capacity study completed in 1998 to define estimated costs of current and future water and wastewater needs for the service area. As the timeline for the previous study ends, East Hants is planning for the next 25 years of water, wastewater and stormwater infrastructure replacement and upgrades to ensure services are continued to be provided and infrastructure is sustainable for their planned population growth.

To understand the current condition of sanitary sewer pump station assets and what will be required into the future, the Municipality retained the services of R.V. Anderson Associates Limited (RVA) to conduct the overall servicing capacity Study which includes a comprehensive assessment of its sanitary sewer system infrastructure with recommendations for improvements to sustain the infrastructure to 2047. The following sections identify the steps taken to develop this technical memorandum on the Sanitary Lift Stations (SLS).

2.0 CONDITION SUMMARY

This section describes the methodologies used to evaluate and rate the condition of the twenty-eight (28) sanitary lift stations.

2.1 Condition Rating Framework

The condition rating of each asset represents the current state of physical repair and is often used as an indicator for the relative time until corrective action (rehabilitation or replacement) is required. Lift stations are recommended to be designed for 40 years with equipment replacement in 20 years by the US Army Corp of Engineers. The table below identifies a rating, a description of the condition attached to the rating and what is the expected life of the asset when given a rating. Descriptions of each condition rating (from 1 to 5) and expected service life are provided in Table 2.1 below.

Condition Rating	Physical Condition	Expected Service Life		
1 - Very Good	Excellent working condition. No signs of deterioration.	Like new.		
2 – Good	Minor signs of deterioration.	At or beyond mid-stage of life.		
3 – Fair	Some elements exhibiting major deficiencies.	Approaching end of life.		
4 - Poor	Significant deterioration with localized areas of failure.	Needs to be replaced/ repaired in the short-term.		
5 - Very Poor	Asset is beyond repair and, generally, has completely failed.	Needs to be replaced/ repaired immediately.		
0 - Unknown Insufficient information exists to estimate asset condition.				

Figure 1: Condition Rating Matrix

RVA has referenced condition rating systems as identified by NS Municipal Affairs as well as methods utilized in the industry when assessing municipal linear infrastructure including pump stations.

2.2 Lift Stations Investigation - Methodology

2.2.1 Background Mapping Development

When developing a method to efficiently inspect all lift stations, RVA gained access to the GIS files provided by the Municipality of East Hants to create the most effective and efficient method and lift stations to inspect.

Using the GIS files, RVA developed a map showing the locations of every lift station throughout the municipality and used this information to develop the best strategy for inspecting the lift stations in an efficient matter. Using this background mapping, RVA was able travel between each lift station knowing the approximate location of the lift station.

2.2.2 Existing Database Review

Initial stages of the project consisted of a project kick off meeting, strategy development, submitting requests for information, etc. An integral part in the success of this project is for the Municipality of East Hants to provide important information that RVA can use to develop plans for field work, and other information for modelling and study purposes.

Prior to commencing field inspections for the condition assessment of all lift stations, RVA needed to gather as much information as possible to understand the sanitary lift station system to efficiently complete the field inspections. A Request for Information was submitted to the municipality and the response provided plenty of useful information for RVA to develop a strategy to use in the field.

The municipality provided GIS information with background mapping which helped RVA know the approximate location of each lift station and avoid losing time in the field by trying to find them. A Lift Station Asset Management Programreport (2021) was provided to give RVA as much information as possible on each lift station to consider when giving a condition rating. The municipality also provided a spreadsheet listing all lift stations throughout the municipality. This spreadsheet contained pump information, maintenance dates, SCADA information and comments from East Hants staff about ongoing issues, recent upgrades, or upcoming maintenance.

Part of the field inspection process was to analyze key elements of each lift station (wet-well structure, instrumentation and controls, pumps, etc.). When developing a condition rating, the age and usage of certain elements such as pumps, was taken into consideration to understand if they were at or nearing the end of their operating life, if they should be considered for a performance review, and if they can withstand the projected population growth for the next 25 years. Using the information provided by the municipality, RVA was able to determine the age of the pumps and lift stations.

2.2.3 Field Inspection Technology

When developing a strategy to efficiently complete the lift station inspections, RVA determined the most efficient way would be to generate a live digital report which could be populated in the field at the time of each inspection. RVA personnel carried an iPad which was easily used to check boxes on the form as well as to quickly type any comments on deficiencies or other comments related to the existing station. Adapting this green and modern technology eliminated the need for scanning and generating reports from the field notes. This technology also allowed RVA to take photos of all elements of the lift station to illustrate the actual conditions.

2.2.4 Communications With the Municipality of East Hants

RVA has been in constant communication with the municipality on multiple occasions whether it be for information requests, notify them of upcoming field work, or meeting them in the field to guide us around.

When scheduling a time for lift station inspections, RVA contacted the municipality for the availability of an operator to accompany RVA during the inspections. The operator would open the panel enclosure, wet-well and valve chamber for RVA to inspect inside. The operator also activated the pumps for each lift station for RVA to monitor the operation of the pump and take any notes on deficiencies which may have been found.

While having an operator from the municipality was needed in order to complete the inspections, it was also very informational. At any lift station where the operator knew of a recurring issue, they would inform RVA, and the issue was taken into consideration in the overall condition rating. Communication between RVA and the municipality along with the knowledge of the operators who work with the operation and maintenance of the lift stations every day has been vital in the success of the project thus far.

2.2.5 Field Investigations

On September 1st and September 8th, 2022, RVA conducted a site visit of each lift station to visually evaluate the condition of the station elements and perform a pump draw down assessment to evaluate pump performance. The condition of each lift station component was evaluated using the established standardized condition rating matrix, with various distresses observed depending on the component type. The standardized condition rating matrices used for each component are presented in Appendix A.

A component of the assessment of each lift station was to inspect and analyze multiple elements of the station. Although some lift stations were built or installed differently than others in the system, RVA assessed every one of the following elements on each lift station (if applicable) to ensure the accuracy of this assessment.

Elements that were reviewed include:

- Structural pedestals
- Control panel and power meter enclosures(s)
- SCADA mast condition (if applicable)
- Exterior condition of concrete wet-well and valve chamber
- Hatch condition. Noted if safety grating was installed.

- Interior wet-well structural condition.
- Operating condition of chains, floats, guide rails
- Activated pumps for approximately 30 seconds to listen for any issues

When assessing these elements, RVA would identify any structural or mechanical defects as well as issues that would be unsafe, have an influence on the operation of the lift station, or disrupt the sanitary system.

When inspecting each lift station, RVA was accompanied by an operator from the municipality to gain access to the wet-well, valve chamber and control panel to inspect inside. The operator was also relied upon to activate both pumps, one at a time, to monitor the drawdown of each pump and to listen for any unusual noise or vibration coming from each pump. Each pump was activated for a minimum of thirty seconds to listen to start-up and running as well as monitor the evidence of drawdown.

Part of the inspection process was taking photos of each lift station to keep an inventory of all deficiencies and issues we identified in the field, as well as pictures to include in the inspection reports for each lift station. Photos that were taken include:

- Overall view of the lift station site
- Concrete pedestal
- Control panel and power meter enclosure(s)
- Pump tags (if available) to identify specifications of pumps being used
- Inside of concrete wet-well and valve chamber, including guide rails, chains, and floats

2.2.6 Lift Station Inspections

The following provides a detailed overview of findings at each of the twenty-eight lift stations. LS refers to Lift Station.

LS #1 – Peter Horne – 102 Highway 2

Overall, the station is in fair condition. The power meter box is rusty and in poor condition. Some bricks have come loose on the brick pedestal which supports the electrical and control panel. The galvanized SCADA mast is attached to some of these loose bricks. The access hatch cover is rusty with a broken handle and does not have safety grating installed. The wet-well chamber is located next to road with good vehicle access however, the control panel is not accessible by vehicle. The concrete wet-well is in good condition. The guide rails, floats and chains are all in



good condition. The wet-well is clean with no grease build up or debris. All the piping inside of the wet-well chamber is in good condition. There was no sign of inflow and infiltration inside of the wet-well at the time of inspection. A Surfline control panel is used to control the pumps. The exterior of the control panel has little rust and is in good condition. The interior of the control panel is clean with no debris. There are no conduit seals installed on the conduit.

Both pumps were replaced with new pumps in 2021.

Preliminary recommendations for LS #1 include:

- •
- Installation of explosion proofing fittings should be considered.
- Repair brick pedestal for SCADA mast.

Repair handle on hatch cover.

LS #2 - Sherwood Park - 32 Sherwood Drive

Overall, the station is in very good condition. The concrete pedestal is in excellent condition. The hatch cover and exterior of the wet-well chamber have no damage and are in excellent condition. The valve chamber is filled to the top of pipe with water but is otherwise in good condition. Inside of the wet-well is clean with no excess grease or debris build up. The guide rails, floats and chains are in good condition. The hooks for the chains are corroded. There is an unusual noise coming from the wet-well, but the source of the noise is unknown. There was no sign of inflow



and infiltration in the wet-well at the time of inspection. The stainless-steel panel box is in good condition. A Cutting EDGE CE8300 control panel controls the pumps for the lift station. The galvanized SCADA mast is secured to the concrete pedestal. The conduit has conduit seals installed. Residents near the lift station had been reporting an odour coming from the station when the ventilation fan was running. The ventilation fan has been turned off, but the odour still exists. All the piping inside of the wet-well chamber and valve chamber is in good condition. Lifting davit plate is a tripping hazard.

Pumps #1 & #2 are 5 hp and were installed in 2017.

At the time of inspection there was a known fault with Pump #2 which didn't allow it to run. No issues noted from Pump #1.

Preliminary recommendations for LS #2 include:

- •
- Investigate issue with Pump #2.
- Mark lifting davit socket as it is a tripping hazard.
- Replace corroded hooks for chains.
- Remove water from valve chamber and investigate cause of infiltration. Investigate issue for where the water is coming from.
 - Investigate the cause of noise coming from wet well and repair.
 - Investigate root cause of odour issue.

LS #3 - Horne Settlement - 20 Old Horne Settlement Road

Overall, the station is in good condition. The hatch cover for the wet-well is rusty and has a broken hinge and there is no safety grating installed. The power meter box is rusty, and the bottom is frail. The brick pedestal has some brick-and-mortar damage. Inside of the wet-well shows signs of separation between the joints of the walls. The wet-well is clean with no excess grease or debris build up. The floats, guide rails and chains are all in good condition. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box has no damage or rust



on the exterior, no debris build up inside and is in good condition. A Surfline control panel controls the pumps for the station. The power meter and disconnect enclosure is rusting and exhibiting age and wear. The galvanized SCADA mast is attached to the brick pedestal. There are no conduit seals installed on the conduit. Piping inside the wet-well is in good condition with one section of pipe being a brand-new replacement.

Pumps #1 & #2 are 5 hp. Pump #1 installed in 1996, Pump #2 installed in 2022.

Pump #1 noisy when running.

Preliminary recommendations for LS #3 include:

- Installation of explosion proofing fittings should be considered.
- Investigate noise from Pump #1.
- Contact Nova Scotia Power about a meter box replacement.
- Monitor separation between wall joints. Grout if any inflow and infiltration begin to occur. Repair brick pedestal.

LS #4 - Donaldson Avenue - 21 Donaldson Avenue

Overall, the station is in very good condition. There is some minor damage on the edges of the concrete for the wet-well and valve chamber. The concrete pedestal is in great condition. There are concrete bollards placed around the area to protect from vehicles. The wet-well has some grease build up at the operating surface. The floats, guide rails and chains are all in good condition. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box has no damage or rust on the exterior, no debris build up inside and is in good condition. The panel box



for the power meter has no damage or rust on the exterior however, a wasp nest was present inside. A Flygt control panel controls the pumps for the station. During the time of inspection, hornets were present within the smaller electrical control panel. The galvanized SCADA mast is attached to the concrete pedestal. There are conduit seals installed on the conduit. Piping inside the wet-well is in good condition with some debris build up. Valve chamber piping have flow meters attached and in good condition.

Pumps #1 and #2 are 30 hp and were installed in 2008. At the time of inspection, the check valve was closed on Pump #2 which caused a "hammer" noise when Pump #2 was running.

Preliminary recommendations for LS #4 include:

- Monitor grease build up in wet-well. Clean wet-well if required.
- Investigate "hammering" noise from check valve.

LS #5 - Locks Road - 6A Locks Road

Overall, the station is in good condition. The top of the wet-well is approximately 300mm above grade. The exterior concrete is in good condition. The hatch cover is in good condition with some light surface rust on the edge of the door and the bolts. There is no safety grating installed. The inside of the wet-well is in good condition with no excess grease or debris build up. The floats, guide rails and chains are all in good condition. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box has no damage, but a small amount of rust can be



seen on the exterior. There is no debris build up inside and is in good condition. A Surfline control panel controls the pumps for the station. The panel box is attached to two brackets which are

secured to two gooseneck ventilation pipes exiting the wet-well. The galvanized SCADA mast is also attached to the ventilation pipe. There are no conduit seals installed on the conduit. Piping inside the wet-well is in good condition.

Pumps #1 and #2 are 5 hp Pump #1 was installed in 2008 and Pump #2 was installed in 2017.

Preliminary recommendations for LS #5 include:

Installation of explosion proofing fittings should be considered.

LS #7 - Curley Portables - 453A Highway 2

Overall, the station is in good condition. The exterior concrete of the wet-well is aged but in good condition. The hatch covers are in good condition. There is no safety grating installed. The inside of the wet-well is in good condition with a small amount of grease and debris build up along the walls, pipe, and guide rails. The floats, guide rails and chains are all in good condition. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box is located inside of the building and is in good condition. The building is also in good condition. The roof,



foundation, siding, walls, and doors are all in good condition. The building is heated in the winter but the fan to allow heat to escape in the warmer months does not work. A Surfline control panel controls the pumps for the station. The galvanized SCADA mast is secured to the building. There are no conduit seals installed on the conduit. Piping inside the wet-well is in good condition. There is a small amount of surface rust on the piping. Piping in valve chamber is rusty and corroded. The valve chamber has water from the bottom of the chamber to the invert of the pipe. Valves are corroded.

Pumps #1 and #2 are 85 hp Pump #1 was installed in 2016 and Pump #2 was installed in 2019.

Preliminary recommendations for LS #7 include:

- Repair fan in building to prevent controls and other instruments from overheating.
- Repair or replace valves and piping in valve chamber.
- Clean wet-well chamber.
- Installation of explosion proofing fittings should be considered.

LS #8 - Mill (Elmsdale Lumber) - 595 Highway 2

Overall, the station is in good condition. The top of both the concrete wet-well and valve chamber are approximately 800mm above grade and approximately 6m from the roadway. Both structures have minor cracking on the exterior but are in good condition. The hatch covers are in good condition. There is no safety grating installed. The inside of the wet-well is in good condition with a small amount of grease and debris on the floats. The guide rails and chains have some corrosion but are all in good condition. There was no sign of inflow and infiltration at the



time of inspection. The stainless-steel panel box has no rust or damage and is in good condition. Inside of the panel box is free of debris and the fans are working. A Surfline control panel controls the pumps for the station. The galvanized SCADA mast is secured to the utility pole. The brick pedestal is in good condition, but the high-level alarm light is leaning. There are no conduit seals installed on the conduit. Piping inside the wet-well and valve chamber are in good condition with a small amount of rust.

Pump #1 is a 70 hp pump and was installed in 2011. Pump #2 is a 47 hp pump and was installed in 1989. Both pumps start and run quietly but make a noise when shutting down.

Preliminary recommendations for LS #8 include:

- Monitor cracking on outside of chambers.
- Investigate noise from pumps when shutting down. Perform maintenance on pumps.
- Performance review for Pump #2 due to age.
- Installation of explosion proofing fittings should be considered.

LS #9 - Elmsdale Fire Hall - 730 Highway 2

Overall, the station is in good condition. The wet-well chamber is built in the boulevard between the road and the sidewalk. The hatch cover is difficult to open due to damage from getting struck by plows and other vehicles. There is no safety grating installed. The inside of the wet-well is in good condition with some grease build up at the high-level surface. New floats installed. The guide rails and chains all in good condition. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box has no rust or damage and is in good condition. Inside of the



panel box has some accumulation of debris. A Surfline control panel controls the pumps for the station. The galvanized SCADA mast is secured to the utility pole. The brick pedestal has some loose bricks and is leaning to the west. The PVC ventilation pipe attached to the pedestal has the top of the gooseneck disconnected. There are no conduit seals installed on the conduit. Wet-well piping in good condition. At the time of inspection, the valve chamber was buried and unable to be inspected.

Both Pump #1 and Pump #2 were installed in 2015. Pump #2 is a 20 hp pump. No information available for Pump #1.

Preliminary recommendations for LS #9 include:

- Repair or replace wet-well hatch cover. If possible, relocate wet-well to inside of sidewalk.
- Repair or replace brick pedestal. Repair ventilation pipe.
- Expose valve chamber for future maintenance and studies.
- Installation of explosion proofing fittings should be considered.

LS #10 - Medical Centre - 104 Elmsdale Road (HWY 214)

Overall, the station is in good condition. The wet-well chamber is located approximately 1m from roadway. The wet-well is prone to snow and the hatch has been ripped off by passing snowplows in the past. The security bar on the hatch has rusted off from the bolt. There is no safety grating installed. The inside of the wet-well is in good condition with a small amount of grease or debris build up on the sidewalls. The floats are in good condition. The guide rails and chains all in good condition with a small amount of surface rust at the high-water level. There was no sign of inflow



and infiltration at the time of inspection. The stainless-steel panel box has no rust or damage and is in good condition. Inside of the panel box has some debris but is in good condition. A Surfline control panel controls the pumps for the station. The galvanized SCADA mast is secured to the brick pedestal. The pedestal has some loose bricks and missing mortar. There are no conduit seals installed on the conduit. Wet-well piping in good condition. Piping leads to valve chamber across the road. Chamber was buried and unable to be inspected.

Pump #2 installed in 2009. Installation year for Pump #1 was unknown at the time of inspection and not available through background documents. Both pumps are 20 hp

Pump #2 has some minor noise while running but operates without any issues.

Preliminary recommendations for LS #10 include:

- Repair or replace hatch cover.
- Installation of explosion proofing fittings should be considered.
- Repair brick pedestal.
- Investigate noise from Pump #2.
- Expose valve chamber for future maintenance and studies.

LS #10A - Pine Grove - 81 Pinehill Drive

Overall, the station is in good condition. This lift station is an older lift station. The exterior concrete of the wet-well is in good condition. The structure of the lift station including panel box, ventilation pipes and lifting davit, are all in good condition. The top of the wet-well is approximately 600mm above grade. There is no safety grating installed. The inside of the wet-well is in good condition with no excess grease or debris build up. The guide rails, floats, and chains are all in good condition. There was no sign of inflow and infiltration at the time of inspection. The



stainless-steel panel box has a small amount of rust on the lock and around the door but is in good condition. Inside of the panel box is clean and there is no sign of any rust. A Flygt control panel controls the pumps for the station. A new adapter has been installed to plug into a generator for backup power. The panel box is attached to two steel brackets that are secured to two gooseneck ventilation pipes exiting the wet-well chamber. This lift station does not have SCADA installed. There are no conduit seals installed on the conduit. Wet-well piping is in good condition. The valve is inoperable due to location.

Pump #1 installed in 2018. Pump #2 installed in 2019. Both pumps are 3.9 hp pumps.

Pump #2 had a delay starting. Otherwise, no issues or concerns while running.

Preliminary recommendations for LS #10A include:

- Upgrade to SCADA.
- Installation of explosion proofing fittings should be considered.
- Relocate valve.
- Investigate delay in Pump #2.

LS #11 - Old Elmsdale School - 235 Elmsdale Road (HWY 214)

Overall, the station is in a fair condition. The wet-well access for this lift station is built into the roadway. The hatch cover for the wet-well is partially into the lane of the road and partially covered in gravel. Without traffic control and an excavator, the wet-well was unable to be accessed. The operator stated the wet-well is cleaned using a vacuum truck every 18-24 months. The valve chamber is next to the shoulder and in good condition. Due to this location, the chamber is prone to snow and run-off from the roadway. The structure of the lift station including panel box,



ventilation pipes are all in good condition. The stainless-steel panel box is in good condition. Inside of the panel box the fan to remove heat is not working. A Surfline control panel controls the pumps for the station. The screen on the controller is blacked out and unable to read, possibly from overheating. The panel box is attached to a brick pedestal. The pedestal has some brick and mortar missing but is in good condition. SCADA mast is attached to a nearby utility pole. There are no conduit seals installed on the conduit. Piping in the valve chamber has some rust but is in good condition. There is a small amount of water at the bottom of the chamber. Mud is seeping through the risers of the chamber.

Both pumps are 10 hp and were installed in 2016.

Preliminary recommendations for LS #11 include:

- Installation of explosion proofing fittings should be considered.
- Relocate wet-well from lane of roadway.
- Repair brick pedestal, re-point mortar.
- Repair heat issue in panel box.
- Investigate and repair mud seeping into chamber.

LS #11A - Industrial Park - 12 Industrial Way

Overall, the station is in good condition. The exterior concrete of the wet-well, valve chamber, and concrete pedestal is in good condition. Attached to the concrete pedestal is the tie-in to the underground power. The conduit is not directly connected to the control panel and is prone to being vandalized. Inside of the valve chamber, the styrofoam lining is falling off with pieces of foam floating in the 600mm of water in the bottom of the chamber. The hatch cover to the wet-well is in good condition but does have a broken hinge. There is no safety grating installed. The inside of



the wet-well is in good condition with no excess grease or debris build up. The guide rails, floats, and chains are all in good condition. This lift station tends to see higher flow rates due to the nearby brewery being tied in and the community pool drains here when undergoing a back wash. There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box for the control panel has no rust but is dented on the outside. The power meter box is in fair condition but is rusty on the outside. The inside of both panel boxes are clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel boxes are attached to a concrete pedestal. The pedestal is in good condition. The SCADA mast is attached to the nearby utility pole. There are no conduit seals installed on the conduit and there is no seal around the existing fittings. Wet-well piping in good condition however, the check valve is leaking when pumps are running. According to the operator, even with the major leak in the check valve, the lift station can still handle the heavy flow.

Pump #1 is a 14.8 hp pump. The installation year is unknown. Pump #2 was installed in 2015 and us a 15 hp pump.

Pump #2 has a vibration and rattling noise when running.

Preliminary recommendations for LS #11A include:

- Investigate cause of leak in check valve.
- Investigate vibration and noise. Perform maintenance on Pump #2.
- Installation of explosion proofing fittings should be considered.
- Investigate source for water in valve chamber.
- Remove and replace styrofoam in valve chamber that is no longer attached to sidewalls.

LS #11B - Carmies Daycare - 416 Elmsdale Road (HWY 214)

Overall, the station is in good condition. The exterior concrete of the wet-well, valve chamber, and concrete pedestal is in good condition. The hatch cover to the wet-well is in good condition. There is safety grating installed. The lid on the valve chamber is rusty but in good condition. The valve chamber lid is bolted. At the time of inspection, the operator didn't have the proper tools to open the valve chamber, therefore, no condition assessment was completed on the inside of the valve chamber. The inside of the wet-well is in good condition with no excess grease or debris build



up. The guide rails, floats, and chains are all in good condition. There is no sign of inflow and infiltration. The stainless-steel panel box for the control panel is in very condition with no rust or damage. The inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a concrete pedestal. The pedestal is in very good condition. The SCADA mast is attached to the pedestal. There are EYS fittings installed on the conduit. Wet-well piping is rusty but in good condition.

Both Pump #1 and Pump #2 are 7.5 hp pumps and were installed in 2015.

Pump #2 had a loud rattling sound when running and a vibration could be felt.

Preliminary recommendations for LS #11B include:

• Investigate vibration and noise. Perform maintenance on Pump #2.

LS #11C - Park Road Extension - 279 Park Road

Overall, the station is in very good condition. The exterior concrete of the wet-well, valve chamber, and concrete pedestal is in good condition. The hatch cover to the wet-well is in good condition. There is safety grating installed. The lid on the valve chamber is in good condition. There is a small amount of water in the valve chamber however the lid and risers are sealed. The inside of the wet-well is in good condition with no excess grease or debris build up. The guide rails have a small amount of rust at the operating surface. The floats and chains are in good condition.



There was no sign of inflow and infiltration at the time of inspection. The stainless-steel panel box for

the control panel is in very good condition with no rust or damage. The inside of the panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The panel box is attached to a concrete pedestal. The pedestal is in very good condition. The SCADA mast is attached to the pedestal. There are EYS fittings installed on the conduit. Wet-well piping is in good condition with a small amount of rust. The valves and piping in the valve chamber are in very good condition.

Both Pump #1 and Pump #2 are 10 hp pumps and were installed in 2013.

Preliminary recommendations for LS #11C include:

• Investigate and monitor source for water in valve chamber.

LS #12 – Elmsdale Legion – 849 Highway 2

Overall, the station is in good condition. This lift station is located to the side and at a lower elevation than the road, next to a concrete retaining wall. This location makes the lift station prone to snow being pushed off the road by a snowplow. The exterior concrete of the wet-well is in good condition. The hatch cover to the wet-well is in good condition. There is no safety grating installed. The lid on the valve chamber is in good condition. The inside of the wet-well is in good condition but does show signs of inflow and infiltration from the top of the chamber. There is a small



amount of grease build up at the operating surface and on the floats. The guide rails have a small amount of rust at the operating surface. The chains are in good condition. The stainless-steel panel box for the control panel is in good condition with little rust and damage. The inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a brick pedestal which is leaning. The pedestal is in good condition. The SCADA mast is attached to the pedestal. There are no conduit seals installed on the conduit. Wet-well piping is in good condition with a small amount of rust and grease build up. The valves and piping in the valve chamber are rusty and corroded.

Both Pump #1 and Pump #2 are 7.5 hp pumps and were installed in 2021.

Preliminary recommendations for LS #12 include:

Monitor inflow and infiltration.

- Clean wet-well chamber.
- Repair brick pedestal.
- Installation of explosion proofing fittings should be considered.
- Repair or replace valves and piping in valve chamber.
- Relocate lift station to area where it will not be prone to snow from roadway.

LS #13 – Lantz Cemetery – 984 Highway 2

Overall, the station is in good condition. This lift station is located along the sidewalk with part of the wet-well protruding into the sidewalk. The exterior concrete of the wet-well is in good condition. The hatch cover to the wet-well is in good condition. There is no safety grating installed. The inside of the wet-well is in good condition. There is a small amount of debris along the sidewalls at the operating surface. The guide rails, chains, and floats are all in good condition. There was no sign of inflow or infiltration at the time of inspection. The stainless-steel panel box



for the control panel is in good condition with a little rust and damage. The inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a brick pedestal. The pedestal is in good condition but does have some damaged bricks. The SCADA mast is attached to a nearby utility pole. There are no conduit seals installed on the conduit. Wet-well piping is rusty, corroded and in fair condition.

Pump #1 was installed in 1989. Installation date for Pump #2 was unknown at the time of inspection. Both Pump #1 and Pump #2 are 15 hp

Preliminary recommendations for LS #13 include:

- Repair brick pedestal.
- Installation of explosion proofing fittings should be considered.
- Repair or replace piping in wet-well.
- Performance review on Pump #1 due to age.

LS #14 – Sportsplex – 1070 Highway 2

Overall, the station is in good condition. This lift station is located along the sidewalk with the wet-well protruding into the sidewalk. The exterior concrete of the wet-well is in good condition. The hatch cover to the wet-well is in good condition and located in the sidewalk. There is no safety grating installed. The inside of the wet-well is in good condition. There is some small cracking along the wall joints of the wet-well. There is no excess grease or debris build up. The guide rails, chains, and floats are all in good condition. There was no sign of inflow or infiltration at the time of



inspection. The stainless-steel panel box for the control panel is in good condition with a little rust and damage. The inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a brick pedestal. The pedestal is in good condition with some minor damage. The SCADA mast is attached to the pedestal. There are no conduit seals installed on the conduit. Wet-well piping has some rust but is in good condition. There is some debris build up on the piping. The valve chamber piping and valves are rusty with some corrosion.

Pump #1 was installed in 1990. Pump #2 was installed in 2020. Both Pump #1 and Pump #2 are 35 hp

Preliminary recommendations for LS #14 include:

- Installation of explosion proofing fittings should be considered.
- Performance review on Pump #1 due to age.

LS #15 - Poplar Drive - 50A Poplar Drive

Overall, the station is in good condition. The exterior concrete of the wet-well is in good condition. The hatch cover to the wet-well is in good condition with no rust or damage. There is no safety grating installed and the hinges are in an unsafe area where the operator will have to lean over an open hole to unlock the hinge to close the hatch. The inside of the wet-well is in good condition. There is some excess grease build up at the bottom of the wet-well. One inlet pipe was partially submerged when the wet-well was opened for inspection. After running the pumps, the level



went down below the inlet pipe. The guide rails, chains, and floats are all in good condition. There

was no sign of inflow or infiltration at the time of inspection. The stainless-steel panel box for the control panel is in good condition with a little surface rust. The inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a brick pedestal. The pedestal is missing some bricks but is in good condition. The SCADA mast is attached to the pedestal. There are no conduit seals installed on the conduit. Wetwell piping is corroded and in fair condition. There is some debris build up on end of the pipes. This lift station doesn't have a valve chamber, the second concrete structure is a holding tank which was installed to help with station capacity.

Both pumps are 5 hp and were installed in 2008.

Preliminary recommendations for LS #15 include:

- Clean wet-well chamber.
- Adjust elevations for floats as the inlet pipe being submerged could be caused by the floats being set at the wrong elevation.
- Installation of explosion proofing fittings should be considered.
- Re-establish lost bricks and mortar.

LS #16 - Paley Road - 21 Paley Drive

Overall, the station is in good condition. The exterior concrete of the wet-well is in good condition. The top of the wet-well is approximately 150mm above grade. The hatch cover to the wet-well is in good condition with no rust or damage. There is no safety grating installed. The inside of the wet-well is in good condition. The bottom of the wet-well is clean with no excess grease build up. The guide rails and chains are in good condition. The floats are wrapped in electrical tape around the connection but are otherwise in good condition. There was no sign of inflow



or infiltration at the time of inspection. The stainless-steel panel box for the control panel was installed in 2014 and is in very good condition. Inside of the panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The panel box is attached to a brick pedestal. The pedestal is missing some bricks but is in good condition. The SCADA mast is attached to the pedestal. There are EYS fittings installed on the conduit. Wet-well piping is in good condition with some rust on the side of the pipes.

Pump #1 installed in 1996. Pump #2 installed in 2016. Both Pump #1 and Pump #2 are 3 hp Preliminary recommendations for LS #16 include:

- Monitor floats to make sure connection is stable.
- Performance review on Pump #1 due to age.

LS #17 – Old Public Works Shed – 201 Highway 277

Overall, the station is in good condition. This lift station is located inside of a fenced compound. There is a second chamber that is an where the old lift station was installed, and flow is rerouted through it to the existing lift station. The exterior concrete of the inlet chamber is in good condition. The concrete of the wet-well chamber is cracking under the hatch cover but is otherwise in good condition. The hatch cover to the wet-well is in good condition with no rust or damage. There is no safety grating installed. The inside of the inlet chamber is in good condition.



There was no sign of any inflow or infiltration in the inlet chamber at the time of inspection. The inside of the wet-well chamber is in good condition. There is no excess grease build up. The guide rails are rusty at the operating surface. The chains are rusty but in good condition and the floats are clean and in good condition. There was no sign of inflow or infiltration. The stainless-steel panel box for the control panel is in good condition with no rust or damage. Inside of the panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The panel box is attached to a brick pedestal. The pedestal needs repair. The SCADA mast is attached to the pedestal. There are no conduit seals installed on the conduit. The inlet chamber piping is in good condition with some rust on the end of the overflow pipe. Wet-well piping is in good condition with a small amount of rust.

Both Pump #1 and Pump #2 are 20 hp and were installed in 2020.

Preliminary recommendations for LS #17 include:

- Installation of explosion proofing fittings should be considered.
- Repair cracking under hatch cover to avoid safety hazards, inflow, and infiltration.

LS #18 - Barney Brook - 1369 Highway 2

Overall, the station is in fair condition. At the time of inspection Xylem were on site doing repairs to the lift station. The guide rail nearest to the road (left side in the picture) was not directing the pump down. Therefore, when the pump reached the correct position, it was not sitting properly on the guide rails. The chamber is also prone to run-off from the road. The wet-well chamber has stainless steel sheathing over the top of the concrete. The hatch cover is in good condition with no rust or damage. There is no safety grating installed. The inside of the



wet-well chamber is in poor condition. There was no sign of any inflow or infiltration at the time of inspection. The second pair of guide rails (not mentioned previously) have a bolt missing from where they attach to the chamber. The chains and floats are in good condition. The stainless-steel control panel box is in good condition with no rust or damage. Inside of the control panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The panel box for the power meter is rusty and in poor condition. Both panel boxes are attached to a brick pedestal. The pedestal is in poor condition. The SCADA mast is attached to a nearby utility pole. The conduit entering the control panel is old and does not have any conduit seals installed. Wet-well piping is in good condition with a small amount of rust. There are two force-mains running from the lift station with five isolation valves. These valves were unable to be accessed for inspection.

Pump #1 was installed in 2016 and Pump #2 was installed in 2022. Both Pump #1 and Pump #2 are 20 hp

Preliminary recommendations for LS #18 include:

- Installation of explosion proofing fittings should be considered.
- Re-attach guide rail to chamber. Repair issue with pump and guide rail closest to roadway.
- Discuss with Nova Scotia Power about a new box for the power meter.
- Repair or replace brick pedestal.
- Plan for station replacement.

LS #19 - Isenor Road - 43 Isenor Road

Overall, the station is in very good condition. The exterior concrete of the wet-well chamber is in good condition. The hatch cover is in good condition with no rust or damage. There is safety grating installed. The area has concrete bollards installed to protect the lift station. The inside of the wet-well chamber is in very good condition and is raised above the road. There is no sign of any inflow or infiltration. The floats have stainless steel brackets to limit the amount of movement and are in good condition. The chains and guide rails are in very good condition. The stainless-



steel control panel box is in very good condition with no rust or damage. Inside of the control panel box is clean and there is no sign of any rust. There is an opening in the concrete slab under the panel. A Panel Shop control panel controls the pumps for the station. There is an adapter installed to connect a portable generator for back up power to the lift station. The panel box for the power meter is brand new. The pedestal is in good condition and has had mortar upgrades. The SCADA mast is attached to the brick pedestal. The conduit entering the control panel has EYS fittings installed. Wetwell piping is in good condition with a small amount of rust on the fittings. The valve chamber has no seal between risers. This could cause an inflow and infiltration issue in the future. Valve chamber valves and piping are in good condition.

Both Pump #1 and Pump #2 were installed in 2020. Pump #1 is a 2.2 hp pump and Pump #2 is a 2.5 hp pump.

Preliminary recommendations for LS #19 include:

- Monitor valve chamber for inflow and infiltration due to lack of seal between risers.
- Repair opening in concrete slab under panel box.

LS #20 - Ross' Hill - 1457 Highway 2

Overall, the station is in fair condition. The exterior concrete of the wet-well chamber is in good condition. There is a rusty ventilation pipe exiting the top of the wet-well chamber to the pedestal that is exposed out of the ground and has concrete eroded away around the pipe at the entry point into the chamber. The hatch cover is in good condition with no rust or damage. There is no safety grating installed. The wet-well chamber has a stainless-steel sheathing over the top of the concrete. The inside of the wet-well chamber has an excess amount of grease build up along the side walls and



floating at the surface but is in good condition. There was no sign of any inflow or infiltration at the time of inspection. The floats and chains are in good condition. The guide rails are rusted at the top. Ultrasonic level sensor installed. The stainless-steel control panel box is in very good condition with no rust or damage. Inside of the control panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The panel box for the power metre is also in very good condition with no damage or rust. The pedestal is leaning and in poor condition with multiple areas where brick and mortar are loose. There is an electrical box attached to the pedestal which is easily opened by a screwdriver. The SCADA mast is attached to a nearby utility pole. The conduit entering the control panel has EYS fittings installed. Wet-well piping rusty and corroded. There is grease build up around the pipe at the operating surface.

Pump #1 was installed in 1997 and Pump #2 was installed in 2007. Both pumps are 5 hp Preliminary recommendations for LS #20 include:

- Attach lock to electrical box or replace with lockable box to avoid vandalism.
- Repair or replace brick panel pedestal.
- Clean wet-well chamber.
- Repair seal around ventilation pipe. Bury part of pipe which is exposed.
- Performance review on Pump #1 due to age.

LS #21 - Main Office - 2402 Highway 2

Overall, the station is in fair condition. The exterior concrete of the wet-well chamber is extremely corroded. The top of the chamber is approximately 200mm above grade. The hatch cover is also rusty and corroded. There is no safety grating installed. The inside of the wet-well chamber is in good condition but has a small amount of grease build up around the bottom. There was no sign of any inflow or infiltration at the time of inspection. The floats and chains are in good condition. The guide rails are rusty at the operating surface. The valves located in the wet-well are



inoperable due to the difficulty to access them. The stainless-steel control panel box which was installed between 2003-2005 is in good condition with no rust or damage and is attached to a concrete pedestal. Inside of the control panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The pedestal is worn but is in good condition. The SCADA mast is attached to the pedestal. The conduit entering the control panel does not have conduit seals installed. The discharge pipe in wet-well is rusty but in good condition. An approximately 100mm overflow pipe which drains to the northwest is in good condition.

Both Pump #1 and Pump #2 are 5 hp and were installed in 2021.

Preliminary recommendations for LS #21 include:

- Installation of explosion proofing fittings should be considered.
- Repair or replace concrete wet-well (exterior), access cover and pedestal.
- Clean wet-well chamber.

LS #22 - Havenwood Road - 8 Havenwood Drive

Overall, the station is in good condition. The exterior cast-in-place concrete of the wet-well chamber is in good condition. The hatch cover is in good condition with no rust. There is no safety grating installed. The inside of the wet-well chamber is in very good condition but has a small amount of grease build up around the walls at the operating surface. There was no sign of any inflow or infiltration at the time of inspection. The floats, chains and guide rails are all in very good condition. The stainless-steel control panel has some rust on the door but is in good condition. The



panel box is attached to a piece of plywood which is supported by two steel bars that are secured to two steel pipes that are bolted to the wet-well chamber. Inside of the control panel box is clean and there is no sign of any rust. A Surfline control panel controls the pumps for the station. The SCADA mast is attached to one of the steel pipes which support the panel box. The conduit entering the control panel does not have conduit seals installed. The piping inside of the wet-well is rusty with some corrosion.

Both Pump #1 and Pump #2 are 3 hp and were installed in 2021.

Preliminary recommendations for LS #22 include:

• Installation of explosion proofing fittings should be considered.

LS #23 - Maitland Road - 2848A Highway 2

Overall, the station is in very good condition. The wet-well is built in a raised grade to be above the flood plain of the nearby river. The exterior concrete of the wet-well chamber is in very good condition. The hatch cover is in good condition with no rust or damage. There is safety grating installed. Around the perimeter of the chamber, some areas have insulation exposed out of the ground. The inside of the wet-well chamber is in very good condition. There was no sign of any inflow or infiltration at the time of inspection. The floats have stainless steel brackets installed to



limit movement. The chains and guide rails are in good condition. The stainless-steel control panel has no rust or damage and is in very good condition. The panel box is attached to a concrete pedestal. The pedestal is in very good condition. An adapter to plug in back up power for the lift station is also attached to the pedestal. Inside of the control panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The SCADA mast is attached to the pedestal. Some of the conduit entering the panel box is older conduit with no conduit seals and some conduit is newer with EYS fittings installed. Inside of the wet-well the inflow and overflow pipe are concrete and in very good condition. The force-mains are rusty but in good condition.

Both Pump #1 and Pump #2 are 20 hp and were installed in 2009.

Pump #1 was noisy when running.

Preliminary recommendations for LS #23 include:

- Installation of explosion proofing fittings should be considered for conduit that doesn't have them installed.
- Investigate noise. Perform maintenance and performance review for Pump #1.
- Backfill around wet-well chamber to cover exposed insulation.

LS #24 - Burgess Road - 44 Burgess Road

Overall, the station is in good condition. This site has three chambers: a wet-well, a valve chamber and a dormant overflow chamber. The wet-well is built on a raised grade to be above the flood plain of the nearby Shubenacadie river. The exterior concrete of all three chambers is in very good condition. The hatch covers have no rust or damage. The stainless-steel ventilation fan is working but can only operate in high or low and can't be turned off. The wet-well and valve chamber were locked and unable to be opened for inspection as keys were unavailable.



The third chamber is the wet-well for the old lift station which has flow routed through it into the existing lift station. This chamber was able to be accessed for inspection. Inside of this chamber had water present but no sign of inflow. The chamber also had two floats that are in good condition. There is no sign of any inflow or infiltration. The stainless-steel control panel has no rust or damage and is in very good condition. The panel box is attached to a concrete pedestal. The pedestal is in good condition with some rust on the doors of the power meter enclosure. An adapter to plug in back up power for the lift station is also attached to the pedestal. Inside of the control panel box is clean and there is no sign of any rust. A Panel Shop control panel controls the pumps for the station. The SCADA mast is attached to the pedestal. The conduit entering the panel box has EYS fittings installed.

Both Pump #1 and Pump #2 are 20 hp and were installed in 2009.

Although the hatch cover couldn't be opened, the operator ran each pump, and no unusual noise or vibration was observed.

Preliminary recommendations for LS #24 include:

Inspect valve chamber and report on findings.

3.0 CONCLUSION

The following conclusions have been reached for the Municipality of East Hants sanitary lift station infrastructure:

- The Municipality owns and operates 28 lift stations between Enfield and Shubenacadie.
- The total current 2023 repair/replacement value of lift stations upgrades is approximately \$508,900.
- Overall, the municipalities lift station infrastructure is in good condition, however some deficiencies exist:
 - o Approximately 6 pumps are past the typical 20-year operating life.
 - 5 lift stations are in fair condition.
 - o **5** lift stations have wet-well chambers which are prone to run-off from the road.
 - 10 pedestals need repair or replacement.
 - 13 lift stations should have explosion proofing fittings installed as per Canadiian Electrical Code Guidelines.
- Seven (7) lift stations require immediate repair within the next 0-2 years. Peter Horne,
 Elmsdale Fire Hall, Old Elmsdale School, Old Public Works Shed, Barney Brook, Ross'
 Hill, and Main Office stations should receive upgrades or be replaced before 2025.
- Fifteen (15) lift stations will require upgrades or replacement within the next 7-12 years. Horne
 Settlement, Locks Road, Curley Portables, Mill (Elmsdale Lumber), Medical Centre, Pine
 Grove, Industrial Park, Carmies Daycare, Elmsdale Legion, Lantz Cemetery, Sportsplex,
 Poplar Drive, Paley Road, Havenwood Drive and Maitland Road stations should receive
 upgrades or be replaced by 2035.
- Two (2) lift stations will require upgrades or repairs in the next 20-25 years. **Donaldson**Avenue and Burgess Road stations should receive upgrades or repairs by 2040.
- Three (3) lift stations will require upgrades or repairs in the next 25+ years. Sherwood Park,
 Park Road Extension and Isenor Road stations should receive upgrades or repairs by 2050.

Appendix C provides a summary table of works to consider at each station and the suggested timing for implementation.

East Hants Lift Station Assessment							
Lift Station Name	Address	Physical Condition Interior Wet-Well Condition		Panel Condition Piping Condition		Overall Condition	
LS #1 Peter Horne	102 Highway 2	Poor	Good	Fair	Good	Fair	
LS #2: Sherwood Park	32 Sherwood Drive		Very Good	Good	Very Good	Very Good	
LS #3: Horne Settlement			Good	Good	Good	Good	
LS #4: Donaldson Avenue			Good	Very Good	Very Good	Very Good	
LS #5: Locks Road	6A Locks Road	Good	Good	Good	Good	Good	
LS #7: Curley Portables	453A Highway 2	Good	Good	Good	Good	Good	
LS #8: Mill (Elmsdale Lumber)	595 Highway 2	Good	Good	Good	Good	Good	
LS #9: Elmsdale Fire Hall	730 Highway 2	Fair	Good	Good	Good	Good	
LS #10: Medical Centre	104 Elmsdale Road (HWY 214)	Fair	Good	Good	Good	Good	
LS #10A: Pine Grove	81 Pinehill Drive	Good	Good	Good	Good	Good	
LS #11: Old Elmsdale School	235 Elmsdale Road (HWY 214)	Fair	Fair Fair		Fair	Fair	
LS #11A: Industrial Park	12 Industrial Way	Good	Good	Fair	Good	Good	
LS #11B: Carmies Daycare	416 Elmsdale Road (HWY 214)	Good	Good	Very Good	Good	Good	
LS #11C: Park Road Extension	279 Park Road	Good	Good	Very Good	Very Good	Very Good	
LS #12: Elmsdale Legion	849 Highway 2	Good	Good	Fair	Good	Good	
LS #13: Lantz Cemetery	984 Highway 2	Good	Good	Good	Fair	Good	
LS #14: Sportsplex	1070 Highway 2	Good	Good Good		Good	Good	
LS #15: Poplar Drive	50A Poplar Drive	Good	Good	Good	Fair	Good	
LS #16: Paley Road	21 Paley Road	Good	Good	Very Good	Good	Good	
LS #17: Old Public Works Shed	20 Highway 277	Good	Good	Good	Good	Good	
LS #18: Barney Brook	1369 Highway 2	Good	Good Poor		Good	Fair	
LS #19: Isenor Road	43 Isenor Road	Good	Very Good	Very Good	Good	Very Good	
LS #20: Ross' Hill	Hill 1457 Highway 2 Fair Good		Very Good	Fair	Fair		
LS #21: Main Office	2402 Highway 2	Poor	Fair	Good	Good	Fair	
LS #22: Havenwood Drive	8 Havenwood Drive	Good	Very Good	Good	Good	Good	
LS #23: Maitland Road	2848A Highway 2	Very Good	Very Good	Very Good	Very Good	Very Good	
LS #24: Burgess Road	44 Burgess Road	Very Good	Good	Good	N/A	Good	

Figure 2: East Hants Lift Station Overall Condition

APPENDIX A

Field Assessment Reports





DISCHARGE

DIA (mm)

INST.

YEAR

2021

LIFT STATION INSPECTION FORM

Project Name:	ast Hants Service	e Capacity Study	Project No:	22642	21				
Reviewer's Name:	И. Keep	ing	_{Date:} Sep	t 01, 2	1, 2022				
Material Delivered:			Location: E	ast Har	Hants, NS				
PUMPING STATION									
PS ID	L.S #1		YEAR BUILT						
NAME	Peter	Peter Horne							
ADDRESS	102 Hi	102 Highway 2							
ТҮРЕ	SUBMERS	SIBLE DRY			CREW	OTHER			
	✓	J. L		P	UMP				
BUILDING?	YES [NO	✓ VALVES?	Y	ES 🗸	NO			
SCADA?	YES	√ NO	# OF PUM	IPS? 2					
RATED CAPACITY (L/S)			PEAK CAPACIT	Υ					
WETWELL INV EL (m)			OVERFLOW?	YI	ES	NO 🗸			
POWER TYPE	SINGLE	3-PHA	SE OTHER	Unde	erground	power.			
BACKUP POWER ON-SIT	E? GEN.	ADAP	TER NONE	7					
SOFT START	YES	NO	√						
	<u>. </u>	<u>.</u>	<u> </u>						
PUMP	PUMP								
PUMP 1 Model #	3102.060		Pump 2 Mode	1# 310	2.060				
PUMP TYPE Submersible	MAKE	Flygt	PUMP TYPE Subm		MAKE	Flygt			
SERIAL#	2150059		SERIAL #	156	60554				
RATED 5	IMPELLAR MODEL	462	RATED 5	A2400-minute	IPELLER MODEL	462			
FLOATS	4		FLOATS						

DISCHARGE

DIA. (mm)

2015

INST. YEAR





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Surfline 215 **SERIAL YEAR** 2387 **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





LIFT STATION INSPECTION FORM

				_LII I SIA		NOI L	TION LOIN		
MISCELLANEOU	IS HARD	WARE							
CHAINS		YES✓		NO					
SAFETY GRATIN	G	YES		МО✓					
LIFTING DAVIT		YES		NO✓					
VEHCILE ACCESS	S	YES 🗸		NO					
		8	CONDITION	SSESSMENT	-8	1.00	30		
CRITERIA	VERY	GOOD GOOD		FAIR P		OOR VERY POO			
Age (% of manufacturer's recommended service life)		34% 35 - 64%		65 – 84%	85 – 99%		≥ 100%		
STRUCTURES									
STRUCTURE #									
ТҮРЕ		WETWELL 🗸		VALVE CHAMBER		C	OTHER		
MATERIAL		CONCRETE		PLASTIC		OTHER			
DIMENSIONS		DIA.	2133	LENGTH		HEIGHT			
COVER DIA. (MI	M)	1500 x 750		YEAR INSTALLED					
CONDITION ASSESSMENT									
CRITERIA VERY G		OOD GOOD		FAIR PO		OR VERY POOR			
Observations concrete damage frame		igns of te/brick cover and book great. g evident. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.		Minor Significant concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover.		ete/brick with cracks than 6mm. reater than or missing rom frame	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Alarm system.

Pump chamber separate from panel and near road. Panel is not accessible by vehicle.

Meter box in poor condition. No EYS. Duct seal at top of conduit, underneath panel. Scada pole attached to loose brick on pedestal.

Concrete structure for wetwell good. Double hatch cover is rusty with one handle broken. New chains. New pumps installed in 2021. Two laterals on sidewalk side of chamber. Chamber in good condition.

Force-main located further up on the highway on the west side.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Figitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Digitally signed by Matthew Keeping Digitally 2022.09.01 08:29:32-03:00'





LIFT STATION INSPECTION FORM

Project Na	ame:	ast H	ants Servic	e Capa	city Study	Proje	ct No	_: 226	5421	
Reviewer'	s Name:	M.	Keep	ing		Date:	S	ept 0	1, 2022	
Material D	elivered:					Locat	tion:			
PUMPING S	STATION		·							
PSID L.S #2						YEA	R BUI	LT		
NAME			Sherv	/000	Park					
ADDRESS			32 Shei	wood	d Drive					
TYPE			SUBMER!		DRY	WELL		CTION LIFT	SCREW PUMP	OTHER
BUILDING?			YES		NO	\checkmark	VAL	VES?	YES 🗸	NO
SCADA?			YES	✓	NO	# OF PUMPS?			2	
RATED CAPACITY (L/S)						PEA (L/S		PACITY		
WETWELL INV EL (m)						OVE	RFLO	W?	YES	NO 🗸
POWER TYP	PE		SINGLE	GLE 3-PHA		SE 🗸 OTHER 🗌				
BACKUP PC	WER ON-SI	TE?	GEN. ADAPTER ✓ NONE PIL			Plug in for gene	rator backup.			
SOFT START	Ĭ		YES		NO	V				
			_				I.	1		
PUMP										
PUMP 1	Model #	310	02.095			Pur	np 2 N	/lodel#	3102.095	
PUMP TYPE	Submersible	ll .	MAKE	Fly	/gt	PUN TYF		Submersible	MAKE	Flygt
SERI	AL#	174	40056				SERIA	 \L#	1740055	
RATED POWER	5	5,5,5,5,7,5	PELLAR MODEL	464	1	RAT POW	2000	5	IMPELLER MODEL	464
FLO	ATS	2				FLOATS				
DISCHARGE DIA (mm)		1750	INST. YEAR	201	17	DISCHA DIA. (m			INST. YEAR	2017





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) CAPACITY HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) < 5 5 - 1010 - 1515 - 20≥ 20 Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE Cutting Edge MODEL** CE8300 **SERIAL YEAR** 1475 **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLEC	TION FORM		
MISCELLANEOU	S HARD	WARE							
CHAINS			YES 🗸	NO					
SAFETY GRATIN	G		YES 🗸	NO					
LIFTING DAVIT			YES 🗸	МО					
VEHCILE ACCESS	S		YES 🗸	NO					
	3		CONDITION	SSESSMENT	**				
CRITERIA	VERY	GOOD	GOOD	FAIR	P	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	– 99%	≥ 100%		
					•				
STRUCTURES									
STRUCTURE #									
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMBER 🗸 OTHER					
MATERIAL		CC	ONCRETE 	PLASTIC		C	OTHER		
DIMENSIONS		DIA.	4500	LENGTH		HEIGHT			
COVER DIA. (MI	M)	1050 x 9	900 (single hatch)	YEAR INSTAL	LED		·		
			CONDITION	SSESSMENT		*			
CRITERIA	VERY G	000	GOOD	FAIR	POO	OR	VERY POOR		
Visual Observations	concret	gns of te/brick cover and ok great.	No visual concrete/brick damage, minor signs of wear on cover	concrete/brick concrete damage no gaps or damage w		ificant ete/brick with cracks than 6mm.	ce/brick condition. Excessive concrete/brick concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Stainless steel panel attached to concrete pedestal. Galvanized mast for SCADA. Plug-in accessible for generator back up power. EYS attached to conduit.

Wet-well chamber in great condition. Hooks for chains corroded. Chamber has 2 floats with a level sensor. Noise coming from wet-well. Plate to attach lifting davit is a tripping hazard. Force-main running to Doyle Drive. Hatch to small to safely move pumps.

Known fault on Pump 2 monitor which wouldn't allow Pump 2 to run. No issues with Pump 1.

Valve chamber filled with water to top of pipe. Chamber has ladder and safety grate installed.

Air ventilation system turned off due to residents experiencing odour. Odour still exists with ventilation turned off.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew				
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 08:48:47 - 03'00'				





Project Na	oject Name: East Hants Service Capacity Study Project No: 226421												
Reviewer'	s Name:	M.	Keep	ing][ate:	S	ept 01	1, 2	2022		
Material D	elivered:					Location:							
PUMPING S	TATION												
PS ID			L.S #3	3		-	YEA	R BUI	LT				
NAME			Horne	Set	tleme	nt							
ADDRESS			20 Old Horne Settlement Road										
TYPE			SUBMERS		DRY	VE	ILL		CTION LIFT		SCREW PUMP	ОТНЕ	ER]
BUILDING?			YES		NO	V	7	VAL	VES?	ì	YES 🗸	NO	
SCADA?			YES	✓	NO			# OF	PUMPS?	2	2		
RATED CAP	ACITY (L/S)	2					PEA (L/S		PACITY				
WETWELL I	NV EL (m)						OVE	RFLO	W?	١	/ES	NO 🗸	
POWER TYP	PΕ		SINGLE		3-PHA	SE 🗸 OTHER 🗌							
BACKUP PO	WER ON-S	ITE?	GEN. ADAP		ADAPT	ter None 🗸 📗							
SOFT START	Ī		YES		NO	\[\scale_{\colorable}\]	7						
PUMP													
PUMP 1	Model#	310	02.060				Pun	np 2 N	/lodel#	31	02.060		
PUMP		1	MAKE	г <u>.</u> .			PUN	1P	Î		MAKE		_
TYPE				Fly	/GT		TYP	Έ	Submersible			FlyC	<u> </u>
SERI	AL#							SERIA	AL #	22	230181	•	
RATED POWER	5	2,5,5,5,7	IPELLAR /IODEL				RATI POW	22.000	5	225000	MPELLER MODEL	462	
FLO	ATS	4						FLOA	ATS				
DISCHARGE DIA (mm)		11	INST. YEAR	199	96	4.7.4.1	ISCHA IA. (m			IN	ST. YEAR	2022	





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI	ION III	ioi Ec	TION LOIN	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO]			
SAFETY GRATIN	G		YES	NO✓				
LIFTING DAVIT			YES	NO 🗸				
VEHCILE ACCESS	S		YES 🗸	NO _]			
			CONDITION A	ASSESSMENT	-			
CRITERIA VERY GOOD GOOD				FAIR	PO	OR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 –	99%	≥ 100%	
		,						
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMB	ER	C	THER	
MATERIAL		cc	ONCRETE 	PLASTIC		OTHER		
DIMENSIONS		DIA.	2150	LENGTH	<u> </u>	HEIGHT		
COVER DIA. (MI	M)	1900 x 7	750 (single hatch)	YEAR INSTALLE	D [·	
			CONDITION A	ASSESSMENT				
CRITERIA	VERY G	DOD	GOOD	FAIR	POOF		VERY POOR	
Visual Observations	concret damage, frame lo		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover.		Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	



CONDITION COMMENTS

Alarm is working.

Cover is rusty with a broken hinge.

Wet-well in good condition. New chains installed. Some separation noted along wall joints inside of chamber.

Stainless steel panel box in good condition.

Metre box on side of panel is rusty and frail on the bottom.

Pump 1: Noisy. Requires maintenance.

Pump 2: Brand new. Quiet with no vibration.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Figitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Stee 2022.09.01 09:32:06 - 03'00'





DISCHARGE

DIA (mm)

INST.

YEAR

2008

LIFT STATION INSPECTION FORM

Project Name:	ast Hants Service Capa	city Study Proj e	ect No: 226	5421			
Reviewer's Name:	/I. Keeping	Date	Sept 01	, 2022			
Material Delivered:		Loca	tion:				
PUMPING STATION				_			
PS ID	L.S #4	YE	AR BUILT				
NAME	Donaldson A	Ave					
ADDRESS	21 Donalds	son Ave					
TYPE	SUBMERSIBLE	DRYWELL	SUCTION	SCREW	OTHER		
	V		LIFT	PUMP	Ш		
BUILDING?	YES	NO 🗸	VALVES?	YES 🗸	NO		
SCADA?	YES 🗸	NO	# OF PUMPS?	2			
RATED CAPACITY (L/S)		35000-00	AK CAPACITY				
			(L/S)				
WETWELL INV EL (m)		OVERFLOW? YES NO ✓					
POWER TYPE	SINGLE	3-PHASE ✓	OTHER				
BACKUP POWER ON-SITE	E? GEN.	ADAPTER 🗸	NONE L				
SOFT START	YES	NO 🗸					
PUMP							
PUMP 1 Model #	3171.181	Pu	mp 2 Model #	3171.181			
PUMP TYPE Submersible	MAKE Fly	/GT TY	9897 O 8998 OC	MAKE	FlyGT		
SERIAL#	0860185		SERIAL#	0860186			
RATED 30	IMPELLAR MODEL 454	1 HT POV	11/2/13 1	IMPELLER MODEL	454 HT		
FLOATS	2		FLOATS				

DISCHARGE

DIA. (mm)

2008

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE FlyGT MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLEC	TION FORM		
MISCELLANEOU	S HARD	WARE							
CHAINS			YES 🗸	NO					
SAFETY GRATIN	G		YES 🗸	NO					
LIFTING DAVIT			YES	NO	<u> </u>	(°-			
VEHCILE ACCESS	5		YES 🗸	NO <u></u>					
			CONDITION A	SSESSMENT	-	•			
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 ·	- 99%	≥ 100%		
STRUCTURES									
STRUCTURE #									
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAM	IBER 🗸	C	OTHER		
MATERIAL		CC	ONCRETE 	PLASTIC			OTHER		
DIMENSIONS		DIA.	3700	LENGTH		HEIGHT			
COVER DIA. (MI	VI)	1500 x	1250 (dual hatch)	YEAR INSTALL	.ED				
			CONDITION A	SSESSMENT		*			
CRITERIA	VERY G	000	GOOD	FAIR	POC	OR	VERY POOR		
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor Signification concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Minor Signification concrete damage with greater the Cracks g		te/brick condition. Excessive concrete/brick concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.			





CONDITION COMMENTS

Alarm attached to pedestal.

Gooseneck on wet-well chamber as well as valve chamber.

Wet-well in overall good condition.

Panel box and structures in great condition. EYS at bottom of panel. GMCl plug installed in panel. Wasps living in panel containing metre box.

Valve chamber consists of twin force mains with a flow meter. Chamber is dry at the time of inspection and clean. Double access to valve chamber (900 x 900) with access ladder. Valves have 200mm pipe.

Two floats and a level sensor under hatch frame.

Pump #1 - quiet, no vibration

Pump #2 - quiet, check valve closed causing a "hammer" noise.

Air ventilation noisy and making a clunking noise.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Excitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01.09:59:16-03:00'





Project Na	roject Name: East Hants Service Capacity Study Project No: 220421										
Reviewer's	s Name:	M. K	еер	ing		Date	: [Sept 01	1, 2022		
Material D	elivered:					Loca	ition:				
	-					= 1		10 -			
PUMPING S	TATION										
PS ID		L	.S #5	5		YE	AR BU	ILT			
NAME		L	.ocks	Roa	ad	N.			•		
ADDRESS		6.	A Loc	cks F	Road						
TYPE		SI	UBMERS	o-wosewa.	DRY	WELL	SL	ICTION LIFT	SCREW PUMP	OTHER	
BUILDING?			YES		NO	V	VAL	VES?	YES 🗸	NO	7
SCADA?			YES	✓	NO		# 01	PUMPS?	2		
RATED CAPACITY (L/S)						PE,		PACITY			
WETWELL INV EL (m)						Ov	ERFLC	W?	YES	NO 🗸	
POWER TYP	PE .	3	SINGLE	E 3-PHA		SE 🗸 OTHER 🗌					
BACKUP PO	WER ON-SI	TE?	GEN. ADAP		ADAP	TER NONE 🗸					
SOFT START			YES		NO	V					
PUMP											
PUMP 1	Model#	3085	.183			Pu	mp 2 l	Model#	3085.183		
PUMP TYPE	Submersible	МА	KE	Fly	/gt		MP PE	Submersible	MAKE	Flygt	
SERIA	AL#	00880	007				SERIA	AL#	1750162		
RATED POWER	5	IMPE MOI	Market Assets	282	2	100000000	TED WER	5	IMPELLER MODEL	282	
FLO	ATS	4					FLO	ATS			
DISCHARGE DIA (mm)		INS		200)8	DISCH DIA. {			INST. YEAR	2017	





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 215 **SERIAL YEAR** 2195 **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLF	TION FORM	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO				
SAFETY GRATIN	G		YES	NO				
LIFTING DAVIT			YES	NO✓				
VEHCILE ACCESS	S		YES 🗸	NO				
	3		CONDITION A	SSESSMENT	16			
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	- 99%	≥ 100%	
					8.		-	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMBER OTHER				
MATERIAL		CC	ONCRETE 🗸	PLASTIC		OTHER		
DIMENSIONS		DIA.	1900	LENGTH		HEIGHT	300	
COVER DIA. (MI	M)	500 x 7	'50 (dual hatch)	YEAR INSTALL	ED		·	
			CONDITION A	ASSESSMENT				
CRITERIA	VERY G	000	GOOD	FAIR	РОО	R	VERY POOR	
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame		Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	



CONDITION COMMENTS

Top of wet-well chamber approximately 300mm above grade. Concrete in good condition.

No EYS. Stainless steel panel in good condition with a small amount of rust on the door.

Alarm is working.

Valves are buried. Location unknown at the time of inspection.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01.09:18:23 -





Project Na	ıme:	East Hants Service Capacity Study Project No: 226421										
Reviewer's	s Name:	M. Keep	oing	Date	S	ept 01	1, 2022					
Material D	elivered:			Loca	Location:							
				- 41				```				
PUMPING S	TATION											
PS ID		L.S #	7	YEA	YEAR BUILT							
NAME		Curle	y Portab	les								
ADDRESS		453A ⊢	lighway 2									
TYPE		SUBMER	SIBLE DR	YWELL		CTION	SCREW	OTHER				
		<u>√</u>	1		7	JFT	PUMP					
BUILDING?		YES	√	10	VALV	ES?	YES 🗸	NO				
SCADA?		YES	√	10	# OF	PUMPS?	2					
RATED CAPACITY (L/S)				PE/	AK CAP S)	ACITY						
WETWELL II	NV EL (m)			ov	ERFLO	N?	YES	NO 🗸				
POWER TYP	PE 3	SINGL	E 3-P	HASE 🗸	от⊦	IER 🔲						
BACKUP PO	WER ON-SI	TE? GEN.	ADA	PTER	ОИ	NE 🗸						
SOFT START	Ī	YES	1	10 🚺								
			<u> </u>	-								
PUMP												
PUMP 1	Model #	3301.180)	Pu	mp 2 N	lodel #	3301.185					
PUMP	Submersible	MAKE	Flygt	PUI	- 11	Submersible	MAKE	Elvat				
TYPE			<u>lli iygt</u>	_ TY				Flygt				
SERI	AL#	1670046	т —		SERIA	L#	1950008					
RATED POWER	85	IMPELLAR MODEL		POV	100000000	85	IMPELLER MODEL	464				
FLO	ATS	4			FLOA	TS						
DISCHARGE		INST.	Some some in each	DISCH	ARGE	ri e	INST. YEAR	NAME OF THE PARTY				

2016

YEAR

DIA (mm)

DIA. (mm)

2019





service life)

LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Surfline **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100%





MISCELLANEOU	CHADD	MADE		LII I OTAT	IOIV II	TOI LO	TION ON	
IVIISCELLANEOU	S HAKD	WAKE				F 2.		
CHAINS			YES ✓	NO				
SAFETY GRATIN	G		YES	NO✓				
LIFTING DAVIT			YES	NO	8			
VEHCILE ACCESS	S		YES 🗸	NO				
	- 1	<u></u>	CONDITION A	SSESSMENT				
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	- 99%	≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMB	ER 🗸	C	OTHER	
MATERIAL		CC	ONCRETE 	PLASTIC		OTHER		
DIMENSIONS		DIA.	2500 x 2500	LENGTH		HEIGHT		
COVER DIA. (MI	M)	1100 x 1	1500 (dual hatch)	YEAR INSTALLE	D			
	13		CONDITION A	SSESSMENT	E;			
CRITERIA	VERY G	000	GOOD	FAIR	P00	R	VERY POOR	
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame		Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	



CONDITION COMMENTS

Largest station of all stations being inspected for this study.

Two valves in valve chamber with flow meters. Water up to bottom of pipe. Valves rusty.

Panel located inside of building. Building, panels, structure in good condition. Inside of building has fan that doesn't work.

Wet-well chamber in good condition. Build up of grease and dirt in the bottom but pumps run fine.

Alarm system active.

Chains rusted in wet-well.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 10:20:52 -





DISCHARGE

DIA (mm)

INST.

YEAR

2011

LIFT STATION INSPECTION FORM

Project Na	ame:	East H	ants Service	e Capa	city Study	Proje	ct No	o: 220	6421			
Reviewer'	s Name:	М.	Keep	ing] Date:	S	Sept 0	1, 2022			
Material D	elivered:				,	Location:						
PUMPING S	STATION											
PSID L.S #8						YEA	AR BU	ILT				
NAME			Mill			^						
ADDRESS			595 Hi	ghw	ay 2							
TYPE			SUBMERS	SIBLE	DRY	VELL	SU	JCTION	SCREW	OTHER		
								LIFT	PUMP			
BUILDING?			YES		NO	/	VAL	VES?	YES 🗸	NO 🗌		
SCADA?		YES 🗸 NO				# OI	F PUMPS?	2				
RATED CAPACITY (L/S)						PEA (L/S		PACITY				
WETWELL I	NV EL (m)					=	ERFLC	ow?	YES 🗸	NO		
POWER TY	PE		SINGLE 3-PHA		ASE OTHER			▼				
BACKUP PC	WER ON-S	ITE?	GEN.	同	ADAP	TER	NO	ONE 🚺				
SOFT STAR	Ī		YES	ī	NC	7						
1			<u> </u>					1				
PUMP												
PUMP 1	Model#	32	02.18	0		Pur	mp 2 l	Model #	3201.180			
PUMP TYPE	Submersible	III .	MAKE	FI	/gt	PUI TYI		Submersible	MAKE	Flygt		
SERI	AL #	115	50188	<u> </u>			SERIA	AL #	3201001			
RATED POWER	70	7 IM	IPELLAR MODEL	458	HT	RAT	11/1/		IMPELLER MODEL	452 HT		
FLO	ATS	4				FLOATS						

DISCHARGE

DIA. (mm)

1989

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI	ION III	ioi LC	TION LOIN	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO]			
SAFETY GRATIN	G		YES	NO <mark>√</mark>				
LIFTING DAVIT			YES	NO 🗸				
VEHCILE ACCESS	S		YES 🗸	NO]			
			CONDITION A	ASSESSMENT	- 5			
CRITERIA	VERY	GOOD	GOOD	FAIR	PO	OR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 –	99%	≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAME	SER 🗸	C	THER	
MATERIAL		cc	ONCRETE 	PLASTIC [OTHER		
DIMENSIONS		DIA.	2900	LENGTH	<u> </u>	HEIGHT		
COVER DIA. (MI	M)	1900 x	1000 (dual hatch)	YEAR INSTALLE	:D [
			CONDITION A	SSESSMENT				
CRITERIA	VERY G	DOD	GOOD	FAIR	POOF		VERY POOR	
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	concrete/brick concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Cracks g pieces f		ficant Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Alarm attached to panel. Light leaning.

Stainless steel panel in good condition. Fans are working. No EYS.

Structure and chamber in good condition. Some minor corrosion on guide bars, floats are dirty and chains are corroded. Two floats with a level sensor.

Valve chamber (dia: 2600mm) has two valves. Valve chamber is dry and valves are in good condition. Small amount of rust on pipes. Single access hatch.

Both concrete structures 800mm above grade, in good condition. Approximately 6m from road.

Both pumps - Quiet when starting and running. Makes a noise when shutting down.

Two overflow pipes. Flap gate that should open and debris build up on OFS.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Digitally signed by Matthew Keeping Date: 2022.09.01 11:03:35 - 03:00





Project Name:	ast H	Project No: 226421											
Reviewer's Name:	M.	Keep	ing		Da	ıte:	S	ept	: 01	, 2022			
Material Delivered:					Location:								
PUMPING STATION													
PS ID		L.S #9	9		YEAR BUILT								
NAME		Elmso	lale	Fire H	lall								
ADDRESS		730 Hi	ighw	ay 2									
ТҮРЕ		SUBMERS	SIBLE	DRYV	VELI	L		CTION	1	SCREW	OTHER		
		V]					LIFT		PUMP			
BUILDING?		YES		NO	/		VAL	VES?		YES	NO		
SCADA?		YES	✓	NO			# OF	PUM	PS?	2	•		
RATED CAPACITY (L/S)					PEAK CAPACITY (L/S)				1				
WETWELL INV EL (m)]	OVE	RFLO	W?		YES	NO		
POWER TYPE		SINGLE		3-PHA	SE	√	ОТ	HER					
BACKUP POWER ON-SIT	ΓE?	GEN.		ADAPT	ER		NC	ONE 🗸					
SOFT START		YES		NO	V								
PUMP													
PUMP 1 Model #						Pum	p 2 N	Vlodel	#	3153.181			
PUMP	r	ИАКЕ	E.	- I		PUM		-a		MAKE	Ch. est		
ТҮРЕ			FI	/gt		TYP		Subme	rsible	¥	Flygt		
SERIAL#							SERIA	AL#		1570156			
RATED POWER	975575555	PELLAR 10DEL			3250	OW	2.000.0	20		IMPELLER MODEL	462		
FLOATS	4				FLOATS								
DISCHARGE DIA (mm)	1750	NST. YEAR	201	5		SCHAI A. (mi				INST. YEAR	2015		





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLEC	TION FORM		
MISCELLANEOU	S HARD	WARE							
CHAINS			YES 🗸	по					
SAFETY GRATIN	G		YES	NO					
LIFTING DAVIT			YES 🗸	NO					
VEHCILE ACCESS	S		YES 🗸	NO					
			CONDITION	ASSESSMENT	~	•			
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	- 99%	≥ 100%		
					2.				
STRUCTURES									
STRUCTURE #									
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAM	BER 🗸	C	THER		
MATERIAL		CC	ONCRETE 	PLASTIC		C	OTHER		
DIMENSIONS		DIA.		LENGTH		HEIGHT			
COVER DIA. (MI	M)	1050) x 1600	YEAR INSTALL	.ED		·		
			CONDITION	ASSESSMENT		*			
CRITERIA	VERY G	000	GOOD	FAIR	РОС	PR	VERY POOR		
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concre damage v greater t Cracks gr 6mm o	ficant te/brick te/brick with cracks han 6mm. eater than r missing om frame cover te/brick condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.			





CONDITION COMMENTS

Alarm system on panel box.

Panel box in good shape however structure is leaning to the west and some bricks have came loose. PVC vent pipe attached to side is disconnected at the top.

Chamber built in boulevard between road and sidewalk. Stainless steel hatch prone to getting struck/ran over by trucks. Guide bars and chains in good condition. Floats are new. Some grease build up at high level.

Location of valves unknown at the time of inspection.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 11:21:37 - 03'00'





LIFT STATION INSPECTION FORM

Project Name:	East H	ants Service	е Сара	city Study	P	roje	ct No): [226	6421	
Reviewer's Name:	M.	Keep	ing] D	ate:	S	Sep	t 01	, 2022	
Material Delivered:					Location:						
PUMPING STATION											
PS ID		L.S #1	10			YEA	R BUI	ILT			
NAME		Elmsda	le M	edical (Се	ntre					
ADDRESS		104 Hi	ghw	ay 21	4						
ТҮРЕ		SUBMERS	SIBLE	DRYV	VE	TLL		ICTION	N	SCREW PUMP	OTHER
BUILDING?		YES		NO	V	7	VAL	VES?		YES 🗸	NO
SCADA?		YES	7	NO	Ī		# OF	PUM	IPS?	2	<u> </u>
RATED CAPACITY (L/S)	ps co					PEAK CAPACITY (L/S)					
WETWELL INV EL (m)						OVE	RFLO	W?		YES	NO 🗸
POWER TYPE		SINGLE		3-PHA	SE	V	ОТ	HER			
BACKUP POWER ON-S	ITE?	GEN.		ADAPT	TER NONE 🗸						
SOFT START		YES		NO	V	7					
PUMP											
PUMP 1 Model #	31	52.18	1			Pun	1p 2 f	Model	#	3153.18	1
PUMP TYPE Submersible	III .	MAKE	Fly	/gt		PUN TYP		Subme	ersible	MAKE	Flygt
SERIAL #	315	52019					SERIA	AL #		0940022	
RATED 20	2.5,500%	PELLAR MODEL	454	1		RATI POW	22.000	20		IMPELLER MODEL	462
FLOATS	4				FLOATS						
DISCHARGE DIA (mm)	1100	INST. YEAR				ISCHA IA. (m				INST. YEAR	2009





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI		OI L	TION LOIN	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO]			
SAFETY GRATIN	G		YES	NO✓				
LIFTING DAVIT			YES	NO 🗸		T.		
VEHCILE ACCESS	S		YES 🗸	NO _				
		I.	CONDITION A	SSESSMENT	*			
CRITERIA	VERY	GOOD	GOOD	FAIR	PO	OR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 –	99%	≥ 100%	
		,						
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMB	ER	C	THER	
MATERIAL		CC	ONCRETE 	PLASTIC		OTHER		
DIMENSIONS		DIA.	2200	LENGTH		HEIGHT		
COVER DIA. (MI	M)	660 x 9	20 (single hatch)	YEAR INSTALLE	.D [
			CONDITION A	SSESSMENT				
CRITERIA	VERY G	000	GOOD	FAIR	POOF		VERY POOR	
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover.		Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	



CONDITION COMMENTS

Wet-well chamber located approximately one metre from edge of asphalt. Prone to snow and plows. Doors have been ripped off before. Security bar on hatch rusted off from bolt. Guide bars and chains have some corrosion.

Stainless steel panel box dirty but in good shape. Panel box was hard to close.

Alarm attached to brick pedestal. Pedestal in good shape but missing some brick and mortar.

Pipes to valve chamber lead across the road however location of valve chamber was unknown at the time of inspection.

Pump #2 - Runs ok. Some minor noise.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Excitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 11:33:51-03:00





DISCHARGE

DIA (mm)

INST.

YEAR

2018

LIFT STATION INSPECTION FORM

Project Name: East Hants Service Capacity Study Project No: 226421									
Reviewer's Name:	M.	Keep	ing		Date:	S	Sept 0	1, 2022	
Material Delivered:					Locat	ion:			
PUMPING STATION									
PS ID		L. S #10A YEAR BUILT							
NAME		Pine Grove							
ADDRESS		81 Pinehill Drive							
TYPE		SUBMERS	SIBLE	DRY	WELL		CTION	SCREW	OTHER
		<u>√</u>					LIFT	PUMP	
BUILDING?		YES		NO	\checkmark	VAL	VES?	YES 🗸	NO
SCADA?		YES		NO	√	# OF	PUMPS?	2	
RATED CAPACITY (L/S)				PEAK CAPACITY					
				(L/S)			<u> </u>		
WETWELL INV EL (m)			_	Î	OVERFLOW?		YES	NO 🗸	
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER		
BACKUP POWER ON-SI	TE?	GEN.		ADAPT	TER 🗸	NC	ONE		
SOFT START		YES		NO	V				
PUMP									
PUMP 1 Model #	310	02.160			Pur	np 2 N	Model #	3102.060	
PUMP	III .	MAKE	Fi	1	PUN			MAKE	Ely cod
TYPE Submersible	<u> </u>		FI	/gt	TYF	4	Submersible		Flygt
SERIAL # 181		10040		SERIAL #		1950029			
POWER 3.9	5,5,5,5,5	PELLAR MODEL	464	1	RAT POW	2000000	3.9	IMPELLER MODEL	464
FLOATS	4					FLOA	ATS		

DISCHARGE

DIA. (mm)

2019

INST. YEAR





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Flygt C-3102 **SERIAL** 49621/87 **YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFT STA		NSPEC	TION FORM		
MISCELLANEOU	S HARD	NARE							
CHAINS			YES	NO					
SAFETY GRATIN	G		YES	NO					
LIFTING DAVIT			YES 🗸	NO					
VEHCILE ACCESS	S		YES 🗸	NO [
			CONDITION A	SSESSMENT		1			
CRITERIA	VERY	GOOD	GOOD	FAIR	P	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0 – 34%		35 – 64%	65 – 84%	85	– 99%	≥ 100%		
					5.				
STRUCTURES									
STRUCTURE #									
ТҮРЕ	WETWELL 🗸		VALVE CHAMBER		C	OTHER			
MATERIAL		CC	ONCRETE 🗸	PLASTIC		OTHER			
DIMENSIONS		DIA.	1800	LENGTH		HEIGHT 800mm above grade			
COVER DIA. (MI	M)	1150 x	900 (dual hatch)	YEAR INSTAL	LED				
CONDITION ASSESSMENT									
CRITERIA	VERY G	GOOD 🗸		FAIR POO		OR	VERY POOR		
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps o exposed rebar, minor cracking on frame and cover.	concre r damage greater Cracks g 6mm c	ificant ete/brick with cracks than 6mm. reater than or missing rom frame	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Older lift station.

Red alarm light on top of lift station.

Stainless steel panel in good condition. Some rust on lock and enclosure. New adapter installed for plug-in to a generator for back-up power.

Wet-well chamber in good condition. Dry and clean inside with no I&I. Two 100mm stainless steel vent pipes exiting from top of chamber. Top of wet-well approximately 600mm above grade.

Valve is inoperable due to location.

Pump 1 had no issues or concerns while running.

Pump 2 had a delay starting. Otherwise, no issues or concerns while running.

Boom truck used to lift pumps instead of lifting davit.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 11:45:38 -





DISCHARGE

DIA (mm)

INST.

YEAR

2016

LIFT STATION INSPECTION FORM

Project Name:	East	st Hants Service Capacity Stu				Project No: 226				421		
Reviewer's Name	<u>.</u> : M.	1. Keeping			Date: Sept 01				21	, 2022		
Material Delivere	d:				Location:							
PUMPING STATION												
PS ID		L.S #1	11		13	YEA	R BU	ILT				
NAME		Old E	lmsc	lale S	cł	nool						
ADDRESS		235 EI	mso	lale R	oa	ıd (F	ligh	way 21	4)			
ТҮРЕ		SUBMERS	SIBLE	DRY	ΝE	ELL	SU	ICTION		SCREW	OTHER	₹
		✓						LIFT		PUMP		
BUILDING?		YES		NO	V	7	VAL	VES?		YES 🗸	NO	1
SCADA?		YES	√	NO			# OF	PUMPS	?	2		
RATED CAPACITY (L	/S)					PEA (L/S		PACITY				ĺ
WETWELL INV EL (n	n)					OVE	RFLC	W?		YES	NO	
POWER TYPE		SINGLE		3-PHA	SE	V	ОТ	HER	1	-		
BACKUP POWER OF	N-SITE?	GEN.	П	ADAP	ΓEF	$\overline{\Box}$	NC	ONE 🗸				
SOFT START		YES		NO	\	7		- 13				
		•							41.			
PUMP												
PUMP 1 Model #	31	127.18	35			Pun	np 2 [Model#	[3127.160		
PUMP TYPE Submers	sible	MAKE	FI	/gt		PUN TYP		Submersit	ole	MAKE	Flygt	1
SERIAL#	16	20048					SERIA	AL#		1620078		
RATED 10	1000	MPELLAR MODEL	488	3		RAT POW	22.000	10		IMPELLER MODEL	488	
FLOATS	4						FLO	ATS				

DISCHARGE

DIA. (mm)

2016

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I STATION INSPECTION TORK						
MISCELLANEOU	IS HARD	WARE								
CHAINS			YES	NO						
SAFETY GRATIN	G		YES	NO						
LIFTING DAVIT			YES	NO✓	<u> </u>					
VEHCILE ACCESS	s		YES 🗸	NO						
		8	CONDITION	ASSESSMENT	-	198	10			
CRITERIA	VERY	GOOD	GOOD	FAIR	P	OOR	VERY POOR			
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	– 99%	≥ 100%			
	2						V			
STRUCTURES										
STRUCTURE #										
ТҮРЕ		W	/ETWELL	VALVE CHAMBER 🗸			OTHER			
MATERIAL		cc	ONCRETE 	PLASTIC		C	OTHER			
DIMENSIONS		DIA.		LENGTH		HEIGHT				
COVER DIA. (MI	M)			YEAR INSTALL	ED					
			CONDITION	ASSESSMENT						
CRITERIA	VERY G	00D	GOOD	FAIR	POO	OR	VERY POOR			
Visual Observations	concre damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concre damage greater Cracks g 6mm c	very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and rom frame cover.				





CONDITION COMMENTS

Alarm system attached to panel box. Light leaning southeast.

Wet-well access built into road. Couldn't access without traffic control or excavator. Wet-well cleaned every 18-24 months.

Stainless steel panel box in good condition. Fan to remove heat from inside of panel box not working. Surflex Controller screen blacked out. Possibly due to temperature inside of panel box. Unable to read information being displayed. No EYS on conduit at bottom of panel box. Brick pedestal in good condition. Some brick and mortar missing.

Top of valve chamber elevated from grade.

Valve chamber next to shoulder and in good condition. Small amount of water at the bottom of the chamber. Minor mud seepage through risers. Valves have minor rust but in overall good condition. Lid prone to road salt, snow and runoff.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 12:13:19-03:00





Project Na	ıme:	East Ha	ants Service Capacity Study Project No: 226421										
Reviewer's	s Name:	M.	Keep	ing]] :	ate:	S	ept 01	1,	2022		
Material D	elivered:					L	.ocat	ion:					╛
PUMPING S	TATION												
PS ID			L.S #1	I1A		- 8	YEA	R BUI	LT				
NAME			Indust	rial	Park								
ADDRESS			12 Ind	ustri	al Wa	У							
TYPE			SUBMERS		DRY	VE	:LL		CTION LIFT	2000	SCREW PUMP	ОТНІ	ER]
BUILDING?			YES		NO	V	7	VAL	VES?		YES 🗸	ΝΟ	
SCADA?			YES	✓	NO	Г		# OF	PUMPS?	2	2		
RATED CAP	ACITY (L/S)						PEA (L/S		PACITY				
WETWELL II	NV EL (m)						OVE	RFLO	W?	5	YES	NO 🗸	
POWER TYP	PE 3		SINGLE		3-PHA	SE	V	ОТ	HER [
BACKUP PO	WER ON-SI	TE?	GEN.		ADAPT	ΓEF	₹	NC	ONE 🗸				
SOFT START			YES		NO	Ī,	7						
		Į.	_				•		-				
PUMP													
PUMP 1	Model #	315	52.181				Pun	np 2 l	Model#	3′	153.181		
PUMP		N	ЛАКЕ				PUN	ΛP	i i		MAKE		
TYPE	Submersible			Fly	gt		TYP	PΕ	Submersible			Flygt	
SERI	AL#							SERIA	AL#	1	550049		
RATED POWER	14.8	5,5,500,000	PELLAR 10DEL	436	6		RAT POW	222.000	15		MPELLER MODEL	435	
FLO	ATS	4						FLOA	ATS				
DISCHARGE DIA (mm)		1990.	NST. ⁄EAR			1.7.0	DISCHA DIA. (m			II	NST. YEAR	2015	





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 215 **SERIAL YEAR** 2224 **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOPE	TION FORM	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES✓	NO				
SAFETY GRATIN	G		YES	, ои	✓			
LIFTING DAVIT			YES	NO	/			
VEHCILE ACCESS	S		YES 🗸	NO [
			CONDITION	ASSESSMENT	~	•	ě.	
CRITERIA	VERY	GOOD	GOOD	FAIR	F	POOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	- 99%	≥ 100%	
		,			•			
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	/ETWELL 🗹	VALVE CHAN	∕IBER ✓	C	OTHER	
MATERIAL		cc	ONCRETE 🗸	PLASTIC		C	OTHER	
DIMENSIONS		DIA.		LENGTH		HEIGHT		
COVER DIA. (MI	M)		•	YEAR INSTAL	LED			
			CONDITION	ASSESSMENT				
CRITERIA	VERY G	GOOD 4		FAIR POO		OR	VERY POOR	
Visual Observations	concrei damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps of exposed rebar, minor cracking or frame and cover	concr or damage greater Cracks g 6mm pieces	ificant tete/brick with cracks with cracks chan 6mm. teater than r missing com frame cover		





CONDITION COMMENTS

Alarm attached to panel box.

Conduit under panel box not completely or properly sealed. Hinge falling off of cover.

Panel box, wet well and valve chamber all in good condition.

Leak in the wet well from check valve when pumps are pumping. Lift station can have high flow at times due to swimming pool and brewery being connected.

Pump 1 has no issues. Pump 2 has vibration and rattling noise.

Valve chamber lined with styrofoam. Some pieces of styrofoam detached from wall and floating in valve chamber. Approximately 600mm of water in valve chamber.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Motthau
Sept 1, 2022	M. Keeping	Digitally signed by Matthew Keeping Date: 2022.09.01 15:36:03-03'00'





Project Na	ame:	ast Hants Servic	Project No: 226421							
Reviewer'	s Name:	M. Keeping Sept 01, 2022								
Material D	elivered:				Locat	ion:				
PUMPING S	STATION									
PS ID		L.S #	11B		YEA	R BUI	ILT			
NAME		Carm	es C)aycaı	е					
ADDRESS		416 EI	msd	ale Ro	oad (F	ligh∖	way 214)			
TYPE		SUBMER	SIBLE	DRYV	VELL		CTION	SCREW	OTHER	
		<u>√</u>	1		_		LIFT	PUMP		
BUILDING?		YES		NO	$\overline{\mathbf{V}}$	VAL	VES?	YES 🗸	NO	
SCADA?		YES	√	NO		# OF	PUMPS?	2		
RATED CAP	ACITY (L/S)				PEA (L/S		PACITY			
WETWELL I	NV EL (m)				OVE	RFLO	W?	YES	NO	
POWER TYP	PE	SINGLE		3-PHA	SE 🗸	ОТ	HER [
BACKUP PO	WER ON-SIT	GEN.	П	ADAPT	ER	NC	ONE 🚺			
SOFT START		YES		NO	\overline{V}					
PUMP										
PUMP 1	Model #	3127.181			Pun	np 2 l	Model #	3127.181		
PUMP	EST BI NE B	MAKE			PUN		2 200	MAKE		
TYPE	Submersible		Fly	gt	TYP		Submersible		Flygt	
SERI	AL#	0550332				SERIA	AL#	0550333		
RATED POWER	7.5	IMPELLAR MODEL	489)	RAT POW	222.000	7.5	IMPELLER MODEL	489	
FLO	ATS	4				FLOA	ATS			
DISCHARGE		INST.	7000 7000 1	. <u> </u>	DISCHA	RGE		INST. YEAR		

2015

YEAR

DIA (mm)

DIA. (mm)

2015





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Considerable Major None Minor Moderate Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM** DESCRIPTION **MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLEC	TION FORM	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO				
SAFETY GRATIN	G		YES 🗸	NO				
LIFTING DAVIT			YES	NO				
VEHCILE ACCESS	S		YES 🗸	NO [
			CONDITION A	SSESSMENT				
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	- 99%	≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	ETWELL 🗸	VALVE CHAM	BER	C	OTHER	
MATERIAL		CC	ONCRETE 	PLASTIC		OTHER		
DIMENSIONS		DIA.	1820	LENGTH		HEIGHT		
COVER DIA. (MI	M)	1425 x 900		YEAR INSTALLED				
		CONDITION A		SSESSMENT		*		
CRITERIA	VERY G	GOOD GOOD		FAIR	POO	PR	VERY POOR	
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concre damage v greater t Cracks gr	ficant te/brick te/brick tondition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing om frame safe for use.		





CONDITION COMMENTS

Pump 1: Ran ok. No sound or vibrations noted.

Pump 2: Loud rattling sound and could feel vibration.

Alarm attached to panel box.

Valve chamber only accessible with drill to remove nuts. Did not inspect.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 14:17:24 -





DISCHARGE

DIA (mm)

INST.

YEAR

2013

LIFT STATION INSPECTION FORM

Project Name:	East	st Hants Service Capacity Stu				Project No: 226				421		
Reviewer's Name	e: M	. Keep	ing][ate:	S	Sept	01	, 2022		
Material Delivere	d:				L	.ocat	ion:					
PUMPING STATION												
PS ID		L.S #1	11C			YEA	R BUI	ILT				
NAME		Park F	Road	d Exte	n	sion						
ADDRESS		279 Pa	ark F	Road								
TYPE		SUBMERS	SIBLE	DRY	ΝE	LL	SU	ICTION		SCREW	OTHER	
		✓						LIFT		PUMP		
BUILDING?		YES		NO	V	7	VAL	VES?		YES 🗸	NO	
SCADA?		YES	✓	NO	Ī		# OF	PUMF	PS?	2		Ī
RATED CAPACITY (L/S)		•	L		PEA (L/S		PACITY]
WETWELL INV EL (r	n)					OVE	RFLO	w?		YES 🗸	NO	_
POWER TYPE		SINGLE		3-PHA	SE		ОТ	HER				
BACKUP POWER O	N-SITE?	GEN.	П	ADAP ⁻	ΓEF	V	NC	ONE	TE			
SOFT START		YES		NC	\ \ \	7						
		_							***			_
PUMP												
PUMP 1 Model	* 3	127.19	0			Pun	1p 2 l	Model :	# [3127.190		
PUMP TYPE Submer	sible	MAKE	Fly	ygt	3	PUN TYP		Submer	sible	MAKE	Flygt	
SERIAL#	13	320052					SERIA	4L #		1320051		Ī
RATED 10		MPELLAR MODEL	488	3		RATI POW	2000	10		IMPELLER MODEL	488	
FLOATS	2	Ţ					FLO	ATS				Ī

DISCHARGE

DIA. (mm)

2013

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIA		NOLF	TION FORM	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO				
SAFETY GRATIN	G		YES 🗸	NO				
LIFTING DAVIT			YES 🗸	NO		2.		
VEHCILE ACCESS	S		YES 🗸	NO [\Box			
		Ş	CONDITION A	SSESSMENT				
CRITERIA	VERY	GOOD	GOOD	FAIR	PC	OOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 ·	- 99%	≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAM	IBER 🗸	C	THER	
MATERIAL		CC	ONCRETE 	PLASTIC		OTHER		
DIMENSIONS		DIA.	2900	LENGTH	ENGTH			
COVER DIA. (MI	M)	935 x 1925		YEAR INSTALLED			·	
		CONDITION A		ASSESSMENT		7		
CRITERIA	VERY G	GOOD GOOD		FAIR	POC	OR	VERY POOR	
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps of exposed rebar, minor cracking on frame and cover.	concre damage greater t Cracks gr	ificant ete/brick with cracks than 6mm. reater than or missing	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not	





CONDITION COMMENTS

Panel box, wet well and valve chamber all in good condition.

Small amount of water at bottom of valve chamber however there is a good seal around the risers and pipes are in brand new condition.

Alarm attached to panel box.

Two floats in wet well and one level sensor.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 14:02:04-03:00





DISCHARGE

DIA (mm)

INST.

YEAR

2021

LIFT STATION INSPECTION FORM

Project Name:	East H	lants Servic	city Study	Proj	Project No: 226421								
Reviewer's Name:	М.	Keep	ing] Date	Sept 01, 2022							
Material Delivered:					Loca	tion:							
PUMPING STATION													
PS ID		L.S #1	12		YEAR BUILT								
NAME		Elmso	lale	Legio	n								
ADDRESS		849 H	ighw	ay 2									
ТҮРЕ		SUBMERS	SIBLE	DRY	V ELL	SU	ICTION		SCREW	OTHER			
		✓					LIFT		PUMP				
BUILDING?		YES		NO	\overline{V}	VAL	VES?		YES 🗸	NO			
SCADA?		YES	√	NO		# OF	PUMPS	?	2	•			
RATED CAPACITY (L/S				PE,		PACITY							
WETWELL INV EL (m)					OV	ERFLC	W?		YES	NO			
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER						
BACKUP POWER ON-S	ITE?	GEN.											
SOFT START		YES		NC	7								
		_	<u> </u>										
PUMP													
PUMP 1 Model #	31	27.06	0		Pu	mp 2 l	Model#	2	3127.060				
PUMP TYPE Submersib		MAKE	Fly	/gt		MP PE	Submersib	ole	MAKE	Flygt			
SERIAL#	216	60078				SERIA	AL#		2160077				
RATED 7.5	5,678,070	IPELLAR MODEL	489)	3227.555.555	TED VER	7.5		IMPELLER MODEL	489			
FLOATS	4		•			FLO	ATS						

DISCHARGE

DIA. (mm)

2021

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI	IOM III	MOI EC	TION LOIN	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO				
SAFETY GRATIN	G		YES	МО✓				
LIFTING DAVIT			YES	NO✓	r.			
VEHCILE ACCESS	S		YES	NO 🗸				
			CONDITION A	SSESSMENT	8			
CRITERIA	VERY	GOOD	GOOD	FAIR	PO	OR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	99% ≥ 100%		
					2.		v	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	ETWELL 🗸	VALVE CHAME	BER 🗸	C	THER	
MATERIAL		CC	ONCRETE V	PLASTIC [OTHER		
DIMENSIONS		DIA.	2150	LENGTH		HEIGHT		
COVER DIA. (MI	M)	1610) x 1125	YEAR INSTALLE	D		·	
			CONDITION A	ASSESSMENT				
CRITERIA	VERY G	000	GOOD	FAIR	POO	R	VERY POOR	
Visual Observations			No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concret damage w greater th Cracks gre 6mm or pieces fre	ficant te/brick condition. Excessive concrete/brick han 6mm. damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Panel box structure leaning.

Alarm system attached to panel box.

Grease accumulation at bottom of wet well. No issues when running pumps.

Valve chamber dry with small amount of water at bottom. Valves rusty but no other issues noted.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 14:36:58 -





	112					_			72					
Project Na	ıme:	East H	ants Servic	e Capa	city Study	/ P	roje	ct No):	226	6421			
Reviewer's	s Name:	Μ.	Keep	ing][Date: Sept 01, 2022							
Material D	elivered:					L	.ocat	ion:						
PUMPING S	TATION													
PS ID			L.S #1	13			YEA	R BUI	LT					
NAME			Elmso	lale	Ceme	eta	ary							
ADDRESS			984 Hi	ghw	ay 2									
TYPE			SUBMERS	SIBLE	DRY	ΝE	LL		CTIO	N	SCREW		ОТНЕ	R
			✓	ļ		ļ			LIFT		PUMP			
BUILDING?			YES		NO	V	7	VAL	VES?		YES		NO .	7
SCADA?			YES		NO	V	7	# OF	PUN	IPS?	2		· ·	
RATED CAPACITY (L/S)					<u>, </u>	_		K CAF	PACIT	Υ				1
14						╛	(L/S)				E.			
WETWELL II	NV EL (m)						OVE	RFLO	W?		YES 🗸		NO	
POWER TYP	PE		SINGLE		3-PHA	SE		ОТ	HER [
BACKUP PO	WER ON-S	ITE?	GEN.		ADAP"	ΓEF	\mathbb{Z}	NC	ONE .	<u> </u>				
SOFT START	Ĭ		YES		NC	\	/							
PUMP														
PUMP 1	Model#	315	52.181				Pun	np 2 l	Vlode	l #	3152.18	1		
PUMP		•	MAKE		1		PUN	1P		1	MAKE			
TYPE	Submersible	9		Fly	gt		TYP	E	Subm	ersible			Flygt	
SERI	AL#	891	10032					SERIA	AL#		3152010)		
RATED POWER	15	F678004	PELLAR MODEL	436	6		RAT POW	22.000	15		IMPELLE MODEI	N. 1916	436	
FLO	ATS	4						FLOA	ATS					
DISCHARGE DIA (mm)			INST.	198	<u> </u>		ISCHA				INST. YEA	AR		
PIO (IIIIII)	ı	11 3	VEAR	1136	ו עכו	1 -	ווון ידיניי	,	II					





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFT STAT		NSPEC	TION FORM		
MISCELLANEOU	S HARD	WARE							
CHAINS			YES	NO					
SAFETY GRATIN	G		YES	NO✓					
LIFTING DAVIT			YES	NO✓					
VEHCILE ACCESS	S		YES 🗸	NO <u></u>					
			CONDITION A	SSESSMENT		•			
CRITERIA	CRITERIA VERY GOOD			FAIR	P	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	- 99% ≥ 100%			
STRUCTURES									
STRUCTURE #									
ТҮРЕ		V	ETWELL 🗸	VALVE CHAMI	BER	C	OTHER		
MATERIAL		CC	ONCRETE 🗸	PLASTIC		C	OTHER		
DIMENSIONS		DIA.	2900	LENGTH		HEIGHT			
COVER DIA. (MI	M)	1650) x 1100	YEAR INSTALL	ED				
			CONDITION A	ASSESSMENT					
CRITERIA	VERY G	000	GOOD	FAIR	POC	OR	VERY POOR		
Visual Observations No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concre damage greater Cracks g 6mm c pieces f	ficant te/brick te/brick tondition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.				





CONI	DITIO	AL C	CRAR	1ENTS
CON	טוווכ	יט אוי	CIVIIV	IEIN I O

Alarm system attached to panel box.

Structures, panel box and inside of wet well in good condition.

Wet well and panel box located along sidewalk.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 14:51:59-03/00/





Project Na	ıme:	East H	ants Servic	е Сара	city Study	P	roje	ct No):	226	<u> 34</u>	21		
Reviewer's	s Name:	M.	Keep	ing][ate:	S	Sep	t 01	1, 2	2022		•
Material D	elivered:					Location:								
PUMPING S	TATION													
PS ID			L.S #1	14		YEAR BUILT								
NAME			Sports	splex	<									
ADDRESS			1070 H	High	way 2									
TYPE			SUBMERS	1	DRY	VE	ILL		ICTIO LIFT	N		SCREW PUMP	OTHER	
BUILDING?			YES		NO	V	7	VAL	VES?		Y	YES 🗸	NO	ī
SCADA?			YES	✓	NO	Ī		# OF	PUN	1PS?	2)		
RATED CAP	ACITY (L/S)						PEA (L/S	K CAF	PACIT	Υ				
WETWELL II	NV EL (m)						OVE	RFLO	w?		١	/ES	NO 🗸	
POWER TYP	PE .		SINGLE		3-PHA	SE	V	ОТ	HER					
BACKUP PO	WER ON-SI	TE?	GEN.		ADAPT	ΓEF	${ m \square}$	NC	ONE .	7 [
SOFT START	Ī		YES		NO	Ţ,	7							
PUMP														
PUMP 1	Model#	320	01.180				Pun	np 2 l	Mode	l #	32	02.185		╗
PUMP		ſ	MAKE				PUN	ΛP	Î	1		MAKE	2.00	4
TYPE	Submersible			Fly	gt		TYP	E	Subm	ersible			Flygt	
SERI	AL#	901	10022					SERIA	AL#		20	10028		
RATED POWER	35	57657655556	PELLAR MODEL	637	7		RATI POW	222.000	35		255520	MPELLER MODEL	642	
FLO	ATS	4				FLOATS						Ī		
DISCHARGE DIA (mm)		100	INST. YEAR	199	90		DISCHA DIA. (m				IN	ST. YEAR	2020	





service life)

LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100%





				LIFI STA	HONI	NOLEC	TION FORM		
MISCELLANEOU	S HARD	WARE							
CHAINS			YES 🗸	NO					
SAFETY GRATIN	G		YES	NO.	/				
LIFTING DAVIT			YES	NO	/				
VEHCILE ACCESS	S		YES 🗸	NO [
			CONDITION A	SSESSMENT	15				
CRITERIA	CRITERIA VERY GOOD			FAIR	P	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	- 99%	≥ 100%		
					2.				
STRUCTURES									
STRUCTURE #									
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAN	1BER 🗸	C	OTHER		
MATERIAL		CC	ONCRETE 	PLASTIC		C	OTHER		
DIMENSIONS		DIA.	1460 x 3510	LENGTH		HEIGHT			
COVER DIA. (MI	M)	1425	5 x 2150	YEAR INSTAL	LED		·		
			CONDITION A	ASSESSMENT	•				
CRITERIA	VERY G	000	GOOD	FAIR	POO	OR	VERY POOR		
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps o exposed rebar, minor cracking or frame and cover.	concre r damage greater Cracks g	ificant ete/brick with cracks than 6mm. reater than	ce/brick condition. Excessive vith cracks concrete/brick nan 6mm. damage, exposed		





CONDITION COMMENTS

Alarm system attached to panel box.

Panel box structure has some minor masonry damage.

Structures for valve chamber and wet well are in good condition.

Valve chamber was dry and in good condition.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.01 15:33:28 -





DISCHARGE

DIA (mm)

INST.

YEAR

LIFT STATION INSPECTION FORM

Project Name:	ast Hants Service	e Capacity Study	Project N	o: 226	6421					
Reviewer's Name:	И. Кеер	ing	Date:	Sept 01	, 2022					
Material Delivered:			Location:							
PUMPING STATION										
PS ID	L.S #1	S #15 YEAR BUILT								
NAME	Popla	Poplar Drive								
ADDRESS	50A P	50A Poplar Drive								
TYPE	SUBMERS	SIBLE DRY	WELL SU	JCTION	SCREW	OTHER				
	✓	I, L	_	LIFT	PUMP					
BUILDING?	YES	NO	VAL	VALVES?		NO 🗸				
SCADA?	YES	√ NO	#0	F PUMPS?	2					
RATED CAPACITY (L/S)			PEAK CA	PACITY						
WETWELL INV EL (m)			OVERFLO	OW?	YES	NO 🗸				
POWER TYPE	SINGLE	3-PHASE OTHER								
BACKUP POWER ON-SIT	E? GEN.	ADAP	TER N	ONE 🚺						
SOFT START	YES	NC								
	P									
PUMP										
PUMP 1 Model #	3102.18	31	Pump 2	Model#	3102.181					
PUMP TYPE Submersible	MAKE	Flygt	PUMP TYPE	Submersible	MAKE	Flygt				
SERIAL#	0810321		SERI	AL#	0810320					
RATED 5	IMPELLAR MODEL	464	RATED POWER	5	IMPELLER MODEL	464				
FLOATS	4		FLO	ATS						

DISCHARGE

DIA. (mm)

2008

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI	IOIA III	ioi LC	TION LOIN	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO]			
SAFETY GRATING			YES	NO				
LIFTING DAVIT			YES	NO 🗸				
VEHCILE ACCESS	S		YES 🗸	NO				
		I.	CONDITION A	ASSESSMENT	*			
CRITERIA	VERY	GOOD	GOOD	FAIR PO		OR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-34%		35 – 64%	65 – 84% 85 -		99%	≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		WETWELL 🗸		VALVE CHAMBER		C	THER	
MATERIAL		CONCRETE		PLASTIC		OTHER		
DIMENSIONS		DIA.	2210	LENGTH	<u> </u>	HEIGHT		
COVER DIA. (MM)		750 x 900 (dual hatch)		YEAR INSTALLED				
CONDITION ASSESSMENT								
CRITERIA	VERY G	000	GOOD	FAIR	POOF		VERY POOR	
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor Signit concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Minor Signit concret damage we greater the greater the fame or pieces from or pieces from and cover.		e/brick ith cracks an 6mm. ater than missing om frame	ck condition. Excessive acks concrete/brick mm. damage, exposed than rebar, frame, and ng cover missing or not safe for use.	





CONDITION COMMENTS

Alarm system attached to panel box. Light hanging from pedestal. Pedestal in good condition. Some mortar missing.

Metre box rusty at the bottom. New metre and disconnect switch installed.

Panel box in good condition. No EYS. According to municipal worker operating the lift stations for us this type of panel is easy to operate. The newer panel boxes are more difficult.

Lock on valve chamber seized, unable to open.

Hatch covers in good condition. Hinges on hatch covers installed on wrong side. Safety hazard when unlocking to close hatch covers.

One of the inlet pipes was partially submerged in wet well when cover was opened. Once pumps were started inlet began flowing into wet well. Possible problem with float elevation/tightness.

Pump #1 controls Poplar Drive, Pump #2 controls side street.

Wet-well chamber in good condition. Guide bars and chains all in good condition. Grease build up at bottom of wet-well. Wet well contains a valve on the back. Unsure of the use.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew		
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.06 15:15: 03'00'		





DISCHARGE

DIA (mm)

INST.

YEAR

1996

LIFT STATION INSPECTION FORM

				_	2				
Project Na	ame:	East Hants Service	ants Service Capacity Study Project No: 226421						
Reviewer'	s Name:	И. Кеер	. Keeping Date: Sept 01,			, 2022			
Material Delivered: Location:									
PUMPING S	PUMPING STATION								
PS ID		L.S #1	L.S #16 YEAR BUILT						
NAME		Paley	Road			•			
ADDRESS		21 Pal	21 Paley Drive						
TYPE		SUBMERS	DRY\	WELL	SUCTION LIFT	SCREW PUMP	OTHER		
BUILDING?	NAME OF THE PROPERTY OF THE PR	YES	NO	√ v	ALVES?	YES	NO 🗸		
SCADA?		YES	√ NO	#	OF PUMPS?	2			
RATED CAP	ACITY (L/S)		PEAK CAPACITY (L/S)						
WETWELL I	NV EL (m)			OVERF	LOW?	YES	NO 🗸		
POWER TY	PE	SINGLE	SINGLE 3-PHASE OTHER						
BACKUP PC	WER ON-SIT	GEN.	ADAP"	TER	NONE 🗸				
SOFT STAR	Ī	YES	NC				,		
PUMP									
PUMP 1	Model #	3085.18	85.183		2 Model#	3085.183			
PUMP TYPE	Submersible	MAKE	Flygt	PUMP TYPE	Submersible	MAKE	Flygt		
SERIAL# 08		0830325	830325		RIAL#	1670095			
RATED POWER	3	IMPELLAR MODEL	462	RATED POWER	1150	IMPELLER MODEL	462		
FLOATS 2		2		FL	OATS		1		

DISCHARGE

DIA. (mm)

2016

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) CAPACITY (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Panel Shop **SERIAL YEAR** 2014 **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI STA		NOLEC	TION FORM	
MISCELLANEOU	S HARD	WARE						
CHAINS			YES 🗸	NO				
SAFETY GRATING		YES NO						
LIFTING DAVIT			YES	NO✓				
VEHCILE ACCESS	S		YES 🗸	NO				
			CONDITION A	SSESSMENT				
CRITERIA	VERY	GOOD	GOOD	FAIR	POOR		VERY POOR	
Age (% of manufacturer's recommended service life)	0-34%		35 – 64%	65 – 84%	65 – 84% 85 -		≥ 100%	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		WETWELL		VALVE CHAMBER		C	OTHER	
MATERIAL		CONCRETE		PLASTIC		OTHER		
DIMENSIONS		DIA.	2210	LENGTH		HEIGHT		
COVER DIA. (MM)		700 x 900 (dual hatch)		YEAR INSTALLED				
CONDITION ASSESSMENT								
CRITERIA	VERY G	000	GOOD	FAIR	РОО	36	VERY POOR	
Visual Observations	No signs of concrete/brick damage, cover and frame look great. No leaking evident.		No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	concrete/brick concret damage no gaps or damage w exposed rebar, greater th minor cracking on Cracks gre frame and cover. 6mm or		ficant te/brick with cracks han 6mm. eater than r missing om frame	crick condition. Excessive cracks concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	





CONDITION COMMENTS

Alarm system attached to panel box.

Brick pedestal in good shape. Some brick and mortar missing from the top. Metal gooseneck vent pipe attached to pedestal. Pipe in good condition.

Panel was made by Panel Shop and installed in 2014.

Top of wet-well approximately 150mm above grade. Concrete in good condition. Only able to open one hatch as the key for the second hatch was broken. Floats and chains in good condition.

Two floats in wet well and one new level sensor. Floats wrapped with electrical tape around connection.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
Sept 1, 2022	M. Keeping	Malkhew Keeping Date: 2022.09.06 15:18:44-





DISCHARGE

DIA (mm)

INST.

YEAR

LIFT STATION INSPECTION FORM

Project Name:	Project No:							
Reviewer's Name:			Date:	September	8, 2022			
Material Delivered:			Location	n: Lantz,	NS			
PUMPING STATION								
PS ID	L.S #17		YEAR B	UILT				
NAME	Old Public	c Works S	Shed					
ADDRESS	201 Highv	vay 277						
TYPE	SUBMERSIBL	E DRYW	/ELL S	SUCTION	SCREW	OTHER		
			_	LIFT	PUMP			
BUILDING?	YES	NO	✓ V	ALVES?	YES	NO 🗸		
SCADA?	YES 🗸	NO	# (OF PUMPS?	2			
RATED CAPACITY (L/S)			Jacobson Commencer	APACITY	-			
			(L/S)					
WETWELL INV EL (m)	200000000000000000000000000000000000000		OVERF		YES ✓	NO		
POWER TYPE	SINGLE	3-PHA		OTHER				
BACKUP POWER ON-SITE	E? GEN.	ADAPT	ER	NONE 🖊				
SOFT START	YES	NO	/					
PUMP								
PUMP 1 Model #	3153.185		Pump 2	2 Model #	3152.181			
PUMP	MAKE	- Ivat	PUMP	Submersible	MAKE	Elvat		
TYPE Submersible	-	lygt	TYPE	8-7-7-1-20-00-9-22-1-1-20-9-6-2-1-1-1-20-0-8-20-0-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		Flygt		
	1960031			RIAL #	9020640			
POWER 20	MODEL 4	62	RATED POWER	20	IMPELLER MODEL	454		
FLOATS	<u> </u>		FL	OATS				

DISCHARGE

DIA. (mm)

2020

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 201 Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE** Surfline **MODEL** 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LIF 3 <i>F</i>	→ 1 1		19LE	<i>></i>	
MISCELLANEOU	IS HARD	WARE							
CHAINS			YES	NO					
SAFETY GRATIN	G		YES	NO	NO 🗸				
LIFTING DAVIT			YES	NO	v		72		
VEHCILE ACCESS	S		YES 🗸	NO					
		T ₁	CONDITION A	SSESSMENT			1.00		
CRITERIA	VERY	GOOD	GOOD	FAIR		P	OOR	Ŋ	/ERY POOR
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%		85 -	- 99%		≥ 100%
STRUCTURES									
STRUCTURE #									
TYPE		W	'ETWELL 🗸	VALVE CHAMBER			THE	R	
MATERIAL		cc	ONCRETE 🗸	PLASTI	с		C	THE	R
DIMENSIONS		DIA.	3.55 x 3.55	LENGTH			HEIGHT		
COVER DIA. (MI	M)	1030 x	1420 (dual hatch)	YEAR INSTA	LLEC)			
			CONDITION A	SSESSMENT					
CRITERIA	VERY G	00D	GOOD	FAIR		POC	OR	VE	RY POOR
Visual Observations	concre damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps exposed rebar, minor cracking o frame and cove	or , on	damage of greater to Cracks greater to 6mm of pieces from the control of the cont	ficant te/brick with cracks nan 6mm. damage, expose rebar, frame, ar missing compared to the compared t		dition. Excessive oncrete/brick mage, exposed oar, frame, and er missing or not





CONDITION COMMENTS

Inside of fenced compound. Chambers prone to run-off in yard.

Site has good drainage to the south.

Three chambers on site. Circular chamber (2120mm dia.)is an inlet chamber. Square chamber is the wet-well and an obsolete Valve Chamber filled with gravel. Concrete around inlet chamber in rough condition. Dual hatch 900 x 1390.

Inlet chamber is dry with no visible I&I.

Wet-well concrete under cover is cracked. Chamber dry inside with no visible I&I. Both pumps in good working condition. Pump #2 pumps faster than Pump #1.

Guide bars rusted near operating surface. 300mm overflow pipe drains to the east. Alarm system attached to monument. Attempted to trigger high level alarm. Alarm sounded in panel but light did not flash.

Stainless steel panel box in good condition. Pedestal in need of repair. PVC vent pipe attached to back of pedestal.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
September 8, 2022	M.Keeping	Malkhew Keeping Date: 2022.09.08 13:50:37 - 03'00'





LIFT STATION INSPECTION FORM

Project Name:	East Hant	ts Service	Capad	city Study	 Proje	ct No	22642	21		
Reviewer's Name:					 Date:	S	ept 8	2022		
Material Delivered:					Loca	tion:				
PUMPING STATION										
PS ID	L.	.S #18			YEA	AR BUI	LT			
NAME	B	Barney'	s Br	ook						
ADDRESS	Fi:	369 Hi	ghw	ay 2						
TYPE	5	SUBMERS	IBLE	DRYV	VELL		CTION LIFT	SCREW PUMP	OTHER	
BUILDING?		YES		NO	~	VAL	/ES?	YES 🗸	NO	
SCADA?		YES	7	NO	П	# OF	PUMPS?	2		
RATED CAPACITY (L/S)					PEA (L/:		PACITY			
WETWELL INV EL (m)					Ov	ERFLO	W?	YES	NO	
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER 🔲			
BACKUP POWER ON-SI	TE?	GEN.	\Box	ADAPT	ER	NC	ONE 🔽			
SOFT START		YES		NO	V					
	1					·	-			
PUMP										
PUMP 1 Model #	315	3.18	1		Pui	mp 2 N	∕lodel#	3153.185	5	
PUMP TYPE Submersible		AKE	Fly	/GT	PUI TY		Submersible	MAKE	FlyGT	
SERIAL#	1570	0437				SERIA	AL#	2230107	i	
POWER 20		ELLAR DDEL	46	1	RAT POV	1000000000	20	IMPELLER MODEL	463	
FLOATS	2					FLOA	ATS			
DISCHARGE DIA (mm)	1990, 240,000	ST. AR	20	16	DISCH. DIA. (r			INST. YEAR	2022	





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20V Vibration None Major Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIA		MOI L	TION LOIN	
MISCELLANEOU	IS HARD	WARE						
CHAINS			YES	NO				
SAFETY GRATIN	G		YES	NO	/			
LIFTING DAVIT			YES 🗸	NO				
VEHCILE ACCESS	S		YES 🗸	NO				
	<u> </u>	18	CONDITION	ASSESSMENT	8	1.00		
CRITERIA	VERY	GOOD	GOOD	FAIR	P	OOR	VERY POOR	
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	- 99%	≥ 100%	
					2.		V-	
STRUCTURES								
STRUCTURE #								
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAMBER OTHER				
MATERIAL		cc	ONCRETE 🗸	PLASTIC		C	OTHER	
DIMENSIONS		DIA.		LENGTH		HEIGHT		
COVER DIA. (MI	M)	630 x 8	340 (dual hatch)	YEAR INSTALL	.ED			
			CONDITION	ASSESSMENT				
CRITERIA	VERY G	00D	GOOD	FAIR	POC	DR	VERY POOR	
Visual Observations	concre damage, frame lo	signs of Strete/brick concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.		Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concre damage greater Cracks g 6mm c	ificant ete/brick with cracks than 6mm. reater than or missing rom frame cover.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.	





CONDITION COMMENTS

Xylem on site to do repairs to lift station. Guide rail on road side of lift station not directing pump down. Pump is not sitting appropriately.

Top of chamber lined with stainless steel sheathing. Cover in good condition.

Panel box in good condition with working alarm attached. Pedestal in poor condition. Old conduit running into new panel box with no EYS.

Metre box for NS Power metre in poor condition. Steel vent pipe on back, rusty. Two floats and a Ultrasonic level sensor.

Wet-well dry inside. No visible I&I. Guide rails in good shape but one pair is missing a bolt to attach to side of chamber.Discharge pipe rusty.

Prone to runoff from road. Two force mains with five valves for isolation.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M.Keeping	Malkhew Keeping Date: 2022.09.08 14:35:47 - 03'00'





Project Na	me:	ast Hants Service	e Capacity Study	Project	No: 22642	1	_		
Reviewer's	Name:			Date:	Sept 8,	2022			
Material De	elivered:			Locatio	n:				
PUMPING ST	TATION								
PS ID		L.S #19)	YEAR BUILT					
NAME		senor	Road	***					
ADDRESS		43 Isen	or Road						
ТҮРЕ		SUBMERS	DRY\	WELL	SUCTION LIFT	SCREW PUMP	OTHER		
BUILDING?		YES	NO	V.	ALVES?	YES 🗸	NO		
SCADA?		YES	NO	#	OF PUMPS?	2			
RATED CAPA	ACITY (L/S)			PEAK (CAPACITY				
WETWELL IN	IV EL (m)			OVERF	LOW?	YES	NO 🗸		
POWER TYPI	E	SINGLE	3-PHA	ASE 🗸	OTHER [
BACKUP PO	WER ON-SIT	E? GEN.	ADAP ⁻	TER	NONE [
SOFT START		YES	NC						
PUMP									
PUMP 1 N	/lodel#	3185.07	'O	Pump	2 Model#	3082.180			
PUMP TYPE	Submersible	MAKE	FlyGT	PUMP TYPE	Submersible	MAKE	FlyGT		
SERIA	\L#	2010014		SE	RIAL#	0035268			
RATED POWER	2.2	IMPELLAR MODEL	436	RATED POWER	2.5	IMPELLER MODEL	434		
FLOA	NTS	5		FL	OATS				
DISCHARGE DIA (mm)		INST. YEAR	2020	DISCHARG DIA. (mm)		INST. YEAR	2020		





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Siemens **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LIF 31/	A I		NOLE	<u> </u>	
MISCELLANEOU	IS HARD	WARE							
CHAINS			YES	NO					
SAFETY GRATIN	G		YES 🗸	NO	NO				
LIFTING DAVIT			YES	NO	'		Te		
VEHCILE ACCESS	S		YES 🗸	NO					
		Tip.	CONDITION A	ASSESSMENT			1.00		
CRITERIA	VERY	GOOD	GOOD	FAIR		P	OOR	1	/ERY POOR
Age (% of manufacturer's recommended service life)		34%	35 – 64%	65 – 84%		85	- 99%		≥ 100%
		,	•	**					
STRUCTURES									
STRUCTURE #									
TYPE		W	'ETWELL 🗸	VALVE CHAMBER			C	OTHE	R
MATERIAL		cc	ONCRETE 🗸	PLASTI	С		C	OTHE	R
DIMENSIONS		DIA.	2200	LENGTH			HEIGHT		
COVER DIA. (MI	M)	1070 x	1040 (dual hatch)	YEAR INSTA	LLE	D			
			CONDITION A	ASSESSMENT		•	7		
CRITERIA	VERY G	00D 🗸	GOOD	FAIR		POC	OR	VE	RY POOR
Visual Observations	concre damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps exposed rebar minor cracking frame and cove	or r, on	concre damage greater Cracks g 6mm c pieces f	te/brick condition. Excessive concrete/brick concrete/brick damage, exposed eater than emissing cover missing cove		dition. Excessive concrete/brick mage, exposed par, frame, and er missing or not





CONDITION COMMENTS

Stainless steel panel box. Opening in concrete slab under panel. EYS installed on all conduit at bottom of panel. New 600V NS Power metre installed in stainless steel box. Adapter installed for connection to generator back up power. Alarm light attached at top of pedestal. Pedestal has had mortar upgrades. Two bollards place near road.

Wet-well concrete in great condition. Stainless steel hatch cover and ventilation pipe. Top of chamber raised above road.

5 floats with stainless steel brackets. Ultrasonic level sensor.

Valve chamber in great condition. Ladder for access. Inside of chamber clean and dry with no visible I&I. No seal between risers. Top of chamber raised above road.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Date: 2022.09.08 14:18:43-03'00'





Project Name:	East F	lants Servic	е Сара	city Study	Proje	ct No	22642	1	
Reviewer's Name:					Date:	S	ept 8,	2022	
Material Delivered:] Locat	ion:			
PUMPING STATION		-9/			<i>"</i>				
PS ID		L.S #20)		YEA	R BUII	T		
NAME		Ross'	Hill						
ADDRESS		1457 H	ighw	ay 2					
ТҮРЕ		SUBMERS	SIBLE 1	DRY	VELL		CTION LIFT	SCREW PUMP	OTHER
		<u> </u>	<u>.</u>	<u> </u>					
BUILDING?		YES [NO	V	VALV	ES?	YES	NO 🗸
SCADA?		YES	V	NO		# OF	PUMPS?		
RATED CAPACITY (L/S)				2010/00/1100	К САР	ACITY	_	
					_ (L/S	200			
WETWELL INV EL (m)						RFLO	Λ ? ──	YES	NO 🗸
POWER TYPE		SINGLE	Ш	3-PHA	SE 🗸	OTH	IER		
BACKUP POWER ON-	ITE?	GEN.		ADAP ⁻	TER	NO	NE 🗸		
SOFT START		YES		NO	~				
PUMP									
PUMP 1 Model #	31	02.18	30		Pur	np 2 N	1odel#	3102.181	
PUMP		MAKE	III.	المر	PUN	- 11	8 1 17	MAKE	Ely cod
TYPE Submersib	┦			/gt	TYF		Submersible	-	Flygt
SERIAL#	97	<u>′50178</u>	ı			SERIA	L #	0740238	
POWER 5	1,5,5,00	IPELLAR MODEL	43	3	RAT POW	2000	5	IMPELLER MODEL	463
FLOATS	2					FLOA	TS		
DISCHARGE	1	INST.			DISCHA	RGE		INST. YEAR	

1997

YEAR

DIA (mm)

DIA. (mm)





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20V Vibration None Major Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LII I SIAI	ION III	MOI EC	
MISCELLANEOU	S HARD	WARE					
CHAINS			YES	NO			
SAFETY GRATIN	G		YES	NO	1		
LIFTING DAVIT			YES 🗸	NO		T.	
VEHCILE ACCESS	S		YES 🗸	NO			
			CONDITION A	SSESSMENT	3		
CRITERIA	VERY	GOOD	GOOD	FAIR	PO	OR	VERY POOR
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85 -	- 99%	≥ 100%
		,					
STRUCTURES							
STRUCTURE #							
ТҮРЕ		W	'ETWELL 🔽	VALVE CHAME	BER	C	OTHER
MATERIAL		CC	ONCRETE 🗸	PLASTIC (OTHER
DIMENSIONS		DIA.	2200	LENGTH		HEIGHT	
COVER DIA. (MI	M)	630 x 8	350 (dual hatch)	YEAR INSTALL	D		
			CONDITION A	SSESSMENT	•		
CRITERIA	VERY G	DOD	GOOD	FAIR	POO	R	VERY POOR
Visual Observations			concrete/brick damage, minor signs of wear on cover and frame. No	Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover.	concret damage w greater th Cracks gre 6mm or	with cracks ann 6mm. damage, exposed rebar, frame, and cover missing or not safe for use.	





CONDITION COMMENTS

Wet-well chamber approximately 5m from road. Chamber has stainless steel sheathing. Top of chamber approximately 150mm above grade.

Wet well is old but clean inside and in good condition. Fair amount of fat/grease settled at the bottom of the chamber. Guide bars rusted at the top.

Pedestal in poor condition. Multiple places where brick and mortar are loose or completely gone and pedestal leaning north. Panel and metre box in good condition Smaller electrical box underneath panel box in good condition but is not locked. Can easily be opened with a flat top screwdriver. EYS on conduit going to panel. Concrete around rusty ventilation pipe exiting wet well chamber has broken away.

Pump #1 - Quiet and no vibration noted. Draw down good.

Pump #2 - Noisy, vibration to top. Pump requires maintenance. Draw down good. Two floats with a level sensor.

Alarm system attached to panel. Light and panel seem to be relatively new.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Date: 2022.09.08 15:18:57 - 03:00





Project Name:	East Hants	s Service	Capa	city Study	 Proje	ct No): [²	226421		
Reviewer's Name:] Date:	S	Sept	8,	2022	
Material Delivered:					Locat	ion:				
PUMPING STATION										
PS ID	L.	S #21			YEA	R BUI	ILT			
NAME	М	Main Office								
ADDRESS	24	402 Hi	ghw	ay 2						
TYPE	S	UBMERS	IBLE	DRY	VELL		ICTION	ı	SCREW	OTHER
		/	9				LIFT		PUMP	
BUILDING?		YES		NO	V	VAL	VES?		YES 🗸	NO
SCADA?		YES		NO	П	# OF	PUM	PS?	2	
RATED CAPACITY (L/S)				J.	PEA	K CAF	PACITY	′		
					(L/S)				<u> </u>	
WETWELL INV EL (m)					OVERFLOW?				YES 🗸	NO
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER			5
BACKUP POWER ON-S	ITE?	GEN.		ADAP	TER	NC	ONE 🔽	<u> </u>		
SOFT START		YES		NO	~					
PUMP										
PUMP 1 Model #	312	7.06	0		Pun	np 2 N	Model	#	3127.060	
PUMP	МА	KE	_	<u> </u>	PUN	ΛP			MAKE	Б
TYPE Submersible			FI	/GT	TYP	E	Subme	rsible		FlyGT
SERIAL#	2040)188				SERIA	AL#		2040135	
RATED 10	IMPE MOI	Approximation and approximation of the property of the propert	48	7	RAT POW	2000	10		IMPELLER MODEL	487
FLOATS	4	!'			FLOATS					
DISCHARGE	INS	ST.	Santa and a santa		DISCHA	RGE			INST. YEAR	<u> </u>

DIA. (mm)

YEAR

DIA (mm)

INST. YEAR





LIFT STATION INSPECTION FORM HEAD (m) CAPACITY HEAD (m) **CAPACITY** (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 20Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE PANEL FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Surfline **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI STA	HONI	NOLE	TION FORM					
MISCELLANEOU	IS HARD	WARE										
CHAINS			YES	NO								
SAFETY GRATIN	G		YES	NO	/							
LIFTING DAVIT			YES 🗸	NO								
VEHCILE ACCESS	S		YES 🗸	NO [
CONDITION ASSESSMENT												
CRITERIA	GOOD	GOOD	FAIR	Р	OOR	VERY POOR						
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	– 99%	≥ 100%					
		,			<u>.</u>							
STRUCTURES												
STRUCTURE #												
ТҮРЕ		W	'ETWELL 🗸	VALVE CHAM	1BER	C	OTHER					
MATERIAL		cc	ONCRETE 🗸	PLASTIC		C	OTHER					
DIMENSIONS		DIA.		LENGTH		HEIGHT						
COVER DIA. (MI	M)	860 x 10	300 (single hatch)	YEAR INSTAL	LED							
			CONDITION	ASSESSMENT								
CRITERIA	VERY G	00D	GOOD	FAIR	PO	OR 🗸	VERY POOR					
Visual Observations	concre damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps o exposed rebar, minor cracking on frame and cover.	concr r damage greater Cracks g 6mm o	nificant ete/brick with cracks than 6mm. creater than or missing from frame	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.					





CONDITION COMMENTS

Cover and frame for chamber extremely rusty. Handles are loose.

Top of chamber approximately 200mm above grade. Concrete around chamber extremely corroded.

Concrete pedestal in good shape but visibly worn. Alarm system attached. Panel box in good condition. Installed 2003-2005. Power metre in same enclosure. Inside of chamber in good condition. Float wires and chains in good shape. Guide bars rusty near operating surface. Small amount of grease build up near the bottom. Discharge pipe is rusty. Valves located in wet-well but not operable (difficult to access). An approximately 100mm overflow pipe drains to the Northeast.

Pump #1 - 14760.4 hrs, quiet.

Pump #2 - 459 hours, quiet.

Gooseneck under panel box for ventilation.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Date: 2022.09.08 15:37:45 -





Project Name:	East Hants Servi	ce Capacity S	^{tudy} Proj	ect No:	226421	Ī	
Reviewer's Name:			Date	: Se	pt 8,	2022	
Material Delivered:			Loca	ıtion:			
PUMPING STATION							
PS ID	L.S #2	2	YE.	AR BUILT			
NAME	Haven	wood Dr	ive			•	
ADDRESS	8 Have	enwood E	rive				
ТҮРЕ	SUBMER	SIBLE D	RYWELL	SUCTI		SCREW	OTHER
	<u> </u>			LIF"	т 1	PUMP	Ш
BUILDING?	YES		NO 🗸	VALVES	5?	YES	NO 🗸
SCADA?	YES	<u> </u>	NO	# OF PL	JMPS?	2	
RATED CAPACITY (L/S)	8			AK CAPAC	ITY		Ĭ
			(L/			<u> </u>	
WETWELL INV EL (m)				ERFLOW?		YES	NO 🗸
POWER TYPE	SINGL	E 3-I	PHASE 🗸	OTHER	<u> </u>		
BACKUP POWER ON-S	ITE? GEN.	AD	APTER	NONE	✓		
SOFT START	YES		NO 🗸				
PUMP							
PUMP 1 Model #	3085.18	33	Pu	mp 2 Mod	del#	3085.183	
PUMP	MAKE	IEL.O	⊋l PU	MP		MAKE	EL OT
TYPE Submersible		FlyG	I TY	PE Sub	mersible	-	FlyGT
SERIAL #	2080021	g.		SERIAL #	t .	2110105	
RATED B	IMPELLAR MODEL	473	1000 460 500	TED NER 3		IMPELLER MODEL	473
FLOATS	4			FLOATS			
DISCHARGE	INST.		DISCH	ARGE	1	INST. YEAR	

DIA. (mm)

YEAR

DIA (mm)

INST. YEAR





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 201 Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Surfline 9015 **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				_LIF1 31 <i>1</i>	4 I I		NOLF	, 110				
MISCELLANEOU	IS HARD	WARE										
CHAINS			YES	NO								
SAFETY GRATIN	G		YES	NO	V]						
LIFTING DAVIT			YES	NO	1		10.					
VEHCILE ACCESS	S		YES 🗸	NO								
CONDITION ASSESSMENT												
CRITERIA	GOOD	FAIR		P	OOR	١	ERY POOR					
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%		85 -	- 99%		≥ 100%			
								**				
STRUCTURES												
STRUCTURE #												
TYPE		W	'ETWELL 🗸	VALVE CHAMBER			C	OTHE	R			
MATERIAL		cc	ONCRETE 🗸	PLASTIC			OTHER					
DIMENSIONS		DIA.		LENGTH	LENGTH							
COVER DIA. (MI	M)	800 x 5	550 (dual hatch)	YEAR INSTA	LLE	D						
			CONDITION	ASSESSMENT								
CRITERIA	VERY G	00D 🗸	GOOD	FAIR		POC	DR	VE	RY POOR			
Visual Observations	concre damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps exposed rebar minor cracking of frame and cove	or , on	concre damage greater t Cracks gr 6mm co pieces fi	ificant ete/brick with cracks than 6mm. reater than or missing rom frame	cond dar reb cove	y poor - critical dition. Excessive oncrete/brick mage, exposed par, frame, and or missing or not safe for use.			





CONDITION COMMENTS

Pump #1 - quiet

Pump #2 - very quiet.

Wet well is cast in place concrete. Looks new inside. Four floats, chains and guide bars all in good condition. No rust on hatch covers. PVC vent pipe and new disconnect installed.

Lift station receives backwash from water treatment plant.

Pump 1 - hour monitor being replaced but not active at the time of inspection.

Panel mounted to concrete wet-well. Small amount of surface rust on door of panel box. Inside in good condition.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Sate: 2022.09.08 15:57:02 -





DIA (mm)

LIFT STATION INSPECTION FORM

Project Name:	East H	lants Servic	e Capa	city Study] Proje	ct No): [226421		_
Reviewer's Name:] Date:	S	Sep	t 8,	2022	
Material Delivered	:				Loca	tion:				
PUMPING STATION										
PS ID		L.S #23	3		YEA	R BUI	ILT			
NAME		Maitla	nd F	Road	10					
ADDRESS		2848A	way 2							
TYPE		SUBMER	SIBLE	DRY	WELL		ICTION	N	SCREW	OTHER
		<u>~</u>	_				LIFT		PUMP	<u></u>
BUILDING?		YES		NO	~	VAL	VES?		YES 🗸	NO
SCADA?		YES	~	NO		# OF	PUM	IPS?	2	•
RATED CAPACITY (L/	S)			U:	500000000000000000000000000000000000000	K CAI	PACIT	Y		Ĩ
					(L/S)				<u> </u>	
WETWELL INV EL (m		<u> </u>			OVERFLOW?				YES ✓	NO
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER	<u>_ </u>		
BACKUP POWER ON	SITE?	GEN.		ADAP ⁻	TER 🗸	NO	ONE			
SOFT START		YES		NC	~					
PUMP										
PUMP 1 Model #	31	53.18	31		Pui	np 2 l	Vlode	l #	3153.181	
PUMP		MAKE	le.	.ОТ	PUI		224 (3		MAKE	ELOT
TYPE Subme	'SI		FI	/GT	TYI	0	Subme	ersible		FlyGT
SERIAL#	10	10138				SERIA	AL #		1010139	
POWER 20		1PELLAR MODEL	43	3	RAT POV	100000000	20		IMPELLER MODEL	433
FLOATS	2					FLOATS				
DISCHARGE		INST.			DISCH	ARGE			INST. YEAR	

2009

YEAR

DIA. (mm)





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 201 Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Siemen **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFT STA	HON I	NSPEC	TION FORM		
MISCELLANEOU	S HARD	NARE							
CHAINS			YES	NO					
SAFETY GRATIN	G		YES 🗸	NO					
LIFTING DAVIT			YES	NO 6	/				
VEHCILE ACCESS	S		YES 🗸	NO [
			CONDITION A	SSESSMENT		1			
CRITERIA	VERY	GOOD	GOOD	FAIR	P	OOR	VERY POOR		
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	– 99%	≥ 100%		
STRUCTURES									
STRUCTURE #									
TYPE		V	'ETWELL 🗸	VALVE CHAIV	1BER	C	OTHER		
MATERIAL		CC	ONCRETE 🗸	PLASTIC		OTHER			
DIMENSIONS		DIA.	2900	LENGTH		HEIGHT			
COVER DIA. (MI	M)	1940 x 1	1040 (dual hatch)	YEAR INSTALI	LED				
			CONDITION A	SSESSMENT		*			
CRITERIA	VERY G	000	GOOD	FAIR	POO	OR	VERY POOR		
Visual Observations			No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps o exposed rebar, minor cracking on frame and cover.	concre damage greater Cracks g 6mm c pieces f	ificant ete/brick with cracks than 6mm. reater than or missing rom frame	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.		





CONDITION COMMENTS

Precast pedestal in great condition. Panel box in great condition as well as metre box. EYS installed on three pieces of conduit running to panel box, other four do not have EYS installed. Adapter installed to plug-in generator for backup power. Inflow pipe with a splash plate and a outflow with a splash plate. Two floats and two level sensors. Guide bars and chains in good condition. Wet-well has overflow but unknown where overflow drains.

Insulation exposed around wet-well chamber. No rust on hatch cover. Chamber built in a raised grade to be protected from flooding. Valve chamber cover raised as well, however was not inspected as the lock was broken.

Pump #1 - Noisy.

Pump #2 - Some noise.

200mm automatic air intake entering chamber. 200mm ventilation pipe exiting chamber.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Date: 2022.09.08 16:11:23-





Project Name:	East H	Hants Service	е Сара	city Study	Proje	ct No	22642	1			
Reviewer's Name:					Date:	S	ept 8,	2022			
Material Delivered	:				Location:						
					_						
PUMPING STATION											
PS ID		L.S #24	2		YEA	R BUI	LT				
NAME		Burges	s Ro	ad							
ADDRESS		44 Burç	gess	Road							
ТҮРЕ		SUBMERSIBLE DRYV			WELL SUCTION LIFT			SCREW PUMP	OTHER		
BUILDING?		YES		NO	✓	VAL	VES?	YES 🗸	NO		
SCADA?		YES	~	NO		# OF	PUMPS?	2			
RATED CAPACITY (L/					K CAI	PACITY					
WETWELL INV EL (m)					OVERFLOW?			YES✓	NO		
POWER TYPE		SINGLE		3-PHA	SE 🗸	ОТ	HER 🔲 [
BACKUP POWER ON	SITE?	GEN.		ADAPT	TER 🗸	NC	ONE [
SOFT START		YES		NO	~						
		_					•				
PUMP											
PUMP 1 Model #	31	53.18	1		Pun	np 2 l	/lodel#	3153.181	c o		
PUMP TYPE Submersi	- 48	MAKE	Fly	/GT	PUN TYF		Submersible	MAKE	FlyGT		
SERIAL#	SERIAL # 1010119				SERIA	AL#	1010120				
RATED 20		MPELLAR MODEL	46	3	RAT POW	5050660	20	IMPELLER MODEL	463		
FLOATS					FLOATS						
DISCHARGE DIA (mm)	- 11	INST. YEAR	20	09	DISCHA DIA. (m			INST. YEAR	2020		





LIFT STATION INSPECTION FORM CAPACITY HEAD (m) **CAPACITY** HEAD (m) (L/S) (L/S)H-H ELEV. H ELEV. H-H ELEV. H-ELEV. L-L ELEV. L-ELEV. L-L ELEV. L-ELEV. **CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** 1 Age (years) ≥ 20 < 5 5 - 1010 - 1515 - 201 Vibration Major None Minor Moderate Considerable Temperature No unusual Minimal heat by Heat detected by Uncomfortable to Too high to touch heat touch touch touch Moderate Noise No unusual noise Slight whine/rattle whine/rattle, Loud whine/rattle Disturbingly loud easily heard **INSTRUMENTION & CONTROLS** 1&C# **TYPE** PANEL • **FLOW LEVEL** GAS **TEMP PRESSURE OTHER CHEM DESCRIPTION MAKE MODEL** Siemens **SERIAL YEAR CONDITION ASSESSMENT CRITERIA VERY GOOD** GOOD **FAIR POOR VERY POOR** Age (% of manufacturer's recommended 0 - 34%35 - 64%65 - 84%85 - 99% ≥ 100% service life)





				LIFI SIF		NOLE	TION FORM					
MISCELLANEOU	IS HARD	WARE										
CHAINS			YES	NO								
SAFETY GRATIN	G		YES	NO								
LIFTING DAVIT			YES	NO	~							
VEHCILE ACCESS	S		YES 🗸	NO								
CONDITION ASSESSMENT												
CRITERIA VERY GOOD			GOOD	FAIR	F	POOR	VERY POOR					
Age (% of manufacturer's recommended service life)	0-	34%	35 – 64%	65 – 84%	85	– 99%	≥ 100%					
	!			ł.	•							
STRUCTURES												
STRUCTURE #												
TYPE		W	'ETWELL 🗸	VALVE CHAMBER			OTHER					
MATERIAL		cc	ONCRETE 🗸	PLASTIC		C	OTHER					
DIMENSIONS		DIA.	2900	LENGTH [LENGTH							
COVER DIA. (MI	M)			YEAR INSTAI	LED		·					
			CONDITION	SSESSMENT		•						
CRITERIA	VERY G	00D	GOOD	FAIR	РО	OR	VERY POOR					
Visual Observations	concret damage, frame lo	gns of te/brick cover and ok great. g evident.	No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Minor concrete/brick damage no gaps exposed rebar, minor cracking o frame and cover	conci or damage greater n Cracks §	nificant rete/brick with cracks than 6mm. greater than or missing from frame	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame, and cover missing or not safe for use.					





CONDITION COMMENTS

Three chambers on site. Wet-well, valve chamber and possible overflow. Panel and metre box in good condition. Some rust on doors. EYS installed on conduit underneath both enclosures. Adapter installed to plug-in generator for backup power. Alarm system installed.

Locks not working on wet-well and valve chamber. Overflow chamber has water but no inflow pipes. Chamber also has two floats.

Activated pumps and listened with hatch closed. No noise or vibration observed.

Pump #1 - 20,620 hrs

Pump #2 - 5,946.2 hrs

Stainless steel ventilation fan only able to operate in low or high. No option to turn off, similar to Donaldson Ave.

Wet-well above flood plain.

No rust or damage on hatch covers or outside of chambers.

DATE OF INSPECTION	INSPECTOR	SIGNATURE Digitally signed by Matthew
9/8/22	M. Keeping	Malkhew Keeping Date: 2022.09.08 16:23:50 - 03'00'

APPENDIX B

Field Photos





LS #1: Peter Horne Station: Pedestal & Control Panel



LS #1: Peter Horne Station - Inside of Wet-Well

rvanderson.com





LS #1: Peter Horne Station - Inside of Control Panel



LS #2: Sherwood Park - Control Panel & Pedestal







LS #2: Sherwood Park - Safety Grating



LS #2: Sherwood Park - Control Panel





LS #3: Horne Settlement - Control Panel



LS #3: Horne Settlement – Inside of Wet-well





LS #4: Donaldson Ave - Control Panel



LS #4: Donaldson Ave - Inside of Wet-Well





LS #5: Locks Road - Inside of Wet-Well



LS #5: Locks Road - Control Panel





LS #7: Curley Portables - Inside of Wet-Well



LS #7: Curley Portables - Control Panel inside of building





LS #8: Mill – Site



LS #8: Mill - Inside of Valve Chamber



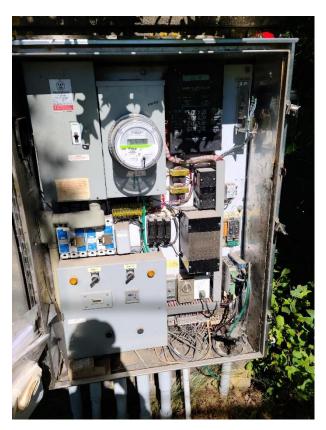


LS #9: Firehall - Damaged hatch cover



LS #9: Firehall - Inside of Wet-Well





LS #9: Firehall - Control Panel



LS #9: Firehall - Pedestal in need of repair





LS #10: Medical Centre - Pedestal and Control Panel Enclosure



LS #10: Medical Centre - Inside of Wet-Well





LS #10: Medical Centre - Control Panel



LS #10A: Pine Grove: Control Panel





LS #10A: Pine Grove - Inside of Wet-Well



LS #11: Old Elmsdale School - Wet-Well hatch cover in roadway





LS #11: Old Elmsdale School - Control Panel



LS #11: Old Elmsdale School – Pedestal





LS #11A: Industrial Park - Pedestal and Control Panel Enclosure



LS #11A: Industrial Park - Conduit not properly sealed





LS #11A: Industrial Park - Inside of wet-well. Note blowout from leaking check valve



LS #11A: Industrial Park - Control Panel





LS #11A: Industrial Park - Broken Hinge



LS #11B: Carmies Daycare - Valve chamber and wet-well





LS #11B: Carmies Daycare - Control Panel & Pedestal



LS #11B: Carmies Daycare - Inside of Wet-Well





LS #11C: Park Road Extension - Pedestal & Control Panel



LS #11C: Park Road Extension - Inside of Wet-Well





LS #12: Elmsdale Legion – Pedestal & detached ventilation pipe



LS #12: Elmsdale Legion - Inside of Wet-Well





LS #12: Elmsdale Legion - Control Panel



LS #13: Lantz Cemetery – Site





LS #13: Lantz Cemetery - Inside of Wet-Well



LS #13: Lantz Cemetery - Control Panel







LS #14: Sportsplex - Inside of Wet-Well

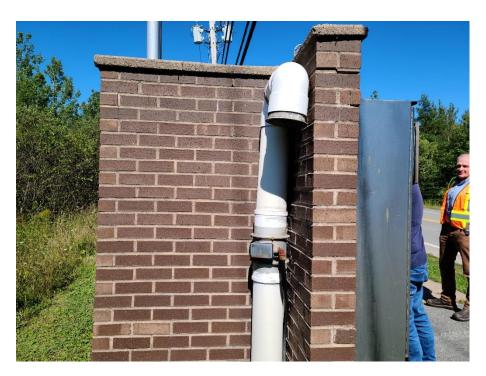


LS #14: Sportsplex: Control Panel





LS #14: Sportsplex - Inside of Valve Chamber



LS #14: Sportsplex - Pedestal with detached ventilation pipe





LS #15: Poplar Drive - Control Panel



LS #15: Poplar Drive - Pedestal with hanging alarm light



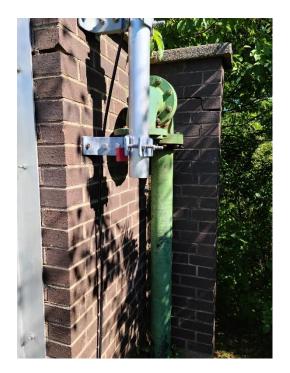


LS #15: Poplar Drive - Inside of Wet-Well



LS #16: Paley Road - Control Panel





LS #16: Paley Road - SCADA mast attached to brick pedestal



LS #16: Paley Road - Pedestal damage





LS #17: Old Public Works Shed - Pedestal damage



LS #17: Old Public Works Shed - Control Panel





LS #17: Old Public Works Shed - Inside of Wet-Well



LS #18: Barney Brook - Loose guide rail bracket







LS #18: Barney Brook - Pedestal with rusty ventialtion pipe



LS #18: Barney Brook - Control Panel







LS #18: Barney Brook - Inside of Wet-Well



LS #19: Isenor Road – Pedestal





LS #19: Isenor Road - Control Panel



LS #19: Isenor Road - Inside of Valve Chamber





LS #19: Isenor Road - Inside of Wet-Well



LS #20: Ross' Hill - Damaged pedestal and rusty ventilation pipe





LS #20: Ross' Hill - Control Panel and unlockable electrical box



LS #20: Ross' Hill - Concrete eroded from around ventilation pipe





LS #20: Ross' Hill - Inside of Wet-Well



LS #21: Main Office - Rusted hatch cover





LS #21: Main Office - Control Panel



LS #22: Havenwood Road - Conduit from wet-well to control panel





LS #22: Havenwood Road - Control Panel



LS #22: Havenwood Road - Inside of Wet-Well





LS #23: Maitland Road: Conduit entering control panel



LS #23: Maitland Road - Control panel





LS #23: Maitland Road - Inside of Wet-Well



LS #24: Burgess Road – Monitor Panel and Power Meter







LS #24: Burgess Road - Control Panel

APPENDIX C

Lift Station Forecasted Replacement

Municipality of East Hants Prepared By: Chad Greenham Date: March 10, 2021

Today's Year

										Municipality	of East Hant	s Lift Station	List					
LS No.		Common Name	Pump #1		Pump #2		T		Wet-Well	Wet-Well	Control	Control	Pump	Wet-Well	Control Panel	Misc.	,	
	Address		Model	Year	Model	Year	Last Service	Pump Life (years)	Hardware Age	Hardware Life (years)	Panel Installation Year	Panel Life (years)	Replacement Cost (Per QTY 1 Pump)	Hardware Replacement Cost (Per Station)	Renlacement	Replacement Costs	Total Replacement Cost	Comments
1	102 Highway 2 ENI	Peter Horne	NP 3102.060	2021	CP 3102.160	2015	2021	20-25	1997	30	1997	30-35				\$5,000.00	\$5,000.00	Install new pedestal and explosion proofing.
2	32 Sherwood Drive ENI	Sherwood Park	3102.095	2017	3102.095	2017	2022	20-25	2020	30	2020	30-35		\$20,500.00			\$20,500.00	Perform maintenace on Pump #2. Replace hardware in wet-well.
3	20 Old Horne Settlement Road ENI	Horne Settlement	NP 3102.060	1996	CP 3102.060	2022	2022	20-25	1996	30	1996	30-35	\$12,100.00			\$1,000.00	\$13,100.00	Replace hinge on cover. Seal inside of wet-well.
4	21 Donaldson Avenue ENI	Donaldson Avenue	NP 3171.181	2008	NP 3171.180	2008	2020	20-25	1992	30	1992	30-35					\$0.00	Perform maintenance on Pump #2 and air ventilation.
5	6A Locks Road ENI	Locks Road	DP 3085.183	2008	DP 3085.183	2017	2021	20-25	1991	30	1991	30-35				\$2,500.00	\$2,500.00	Install explosion proofing. Clear valves.
7	453A Highway 2 ENI	Curly Portables	NP 3301.180	2016	NP 3301.185	2019	2022	20-25	1989	30	1989	30-35		\$1,500.00		\$2,500.00	\$4,000.00	Replace lifting chains. Flush/clean wet-well.
8	595 Highway 2 ELM	Mill (Elmsdale Lumbe	r) NP 3202.180	2011	NP 3201.180	1989	2022	20-25	1989	30	?	30-35	\$68,200.00	\$28,750.00		\$1,000.00	\$97,950.00	Replace Pump #2. Install explosion proofing.
9	730 Highway 2 ELM	Elmsdale Fire Hall	CP 3152	N/A	NP 3153.181	2015	2021	20-25	?	30	?	30-35				\$500.00	\$500.00	Repair pedestal.
10	104 Elmsdale Road (Hwy 214) ELM	Medical Center	CP 3152.181	N/A	NP 3153.181	2009	2022	20-25	?	30	?	30-35				\$5,000.00	\$5,000.00	Replace pedestal. Repair security bar.
10A	81 Pinehill Drive ELM	Pine Grove	NP 3102.160	2018	NP 3102.060	2019	2019	20-25	1988	30	1988	30-35				\$10,000.00	\$10,000.00	Maintenance on valves.
11	235 Elmsdale Road (Hwy 214) ELM	1 Old Elmsdale School	NP 3127.185	2016	NP 3127.160	2016	2020	20-25	?	30	?	30-35		\$22,500.00	\$40,000.00	\$1,000.00	\$63,500.00	Replace control panel. Maintain wet-well.
11A	12 Industrial Way ELM	Industrial Park	CP 3152.181	N/A	NP 3153.181	2015	2015	20-25	?	30	?	30-35		\$25,000.00		\$1,500.00	\$26,500.00	Repair check valve. Perform maintenance on Pump #2.
11B	416 Elmsdale Road (Hwy 214) ELM	Carmies Day Care	NP 3127.181	2015	NP 3127.181	2015	2016	20-25	2005	30	2005	30-35					\$0.00	Perform maintenance on Pump #2.
11C	279 Park Road ELM	Park Road Extension	NP 3127.190	2013	NP 3127.190	2013	No Service	20-25	?	30	?	30-35					\$0.00	Monitor water in valve chamber.
12	849 Highway 2 ELM	1 Elmsdale Legion	NP 3127.060	2021	NP 3127.060	2021	2021	20-25	?	30	?	30-35				\$500.00	\$500.00	Repair pedestal.
13	984 Highway 2 LTZ	Lantz Cemetery	CP 3152.181	1989	CP 3152.181	1989	2017	20-25	1989	30	1989	30-35	\$57,500.00				\$57,500.00	Replace both pumps.
14	1070 Highway 2 LTZ	Sportsplex	NP 3201.180	1990	NP 3202.185	2020	2019	20-25	1990	30	1990	30-35	\$68,200.00			\$5,000.00	\$73,200.00	Replace pedestal and Pump #1.
15	50A Poplar Drive LTZ	Poplar Drive	NP 3102.181	2008	NP 3102.181	2008	2021	20-25	?	30	?	30-35				\$5,000.00	\$5,000.00	Install explosion proofing. Repair pedestal and valve chamber cover. Adjust elevation of floats.
16	21 Paley Drive LTZ	Paley Road	CP 3085.183	1996	NP 3085.183	2016	2020	20-25	1996	30	1996	30-35	\$9,300.00			\$1,500.00	\$10,800.00	Replace Pump #1. Repair pedestal and hatch cover.
17	201 Highway 277 LTZ	Old Public Works She	ed CP 3153.185	2020	CP 3152.181	1990	2018	20-25	1990	30	1990	30-35	\$28,750.00			\$1,500.00	\$30,250.00	Replace Pump #2. Repair pedestal and concrete inside of wet-well.
18	1369 Highway 2 LTZ	Barneys Brook	NP 3153.181	2016	CP 3153.185	2022	2022	20-25	?	30	?	30-35		\$25,000.00		\$5,000.00	\$30,000.00	Install new pedestal, explosion proofing, and wet-well hardware.
19	43 Isenor Road LTZ	Isenor Road	NP 3185.070	2020	NP 3082.180	2020	2020	20-25	2020	30	2020	30-35				\$1,000.00	\$1,000.00	Repairing opening in concrete slab under panel and seal between risers in valve chamber.
20	1457 Highway 2 LTZ	Ross' Hill	CP 3102.180	1997	NP 3102.181	2007	2018	20-25	1991	30	?	30-35	\$12,100.00	\$5,000.00		\$5,000.00	\$22,100.00	Replace Pump #1. Perform maintenance on Pump #2. Repair concrete around ventilation pipe. Replace pedestal.
21	2402 Highway 2 MIL	Main Office	NP 3127.060	2021	NP 3127.060	2021	2021	20-25	?	30	?	30-35		\$22,500.00			\$22,500.00	Most of equipment requires refurbishment due to rust and corrosion.
22	8 Havenwood Drive SHI	J Havenwood Road	DP 3085.183	2021	DP 3085.183	2021	No Service	20-25	1988	30	?	30-35					\$0.00	No repairs needed.
23	2848A Highway 2 SHI	J Maitland Road	NP 3153.181	2009	NP 3153.181	2009	2022	20-25	1992	30	?	30-35				\$7,500.00	\$7,500.00	Install explosion proofing. Replace lock on valve chamber cover
24	44 Burgess Road SHI	J Burgess Road	NP 3153.181	2009	NP 3153.181	2020	2020	20-25	?	30	2010	30-35					\$0.00	No repairs needed.

\$256,150.00 \$150,750.00 \$40,000.00 \$62,000.00 **\$508,900.00**

APPENDIX D

Lift Station Mapping

