REPORT

Sanitary Sewer Master Plan Update

Prepared for: Village of Weston, Wisconsin

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Date: October 2019

Professional Consulting and Design Services

Clark Dietz

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Executive Summary

Clark Dietz, Inc. was retained by the Village of Weston to prepare a Sanitary Sewer Master Plan Update. This Master Plan describes the existing system, available capacity, deficiencies, and the needs of the future system. The Master Plan serves as a short- and long-term guide for the Village. The plan includes a list of recommended improvements to ensure the long-term reliability of the sewer system.

The plan includes items such as:

- A condition assessment of the existing system components (sewers and lift stations).
- Review of the existing Capital Improvement Plan.
- Recommended short-term capital projects.
- Recommended long-term capital projects.
- General locations of future system additions.

The current and future needs of the system were evaluated. Modeling examined the existing system for possible limitations and deficiencies when future flows are added.

The Master Plan includes the following recommendations:

- Various lift station improvements.
- Installation of a SCADA system to incorporate the lift stations.
- Cleaning all force mains.
- Institution of a sewer televising program.
- Institution of a sewer lining program.
- Completion of the intergovernmental agreements with the City of Schofield and the Village of Rothschild.

1.0 Introduction

1.1 Project Summary

This report presents the Sanitary Sewer Master Plan Update for the Village of Weston, Wisconsin. Weston's last Sanitary Sewer Master Plan was completed in 2004. The Village has experienced extensive growth and development since the completion of that report.

This report provides a condition assessment for the Village of Weston's sanitary sewer system, evaluates deficiencies within the sewer system, and recommends necessary improvements to accommodate future development. The evaluation includes an investigation of land use, identification of sensitive areas and potential areas of concern, a review of current monitoring data, and an analysis of the Village's Geographic Information System (GIS).

1.2 Purpose and Scope

The purpose of this study is to prepare an inventory, identify shortfalls, and define opportunities for improvement within the Village of Weston's sanitary sewer system. Additional growth is again expected in the Village, which will have a direct effect on the sewer system. There has been recent interest in additional residential development both in infill areas of the Village's Utility service footprint and in areas just beyond. The Village has been working in-house and with developers on projects such as a mixed-use development at the Highway 29 and County Trunk Highway (CTH) X interchange, and a recreational complex on Weston Avenue east of CTH X currently envisioned as an 80-acre passive use park on the east side of Ryan Street, with a possible sports complex just east of this property. The two types of development, commercial mixed-use and recreation, are expected to spur additional residential and commercial development. The new development is expected to occur along the Weston Avenue corridor and other areas of the Village.

The Village wishes to develop a plan for upgrading the Weston Avenue corridor between CTH X and CTH J, and for planning purposes, one component of the Sewer System Master Plan is to provide direction for the sewerage system to best serve the corridor.

Overall the study also provides direction for sewerage system evaluation, interceptor placement, lift station siting, alternative collection system layout and design, capital improvements planning, and general land use/serviceability planning. The study also includes an evaluation of anticipated wastewater generation and flow capacity.

Some of the goals of the study are:

- Revisit the recommendations for low pressure force main sewers in combination with grinder pumps vs. gravity sewers.
- Address the design and recommended data to be gathered through a SCADA system for the wastewater pumping stations.
- Provide evaluation of options for serving currently unserved areas of the Village on private wastewater systems (approximately 500 homes at present) with estimated costs for those options.
- Provide evaluation of options for alternative construction methods for replacement or rehabilitation of existing facilities.

The master plan includes a number of recommendations for sewer system improvements. This is the first step toward preparing a comprehensive Capital Improvement Plan (CIP). By completing a CIP, the Village can prepare and manage the information necessary to allow those responsible for the Village's sanitary system to make informed decisions and set priorities for maintenance and replacement of the infrastructure. Future steps in the planning process include:

- Identifying capital improvements and maintenance projects.
- Implementing a CIP program.

- Implementation of CIP recommendations.

This study includes a detailed inventory of the infrastructure associated with the Village's sewer utility. The condition of the utility is examined and recommendations for improvements are made. Recommendations are based on compliance with all applicable federal, state, and local codes and standards. The study includes a preliminary cost estimate for these improvements.

Another part of the Master Planning process is the analysis of the Village's existing GIS. This database is a comprehensive compilation of the Village's information about their utilities and streets. GIS allows the user to record and identify detailed information about a municipal system. Weston's GIS can be expanded to develop a maintenance and replacement plan for various components of their sewer system.

1.3 Related Studies and Reports

The following reports were utilized extensively in the preparation of this sewer system master plan update:

- "Wastewater Interceptor Master Plan, Weston Sanitary District", Becher-Hoppe, Inc., March 1992.
- "Wastewater Interceptor Master Plan Study, Village of Weston", Becher-Hoppe Associates Inc., March 2004.
- "Village of Weston Request for Proposal to Update Sanitary Sewer Master Plan", Weston Municipal Utilities, September 2017.
- "2017 Interceptor Sewer Cleaning and Condition Assessment Reports", Diversified Infrastructure Services.

2.0 Sewer System Description

The Village of Weston is located in east-central Marathon County. It is adjacent to the Cities of Schofield and Wausau, the Villages of Rothschild and Kronenwetter, and the Towns of Ringle and Weston. The population of Weston was 14,868 in the 2010 Census and was estimated at 15,167 in July 2017. The Village's location is shown on the map in Appendix A. The map, and all others in this report, were taken from Weston's current GIS system. It shows the Village limits, major roadways, and local water bodies.

The Village's wastewater collection system consists of approximately 98 miles of collection mains, 1,963 manholes, and 13 wastewater lift stations. The majority of the Village of Weston's sanitary sewer system discharges to the Rib Mountain Metropolitan Sewerage District (RMMSD) treatment facility, along with flow from the Villages of Rothschild and Kronenwetter, Rib Mountain Sanitary District, and the City of Mosinee. Flow to RMMSD is metered at two locations on the west side of the Village. A small area on the northwest side of the Village discharges to the City of Schofield's sewer system and is ultimately treated at the City of Wausau's wastewater treatment facility. The Village's sewer system, along with the discharge locations, is shown on the map in Appendix B.

Weston's current land use is shown in on the map in Appendix C. Major industrial and commercial corridors are located along Highway 29, Business 51 (Grand Avenue), and Schofield Avenue. Residential areas are located north of Schofield Avenue and the southwest portion of the Village. Undeveloped areas are located south of Weston Avenue and adjacent sections of the Town of Weston located to the northeast.

2.1 System Map and GIS

Weston has its own current GIS and a well-developed system map. Village staff continue to upgrade the GIS and insert new data as available and applicable. Appendix B includes a map of the sewer system.

2.2 Sanitary Sewersheds

Weston's collection system is composed of Sewer Districts, as shown on the map in Appendix D. Three of the basins eventually discharge to RMMSD's sewer at the Hardees outlet, while the other eight discharge at the Cedar Creek outlet. Both outlets empty into RMMSD's sewers and continue on to the plant for treatment.

2.3 Overview and History

In 1992 the (then) Weston Sanitary District completed a study of wastewater transmission needs. The projects identified in that plan were incorporated into the Village's Capital Project Plan for development of its Tax Increment Finance District #1 which was opened in 1997. The major component of that plan was the Cedar Creek Interceptor extension, south of Highway 29, following a route on Von Kanel Street, CTH X, Shorey Avenue and then the Cedar Creek itself. It also included recommendations for the Village's existing lift stations and force mains.

Much of the infrastructure envisioned in the original TIF #1 project plan was constructed by the year 2005. During that same period of time, the Village also experienced a surge of residential development and routinely executed various street and utility reconstruction projects throughout the Village. Since approximately 2008, the Village has not undertaken any significant amount of capital construction projects.

Several studies of the Village's wastewater system were accomplished in the late 1990's and early 2000's, corresponding to growth. In 1998/1999 CWE, Inc., performed a study of options to serve impending residential growth on the north side of the Eau Claire River.

The Village conducted an in-house evaluation of the sewerage collection system capacity in the early 2000's. In 2017, the Village conducted a condition assessment of its interceptor sewers.

In 2004, Becher-Hoppe developed a master plan for serving areas beyond the footprint of the existing wastewater collection system. That study recommended that much of the service, to currently unserved areas of the Village, be provided through the implementation of low-pressure force main sewers. This study noted that the Village of Weston's population growth had exceeded the 1992 projections.

Necessary improvement projects have been completed at the wastewater pumping stations over the years. Most of the stations now include submersible pumps. The two largest stations in the collection system are of a deep well, flooded suction design. The pumping stations are not currently integrated into the Village's SCADA system.

Since the 1992 and 2004 sewer system master plans were completed, industrial development has continued, and commercial growth has expanded in various parts of the Village. Residential subdivisions have also expanded, and additional homes continued to fill in existing neighborhoods. The sewer system continues to expand along with development.

2.4 Age and Type of Sanitary Sewers

An inventory of the size and material of all sewers in the system by basin was provided by Village Utility staff. The inventory can be found in Appendix E; a summary is shown in Table 2-1. The table shows that the majority of the system consists of PVC pipe, with ABS/truss pipe the next most common material in the system. The inventory in the appendix also lists the total number of manholes in each sewershed.

Table 2-1: Weston Sanitary Sewers

	Total Amount of Pipe (all Basins)	% of System
ABS/Truss	69,235	13.4%
Ductile Iron	15,334	3.0%
PVC	357,329	69.3%
Polyethylene	315	0.1%
Concrete	15,962	3.1%
Asbestos Cement	23,811	4.6%
Unknown	33,559	6.5%
	515,545	feet
	98	miles

2.5 Sewer System Problems

Weston's sewer system does not experience many system backups or overflows, and there are very few issues associated with infiltration and inflow (I/I) during wet weather events. According to operations staff, problems only occur regularly at the locations identified in Table 2-2.

Table 2-2: Sanitary Sewer Problem Spots

Location	Manhole ID	Sewer Issue	Recommendation
Schofield Ave	MH MXS250	Plugs, concrete in flow line	Clean and televise line
Camp Phillips Road	MH 61-321	Plugs	Televise line
Concord	MH 61-322	Roots in flow line, freezes	Clean and televise pipe, check depth, line section
Schofield Ave	MH 61-56	Plugs on Willow	Possible backflow condition, check depth
Schofield Ave	MH 61-51	Plugs on Cherry	Possible backflow condition, check depth
Military	MH HYN117	Flow line needs to be cut	
Alderson	MH 61-60	Plugs from Target	Clean and televise line; work with customer
Connie	MH MXS 154	Plugs	Clean and televise line
Ross Ave	Pipe WWP 1679/WWP 76	Sewer freezes	Clean and televise pipe, check for depth & backflow
Ross Ave	Pipe WWP 75/WWP 77	Sewer freezes	Clean and televise pipe, check for depth & backflow

In addition, the following are concerns in the system:

2.5.1 Cedar Creek Interceptor

The Cedar Creek interceptor was constructed in the mid-1990s and consists of 15-, 18-, 20-, and 21-inch PVC, ductile iron, and concrete sewers. The interceptor is located in the southwest corner of the Village and carries a large portion of the Village's sewage flow. The interceptor contains an inverted siphon that might surcharge. Additional investigation is needed to verify flow conditions in the interceptor. The Village is in the process of obtaining a WDNR permit to access the wetland location of the interceptor in order to perform televising. The access road to the interceptor is planned for 2020 construction.

2.5.2 Grease Buildup

A flat sewer is installed in Schofield Avenue from Fuller Street and extends west approximately one-quarter mile. Some restaurants are located along this stretch, and grease buildup is a problem in the flat sewer. A similar problem occurs in some residential areas of the Village. Some of the grease eventually makes its way to the lift stations, where it forms a heavy layer on the surface of the wet well over time.

2.5.3 Clear Water Inflow

Clear water seepage in manholes is a problem in what is referred to as the "annexed area". This area is located south of Highway 29 and west of Alderson Street. It is located within the Village of Rothschild, but Weston owns the utilities. There are also some smaller areas in the Village of Rothschild where customers discharge to parts of the Rothschild collection system which then discharges to the Weston collection system. The Village of Weston would like to update all existing sewer service agreements by replacing them with a single agreement which would include adoption of a sewer use ordinance common to both municipalities. The new ordinance would provide Weston the authority to enforce its ordinances in Rothschild.

2.6 Recent System Improvements

In recent years the Village completely replaced the Ross Avenue and Mesker-Colleen lift stations. The pumps at the Evergreen Point lift station were replaced, and a third pump was added at the Mesker-Jelinek lift station.

2.7 Condition Assessment

Public Works staff currently only televises sewers to judge pipe conditions before street reconstruction projects. They also make general notes about the condition of manholes while they are conducting cleaning operations. Those paper copies are currently being entered into GIS so they can be tied to the individual manholes.

Weston's thirteen lift stations were evaluated as part of this study. See Chapter 3.

The Village contracted with Diversified Infrastructure Services to conduct a condition assessment of its interceptor sewers in 2017. The assessment included televising of sewers in Alderson and Normandy Streets, as well as the Hardees, Schofield, and Cedar Creek interceptors. Manhole inspections were also performed.

2.7.1 Alderson Street and Normandy Street Sewers

Approximately 3,550 feet of sewers on Alderson and Normandy Streets were inspected. A collapsed sewer was found near manhole JDC131 on Alderson Street just south of Highway 29. A hole was identified near JKS108 on Normandy Street extended just south of Highway 29. Another hole was found near JKS131 at the intersection of Frontage Road and Mead Drive. Spot repairs are recommended at these locations.

One section of pipe in poor condition was found between JKS106 and JKS154, which is the Normandy Street crossing under Highway 29. Numerous deposits and dripping joints were found in this section. This section should be cleaned thoroughly and lined.

2.7.2 Cedar Creek Interceptor

Almost five miles of the Cedar Creek Interceptor were televised. One of the main problems found in the sewer were numerous grease deposits between manholes CCE273 and CCE105, which is along Camp Phillips Road south of Meadow Rock Drive. Hardened mineral deposits were also found in the section between manholes CCE242 and CCE266 (along Shorey Avenue, just west of Camp Phillips Road to Windemere Place), and then throughout the remaining length of the inspected sewer. Once the Village completes its wetland access permit, heavy cleaning of the interceptor is recommended. Mineral deposits usually indicate open, dripping joints. When the deposits are removed, lining should be considered. Joint grouting or WEKO-Seal could be used if the sewer is good condition. Because the Cedar Creek Interceptor is such an important part of the Village's collection system, these sections should be made high priorities in any future lining program.

2.7.3 Hardees Interceptor

Televising was performed on just over five miles of the Hardees Interceptor. The main problems found throughout the inspected length of sewer were standing water and numerous sags in the pipe. Some areas with several sags were between manholes JKN103 and JKN155, which is on Ferge Street south of Post Avenue, and near JKS148 at Schofield Avenue and Pine Street. At this point no immediate improvements are recommended. Improvements to the sewer may be necessary if future flows significantly increase the volume of water in the sewer.

2.7.4 Schofield Interceptor

Almost two miles of the Schofield Interceptor were televised. Throughout the first two-thirds of the inspected length, numerous mineral deposits were found along the flow line. In the rest of the televised sewer, fine roots were frequently found. Cleaning is recommended along the entire length, with heavy cleaning being performed to review the hardened mineral deposits. When the deposits are removed, lining should be considered. Joint grouting or WEKO-Seal could be used if the sewer is good condition.

One spot repair is recommended near Manhole 381, where a hole and heavy leak were found.

2.8 Field Assessments

Clark Dietz staff inspected the Village's thirteen lift stations to inventory the capabilities and condition of each facility. Relevant as-built plans, maintenance records, pump curves, and run logs were collected as available. This data is included in Chapter 3.

Sewer flow testing was conducted to determine average flow rates and patterns throughout the Village including in/out of all pump stations. Five flow meters were installed throughout the Village in locations that were agreed upon with Village staff and Clark Dietz. The meters were strategically located to assist in the review/identification of average flow rates for residential (single and multifamily), commercial, hotel/motel, and apartment land uses. Data was collected throughout a three-month metering period. Flow metering results are included in Chapter 4.

2.9 Maintenance Plan

Weston does not currently have a formal maintenance plan for their sewer system. Public Works staff would like to develop a regular maintenance program that includes sewer televising and manhole inspections. Currently televising only occurs to judge pipe conditions before street reconstruction projects.

The Village has its own sewer jetting truck and camera. Staff tries to clean approximately one-third of the system annually. Ideally the jetting operations would be followed by televising. Current department staffing and responsibilities do not allow time for televising.

Very little sewer lining has occurred to date. The Village's first-ever lining project took place within the last couple years on Alderson Street due to a break in the sewer. It is recommended that the Village begin a lining program with the sections of the interceptor mentioned in Section 2.7. These include:

- Alderson and Normandy Streets between manholes JKS106 and JKS154
- Cedar Creek Interceptor between manholes CCE242 and CCE266
- Sections of the Schofield Interceptor

These sewers should be prioritized for lining after televising and inspection have been completed.

2.10 Unsewered Areas

Weston's current policy is that residents with onsite sewage systems are required to connect to the municipal sewer system when it is available. The determination of availability is done on a case-by-case basis if an existing home needs to convert from a private onsite system. The evaluation is typically a comparison of the costs of replacing a private system vs. connection to the municipal system. Village staff believes a better-described policy which includes more Village contribution to projects is necessary to accomplish conversions from private to public sewer service.

The 2004 master plan identified options for serving areas beyond the boundaries of the existing wastewater collection system. That study recommended that unsewered areas should be connected to the existing gravity system where conveniently available. It also stated that a system of low-pressure force main sewers should be installed to serve many of the remaining areas.

A low-pressure force main was installed on Camp Phillips Road north of Ross Avenue. To date one customer has connected to the force main. Potential customers have complained about the seemingly high cost of connecting to the system.

Marathon County is now monitoring private wells and sanitary systems more closely than it has in the past. This may aid the Village in their plans to connect outlying areas to the municipal system. This current version of the master plan will examine the best methods for serving these areas, many of which are quite remote from the Village boundaries, with municipal sewer service. Areas that might be served with low-pressure systems include the Weston Avenue corridor east of Heeren Street and areas of the Town of Weston located to the northeast of the Village boundaries.

2.11 Projected Future Development

The Wisconsin Department of Administration (DOA) develops population projections for all civil divisions within the state. Table 2-3 was taken from DOA estimates and shows that population growth is expected to continue in Weston. Since the Town of Weston incorporated as a Village in 1996, population numbers have been steadily increasing. The Village is adjacent to the City of Wausau and features developing industrial, commercial, and residential areas, along with good access to Highways 29 and 51. The DOA and North Central Wisconsin Regional Planning Commission (NCWRPC) have estimated that 870 acres will need to be developed to house the additional population in 2040. Weston staff have forecasted continued development in the areas discussed below.

Table 2-3: Wisconsin Municipal Population Projections, 2010-2040

Place Type and Name	2010 Census	1/1/2013 Estimate	2015 Projection	2020 Projection	2025 Projection	2030 Projection	2035 Projection	2040 Projection
V Weston	14,868	15,052	15,520	16,770	17,870	18,890	19,700	20,330

Source: Wisconsin Department of Administration, vintage 2013

2.11.1 Camp Phillips Center

Design development of the Camp Phillips Center is currently underway. This 160-acre mixed-use development will be located on the east side of Camp Phillips Road just south of Highway 29. Preliminary layouts of the proposed development have been submitted and are awaiting review. The plans show large lots for big-box stores along the highway, with mixed commercial and residential areas. Planned residential lots include both single- and multi-family. The site layout includes green spaces and stormwater management facilities. Sewage from the Camp Phillips Center will be directed to the 15-inch gravity sewer that flows to the southwest into the Cedar Creek Interceptor.

2.11.2 Weston Avenue Corridor

The Village is currently in the process of developing a plan for future development of the Weston Avenue corridor. It includes an area of approximately 11 square miles and is bounded by Highway 29 to the north, CTH X (Camp Phillips Road) to the west, CTH J to the east, and the Village Limits (Nick Avenue extended) to the south. Weston has been active in encouraging commercial development in this area; it includes the Camp Phillips Center commercial mixed-use development at the Highway 29 /CTH X interchange. Residential development activity will also be an important part of the future Weston Avenue corridor.

In concert with the proposed roadway improvements of Weston Avenue between CTH X and CTH J, there are several potential land development visions that will impact the future of sewer service in this area. Factors that need to be evaluated for sewer service improvements on Weston Avenue are:

1. Commercial mixed-use development at the Highway 29 – CTH X interchange
2. A planned, Village-driven recreational complex on Weston Avenue approximately 1.5 miles east of CTH X
3. A passive use park currently envisioned in a nominal 80-acre tract on the east side of Ryan Street, north of Weston Avenue
4. A potential sports complex, just east of the passive use park
5. A future D.C. Everest school district facility located on the east side of Heeren Street, south of Weston Avenue
6. Anticipated future economic development activity along Weston Avenue corridor spurred by the planned projects

Two types of development, commercial mixed-use and recreation, are expected to spur additional residential and commercial development. The new development is expected to occur along the Weston Avenue Corridor and other areas of the Village.

2.11.3 Residential Development

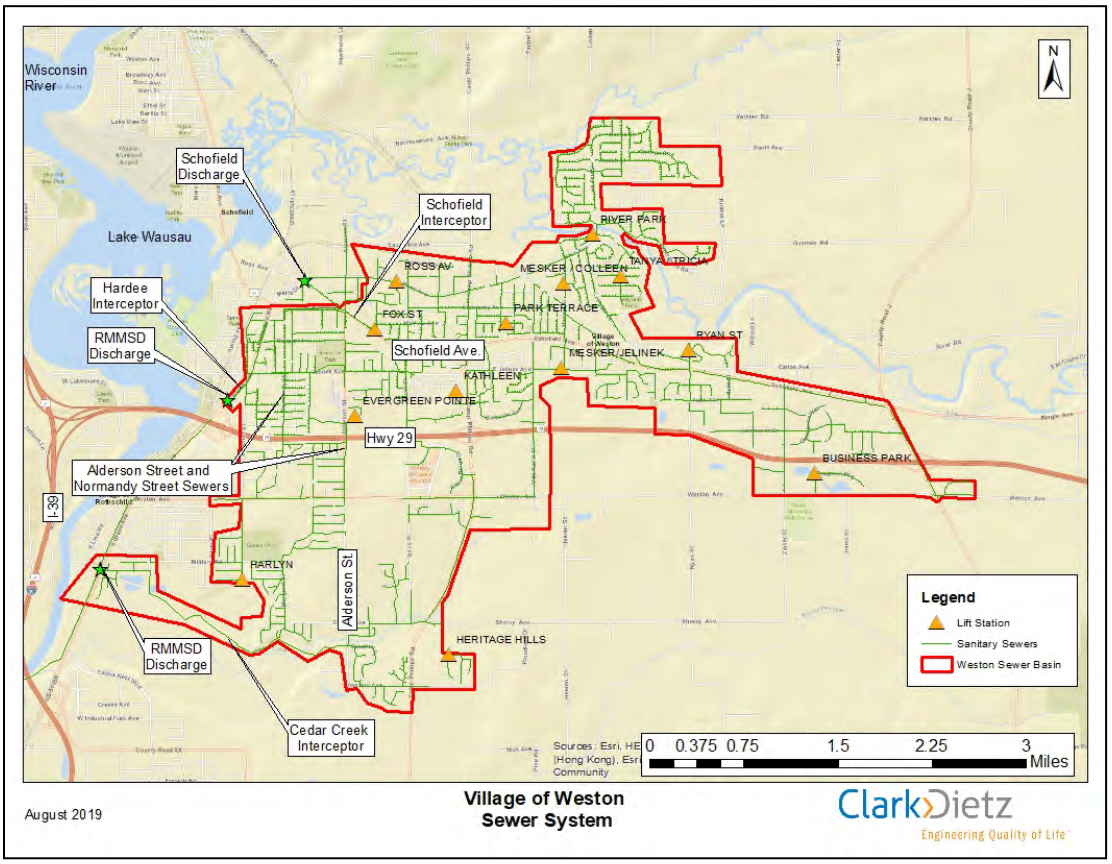
Prime areas for residential development will include infill areas and areas of the Town of Weston located to the northeast of the Village. A map of potential future residential development areas in included in Appendix C. Zoning will primarily be single-family, and lot sizes will vary.

3.0 Lift Stations

3.1 Lift Station Overview

The locations of the Village's 13 lift stations are shown on Figure 3-1. Recently the Village has specified the construction of submersible pump designs with valve vaults to replace the existing pumping stations. The Village has also taken steps to eliminate any remaining vacuum-primed lift stations and currently only has two remaining. The two largest stations in the Village's collection system are of a deep well, flooded suction design. None of the pumping stations are currently integrated into the Village's SCADA system.

Figure 3-1: Sewer System Map



The Mesker-Jelinek and Fox Street lift stations are two of the most critical in the Village. Failures at these stations pose the greatest immediate risk to residents and property. Mesker-Jelinek is a large flooded suction station that handles all flow from the east-side commercial area along Schofield Avenue and the northeast residential part of the Village. Flows are then directed to the southwest and eventually enter the Cedar Creek Interceptor. The Fox Street station is another large, older station with dry pit pumps that handles flow from the commercial properties along Schofield Avenue.

3.1.1 Recent Station Upgrades

The Ross Avenue and Mesker-Colleen lift stations were upgraded in 2016. At both stations, the wet well-mounted vacuum primed pumps were replaced with submersible pumps and an integral valve vault. The electrical and controls at both the stations were also updated, and flow meters

were added. A feasibility study was completed for the Ross Avenue service area, which included the calculation of future flows.

A third pump was added to the Mesker-Jelinek station in 2017 to handle increasing flows.

3.1.2 Pump Performance

Hour meter readings and the startup pump capacities are used to calculate the average flows at each of the stations. There is some inherent error in these calculations, since pumps wear over time and don't maintain their original design capacity indefinitely. The average daily flow at each station is shown in Table 3-1 below. The pumping data was provide by Village Utility staff.

Table 3-1: Average Lift Station Flows

Lift Station	Pump Capacity (gpm)	Average Flow (gpd)				
		2015 [1]	2016 [2]	2017 [3]	2018 [4]	**Overall**
Evergreen Point	200	7,838	11,854	9,991	10,428	**10,028**
Fox Street	1,060	437,623	425,535	435,634	436,985	**433,944**
Harlyn Avenue	80	43,863	44,023	48,615	51,376	**46,969**
Kathleen Street	40	1,068	1,431	1,872	1,589	**1,490**
Mesker-Colleen	155	59,143	66,626	88,449	87,772	**75,498**
Mesker-Jelinek	1,300	526,254	582,094	559,420	480,740	**529,696**
Park Terrace	80	3,963	4,351	3,670	3,749	**3,933**
Eau Claire River	470	70,652	71,420	72,478	71,744	**71,574**
Ross Avenue	223	27,175	26,936	23,941	28,362	**26,604**
Ryan Street	600	82,090	76,081	76,320	79,910	**78,600**
Tricia/Tanya	100	31,839	30,705	26,801	28,798	**29,536**
Heritage Hills	80	4,580	5,551	5,890	6,742	**5,691**
Business Park	100	2,316	3,381	2,052	3,105	**2,714**

Notes:

1 Fox Street total calculated based on missing January and December data.
Eau Claire River total calculated based on missing April data.
Mesker-Colleen pump capacity was 130 gpm (155 gpm started in 2017).
Ross Ave. pump capacity was 100 gpm (223 gpm started in 2017).

2 All station totals calculated based on missing February data (except Mesker-Jelinek, where data is present).
Mesker-Colleen pump capacity was 130 gpm (155 gpm started in 2017).
Ross Ave. pump capacity was 100 gpm (223 gpm started in 2017).

3 All data was present however there were some errors in the number of hours entered into the spreadsheet that caused the huge daily flow. Errors have been fixed.

4 Fox Street total calculated based on missing May - December data.
Mesker-Jelinek total calculated based on missing May - December data.

3.2 Force Mains

All force mains in the Village were constructed at the same time as the original lift stations. They vary in size from 2.5-inch at the Kathleen Street station to 10-inch at the Mesker-Jelinek station. None of the force mains have been televised or rehabilitated.

3.3 Maintenance Plan

Village staff regularly visit each of the lift stations to perform operation checks and cleaning. The station's controls are set up to record hour meter readings, which are then read by staff every 2 – 3 days when they make site visits. The wet wells at all the stations are drained and cleaned by staff at least twice a year.

3.4 Condition Evaluation

Village staff provided data related to the capabilities of each lift station, as well as as-built plans, maintenance records, pump curves, and run logs. The table below gives a summary of the lift station data.

Table 3-2: Lift Station Summary

Lift Station	Pump Type	Number of Pumps	Design Capacity (gpm)	TDH ft	Manufacturer	Motor (Hp)	Site Visit Notes
Evergreen Point	Submersible	2	200	25	Barnes		Panel tips on concrete pad Pumps replaced in 2016
Fox Street	Vertical Dry-pit	2	1060	24.5	Smith & Loveless	10	Gate valves were recently replaced Has flow meter and telemetry One pump recently rebuilt Other pump needs to be rebuilt Emergency generator onsite Lower level fan needs to be replaced Pumps plug at least once a month
Harlyn Avenue	Suction Lift	2	80	35.6	Smith & Loveless	5	Gets wet inside when it rains Difficult to get and keep pumps primed Regular rag/clogging problem Dehumidifier in dry well
Kathleen Street	Submersible Grinder	2	36	44	Barnes	3	One new and one old pump - don't perform equally Poor wiring setup Difficult to change floats Low run times Hinge broken on cover

Mesker-Colleen	Submersible	2	155	37.5	Hydromatic	7.5	Replaced within past few years Experiences heavy grease buildups Many pump starts/stops Has level transducer Onsite generator
Mesker-Jelinek	Flooded Suction	3	1300	140	Smith & Loveless	75	Some odor near wet well Cracks on wet well to be repaired Experiences grease buildup Mixer failed but is in place Leak on Pump 1 discharge piping Pump 2 needs bearing and impeller upgrades Onsite generator Has flow meter
Park Terrace	Submersible	2	80	14.3	Hydromatic, Barnes	2	Pumps don't perform equally
Eau Claire River	Submersible	2	470	76	Hydromatic, Barnes	20	Contractors currently repairing deterioration of concrete cover Experiences grease buildup Has level transducer Onsite generator
Ross Avenue	Submersible	2	223	48.5	Hydromatic	10	Replaced within past few years PLC has to be reset occasionally Many pump starts/stops Emergency generator onsite
Ryan Street	Submersible	3	600	69	Hydromatic, Barnes	50	Valve vault in low area and full of water No sump pump/drain in valve vault Has transducer Low run times Experiences heavy grease buildup
Tricia/Tanya	Suction Lift	2	100	42	Smith & Loveless	5	Sump pump failed Gets wet inside in wet weather Experiences heavy grease buildups Mixer didn't help grease problem
Heritage Hills	Submersible	2	80	62	Barnes		Driveway in poor condition
Business Park	Submersible	2	100	26.5	Barnes	2.8	Check valves stick at times Very low flows

Onsite inspections of the Village's 13 lift stations were conducted by Clark Dietz in summer 2018 with one of Weston's operators. The lift station condition assessment forms are included in Appendix F. The inspections found that in general most stations are in good condition. Village staff routinely check and monitor each of the stations, and they are kept clean and in good working order. It is recommended that

Village staff develop a standardized checklist for these routine visits to the stations. Most of the stations have a pipe installed in the wet well so staff can quickly hook up a vac truck to clean the wet well. Grease problems only occur at a few of the stations, such as Mesker-Colleen, Mesker-Jelinek, Ross Avenue, Ryan Street, and Tonya/Tricia. Many of the stations have very low pump run times, either because they were sized for future development that has not yet occurred (as at the Business Park lift station), or because they have very small service areas (such as the Kathleen station). Most of the stations either have a generator plug installed on the electrical panel or an onsite generator.

In the past several of the small stations were operating with pumps of varying sizes, resulting in uneven run times and station performance. The Village has made an effort to replace pumps and impellers so that each station has two identical pumps.

In some cases, maintenance work needed at the various stations was identified by the operator. Those can be seen on the assessment forms in Appendix F.

3.5 Existing Deficiencies

The Sewer Utility has been working to replace all the vacuum primed pump stations that date back to the 1980's. There are two remaining vacuum primed stations to be replaced: the Harlyn Avenue station and the Tanya/Tricia station. These stations will be converted to submersible pump style stations to improve equipment reliability and safety for staff conducting routine operation and maintenance activities.

Grease buildup has been identified as an ongoing problem throughout the sewer system. Grease accumulates in the lift station wet wells and develops a thick mat on top of the water surface. Submersible mixers have been installed in some of the lift stations, but they have been unsuccessful in breaking up and flushing out the grease.

3.6 Capacity Limitations

None of Weston's lift stations have known capacity limitations. Most of the stations have significant available capacity, as evidenced by the low pump run times. None of the stations currently require upgrades due to flow overloading.

3.7 Recommended Lift Station Improvements

The recommended improvements include:

3.7.1 Harlyn Avenue Lift Station

This station is currently equipped with two Smith & Loveless suction lift pumps. It is located in the southwest part of the Village and serves a small residential area. Utility staff have been planning the conversion of this station to submersible pumps, as identified in the Village's Capital Plan for the Sewer Utility. A replacement station was designed and construction began in October 2019. This station is over twenty years old and has been experiencing more frequent errors and call-outs for staff after hours. Water also leaks into the station during wet weather. The existing pumps are difficult to get and keep primed, and they usually must be primed simultaneously. It is recommended that the station upgrade be included as a near-term capital improvement. The upgrade should include provisions to deal with recurring clogging/rag issues at the station.

3.7.2 Tanya/Tricia Lift Station

This is another station that is currently equipped with two Smith & Loveless suction lift pumps and is planned for conversion to submersible pumps. It is located in the northeast part of the Village near the Eau Claire River and serves a small residential area. Replacement of this station is also

identified in the Village's Capital Plan for the Sewer Utility. The station is partially below grade and gets wet inside during rain events. It is recommended that this station upgrade also be included as a near-term capital improvement. The upgrade should include provisions for handling the station's recurring heavy grease problems. Three-phase electrical power would also have to be brought to this site.

It was originally thought that the Tanya/Tricia station would be a temporary station. The station could possibly be eliminated if the flow to the station is redirected to Ryan Street. A brief lift station analysis should be completed prior to redesigning/replacing the station. The analysis should examine the existing and planned future sewer system in the area, including depth, sizing, and locations. The possibility of accessing the Ryan Street station through wetlands and easements along the Eau Claire River should also be considered.

3.7.3 Ryan Street Lift Station

This station consists of an underground valve vault and separate wet well. The valve vault is located in a low spot just off the street, where it is subject to significant storm water runoff. During the site visit, the valve vault was completely full of water, and we could not inspect the condition of the interior piping. There is no sump pump or drain to the wet well. It is recommended that a riser be installed on the cover so the access hatch can be elevated. A sump pump and/or drain should also be installed to handle any future flooding of the vault.

The Ryan Street station is over twenty years old and one pump has been replaced. Run times are still very low. It is estimated that residential development to the northeast in the Town of Weston could be discharged to this station. Village staff should plan for a major rehabilitation project at the Ryan Street station in the five- to ten-year range. Pump sizing should be evaluated at that time to determine the actual future flow to the station.

3.7.4 Park Terrace Lift Station

This station has two different submersible pumps – one Hydromatic and one Barnes, and they do not pump equally. This is a small station in a residential neighborhood and the varying pump performance does not currently cause problems for the operators. In the future the pumps should be replaced with two identical pumps capable of the same operational performance.

3.7.5 Fox Street Lift Station

One of the pumps in this large station was rebuilt a couple years ago. The other pump also needs to be rebuilt. The station regularly experiences plugs in the pumps. When the pumps are replaced in the future, the new pump impellers should be specially selected to prevent clogging, or the installation of a grinder should be considered.

3.7.6 Mesker-Jelinek Lift Station

This large station was put into operation in 2004 and has been very dependable for the Village of Weston. Several other stations pump into its service area, leading to some grease accumulation, but operators are able to take care of it with regular cleaning. One pump was recently replaced and operators are currently performing rehabilitation on another pump. During the site visit, some odor was noticeable near the wet well. The Village has not received any complaints and no upgrades are being recommended. Village staff should continue to monitor odor at the lift station.

3.7.7 Kathleen Lift Station

The Kathleen lift station is a very small station that serves a small service area. The low-capacity grinder pumps have run times typically in the range of 0.5 to 1.5 hours over three days. The

operators indicated that the wiring setup is poor, with inaccessible floats in the wet well. One of the pumps is newer than the other, and the run times for one pump are typically double the other. Ideally this station would be eliminated if flow can be routed to the gravity system. The feasibility and cost of such an improvement (with a minimal positive impact to the overall system) would be the deciding factor.

3.7.8 Yellow Banks Park Lift Station

Yellow Banks Park is located on the west side of Camp Phillips Road, just south of Northwestern Avenue. It is expected that commercial and residential development will continue to expand north of Ross Avenue toward Northwestern Avenue. Sewer service will also have to be extended to serve this area; this will be discussed in Chapter 4. It is expected that a lift station will be added at Yellow Banks Park on land already owned by the Village of Weston. The force main from the station will likely follow Camp Phillips Road to the south where it will discharge to the existing system.

No definite timeline is currently set for this improvement, but the Village is already hearing of interest in future development on Camp Phillips Road. Planning for the lift station should start when actual development plans are proposed. The lift station service area should include the entire development area that cannot be served by gravity sewers.

3.7.9 Lift Station SCADA Integration

None of the Village's lift stations are currently connected to a SCADA system. Utility staff collect meter reading data manually when they visit the stations every two to three days. A SCADA system will allow instantaneous recording of station operation, including alarms and emergencies. Installation of a central SCADA system and connection of all sewer system facilities should be included as a near-term capital improvement. The Village should plan for eventual combination of a SCADA system for the sewerage utility to the existing water utility SCADA system.

The SCADA system should record and make accessible the following data:

- Pump run times
- Pumping rates
- Water level
- Alarms

3.7.10 Remote Surveillance System

Utility staff have been planning the installation of surveillance systems at the lift stations. The security systems would include equipment such as cameras, motion sensors, and door alarms. The surveillance systems could be integrated with the SCADA system, so that all security alarms would automatically be recorded on SCADA.

It is recommended that the security upgrades be installed at all stations. The installations could be completed as one project, or separately as budget or other individual projects allow. All security upgrades should include integration with the SCADA system. The security systems could be expanded to all other Village facilities in the future.

4.0 System Model

A hydrologic/hydraulic model was developed to evaluate the capacity and performance of the sanitary sewer system. The model was built from GIS mapping, as-built plans, flow metering data, land use, and other relevant data as described below.

4.1 GIS Mapping

As stated earlier, Weston has its own current GIS and a well-developed system map. Village staff continue to upgrade the GIS and insert new data as available and applicable. The system includes data such as:

- Sewage districts
- Gravity mains
- Pressurized mains
- Manholes
- System valves

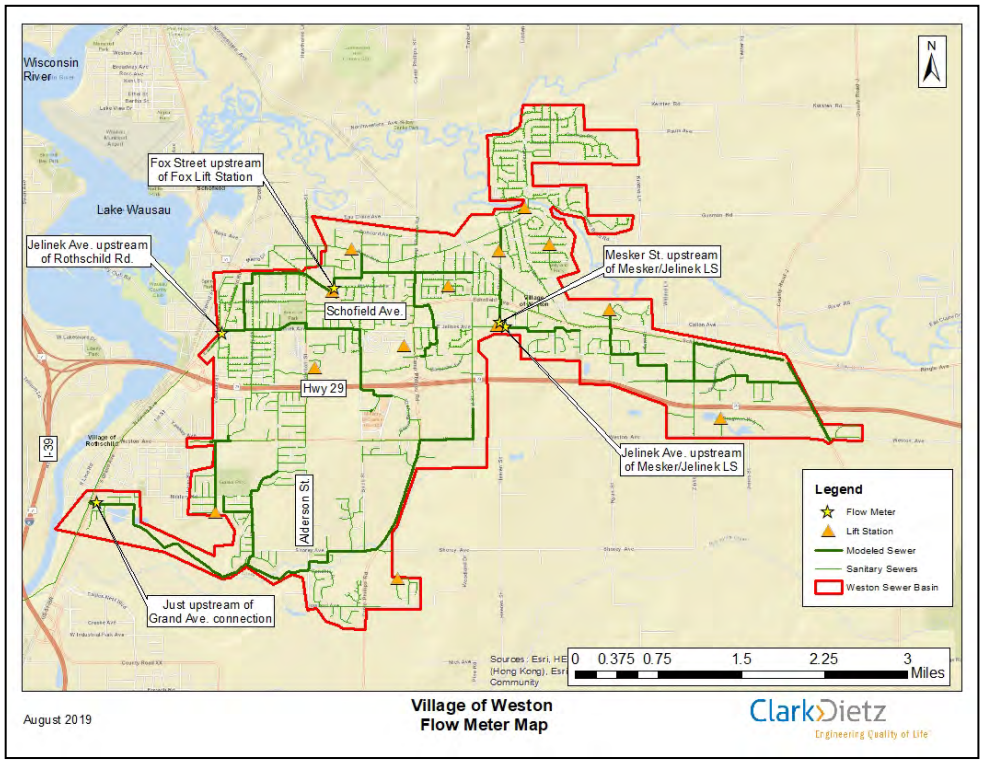
Village staff is in the process of adding manhole inspection reports to the GIS. The GIS is an interactive system that can be used as a basis for determining necessary future system upgrades.

For the purpose of this study, the GIS was used as a background for sewer system modeling since it already contains the entire sewer system. All sewers 12 inches in diameter and larger were modeled.

4.2 Flow Metering

Flow metering was completed by SEH at five locations throughout the Village, as shown in Figure 4-1. SEH provided all equipment and performed data collection. The flow meters were strategically located to determine average flow rates and patterns throughout the Village, including into and out of the pump stations. The meters were also placed to assist in the review and identification of average flow rates for residential (single and multifamily), commercial, hotel/motel, and apartment land uses. The locations and methodology were reviewed and approved by Utility staff and deemed to be the best options for determination of average flow rates. The results of the flow monitoring during dry weather periods were used to verify the average flow rates for different land uses. Single family residential properties had a flow rate of 100 gpd. Multi-family residential units had a flow rate of 75 gpd. Commercial and Industrial properties produced a flow rate of 1000 gallons per acre per day.

Figure 4-1: Flow Meter Location Map



For reference, in the 1992 master plan, 65 gpcd was used as the residential wastewater flow rate. Persons per dwelling unit varied between three and ten depending on the type of residential zoning. The estimated commercial wastewater rate was 1,000 gallons per acre per day and the industrial wastewater flow rate was 1,500 gallons per acre per day. Flow rates were also estimated for elementary and middle schools. I/I was accounted for as five percent of the average daily flow.

The Major Amendment to the Wausau Urban Area Sewer Service Plan (1998) utilized a flow rate of 60 gpcd for residential customers and 500 gallons per acre per day for commercial and light industrial customers.

The 2004 Interceptor Master Plan Study utilized a 60 gpcd residential wastewater flow rate, the same population density estimates as the 1992 master plan, an estimate of 250 gpd per acre for business parks, manufacturing, and warehousing, and an estimate of 500 gpd per acre for commercial areas.

4.3 Model Development

An XP-SWMM hydraulic model was created to include the entire area of the Village. It identified manholes, pipe segments, and lift stations according to Weston's naming conventions. An average dry weather flow (DWF) input was established, which represents the daily sanitary flow requirement on the sewer system. Pump stations were set up based on known operating capacities, existing structure elevations, and wet well geometry from plans and field measurements. A wet weather inflow and infiltration rate was developed based on the results of the flow monitoring.

The model was calibrated using flow data collected during flow monitoring. Five temporary flow meters were installed and maintained from April 17, 2019 through July 1, 2019 to capture current dry weather flows and impacts from wet weather. Rainfall data from the Wausau Airport was used to establish the daily rainfall totals. The National Oceanic and Atmospheric Administration (NOAA) Atlas 14 was used to

establish the precipitation depth for design rainfall events. Five significant rainfall events were identified during the monitoring period and are shown in Table 4-1. The events shown in bold were used for model calibration and validation.

Table 4-1: Significant Rainfall Events During Monitoring Period

Date	Total Rain (in)	Antecedent Dry Days	Equivalent "Design Storm" Event
4/17/2019	1.94	1	2-year, 6 hour
5/8/2019	**1.22**	**1**	**1-year, 1 hour**
5/19/2019	**1.21**	**1**	**1-year, 1 hour**
5/27/2019	**1.18**	**2.5**	**1-year, 1 hour**
6/14/2019	1.19	0.5	1-year, 1 hour

The largest rain event of the monitoring period occurred on April 17. April 17 was the day the monitors were installed, and the complete event was not captured, therefore this event could not be used for the model calibration. In addition to the temporary flow meters, flow data was provided by the Village of Weston from flow records at the lift stations in the system.

4.4 Land Use and Zoning

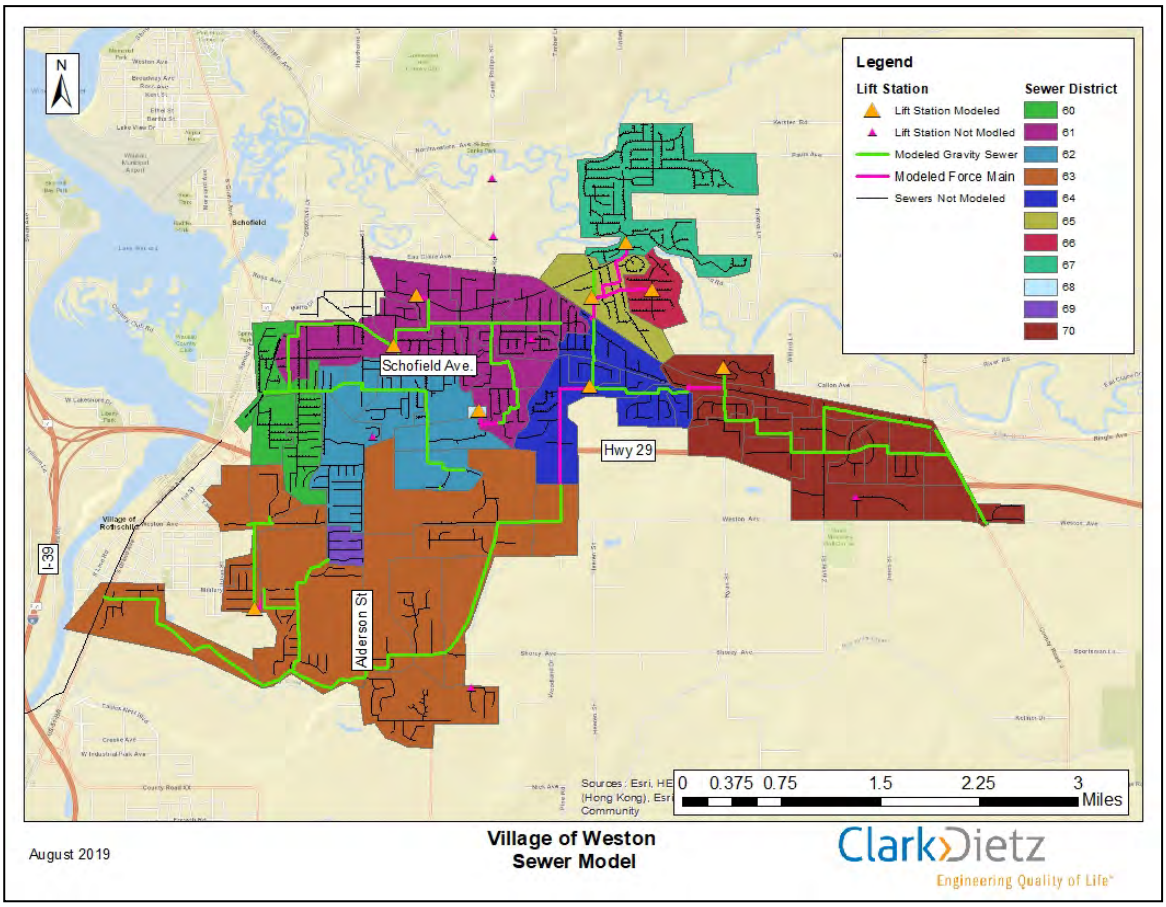
Weston's current adopted official zoning map is included in Appendix G. The Town of Weston has also adopted an official zoning map for the areas of the township adjacent to the Village of Weston. Land use determines the flows to the sewer system that can be expected in the future.

Mapping of future land use for all communities has been completed by Marathon County. The current version of the future land use map is included as Appendix C. Single-family residential land use is shown in the Town of Weston area located to the northeast of the Village. It is expected that this area will eventually be incorporated into the Village. Industrial, business, and commercial land uses are shown along the Highway 29 corridor, along with some mixed use. South of Highway 29, along Weston Avenue, planned neighborhood land use is shown. To the south and east of Weston Avenue, most land use is shown as environmental corridor and parks and recreation. There is also one residential area and two areas of institutional land use.

4.5 Modeled Conditions

A map of the existing sewer system model is shown in Figure 4-2. The map shows the modeled gravity mains, lift stations, interceptors, and force mains. The model incorporated the land uses identified on the Village's current adopted land use map.

Figure 4-2: Weston Sewer Model



Only the Village's larger lift stations were included individually in the model. Flow from the smaller stations was incorporated into the total flow from the large stations. The one exception was the Harlyn Avenue lift station. This station takes in flow from the "annexed area" that includes parts of the Village of Rothschild. Substantial residential growth is planned in this area. It was modeled to determine whether the increased flows would necessitate upsizing of the existing Weston-owned sewers and/or the new Harlyn Avenue lift station.

The model was run to simulate both existing and proposed future flow conditions. The future model included development of the Camp Phillips Center, the Weston Avenue Corridor, and future residential development. The estimated flow rates from these future developments matched those for the existing Village.

4.6 System Capacity Analysis

The capacity of the sewer system was analyzed for both dry weather and wet weather conditions. A dry weather pattern was established to be used as the base condition for the sewer model. Data from metered wet weather events were used to calibrate the model for the effects of inflow and infiltration. The calibrated model was then used to simulate design storm events.

4.6.1 Dry Weather Flow

Flow meter and rainfall gauge data was used to identify dry weather periods. Two periods of dry weather days (April 22 – April 24 and April 27 – April 29) were selected to establish typical dry

weather diurnal curves. These unitless average diurnal hydrographs were used to simulate Dry Weather Flow (DWF) input at select nodes in the model. The total input at each node is based on the contributing area and type of land use for each node. The result is an hourly DWF input based on the flow meter data for the contributing area. The total daily flow inputs were set to equal the average daily flow measured by the flow meters for the identified dry weather days. Separate diurnal hydrographs were created for the sewer system upstream of Flow Meters 1 and 2, shown in Figures 4-3 and 4-4.

Figure 4-3: Diurnal Pattern Upstream of Meter 1

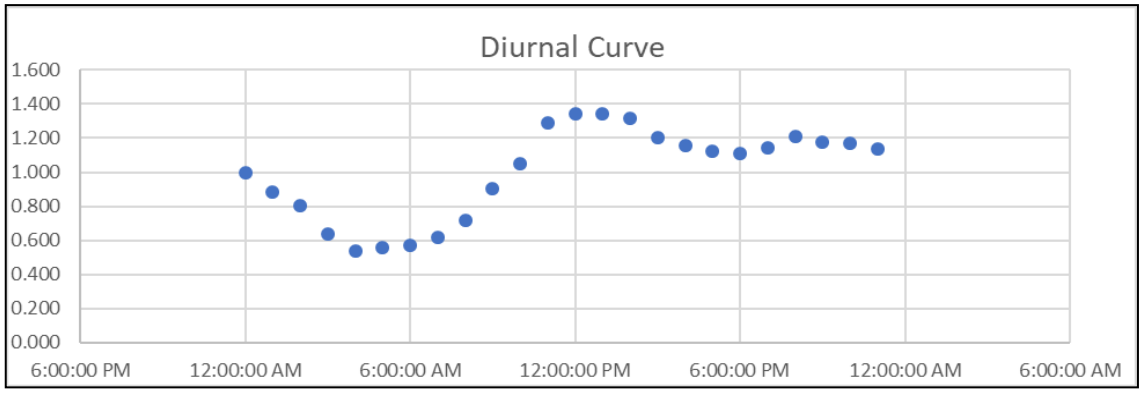
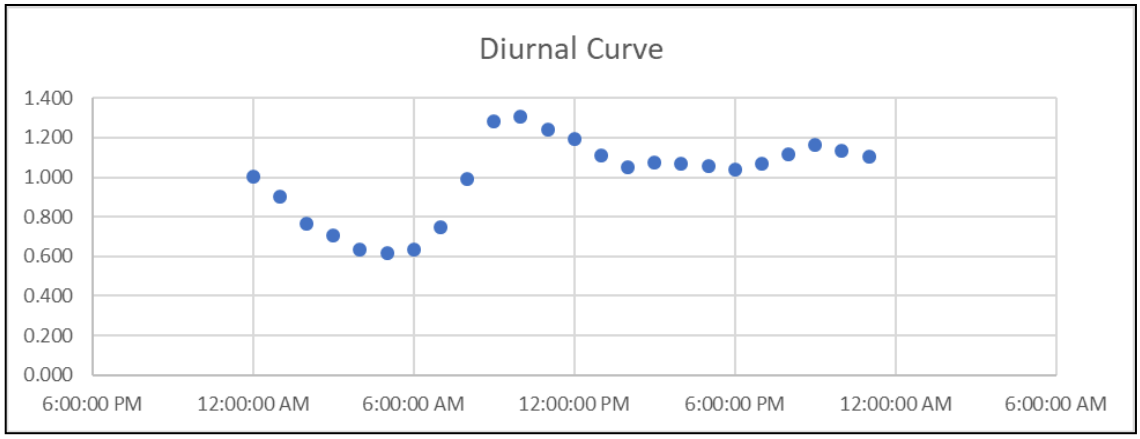


Figure 4-4: Diurnal Pattern Upstream of Meter 2



The flow meter locations are shown in Figure 4-1. The average DWF recorded at each meter location is listed in Table 4-2.

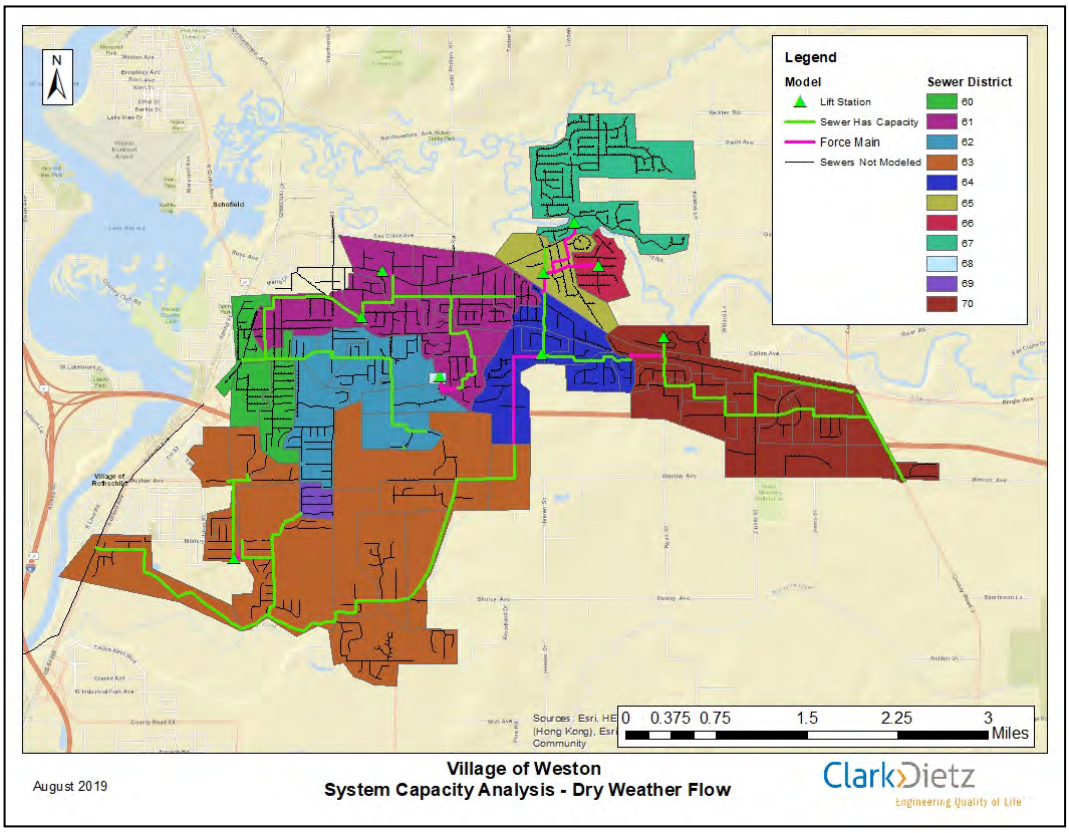
Table 4-2: Average DWF

Flow Meter	1	2	3	4	5
Average DWF (gpd)	626,313	860,779	585,331	211,296	118,128

Thirty-two flow input locations were selected in the model. The input locations and flow values were determined based on the metered flow data, average lift station flow data, and land use.

A simulation of the sewer system was run for dry weather conditions. The sanitary sewers in all eleven sewer districts had capacity to pass the peak daily dry weather flows. Figure 4-5 shows the results of the simulation. The modeled sanitary sewers are represented by a green line, the modeled force mains by a pink line, and the lift stations by a green triangle.

Figure 4-5: System Capacity Analysis – Dry Weather Flow



4.6.2 Model Calibration and Validation

Analysis of the impact of wet weather flow on the sewer system was completed utilizing rainfall and flow monitoring data along with sewershed information to quantify Rainfall-Derived Infiltration and Inflow (RDII) parameters. The RDII parameters can be modeled within SWMM to simulate design storm events.

The system's RDII is calibrated by adjusting "RTK" parameters. RTK is a method which fits up to three triangular unit hydrographs to a metered RDII response to simulate fast, medium and slow RDII responses. The "R" parameter represents the fraction of rainfall volume entering the sewer system, "T" is the time to peak RDII, and "K" represents the ratio of recession to peak. Manipulation of the RTK values was used to establish the inputs for the SWMM model to simulate RDII within the collection system.

The model was subdivided into three different RDII zones. Zone 1 includes the drainage area upstream of Flow Meter 3. This part of the system is older and has a higher infiltration rate than the more recently constructed parts of the system. Zone 2 includes the drainage area upstream of Flow Meter 1. This includes the Cedar Creek interceptor and the eastern portions of the sewershed. Zone 3 includes the area upstream of Flow Meter 2 and downstream of Flow Meter 3.

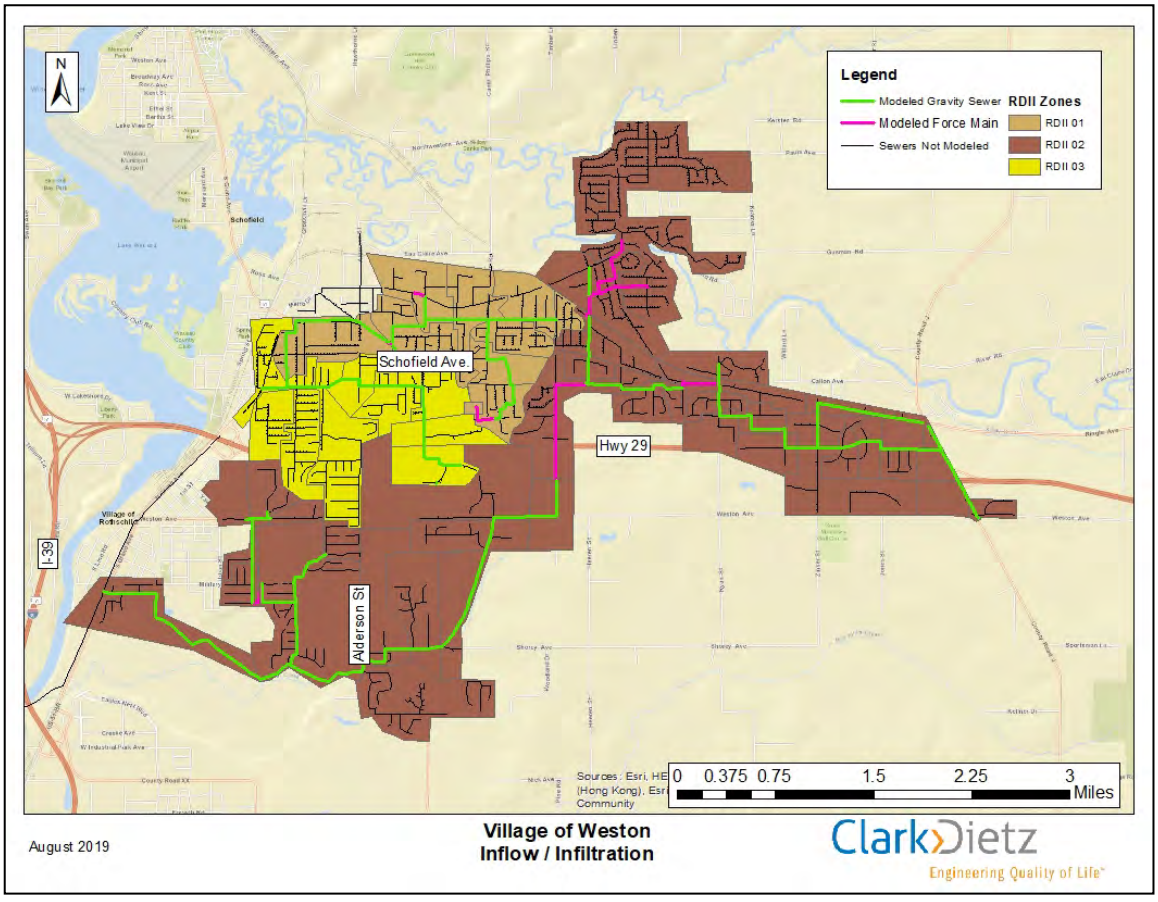
The rain events on May 8th and May 19th were used for calibration of the model's RDII. Both events were classified as 1-year, 1-hour rain events. The calibration results for each storm and flow meter location are provided in Appendix H. Each chart shows the modeled flow with the superimposed actual flow ("Gauged Flow") observed during the event. Correlation of the calibrated model's flows to metered flows from each of the two selected storms is strong. The RTK values used in the analysis are listed in Table 4-3.

Table 4-3: RDII Input Table

	R1	R2	R3	T1	T2	T3	K1	K2	K3
RDII 01	0.002	0.002	0.003	2	4	6	4	6	8
RDII 02	0.001	0.001	0.001	6	8	12	6	8	12
RDII 03	0.001	0.001	0.002	4	6	8	4	6	8

Different rates of inflow and infiltration were observed throughout the sewer network in the flow monitoring data. The RDII rates were subdivided into 3 main areas, as shown in Figure 4-6. The RDII 01 zone had the highest rate of stormwater infiltration.

Figure 4-6: System Inflow and Infiltration



Once the model was calibrated, a validation event was tested. The May 27th rain event, which was classified as a 1-year, 1-hour event, was chosen. The validation results at each meter location are provided in Appendix I. Correlation of the validation model's flows to metered flows from the

selected storms is strong. The validation results indicate that the RDII parameters in the model are appropriate and the model can be used to simulate design storm events.

4.6.3 Critical Storm Determination

Following calibration and validation of the model it was necessary to determine the "critical duration" to use for capacity evaluation. Although somewhat subjective, the "critical duration" is the storm that creates the highest peak flow rate along a section of sewer or has the highest hydraulic grade line. This can vary throughout the sewer system.

To determine the critical duration for the Weston collection system the model was run for 10, 50 and 100-year return periods, with durations of 3, 6, 12, and 24 hours. For all the design storm events it was found that the critical duration occurred during the 6-hour duration event.

4.6.4 Design Storm Evaluation

The rainfall depths for the design storm events are defined in the NOAA Atlas 14 table, included in Appendix J. The following are the design storms evaluated as part of this analysis:

10-year, 6-hour storm event = 3.34 inch
50-year, 6-hour storm event = 4.94 inch
100-year, 6-hour storm event = 5.76 inch

The results of the analysis are discussed in the following section.

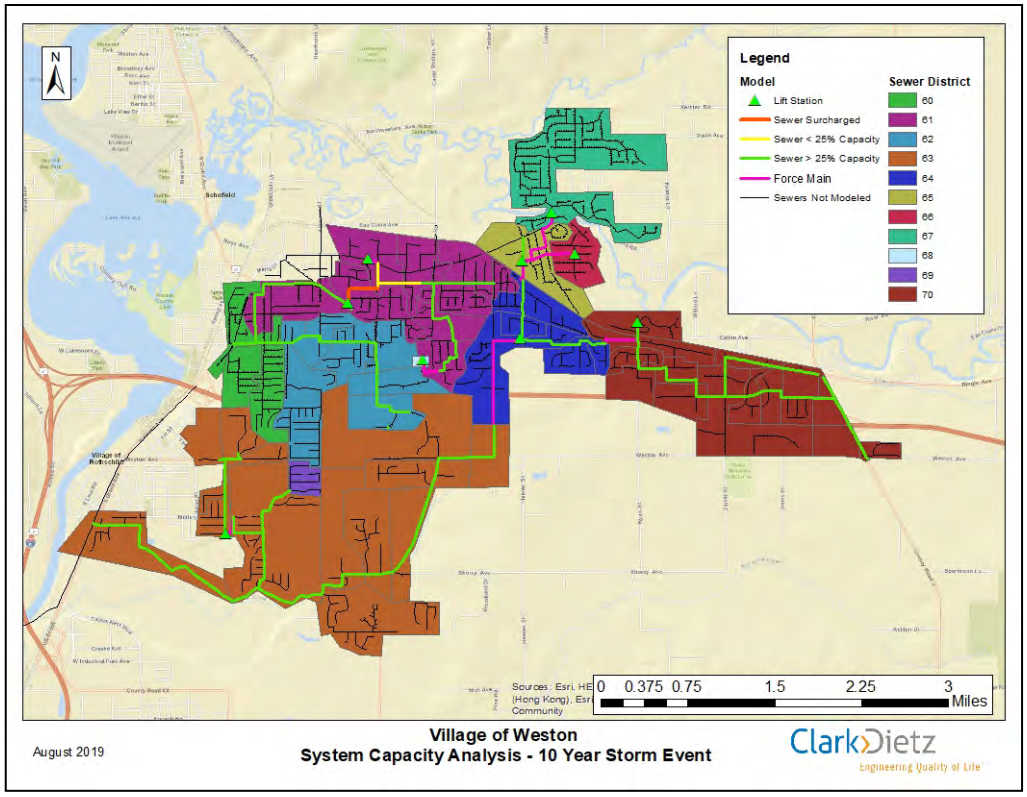
4.7 System Deficiencies and Capacity Constraints

The 10-year design storm was used as the benchmark for determining if the sewer system has enough capacity. The sewer capacity is considered sufficient if the hydraulic grade line of the 10-year design storm is lower than the top of pipe. The results of the system capacity analysis for the 10-year storm event are shown graphically in Figure 4-7. The sewer pipes shown with a thick RED line indicate the area where no additional capacity is available in the pipes and the hydraulic grade line is higher than the top of pipe. The six pipe segments upstream of the Fox Lift Station have no remaining capacity and surcharge during the 10-year design event. Continuing upstream, 7 pipe segments on Birch Street and Sternberg Avenue have less than 25% of their available capacity remaining.

The sewer upstream of the Fox Lift Station has no available capacity. The pipes upstream of the lift station are not large enough to route the peak flow produced by a 10-year design storm and cause the system to surcharge. The capacity of the Fox Lift Station is not the reason for the lack of capacity upstream.

Throughout the design storm simulations, none of the lift stations were shown to have capacity restraints. All stations appear to be capable of handling existing and future flows.

Figure 4-7: System Capacity Analysis – 10-Year Storm Event



The 50-year and 100-year design events were also run to identify the locations in the system that would have insufficient capacity during a major storm event. The results of the system capacity for the 50- and 100-year storm events are shown in Figures 4-8 and 4-9.

For the 50-year design storm, the sewer upstream of the Fox Lift Station has no remaining capacity. The pipe segments that have a hydraulic grade line higher than the top of pipe extend to Fox Street, Norma Avenue, Birch Street, Sternberg Avenue, and Camp Phillips Road.

For the 100-year design storm, the sewer upstream of the Fox Lift Station has no remaining capacity. Similar to the 50-year design storm, the pipe segments that have a hydraulic grade line higher than the top of pipe extend to Fox Street, Norma Avenue, Birch Street, Sternberg Avenue, and Camp Phillips Road. For the 100-year design storm, pipes with less than 75% capacity remaining extend up Sternberg Avenue and Camp Phillips Road. The sewer upstream of the siphon on the Cedar Creek interceptor also has less than 75% capacity remaining. The hydraulic grade line of the 100-year design storm is higher than the 50-year design storm, but no sanitary sewer overflow (SSO) locations were identified.

During large storm events, the sewer upstream of the Fox Lift Station has no available capacity. The pipes upstream of the lift station are not large enough to pass the peak discharge and cause the system to surcharge. Limited capacity was shown for the pipe upstream of the siphon on the Cedar Creek Interceptor. This currently does not cause a problem for the system but could become an issue in the future when additional development is added to the sewer network.

The deficiencies associated with each design storm are summarized in Table 4-4.

Figure 4-8: System Capacity Analysis – 50-Year Storm Event

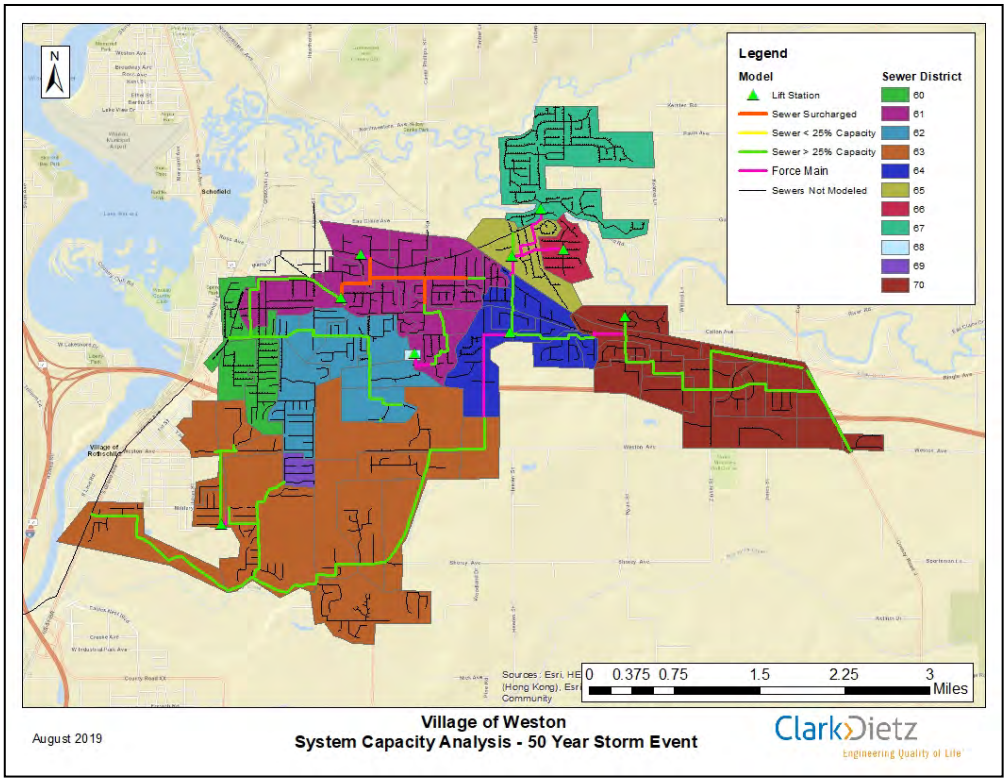


Figure 4-9: System Capacity Analysis – 100-Year Storm Event

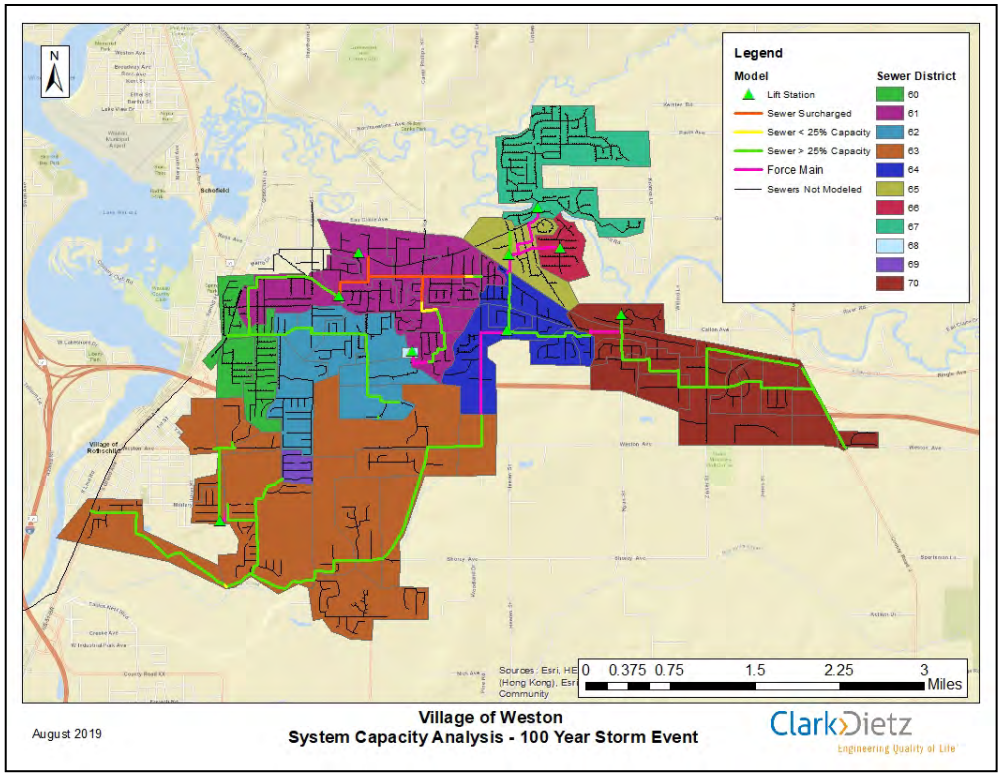


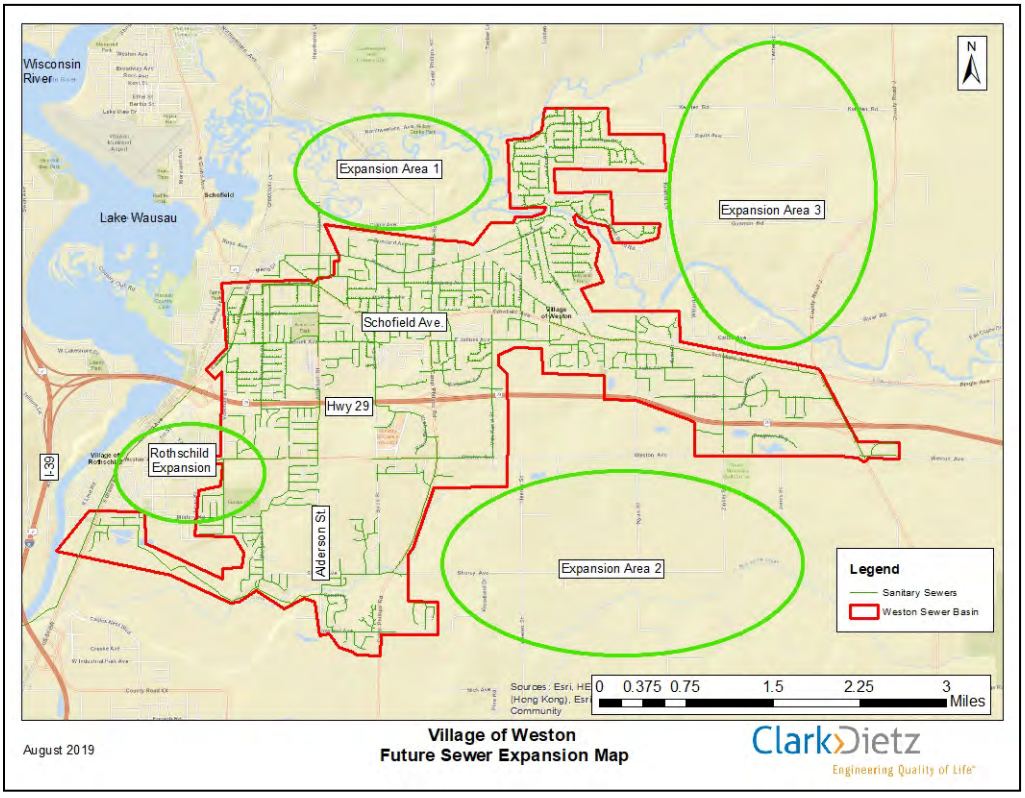
Table 4-4: Design Storm Deficiencies

10-Year Design Storm
Six sewer segments upstream of Fox Lift Station
Seven sewer segments on Birch Street
Six sewer segments on Sternberg Avenue
50-Year Design Storm
Sewer segments upstream of Fox Lift Station
Sewer segments on Fox Street, Norma Avenue, Birch Street, Sternberg Avenue, and Camp Phillips Road
100-Year Design Storm
Sewer segments upstream of Fox Lift Station
Sewer segments on Fox Street, Norma Avenue, Birch Street, Sternberg Avenue, and Camp Phillips Road
Sewer upstream of the Cedar Creek Interceptor siphon

4.8 Future Development Evaluation

Potential expansion areas were identified for future sewer expansion. The areas are shown in Figure 4-10. Each expansion area has been evaluated topographically for its ability to connect to the existing system by gravity. The existing system was evaluated to determine the best locations to connect the expansion areas. The existing system was also evaluated to determine if there is available capacity to receive additional flow.

Figure 4-10: Future Sewer Expansion Map



4.8.1 Rothschild

The Village of Rothschild (Rothschild) is located on the southwest side of the Village of Weston. A portion of Rothschild's sewer system is connected to Weston's sewer network through the Harlyn Avenue Lift Station. The capacity of the network upstream of the Harlyn Lift Station was evaluated for existing conditions and future development. The Harlyn Avenue Lift Station will be upgraded in 2019. This hydraulic analysis was based on the capacity of the upgraded lift station.

The existing sewer upstream of the Harlyn Avenue Lift Station was evaluated for the 10-, 50-, and 100-year design storm events. The sewer and lift station have available capacity to receive all three of the design storm events.

Development in Rothschild could potentially add 100 acres to the sewer network. Per the Village of Rothschild, the future land use of this area would include single family and multi-family residential units. This could include up to 400 new residents producing 40,000 gpd.

The Harlyn Lift Station and the upstream sewer has available capacity to receive the potential future development of Rothschild.

4.8.2 Expansion Area 1 – Village's Northwest Side

Expansion Area 1 (Area 1) could potentially add 350 acres to the sewer network. Per the Village of Weston Comprehensive Plan, the future land use of this area would include single family residential homes. This could include up to 400 new residents producing 40,000 gpd.

Area 1 could connect to the existing system north of Ross Avenue. The sewer on Birch Street was identified as a good connection point. The majority of Area 1 will not be able to connect to the existing sewer system by gravity. The neighborhood bordering Eau Claire Avenue could connect by gravity, but all of the area north of this neighborhood is too low and will require a pump station to connect to the existing sewer network. This is the area that will be served by the future Yellow Banks Park lift station, as discussed in Chapter 3.

The existing sewer system capacity analysis showed that there is no available capacity in the sewer upstream of the Fox Street Lift Station to take additional flow. Improvements to the existing system will need to be implemented prior to the addition of Area 1 to the sewer network.

4.8.3 Expansion Area 2 – Weston Avenue Corridor

Expansion Area 2 (Area 2) could potentially add 1,000 acres to the sewer network. Per the Village of Weston Comprehensive Plan, the future land use of this area would include a mix of residential, commercial, and industrial development. This could include up to 600 single family residential homes producing 60,000 gpd and 450 acres of new commercial and industrial development producing an additional 450,000 gpd for a total flow of 510,000 gpd added to the sewer network.

The best location for Area 2 to connect to the existing sewer system is along Shorey Avenue. Topographically the ground in Area 2 lowers as you move from north to south. The area north of Shorey Avenue, in Area 2, can connect by gravity to the existing sewer system. A sewer with a slope of 0.26% could be run from the intersection of Shorey Avenue and Heeren Street. South of Shorey Avenue the low areas would not be able to connect by gravity to the existing system and would require pumping.

The sewer trunk would connect to the Cedar Creek Interceptor to the west. The existing sewer system capacity analysis showed that there is available capacity in the Cedar Creek Interceptor. The projected future flow was added to the hydraulic model to evaluate the system's capacity. With the additional flow in the system the pipes upstream of the siphon had no available capacity and the hydraulic grade line was surcharged above the top of the pipe. The Cedar Creek Interceptor does have sufficient capacity for existing flows and available capacity for expansion,

however the capacity of the siphon will need to be increased prior to full development of Expansion Area 2.

4.8.4 Expansion Area 3 – Town of Weston

Expansion Area 3 (Area 3), the Town of Weston, could potentially add 2,500 acres to the sewer network. Per the Village of Weston Comprehensive Plan, the future land use of this area would include single family residential development. This could include up to 4,000 single family residential homes producing 400,000 gpd.

The Ryan Street River Crossing has been identified as a future connection for the north side of Eau Claire River to the existing sewer system. The connection point would be on Apache Street and connect to the Ryan Street Lift Station. There are high areas in the Town of Weston that could connect to this location by gravity, and low areas that would need to be pumped to connect.

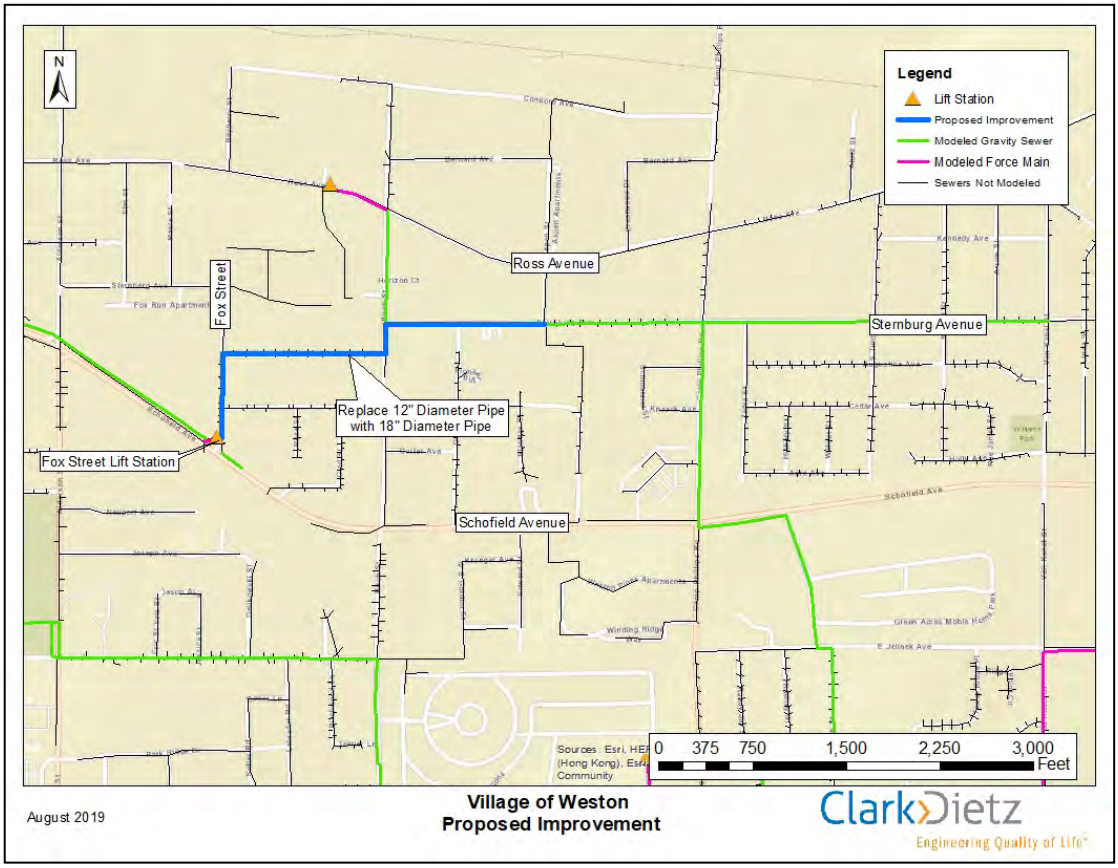
Flow would be routed from the Ryan Street Lift Station, to the Mesker-Jelinek Lift Station, and finally to the Cedar Creek Interceptor. The existing sewer system capacity analysis showed that there is available capacity in the Cedar Creek Interceptor. The projected future flow of Area 3 was added to the hydraulic model to evaluate the system's capacity. With the additional flow in the system the pipes upstream of the Cedar Creek siphon had no available capacity and the hydraulic grade line was surcharged above the top of the pipe. When the flows of Area 2 and 3 were added together, an SSO was simulated upstream of the siphon. The Cedar Creek Interceptor does have sufficient capacity for existing flows and available capacity for expansion, however the capacity of the siphon will need to be increased prior to full development.

4.9 Recommended System Capacity Improvements

In order to eliminate the deficiencies identified above, the following system improvements are recommended:

The sewer upstream of the Fox Street Lift Station should be upgraded to provide additional capacity. The existing sewer has no additional capacity, which could result in sewer backups during large storm events and prevent the Expansion Area 1 from connection to the existing network. Additional capacity could be added by replacing the existing 12-inch sewers on Fox Street and Norma Avenue with 18-inch sewers. See Figure 4-11.

Figure 4-11: Proposed Improvement Upstream of Fox Street Lift Station



The 18-inch diameter sewer would allow the entire sewershed upstream of the Fox Street Lift Station to convey the 10-year design storm HGL within the sewer. The additional capacity would also allow the Expansion Area 1 improvement to be incorporated and meet the design criteria for the 10-year event. An alternative solution to replacing the 12-inch pipe would be to add a 12-inch parallel sewer along the same identified path.

Another area of concern includes the siphon on the Cedar Creek Interceptor, which has the potential to create a capacity issue in the future. Currently the Cedar Creek Interceptor has the capacity to receive an additional 600,000 gpd. However, system expansion in Rothschild, Area 2, and Area 3 could increase the total peak discharge in the interceptor by 950,000 gpd. Future developments should be evaluated together as they all contribute flow to the Cedar Creek Interceptor.

Adding a 12-inch pipe to the existing siphon would provide the required capacity to convey the additional flow from all of the proposed future system expansions discussed in this report.

4.10 Recommended GIS Additions

Weston's GIS includes a very complete layout of the existing sanitary sewer system. The GIS coverage could be enhanced by including additional data within the system shapefiles. Approximately 30% of the manholes represented in the GIS do not include elevation data. Less than 10% of the pipes in the GIS include upstream and downstream invert elevations. This information could be useful for future sewer expansion projects.

5.0 Capital Improvement Plan

5.1 Evaluation of Current CIP

Weston does not currently have a formal CIP. Utility staff typically identifies the necessary capital projects and includes them in the annual budget. The current draft CIP/project listing is included in Appendix K. The capital projects are completed if the budget allows, but often have to be postponed to accommodate maintenance and emergency projects.

A viable, fully-funded capital improvement plan is vital to the long-term quality of utilities. Capital improvements are necessary to maintain a desired level of service.

5.1.1 Lift Stations

The condition of the Village's lift stations was assessed as described in Chapter 3. The field inspections showed that the stations are well-maintained and in fair to good condition overall. Village staff are already recommending the upgrade of the Tricia/Tanya and Harlyn Avenue stations. It is recommended that the Village continue with those upgrades. Other recommended lift station improvements are listed in Chapter 3. These include specific improvements at certain stations, connection of all stations to the SCADA system, and development of a system-wide surveillance system.

5.1.2 Force Mains

The pressurized force mains leaving the lift stations were constructed at the same time as the original lift stations. Little is known about the condition of these pipes. It is recommended that the force mains be cleaned and inspected or televised, where possible, in order to assess their condition. The force main cleaning and/or inspections could be combined into one project to obtain the best pricing. The inspections will determine if rehabilitation or replacement is necessary in any of the force mains.

Force mains can be cleaned by pigging, in which a plug (called a pig) is inserted into the main. Pressure is applied to the pig so that it is forced down the pipe, pushing debris along with it, until it exits at the force main discharge point. Pigs are typically foam plugs, with varying densities and coatings depending on the project. Piping in the lift stations may have to be modified to accommodate insertion of the pig. Additional access points, consisting of a vault, wye, valve, and hose connection, maybe be required along long pipe lengths.

Another option for force main cleaning is ice pigging, in which an ice slurry is injected into the force main. Water pressure is then used to push the ice through the main, collecting and removing debris along with the ice. This method of cleaning ensures that nothing can get trapped in the main, since the ice will eventually melt. Access points for insertion of the ice slurry must be installed along the force main in order to perform ice pigging. These consist of a tap, valve, and hose connection. In short mains, it might be possible to install the access point at the lift station. Longer force mains will require additional taps along their length. Access points for either ice or conventional pigging should be considered on all future force main installations or replacements.

5.1.3 Ryan Street River Crossing

The Ryan Street river crossing is currently listed in the Village's CIP. The Request for Proposals for project design will be issued in 2019. Design will begin in 2019, with construction scheduled to begin in 2020. The project will include utility crossings of the Eau Claire River at Ryan Street. Utilities are currently installed at the northern end of Ryan Street just south of the river. After crossing the river, utilities will be installed going north on Apache to Estate Drive, where they will connect to the existing utilities. Currently the Village has only one water crossing of the Eau Claire River. This project will improve sewer service reliability for customers on the north side of the river.

The sewer model determined that there currently is capacity in the Ryan Street lift station. Future flows from the Town of Weston properties northeast of the Village may eventually connect into the proposed Ryan Street river crossing sewer. This will directly impact the Ryan Street station and the gravity sewers downstream of the force main, eventually connecting to the Cedar Creek Interceptor.

5.1.4 Cedar Creek Interceptor Access

Another current project on the CIP includes establishing access to the Cedar Creek Interceptor in the southwest part of the Village. The proposed 1,700-foot access road will run from the end of Sandhill Drive to Madelyn Court. Wetlands in this area have prevented staff from accessing the sewer, so the manholes and sewer sections have not been cleaned since they were installed in 1996. Approximately half of all the Village's sewage flows through the interceptor. Village staff has been working to obtain survey and contact the local property owners. Initial design of the access road will be complete before the end of 2019.

New development to the east is also expected to flow into the Cedar Creek Interceptor in the future. The sewer model showed that backups could occur in the area near the siphon, making construction of the access road even more important. Access will be necessary when it is necessary to increase the capacity of the siphon in the future.

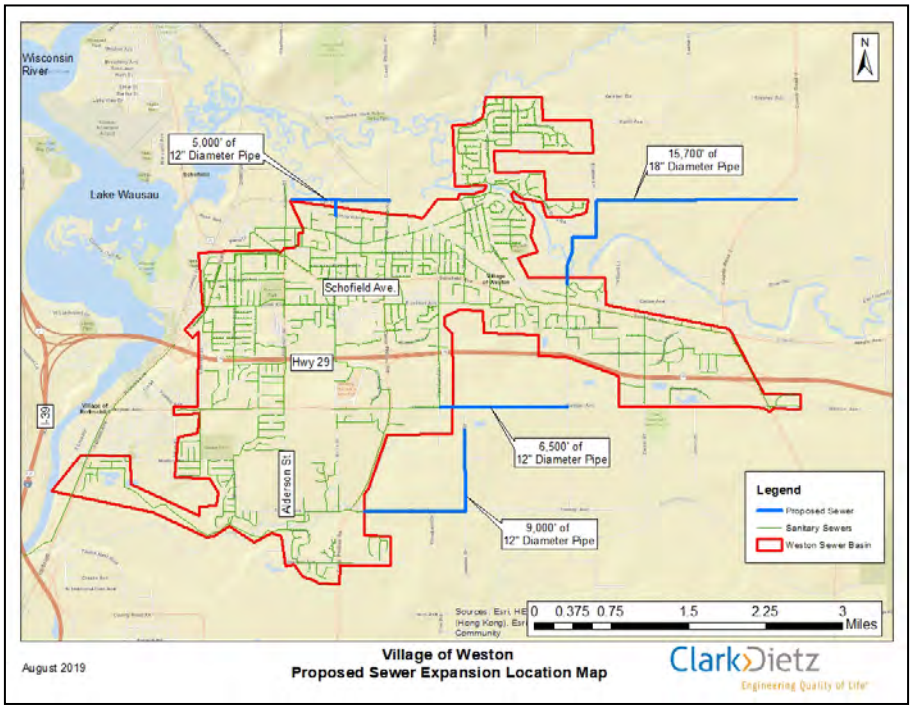
5.2 Future System Expansion

Three areas have been identified as likely locations for future expansion of Weston's sewer system:

1. Northwest side of the Village, north of Ross Avenue
2. Southeast side of the Village along the Weston Avenue corridor
3. Town of Weston, northeast of the Village

Each expansion area was evaluated topographically for its ability to connect to the existing system by gravity. The existing system was evaluated to determine the best locations to connect the expansion areas. The proposed sewer expansion locations are shown in Figure 5-1.

Figure 5-1: Proposed Sewer Expansion Location Map



5.2.1 Village's Northwest Side

Sewer expansion in this area would connect to the existing system north of Ross Avenue, which eventually feeds into the Fox Street Lift Station. The Birch Street sewer has been identified as a good connection point. The neighborhood bordering Eau Claire Avenue can connect by gravity. The installation of 5,000 feet of 12-inch diameter pipe would allow this area to connect to the system by gravity. The elevation of the area north of this neighborhood is too low to connect by gravity. Therefore, the majority of this area will require pumping to connect into the sewer system.

The existing sewer system upstream of the Fox Street lift station has limited capacity to receive additional flow and will need to have additional capacity added before the system can be expanded to the northwest.

5.2.2 Weston Avenue Corridor

Two connection points were identified for the Weston Avenue Corridor, southeast of the village. The connection points would be located on Weston Avenue and Shorey Avenue. Topographically the ground elevation in the area lowers from north to south. A 12-inch diameter sewer with a length of 6,500 feet could be installed on Weston Avenue between Von Kanel Street and Ryan Street. The area north of Weston Avenue could connect to this sewer. Another 12-inch diameter sewer with a length of 9,000 feet could be installed on Shorey Avenue and up Heeren Street to connect future development between Weston Avenue and Shorey Avenue. South of Shorey Avenue the low-elevation areas (approximately one-third of this expansion area) would not be able to connect by gravity to the existing system and would require pumping.

The capacity analysis shows that Cedar Creek Interceptor has capacity to receive an additional 400,000 gpd of flow. System expansion should be coordinated between the Weston Avenue Corridor, the Town of Weston, and the Village of Rothschild.

5.2.3 Town of Weston

As mentioned in Section 5.1 above, the Ryan Street River Crossing has been identified as a future connection point to the existing sewer system for the areas north of the Eau Claire River. An 18-inch diameter sewer with a length of 15,700 feet could be installed along Gusman Road to the Ryan Street lift station. This would allow approximately 800 acres of the Town of Weston to be connected to the existing sewer network by gravity. It is expected that this future development area will eventually be incorporated into the Village. The future connection point would be on Apache Lane and will connect to the Ryan Street lift station. The sewer in Ryan Street is approximately 20 feet deep.

Another 1,700 acres could be added in the future but will need to be connected by lift stations or low pressure systems due to the topographic limitations of the area. Large portions of the area are considerably lower than the nearby sewered areas. Deep sewers are more complex and therefore more expensive to construct. For developments that can't be served by the Gusman Road sewer, lift stations or low pressure systems are recommended.

The Ryan Street lift station and the system upstream of the lift station have available capacity. The sewer trunk line downstream of the Ryan Street lift station along Jelinek Avenue also has available capacity. The Cedar Creek Interceptor has capacity to receive an additional 400,000 gpd of flow. System expansion should be coordinated between the Weston Avenue Corridor, the Town of Weston, and the Village of Rothschild.

5.2.4 Sewer System Infill

The best way to make full use of the existing sewer system is to foster infill development in existing developed areas of the Village. The infill development can make use of existing sewer system infrastructure, negating the need for additional facilities. In most cases the facilities were

designed in the past to accommodate full buildout of the sewershed. That means that infill development will not overstress the existing system.

Each time a subdivision or other multi-acre development is proposed, the potential of connection to the existing sewer system should be evaluated. The sewer model can be used to determine the level of flow in the surrounding sewers during normal and high-flow periods. The elevation of the existing sewers will determine if appropriately sized sewers can be connected to the system.

Undeveloped areas of infill development that could utilize the existing sanitary sewer system include:

- Areas west of Camp Phillips Road
- Areas north of Schofield Avenue and east of Ryan Street

Homes in these areas are currently served by onsite treatment systems. As municipal sewers are constructed in these areas, the existing property owners should be notified of their portion of the project cost. The Village should institute a flexible payment program that encourages connection to the sewer system.

5.3 Service to Unsewered Areas

5.3.1 Low Pressure Force Main Systems

The model and the above analysis identified some areas of the Village that could not be served by gravity sewers due to terrain. Those areas must either be served by a central lift station or a system of individual grinder pump stations and small-diameter low-pressure force mains. Weston currently has thirteen lift stations that are maintained by the Public Works staff. Staff wishes to limit the number of additional lift stations to be added in the future. In large areas such as the south section of the Village, it makes financial and operational sense to install one central lift station. In smaller, more isolated areas, a low-pressure force main system may be a better option. The grinder pump systems allow access to the municipal sewer system that would otherwise not be available to some residents.

Portions of the future sewer expansion areas in the Village may be most cost effectively served by low pressure sewer systems utilizing individual grinder pump stations that pump to a common force main. The Town of Weston areas identified in Section 5.2.3 could be best served by such a system. They are often more cost effective in areas with low housing density or in areas with high groundwater or bedrock, making deep cuts and/or multiple lift stations excessively expensive. Low pressure force main systems can be installed using traditional open cut or trenchless methods (such as directional drilling). Low pressure systems offer advantages and disadvantages:

Advantages	Disadvantages
• Material and trenching costs are significantly lower (pipe size is reduced) • Possible trenchless sewer installation • Low-cost clean outs and valve assemblies are used rather than manholes • User (homeowner) pays for electricity, though annual cost is low. Electric costs for traditional lift stations can be high depending on HP. • Infiltration is reduced, resulting in reduced pipe sizes • Reduced hydraulic loadings	• Many mechanical components throughout the service area • O&M costs often higher than conventional gravity system • Proactive attention from homeowner required to monitor for proper operation • Public education/outreach for grinder pump owners • Annual preventive maintenance required for grinder pump systems • Number of pumps that can share the same downstream force main is limited • Power outages can result in sewer backups or overflows

	• Life cycle replacement costs can be higher • Discharge location can experience odor and corrosion problems

Several policy decisions need to be made by the Village prior to implementing a low pressure sewer system. These decisions depend on the circumstance, such as if the system is being installed to serve existing homes with failing septic systems or if the system is being installed to serve new subdivisions. The Village of Weston will face both situations. The following is a brief discussion of some of the more common policy issues to be addressed. Two examples of municipal grinder pump policies are included in Appendix L. Weston could use these policies as a starting point and modify them as needed.

Asset Ownership

Many communities only own the force main in the public right away, along with a valve assembly box with a clean out connection. The grinder pump station itself, along with piping from the home plumbing to the station and the force main from the station out to the valve box assembly box is often owned by the homeowner, especially in the case of new home construction (the grinder pump station and piping to the public right of way is provided by the home builder). Some communities require a maintenance easement be recorded for the station and the lateral force main, regardless of ownership, especially for communities that provide ongoing maintenance.

Maintenance Responsibility

In many communities, the owner is responsible for any maintenance of the grinder pump. Wear and tear on a grinder pump varies depending upon several things including the number of people in a household and the frequency that the facilities in a household are used. A grinder pump typically needs to be pumped every seven to nine years to eliminate any accumulated solids in the holding tank. The pump itself will typically need to be replaced in this time frame as well, depending upon usage.

Some communities choose to provide routine maintenance of the grinder pump system outside the home, even if the grinder pump station is owned and operated by the homeowner. In some cases, a maintenance contract is required as a routine process for investigating and charging back to the property owner in those circumstances in which abuse/improper use of the grinder pump is documented. This provides an incentive to the homeowner to utilize the grinder pump properly and not to abuse/misuse the equipment.

Connection Fees and Maintenance Fees

Connection and maintenance fees also require careful policy decisions. Connection fees are often the same as those for any property connecting the public sewer system (regardless of gravity or low-pressure systems). Communities that choose to maintain the grinder pump on homeowner property must consider whether to provide maintenance as part of monthly user fee, or whether to charge grinder pump owners with a one-time “Grinder Pump Maintenance/ Replacement Fee” for each individual residential lot with such sewer service and sign a grinder pump maintenance program agreement. One community using this approach (Brentwood, TN) charges a one-time $1,900 grinder pump fee in addition to their normal tap fee of $5,000 per new connection. This fee helps to defer the cost of ongoing periodic maintenance as well as eventual pump (or other related equipment) replacement.

Indemnification

Even when maintenance is provided by a community, an indemnification agreement is typically executed that requires the property owner to release the community from claims from any damage that may result from flooding in a basement or a section of any building below-grade

which has plumbing fixtures, whether caused by blockage or backflow of sewers occurring in the property owner's portion of the system.

Cost Estimate

The 2004 Interceptor Master Plan Study examined in detail certain locations that could benefit from installation of low-pressure systems. That study found that for suburban residential development, a gravity sewer system is the less costly option, but for rural residential development, a low-pressure system has the lower cost. The study also examined the groundwater quality in each of the areas as well as the types of soil that would likely be encountered during excavation. The installation of water service was included in those cost estimates.

An updated cost estimate for a residential grinder pump system is included in Appendix M. The estimate only includes the portion of the system from the right-of-way to the house. Those expenses would typically be covered completely by the homeowner. The Village may also choose to assess a portion of the collection main within the right-of-way to each homeowner. For comparison, the cost of a new septic system is typically around $20,000.

Recommendations

Public opinion should be considered prior to installation of low-pressure systems. Residents have proven to be reluctant to hooking up to the one such system already installed in Weston. The initial capital cost is quite high, and most residents choose to continue maintaining their existing onsite systems. Residents should be given an option to hook up when a new force main is installed, however, in order to get the best pricing. New residents should be made aware prior to purchasing a home that a central force main is available for hook-up to the municipal system. Hook-up to an existing system should be a condition of a building permit for new construction.

The Village may wish to consider an ordinance that prohibits the installation of new onsite sewer systems within the municipal boundaries. Many developing communities have such an ordinance in place. The ordinance forces new property owners to connect to the municipal system, whether it is a gravity or a low-pressure system.

These and other policy decisions should be carefully considered prior to approval of any new sewer extension areas that utilize low pressure grinder pump systems. Considerations should include constructability, life cycle costs, ratepayer impacts, public versus private responsibilities, legal issues and enforcement, public education and outreach, staffing and equipment, and other factors.

5.3.2 Gravity Sewers

The model showed that reconstruction of main gravity sewers will be necessary near the Fox Street lift station. Gravity sewers will also be required in the expansion areas discussed in Section 5.2. Fill-in installation of small-diameter mains will also be necessary as areas continue to develop. The map in Appendix N shows the probable locations of future gravity sewers. The gravity sewers should be inserted into the CIP in the order that Village anticipates they will develop.

5.4 RMMSD and City of Schofield System Capacities

Weston's sewers discharge into the Rib Mountain Metropolitan Sewerage District (RMMSD) at two locations along Grand Avenue/Business 51. The interceptor sewer along Grand Avenue is 24-inch diameter. Modeling shows that this sewer at the northern RMMSD discharge location (Hardees metering station) is flowing at approximately 25 percent full during the 10-year design storm. At the southern RMMSD discharge location (Grand Avenue metering station), the sewer is flowing at

approximately 35% full during the 10-year design storm. The RMMSD sewer has capacity to meet the needs of the existing Weston sewer network as well as the proposed future development areas.

The Village of Weston is just one of RMMSD's municipal customers. The District recently completed a long-term facility plan and completed a major upgrade at the wastewater treatment facility. The WWTF will have adequate capacity to meet the needs of its customers for the next several years.

The sewer on Ross Avenue that discharges to the City of Schofield was not part of the hydraulic model. Schofield's system discharges to the City of Wausau's WWTF. Wausau also recently completed a WWTF facility plan. The facility does not require a capacity increase, but the City is planning a major upgrade of the plant to update equipment. The plant will be adequate to meet Weston's treatment needs for the foreseeable future.

6.0 Recommendations

6.1 Summary

Site inspections, a computer model, mapping programs, field monitoring, and past planning studies were all evaluated to perform a thorough review of the Village of Weston's sewer system. This plan shows that the system is well-situated for the development that is expected to occur over the next twenty years. The system is limited hydraulically in very few areas, and the lift stations are capable of handling the expected future flows. Most recommended improvements are related to normal maintenance or system expansion. Establishing routine inspection/cleaning programs and further upgrades to the GIS will aid future system maintenance.

6.2 Weston-Schofield Intergovernmental Agreement

As mentioned previously, a small area of the Village in the Ross Avenue area discharges to the City of Schofield sewer system. There is currently not a formal intergovernmental agreement regarding infrastructure for which Weston shares dependencies with Schofield. Both municipalities have performed maintenance on the sewer when necessary. This has led to questions about which entity is responsible when problems occur in the sewer.

Village officials have drafted an intergovernmental agreement, which has been presented to Schofield's Director of Public Works. A copy of the draft agreement is included in Appendix O. This document is only a draft and it has not been presented to either Weston's Village Board or Schofield's City Council. It is recommended that Village officials consider the changes recommended by Schofield staff. Attorneys for both municipalities should work together to finalize the agreement. It should clearly state which entity is responsible for maintenance and repairs and how emergencies and major expenses should be handled.

6.3 Weston-Rothschild Intergovernmental Agreement

Just to the west of the Weston Village boundary, areas within the Village of Rothschild discharge to Weston-owned sewers. This section of the Village of Rothschild was originally part of the Weston Sanitary District but was annexed out of the Town of Weston to Rothschild. Various ordinances have been written over the years to describe which parcels are owned and maintained by each community, the hook-up fee to be paid, metering and sampling requirements, and customer inspections. There is currently not a master agreement that adequately covers Weston. A master agreement should include these items:

1. A description and map of all the sewers in Rothschild and Weston that the two Villages share/have in common. The description/map should clearly indicate:
   a. Who owns and maintains each of the shared sewers.
   b. Whose residents discharge into the shared sewers.
   c. All the interconnection points between the two systems.
2. A description of how the costs of replacement, maintenance, and/or repairs are shared between the two communities.
3. A description of the exact services provided.
4. How/if the two communities will aid each other in case of emergencies.
5. A method for Weston to review any additional flows to their sewers when they are expected to exceed a specified volume.
6. When/where flow meters are required.
7. Updated billing procedures for all metered and unmetered flow.

The 1988 Hook-up Fee Agreement states that a $500 hook-up fee should be charged to each new customer that connects to the sewer system. This fee does not adequately cover the costs associated with increasing sewer sizes over 8-inch diameter or upgrading lift stations, which is often required when flows exceed the original design point. It is recommended that the hook-up fee is increased to

cover the actual cost of extending a new sewer lateral to the right-of-way for connection by the property owner.

A new preliminary agreement draft is included in Appendix P. This document is only a sample draft and has not been presented to either community's Village Board. Further conversations will be required between the municipalities and their attorneys before finalizing a new master agreement.

6.4 Connection Fees

The Village of Weston currently has two fees associated with new connections to the municipal sewer system – a hook-up fee and an RCA/REU assessment. The hook-up fee was required as part of the Village's Clean Water Fund grant for the first sections of the Cedar Creek Interceptor. It was established in 1988 and is paid by all new connections to the collection system. Its purpose is to provide a replacement fund for capital equipment such as lift stations, interceptors, and jetting equipment. The collected fees have been used over the years to pay for many capital projects.

The Reserve Capacity Assessment per Residential Equivalent Unit (RCA/REU assessment) was established in 1998 to recover the cost of wastewater transmission improvements required by new users. This fee has also been collected continuously since its inception, but it has not yet reimbursed the cost of the initial project construction. The RCA/REU assessment is a deferred special assessment for parcels not currently being served. Calculation of non-residential RCA/REU assessments is not always straightforward. For both these reasons, at times this fee has led to confusion and frustration.

In 2014 and 2015, Public Works staff and the Village attorney discussed the feasibility of continuing or modifying the hook-up fee and REU assessment programs. The communication discussed the history of the fees and questioned how the process of collecting the fees could be made simpler for both Village staff and potential new customers. These documents are included in Appendix Q. It is recommended that the Public Works & Utility Committee and eventually the Village Board examine these documents and the questions they raised.

6.5 Service to Unsewered Areas

6.5.1 Infill Development

Any time a new large-scale development is proposed, the development should be evaluated for connection to the municipal sewer system. The actual development size and type will determine the sizing of needed utilities. All future connections to the new part of the system should also be considered so that the sewers are sized appropriately.

6.5.2 Expansion Area Development

The above policy applies to all areas of the Village, but especially in the areas discussed in Chapter 5, which have already been planned for future development. The Village now has a basis of design for the sewer system in those areas; this report should be used as a reference.

6.5.3 Future Policy Development

Many private onsite sewage treatment systems still exist within the Village boundaries. As stated earlier, residents with onsite sewage systems are required to connect to the municipal sewer system when it is available. Village staff believes a better-described policy is necessary to accomplish conversions from private to public sewer service. An ordinance should be enacted to require homeowners to connect if they are adjacent to the municipal system. Hook-ups could occur upon purchase of the property or when an onsite system requires replacement. The ordinance could include provisions for Village-sponsored financial assistance, such as cost sharing or a long-term repayment program, for the connection projects. The ordinance would

allow the Village to deny requests from existing homeowners to replace/reconstruct their onsite systems if they are adjacent to the municipal system.

6.6 Infiltration/Inflow Reduction

Comparison of the peak flows during rain events to average dry weather flow showed that flow through the system peaks to 2 to 3 times the average daily flow. This is typical for a sewer system and shows that I/I is not excessive in Weston's system. Peak flows may be higher in certain small areas, but this will not show up in the overall metering results.

Since I/I is not excessive, no large flow reduction projects are recommended. Instituting a cleaning and inspection program will show where I/I is occurring due to deteriorated sewers and manholes. A regular lining program will help to limit increases in I/I and could eventually decrease flows.

6.7 Capital Cost Estimates

6.7.1 Upgrades to Existing System

Recommendations for improvements to the existing system were identified during the lift station inspections and through system modeling. These improvements are shown in Table 6-1 along with estimated capital costs. The cost estimates were developed based on recent bid prices. Breakdowns of the cost estimates are included in Appendix R.

Table 6-1: System Improvement Cost Estimates

Improvement Project	Estimated Construction Cost
Harlyn Avenue Lift Station	$300,000
Tanya/Tricia Lift Station	$425,000
Ryan Street Lift Station	$500,000
Ryan Street River Crossing	$532,000
Park Terrace Lift Station	$20,000
Fox Street Sewer Upgrades	$1,389,000
Fox Street Lift Station	$250,000
Cedar Creek Interceptor Siphon	$100,000
Lift Station SCADA System	$250,000
Lift Station Surveillance System	$100,000
Total	$3,866,000

6.7.2 Future Facilities

Facilities needed to serve future development were identified in Chapters 3 and 4. These facilities are necessary to provide collection in currently unsewered areas. The estimated capital costs for these improvements are shown in Table 6-2.

Table 6-2: Cost Estimates for Future Improvements

Improvement Project	Estimated Construction Cost
Weston Avenue Sewer	$5,483,000
Northwest Side Sewer	$1,973,000
Yellow Banks Park Lift Station & Force Main	$1,520,000
Town of Weston Sewer	$6,621,000
Southeast Side Lift Station & Force Main	$1,500,000
Total	$17,097,000

6.8 Sewer Main Construction and Rehabilitation Methods

Sanitary sewers can be replaced or rehabilitated by conventional open cut construction or pipe lining. The type of construction will depend on other aspects of the project. If the primary purpose of the project is to do a complete pavement replacement, sewers will likely be installed via open cut methods, since the road will already be demolished. This is especially true if the cost of the project is being shared between various funding sources, so that the Utility is not covering the entire cost of the project. It is recommended that Utility staff continue their practice of evaluating the sewer condition for every road repair/replacement project that occurs within the Village.

If pavement replacement is not planned, sewer lining may be a better option. Lining is a long-term solution that can be applied to many sewer defects, such as cracks and offset joints. Large breaks and cave-ins will likely require excavation and pipe section replacement.

The cost of lining varies depending on the size and length of sewer being lined. For 8-inch sewers, the cost of lining is approximately $50 per linear foot. For 12-inch sewers, the cost is approximately $60 per linear foot. For comparison, the cost of 8-inch sewer replacement is approximately $200 per linear foot when it includes pavement restoration, while 12-inch sewer replacement is approximately $220 per linear foot.

6.9 Maintenance Plan and Schedule

6.9.1 CMOM Plan

Earlier this year, the Village of Weston completed a capacity, management, operation, and maintenance (CMOM) plan. Any holder of a Wisconsin Pollutant Discharge Elimination System (WPDES) permit must implement a CMOM program under NR210.23. The purpose of a CMOM report is to develop a long-term plan for operating and maintaining a sewage collection system. A CMOM program shall ensure the following standards are met, as outlined in NR210.23:

- The sewage collection system is properly managed, operated, and maintained at all times.
- The sewage collection system provides adequate capacity to convey all peak design flows.
- All feasible steps are taken to eliminate excessive infiltration and inflow as defined in s. NR 110.03 (13c), cease sanitary sewer overflows and sewage treatment facility overflows, and mitigate the impact of such overflows on waters of the state, the environment, and public health.
- A process is in place to notify the public and other directly affected parties of any incidents of overflows from the sewerage system.
- Annual reports are submitted in accordance with the provisions of ch. NR 208.

In the CMOM plan, the Village of Weston identified the following program goals:

- Develop a regular maintenance program that includes sewer televising and manhole inspections. Jet-clean and televise approximately one-sixth of the sewer system each year.
- Improve communications with customers about the sewer use ordinance and keep the public informed about current topics and issues such as illicit discharges and water use reduction practices.
- Develop an Overflow Emergency Response Plan that lays out steps to take in the event that there is a sewer backup and overflow, or any other sewer system emergency.
- Develop a standard employee training system so that each employee working on the system has been trained in a similar fashion, allowing employees to work more efficiently with one another.
- Address the interdependency of the Village of Weston, Village of Rothschild, and City of Schofield sewer systems with formal agreements.
- Develop a Capital Improvement Plan to address deficiencies in the sewer collection system.
- Get the operations staff State-certified in the Collection Systems operator sub-class.
- Develop a sewer collection system Operation and Maintenance manual.

Many of the CMOM goals relate to maintenance of the sewer system. It is clear that Utility staff feel the need to optimize maintenance operations in Weston. The recommendations made herein will correlate with the established goals.

6.9.2 Sewer Televising

In the CMOM plan, the Village established a goal to clean and televise approximately one-sixth of the sewer system every year. Village staff currently cleans approximately one-third of the system every year but has no set schedule for televising. It is recommended that the Village follow a plan of cleaning and televising one-sixth of the sewer system every year. Sewer inspections at the time of cleaning will show staff the system's problem areas, and plans can be made for future repairs and upgrades. Inspection results should be reviewed soon after they are completed, as conditions can change quickly. Institution of a regular cleaning and televising program will require designated time and staffing.

6.9.3 Manhole Rehabilitation

Manhole inspections are part of sewer televising contracts. Village staff also notes manhole condition while performing work in the system. Staff should continue to note this information in the GIS so it can be tracked. Repairs, lining, and rehabilitation of manholes in poor condition should be combined for the best bid pricing.

6.9.4 Lining Program

As noted previously, Weston does not currently have a sewer lining program. A regular sewer televising program will determine if a scheduled lining program could be beneficial to the sewer system. Televising of the interceptors showed that lining is recommended at least along certain lengths of those sewers. Regular televising of all mains throughout the Village may show that leaking joints are common in certain areas, and lining could potentially reduce I/I. Prompt review of televising data is the best way to determine if lining is necessary.

It is recommended that the Village set aside a specific amount in the annual budget specifically for a lining program. This amount should be set such that it will be used only for a lining program, not absorbed into funding for other projects. The table below shows how long it will take Weston to reline the entire system based on average lining costs and the existing system length of 107

miles. While the schedule seems very long, the entire system will not require lining; some will still be replaced by open cut methods. Also, new PVC sewer pipe has a lifespan of at least 50 years.

Table 6-3: Sewer Lining Schedule

Annual Budget	Annual Pipe Lined (feet)	Portion of System (%)	Years to Complete
$250,000	4,545	0.8%	124
$500,000	9,091	1.6%	62
$750,000	13,636	2.4%	41
$1,000,000	18,182	3.2%	31

Notes:

1. Total system length is approximately 107 miles, or 565,000 feet.
2. Assumes average lining cost of $55/foot.

The Village will need to develop a priority list of sewers to be lined. In the interceptor condition assessments discussed in Chapter 2, it was noted that the Schofield Interceptor has a long section of deteriorated joints. This, or another segment in one of the other interceptors, may be a good first candidate for the lining program. Other projects can be added in the future based on the results of the cleaning and televising program.

6.9.5 Force Main Cleaning

It is recommended that the Village implement an annual force main cleaning program. Ideally, force mains should be cleaned annually or every two years, but this will depend on the type of sewage pumped through them. The cost of cleaning will depend on the length and diameter of the main. An annual budget of $25,000 could cover the cost of cleaning one 12-inch diameter, mile-long force mains, or several smaller-diameter, shorter mains.

6.10 Prioritized Schedule

When preparing a schedule of projects to complete, the projects should be assigned a priority. High-priority items are those that present a danger to customers or those that are impeding the function of the sewer system. These items are critical to the operation of the system. Medium-priority items will eventually affect the operation of the system. Low-priority items are typically minor.

The failure of any lift station or break in a large-diameter sewer could be hazardous to the environment and health of residents. These items should take precedence over other less-critical parts of the system, such as small-diameter sewers and manholes. Regular inspections and maintenance of all parts of the system will limit the risk to the community.

Throughout this study no true “high-priority” items were found. The sewer replacement near the Fox Street lift station and the siphon work on the Cedar Creek Interceptor will be required to protect quality of life and the integrity of the system, but they are not immediately necessary. The lift station projects identified in Chapter 3 are necessary for the long-term operation of the stations, but none of the stations are at risk of immediate failure. These items fall into the medium priority category, and they should be completed in the order that they will become necessary to the system.

6.10.1 Near-Term Projects

The table below shows the projects that are recommended for completion over the next five years. It includes the following:

- The Harlyn Avenue and Tanya/Tricia lift stations. The Harlyn Avenue station is currently under construction, and the Tanya/Tricia station is included in the current CIP.
- Projects that are listed on the Village's current CIP, such as the SCADA and surveillance systems, and the Ryan Street river crossing.
- Sewer construction in the Weston Avenue area; development of this area is in the preliminary design phase.
- The Fox Street sewer upgrades discussed earlier.
- The Fox Street lift station pump plugging problem should be addressed with the replacement of the pumps at approximately the same time as the sewer upgrades.
- Construction of the northwest side sewer and the Yellow Banks Park lift station will occur simultaneously as development expands in that area. The cost of the force main from the station is included.
- The projects were scheduled based on priority and to spread out the cost as much as possible.
- The table also includes the annual costs associated with the recommended force main cleaning, sewer televising, and sewer lining programs.

Table 6-4: Near-Term Capital Improvement Projects

Projects	Estimated Project Cost				
	2020	2021	2022	2023	2024
Harlyn Avenue Lift Station	$300,000				
Ryan Street River Crossing	$532,000				
Park Terrace Lift Station	$20,000				
Tanya/Tricia Lift Station	$425,000				
Lift Station SCADA System		$250,000			
Lift Station Surveillance System			$100,000		
Weston Avenue Sewer			$5,483,000		
Cedar Creek Interceptor Siphon				$100,000	
Fox Street Sewer Upgrades				$1,389,000	
Fox Street Lift Station					$250,000
Northwest Side Sewer					$1,973,000
Yellow Banks Park Lift Station & Force Main					$1,520,000
Force Main Cleaning	$25,000	$25,000	$25,000	$25,000	$25,000
Sewer Televising Program	$50,000	$50,000	$50,000	$50,000	$50,000
Sewer Lining Program	$500,000	$500,000	$500,000	$500,000	$500,000
Total	$1,852,000	$825,000	$6,158,000	$2,064,000	$4,318,000

6.10.2 20-Year Plan

The table below shows the projects that are recommended for completion over the next six to twenty years. Many of these have a slightly lower priority, meaning that completion of the project does not immediately affect human welfare or the operation of the system. The projects associated with new development are expected farther in the future. Also note that:

- The lift station projects are again scheduled based on priority and to spread out the cost of the projects. The schedule should be updated as interest in a certain area increases.

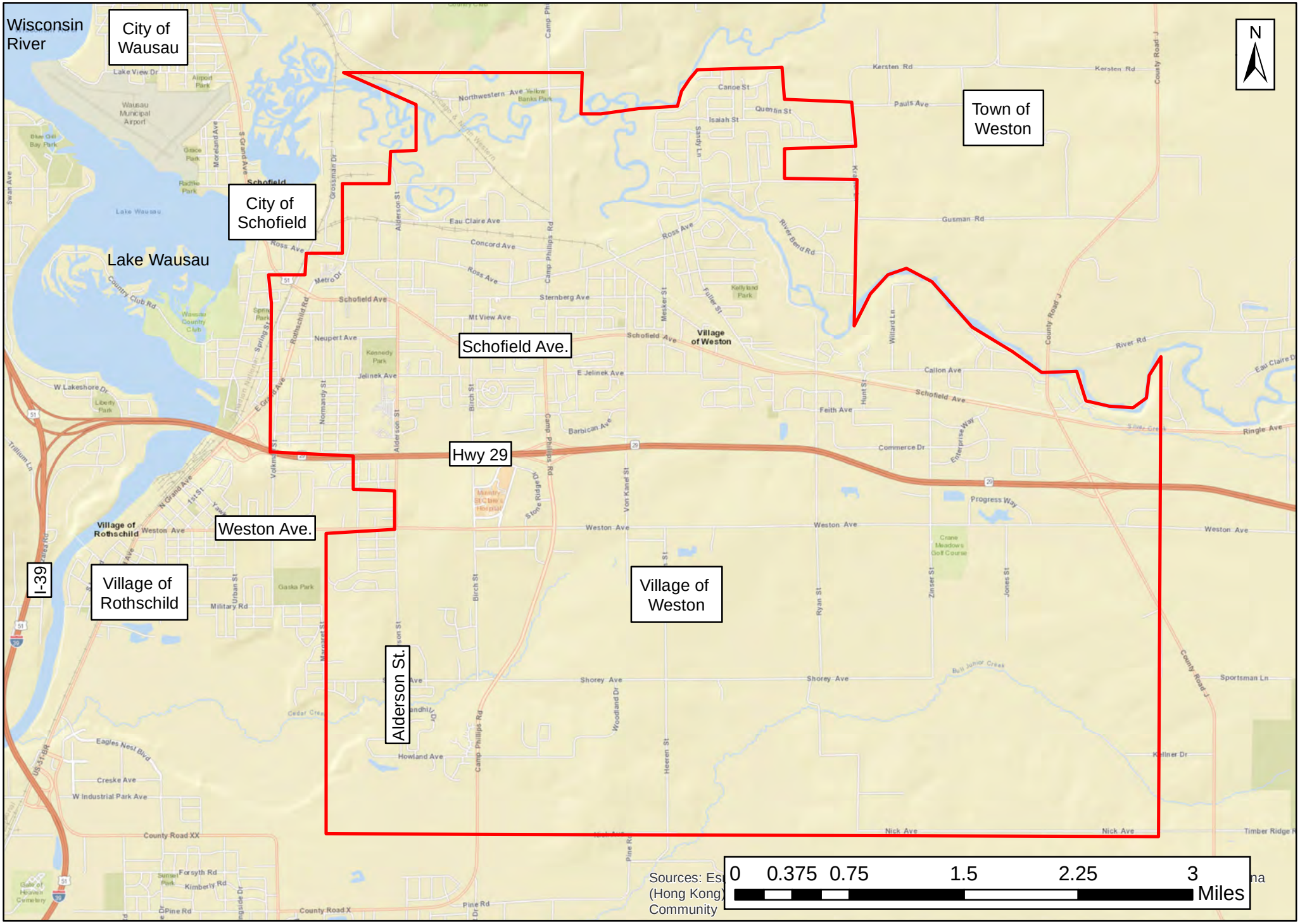
- The annual force main cleaning, sewer televising, and sewer lining programs are expected to continue.

Table 6-5: Long-Term Capital Improvement Projects

Projects	Estimated Project Cost							
	2025	2026	2027	2028	2029	2030	2031	2032
Ryan Street Lift Station	$500,000							
Town of Weston Sewer				$6,621,000				
Force Main Cleaning	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Sewer Televising Program	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Sewer Lining Program	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
Annual Total	$1,075,000	$575,000	$575,000	$7,196,000	$575,000	$575,000	$575,000	$575,000

Projects	Estimated Project Cost						
	2033	2034	2035	2036	2037	2038	2039
Southeast Side Lift Station & Force Main	$1,500,000						
Force Main Cleaning	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Sewer Televising Program	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Sewer Lining Program	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
Annual Total	$2,075,000	$575,000	$575,000	$575,000	$575,000	$575,000	$575,000

Appendix A – Village of Weston Location Map



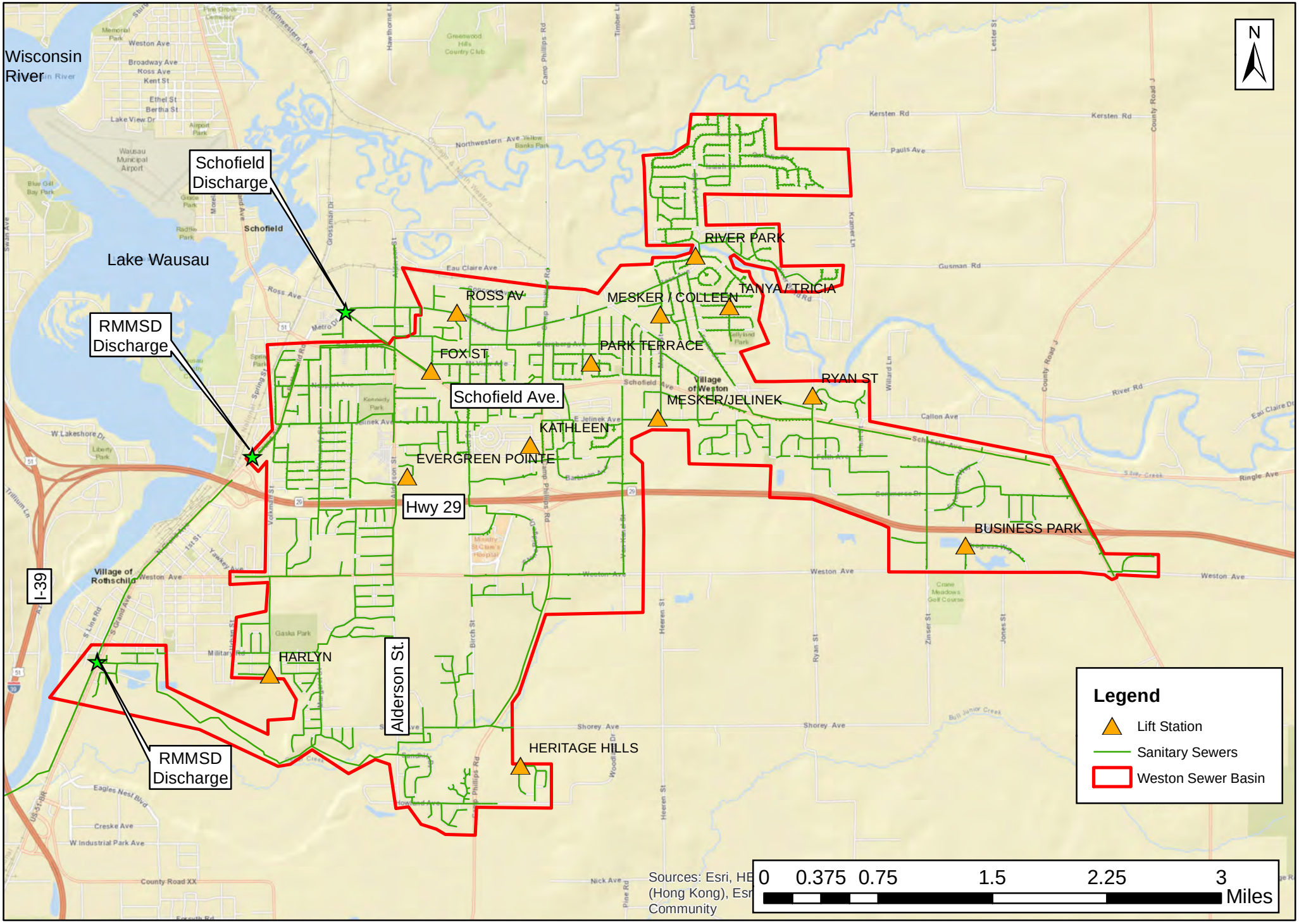
Sources: Es (Hong Kong) Community

Village of Weston Location Map

August 2019

Clark Dietz
Engineering Quality of Life

Appendix B – Sanitary Sewer System Map



August 2019

Village of Weston Sewer System

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Appendix C – Land Use Map

Village of Weston Comprehensive Plan

3-1

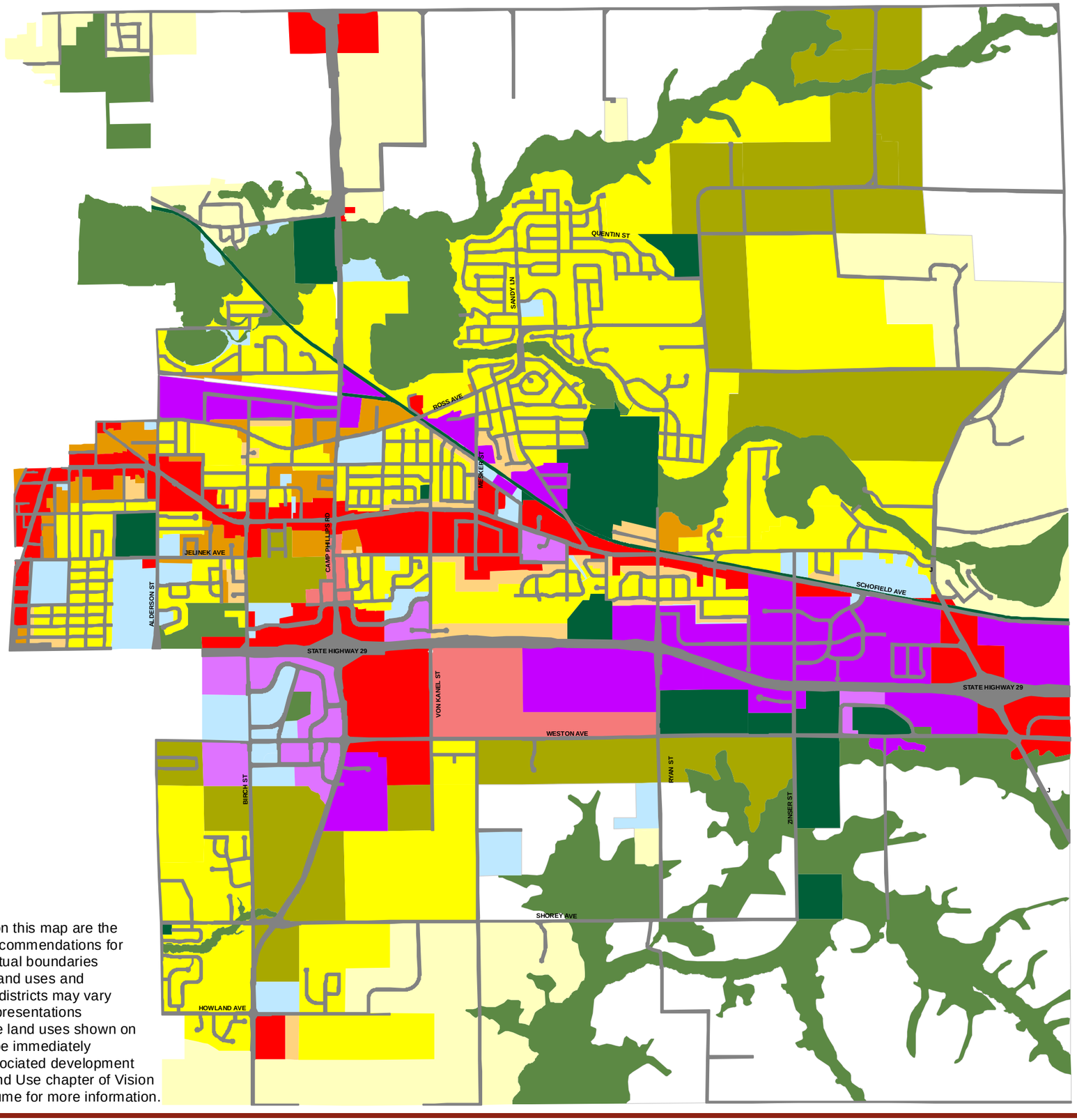
Future Land Use

Approval Date: 10/3/2016

Map Date: 09/07/2016

Created by the Village of Weston Tech. Services Department

0 0.25 0.5 1 Mile



Legend

- Right-of-Way

Future Land Use Designations

- Single Family Residential - Unsewered
- Single Family Residential - Sewered
- Two Family Residential
- Multple Family Residential
- Planned Neighborhood
- Commercial
- Business/Office Park
- Mixed Use/Flex
- Industrial
- Institutional
- Parks and Recreation
- Agriculture
- Environmental Corridor

Note:
The designations on this map are the village's general recommendations for future land use. Actual boundaries between different land uses and associated zoning districts may vary somewhat from representations on this map. Future land uses shown on this map may not be immediately appropriate for associated development approvals. See Land Use chapter of Vision and Directions volume for more information.

Village of Weston

Marathon County, Wisconsin

Recent and Future Residential Developments

Map Creation Date: 5/9/2018

Map Author: Nate Crowe

Map by the Technology Services Department
Village of Weston

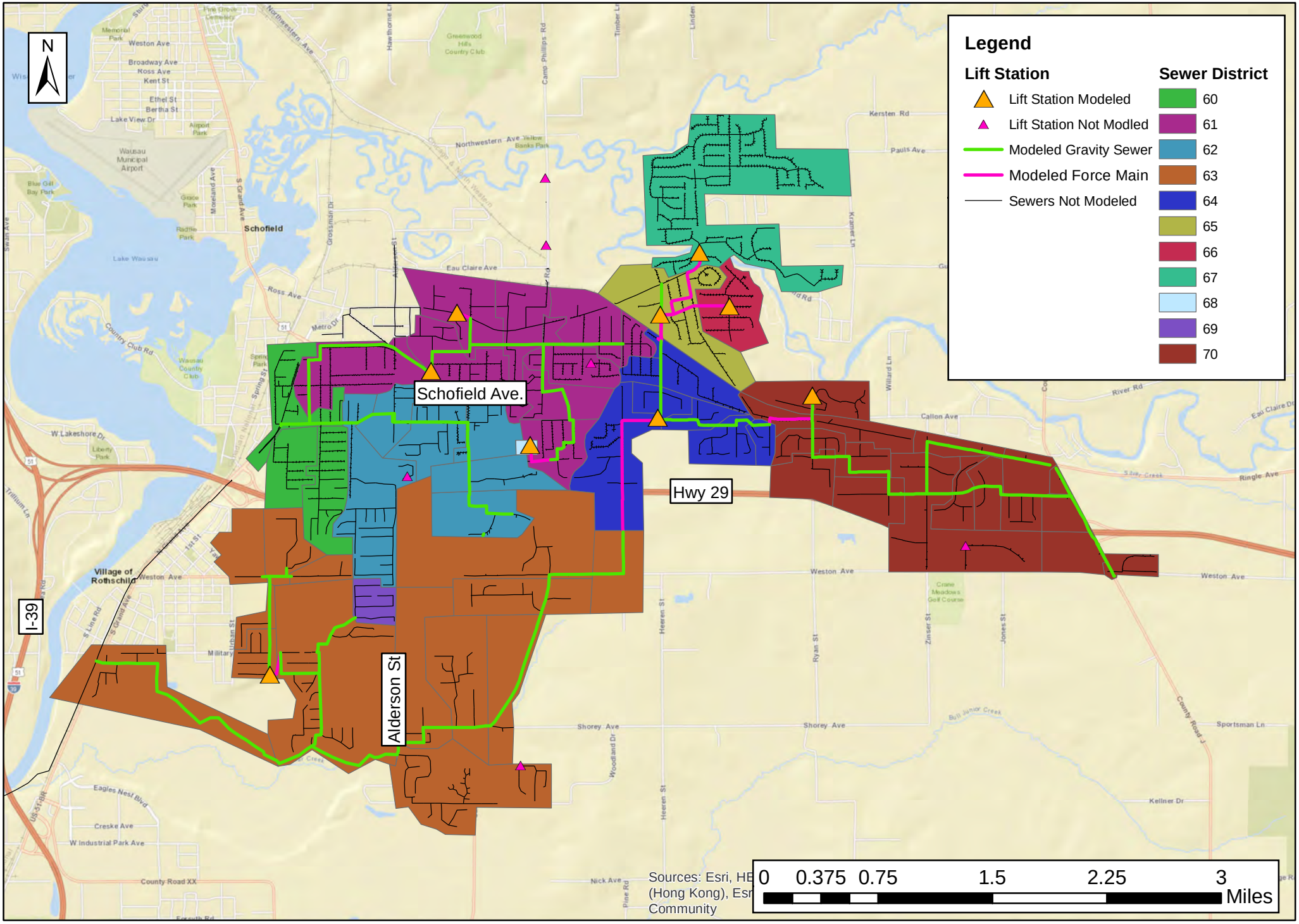
0 0.25 0.5 1 Miles

Legend

- New Residential Developments (With Number of Residential Units)
- Weston Village Limits (2017)
- Surface Water
- Buisness Park
- Recreational Park

NORTHWESTERN AV
X
SANDY LN
ROSS AV
>100
EAU CLAIRE AVE
5
19
ROSS AV
49
STERNBERG AV
MESKER ST
FULLER ST
SCHOFIELD AV
51
NEUPERT AV
ALDERSON ST
JELINEK AV
BIRCH ST
E JELINEK AV
84
23
48
CALLON AV
RIVER RD
SCHOFIELD AV
53
VOLKMAN ST
NORMANDY ST
29
COMMERCE DR
99
VON KANEL ST
RYAN ST
WESTON AV
WESTON AVE
214
BIRCH ST
>100
CTH X
ZINSER ST
J
SHOREY AV
ALDERSON ST
HOWLAND AV

Appendix D – Sanitary System District Map



August 2019

Village of Weston
Sewer Model

Clark Dietz
Engineering Quality of Life

Appendix E – Sanitary Sewer Inventory

Sanitary Sewer Condition Assessment

CEDAR CREEK STATION BASINS

Basin	Material	Number of Manholes	Pipe Length by Size 8"	10"	12"	15"	16"	18"	20"	21"	Unknown	Totals
Cedar Creek West												
	ABS/Truss											-
	Ductile Iron		463						717			1,180
	PVC		28,287	2,052								30,339
	Polyethylene		-									-
	Concrete				2,766					12,921		15,687
	Unknown											-
	Basin Subtotal	**172**	**28,750**	**2,052**	**2,766**	**-**	**-**	**-**	**717**	**12,921**	**-**	**47,206**
Cedar Creek East												
	ABS/Truss											-
	Ductile Iron			423				3,672	3,055			7,150
	PVC		38,247	380		2,052		4,998				45,677
	Polyethylene		315									315
	Concrete					275						275
	Unknown											-
	Basin Subtotal	**197**	**38,562**	**803**	**-**	**2,327**	**-**	**8,670**	**3,055**	**-**	**-**	**53,417**
Harlyn												
	ABS/Truss											-
	Ductile Iron											-
	PVC		15,278	3,387								18,665
	Polyethylene		-									-
	Concrete											-
	Unknown											-
	Basin Subtotal	**64**	**15,278**	**3,387**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**18,665**
Mesker South												
	ABS/Truss											-
	Ductile Iron		399					94				493
	PVC		34,471			5,054						39,525
	Polyethylene		-									-
	Concrete											-
	Unknown											-
	Basin Subtotal	**152**	**34,870**	**-**	**-**	**5,054**	**-**	**94**	**-**	**-**	**-**	**40,018**
Ryan												
	ABS/Truss											-
	Ductile Iron											-
	PVC		45,089	384	9,745	353	13,489					69,060
	Polyethylene		-									-
	Concrete											-
	Unknown										123	123
	Basin Subtotal	**256**	**45,089**	**384**	**9,745**	**353**	**13,489**	**-**	**-**	**-**	**123**	**69,183**
Mesker/Colleen												
	ABS/Truss											-
	Ductile Iron											-
	PVC		16,432	951	1,123							18,506
	Polyethylene		-									-
	Concrete											-
	Unknown											-
	Basin Subtotal	**70**	**16,432**	**951**	**1,123**	**-**	**-**	**-**	**-**	**-**	**-**	**18,506**
Tricia/Tanya												
	ABS/Truss											-
	Ductile Iron											-
	PVC		10,444									10,444
	Polyethylene		-									-
	Concrete											-
	Unknown											-
	Basin Subtotal	**38**	**10,444**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10,444**
Eau Claire												
	ABS/Truss											-
	Ductile Iron		461	4,363								4,824
	PVC		44,904	7,018								51,922
	Polyethylene		-									-
	Concrete											-
	Unknown										72	72
	Basin Subtotal	**229**	**45,365**	**11,381**	**-**	**-**	**-**	**-**	**-**	**-**	**72**	**56,818**

Sanitary Sewer Condition Assessment

CEDAR CREEK STATION BASINS

Basin	Material	Number of Manholes	Pipe Length by Size 8"	10"	12"	15"	16"	18"	20"	21"	Unknown	Totals
BASIN TOTALS												
	ABS/Truss		-	-	-	-	-	-	-	-	-	-
	Ductile Iron		1,323	4,786	-	-	-	3,766	3,772	-	-	13,647
	PVC		233,152	14,172	10,868	7,459	13,489	4,998	-	-	-	284,138
	Polyethylene		315	-	-	-	-	-	-	-	-	315
	Concrete		-	-	2,766	275	-	-	-	12,921	-	15,962
	Unknown		-	-	-	-	-	-	-	-	195	195
TOTALS		**1,178**	**234,790**	**18,958**	**13,634**	**7,734**	**13,489**	**8,764**	**3,772**	**12,921**	**195**	**314,257**
Cedar Creek Interceptor Sewer			**-**	**-**	**-**	**2,327**	**-**	**8,670**	**3,772**	**12,921**	**-**	**27,690**
Less Interceptor			**234,790**	**18,958**	**13,634**	**5,407**	**13,489**	**94**	**-**	**-**	**195**	**286,567**

Sanitary Sewer Condition Assessment

HARDEE'S STATION BASINS

Basin	Material	Number of Manholes	Pipe Length by Size 8"	10"	12"	15"	16"	18"	20"	24"	Unknown	Totals
Business 51 South												
	ABS/Truss											-
	Ductile Iron											-
	PVC											-
	Polyethylene											-
	Concrete											-
	Asbestos Cement		1,872		804					1,168		3,844
	Unknown										4,897	4,897
	Basin Subtotal	**35**	**1,872**	**-**	**804**	**-**	**-**	**-**	**-**	**1,168**	**4,897**	**8,741**
Business 51 North												
	ABS/Truss											-
	Ductile Iron											-
	PVC					700						700
	Polyethylene											-
	Concrete											-
	Asbestos Cement		362	691						140		1,193
	Unknown		8,726	182	282						129	9,319
	Basin Subtotal	**43**	**9,088**	**873**	**282**	**700**	**-**	**-**	**-**	**140**	**129**	**11,212**
Jelinek South												
	ABS/Truss		3,482	397								3,879
	Ductile Iron											-
	PVC		2,580	313		285						3,178
	Polyethylene											-
	Concrete											-
	Asbestos Cement		1,800	1,771								3,571
	Unknown		8,305	321								8,626
	Basin Subtotal	**66**	**16,167**	**2,802**	**-**	**285**	**-**	**-**	**-**	**-**	**-**	**19,254**
Jelinek DC Everest												
	ABS/Truss		12,442									12,442
	Ductile Iron											-
	PVC		4,820									4,820
	Polyethylene											-
	Concrete											-
	Asbestos Cement											-
	Unknown		1,290	1,002								2,292
	Basin Subtotal	**68**	**18,552**	**1,002**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**19,554**
Jelinek East												
	ABS/Truss		6,243									6,243
	Ductile Iron											-
	PVC		17,029	1383	1,104	4,641		4,101				28,258
	Polyethylene											-
	Concrete											-
	Asbestos Cement		1,452	161								1,613
	Unknown		1,284	317							115	1,716
	Basin Subtotal	**151**	**26,008**	**1,861**	**1,104**	**4,641**	**-**	**4,101**	**-**	**-**	**115**	**37,830**
Jelinek North												
	ABS/Truss		1,775		3,907							5,682
	Ductile Iron											-
	PVC				114							114
	Polyethylene											-
	Concrete											-
	Asbestos Cement		1,512	3,033		55						4,600
	Unknown		1,048	5,064							86	6,198
	Basin Subtotal	**87**	**4,335**	**8,097**	**4,021**	**55**	**-**	**-**	**-**	**-**	**86**	**16,594**
Fox West												
	ABS/Truss		8,098		1,594							9,692
	Ductile Iron			1,687								1,687
	PVC		19,120	1,833	4,273							25,226
	Polyethylene											-
	Concrete											-
	Asbestos Cement											-
	Unknown											-
	Basin Subtotal	**122**	**27,218**	**3,520**	**5,867**	**-**	**-**	**-**	**-**	**-**	**-**	**36,605**

Fox East (includes Kathleen as a small subset west of Camp Phillips and north of Everest Avenue)

Sanitary Sewer Condition Assessment

HARDEE'S STATION BASINS

Basin	Material	Number of Manholes	Pipe Length by Size 8"	10"	12"	15"	16"	18"	20"	24"	Unknown	Totals
	ABS/Truss		16,309		5,013							21,322
	Ductile Iron											-
	PVC		10,228		492						175	10,895
	Polyethylene											-
	Concrete											-
	Asbestos Cement		7,292									7,292
	Unknown										35	35
	Basin Subtotal	**155**	**33,829**	**-**	**5,505**	**-**	**-**	**-**	**-**	**-**	**210**	**39,544**
Ross												
	ABS/Truss		5,783	4,192								9,975
	Ductile Iron											-
	PVC											-
	Polyethylene											-
	Concrete											-
	Asbestos Cement		1,698									1,698
	Unknown		281									281
	Basin Subtotal	**43**	**7,762**	**4,192**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**11,954**
BASIN TOTALS												
	ABS/Truss		54,132	4,589	10,514	-	-	-	-	-	-	69,235
	Ductile Iron		-	1,687	-	-	-	-	-	-	-	1,687
	PVC		53,777	3,529	5,983	5,626	-	4,101	-	-	175	73,191
	Polyethylene		-	-	-	-	-	-	-	-	-	-
	Concrete		-	-	-	-	-	-	-	-	-	-
	Asbestos Cement		15,988	5,656	804	55	-	-	-	1,308	-	23,811
	Unknown		20,934	6,886	282	-	-	-	-	-	5,262	33,364
	Basin Subtotal	**770**	**144,831**	**22,347**	**17,583**	**5,681**	**-**	**4,101**	**-**	**1,308**	**5,437**	**201,288**
Hardees Basins Interceptor Sewer			**-**	**8,097**	**6,211**	**5,681**	**-**	**4,101**	**-**	**1,308**	**-**	**25,398**
Less Interceptor			**144,831**	**14,250**	**11,372**	**-**	**-**	**-**	**-**	**-**	**5,437**	**175,890**

Appendix F – Lift Station Condition Assessment

ClarkDietz

Clean all stations 2x/yr

*Near where sports complex was supposed to go probably not happening now

Project Business Park Lift Station 8700 Progress Way next to Premier Sports Academy
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments				
		Odor and Noise Controls				
		Landscaping	Paved driveway			
	Force Main	Route	Discharge near Zinser and Weston Ave			
Capacity	Flows	Initial Minimum		Only 4 businesses, none with high water use		
		Average				
		Peak				
	Pumps	Initial 100 gpm at 26.5 ft TDH	Type Submersible Barnes No. 2 Size 4"	Had 2 different impellers for long time (longer run time)	HL - 4.2 LL - 2.2	
		Final	Type ____ No. ____ Size ____	Very low flows - less than an hour - now matching impeller installed	Lag - 4.0 Lead - 3.5	
	Wet Well	Size 6' Ø		Integral valve vault - Energenecs	Off - 2.5	
		Condition	Vac Truck connection			
		Depth				
		Lining		Check valves hang up sometimes - oil regularly		
	Force Main	Current	Size 4" to southwest			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Almost no grease			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☑ Constant ☐ Variable Speed			
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 2.8 Hp, 208V, 3 ph.	☑ Electric ☐ Engine	Generator plug		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Clean all stations 2x/yr

*Near where sports complex was supposed to go probably not happening now

Project Business Park Lift Station 8700 Progress Way next to Premier Sports Academy
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Davit crane connection			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

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Project Eau Claire River (River Park) Lift Station 5501 Ross Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End 12:00 PM

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils		Approximately 1999 Construction		
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	WW and VV raised; next to trail			
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route				
Capacity	Flows	Initial Minimum		2.1 - 3.9 hours over 2 days (average)		
		Average				
		Peak 470 gpm at 76 ft TDH				
	Pumps	Initial	Type Submersible No. 2 Size 4" 1 Hydromatic, 1 Barnes		HWA - 8.5 Lag - 7.5 Lead - 7.0 Lead off - 5.0	
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size ~10' Ø			Lag off - 5.5	
		Condition	Working today on concrete deterioration - trying to patch (exterior) -		LWA - 3.8	
		Depth Rim - 1202.06, Bottom - 1160.0	maybe replace top eventually			
		Lining	Has vac truck connection			
	Force Main	Current	Size 8"?			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Grease			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	New controls '09		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 20 Hp, 460 V, 3 ph.	☑ Electric ☑ Engine Onsite - Cummins/Onan	in enclosure transfer switch issues		
		Future	☐ Electric ☐ Engine Maintenance issues with generator			

ClarkDietz

Project Eau Claire River (River Park) Lift Station 5501 Ross Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End 12:00 PM

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List) Air release valve				
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☑ Level Transducer ☐ Floats	Ryan Street only other one on transducer		
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Date 8/15/2018
Time Start
Time End

Project Evergreen Point Lift Station 2602 Pointe Rd. off Alderson St. on small cul de sac
Location Weston, WI

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments		Everything on concrete pad		
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route				
Capacity	Flows	Initial Minimum				
		Average				
		Peak				
	Pumps	Initial 100 gpm at 31 ft TDH	Type Submersible No. 2 Size 6.25" impeller?	2 new pumps ~2016 from Energenecs-Barnes - said he gave info to Keith		
		Final	Type No. Size			
	Wet Well	Size Integral Valve Vault, 72" diameter				
		Condition		Tube for connecting Vac truck		
		Depth Bottom - 127.25, Ground - 1224.45 (?); two sets of elevations listed	~4' of level	Shallow WW - maybe 15'		
		Lining				
	Force Main	Current	Size			
		Future	Size			
Wastewater	Characteristics	Unusual quantity /size of gross solids	small residential loop, little bit of grease			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☑ Constant ☐ Variable Speed			
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 2.8 Hp	☑ Electric ☐ Engine	Generator plug		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Date 8/15/2018
Time Start
Time End

Project Evergreen Point Lift Station 2602 Pointe Rd. off Alderson St. on small cul de sac
Location Weston, WI

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Hydrant nearby			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer (none here) ☑ Floats	Panel starting to tip on pad!		
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

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Need: - Wet well dimensions - Pump On/Off elevations
- Inverts ~20' deep in, maybe more - Rim

Project Fox Street Lift Station Corner of Fox St. & Schofield Ave. off Pick 'n Save parking lot
Location Weston, WI

Date 8/15/2018
Time Start 7:55 AM
Time End

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	*Good condition overall		
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Brick building			
		Odor and Noise Controls		Some odor inside		
		Landscaping	Trees, shrubs			
	Force Main	Route	Toward Schofield Ave., just a little way west on Schofield, can see discharge manhole from station			
Capacity	Flows	Initial Minimum				
		Average	Invert is approximately 20 feet deep, maybe more			
		Peak				
	Pumps	Initial 1060 gpm at 24.5 ft TDH	Type Vertical dry-pit Smith & Loveless No. 2 Size 5" x 8" 10-1/8" imp	1 Plugged today (also last week) - 700 gpm; started when valves replaced		
		Final	Type ____ No. ____ Size ____	Pump 1 rebuilt approx. 2 yrs ago (by others) Need to do other one, but valve won't hold (new)		
	Wet Well	Size Approx. 4.5' x 12'		Partially under building HWL - 5.5		
		Condition	Not much grease - lots of turnover; some dirt; they use vac truck on	Start 2 - 5.0		
		Depth Approx. 25'	upstream MH	Dry pit measures approximately 10' across Start 1 - 4.5		
		Lining		Stop - 2.0		
	Force Main	Current	Size 8"	8" piping LWL - 1.5		
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids				
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current ~~Verify~~ variable speed controls - Yes	☐ Constant ☑ Variable Speed	Has old and new flow meter		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 10 Hp, 1170 rpm, 230V, 3 ph.	☑ Electric ☐ Engine	Onsite generator - in partially buried shelter; new battery		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Need: - Wet well dimensions - Pump On/Off elevations
- Inverts ~20' deep in, maybe more - Rim

Project Fox Street Lift Station Corner of Fox St. & Schofield Ave. off Pick 'n Save parking lot
Location Weston, WI

Date 8/15/2018
Time Start 7:55 AM
Time End

Ross, Fox, Harlyn, Ryan, T-T, River Park, Mesker-Colleen, Mesker-Jelinek - visit every other day (larger stations)
- visit two times a week - smaller stations

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None Replaced 2/17 - American Flow Control gate valves, model 2508-1 on suction & discharge; check valves are approx. 15 yrs old			
		Flow Meters Yes (1 of 2 stations that has one)	☐ None			
		Mixer	☐ None			
		Hatches/Covers	On upper level for pumps, also outside to WW ☐ None			
		Building/Enclosure	Brick ☐ None			
		Other (List)	Water, restroom, office, hoist/I-beam - upstairs & downstairs Dehumidifier into sump	Lower level fan needs to be replaced - bearings bad (noisy) Duct is Certainteed Fluid-Tite pipe		
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)	Right on corner, small driveway			
		Controls	☐ Level Transducer ☐ Floats	Allen Bradley Panel View 600		
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry	On SCADA			
		Architectural Treatments				
		Odor and Noise Controls				

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Project Harlyn Ave. Lift Station East of Louis (South of Military)
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils		Approximately 1993 Construction		
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Under power lines, in woods	Station gets wet when it rains		
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route	4", discharges by Pearl & Military			
Capacity	Flows	Initial Minimum		Run time averages from 2-8 hours/day - higher when plugged		
		Average				
		Peak				
	Pumps	Initial 80 gpm at 35.6 ft TDH	Type Smith & Lov Suction Lift No. 2 Size 4" (all piping 10-1/8" impeller	Hard to keep and get primed; usually have to always do both pumps together		
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size 6-ft diameter	Below-ground pump enclosure			
		Condition	Had wet well coated	Has vac truck connection		
		Depth	Hatch not screened	Vent only has screen		
		Lining				
	Force Main	Current	Size ____			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Rags in check valves, pumps			
		Unusual quantity /size of grit				
		Corrosive Constituents	Little grease			
		Potential for toxic, explosive materials				
		Septic Sewage	All residential flow			
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed			
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 5 Hp, 1170 rpm, 230 V, 3 ph.	☑ Electric ☐ Engine			
		Future	☐ Electric ☐ Engine			

ClarkDietz

Project Harlyn Ave. Lift Station East of Louis (South of Military)
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None	Recommend grinder pumps		
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer None	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Dehumidifier			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Project Heritage Hills Lift Station Lexington Ct., W of Heritage Hills Dr.
Location Weston, WI

Date 8/15/2018
Time Start 9:00 AM
Time End 9:20 AM

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	No major issues, other than MH access - waiting for neighbor to finish yard		
		Rock, high groundwater, poor soils		Constructed approximatley 2005, according to plans		
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Small driveway - poor condition	*Trying to get all LS driveways crack-sealed & seal-coated		
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route	To MH on Howland, just east of Camp Phillips Road (down easement)			
Capacity	Flows	Initial Minimum			Lag on 4.5	
		Average			Lead on 4.0	
		Peak			Off - 3.0	
	Pumps	Initial	Type Submersible No. 2 Size Crane/Barnes	Small station		
		Final	Type No. Size			
	Wet Well	Size Integral valve vault, 6-ft diameter				
		Condition		Has Vac truck connection		
		Depth Top - 1211.51, bottom - 1188.95				
		Lining				
	Force Main	Current	Size			
		Future	Size			
Wastewater	Characteristics	Unusual quantity /size of gross solids	For residential subdivision - very little grease			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☑ Constant ☐ Variable Speed			
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 3 Ø, with add-a-phase	☐ Electric ☐ Engine	Generator plug		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Project Heritage Hills Lift Station Lexington Ct., W of Heritage Hills Dr.
Location Weston, WI

Date 8/15/2018
Time Start 9:00 AM
Time End 9:20 AM

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	No grate ☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Davit crane			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____ 240 V, 3 h, 100 amp, 3 wire, 4-pole plug			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Date 8/15/2018
Time Start
Time End

Project Kathleen Lift Station 6300 Kathleen Ave., west of Camp Phillips Road, south of Monterey
Location Weston, WI

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Right next to street, very small station			
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route	South to top of hill			
Capacity	Flows	Initial Minimum	Averages 0.5 to 1.5 hours of runtime over 3 days			
		Average				
		Peak				
	Pumps	Initial 36 gpm at 44 feet TDH	Type Subm. Grinc Peabody Barnes No. 2 Size 4" impeller	1 new, 1 old pump - run time usually double on one		
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size 48" diameter, fiberglass	Bad wiring setup, hard to change floats, junction box in MH West of WW			
		Condition				
		Depth Bottom - 1234.6, Top - 1254.6				
		Lining				
	Force Main	Current Discharge elev. - 1246.0	Size 2.5-inch			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids				
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	Alarm light		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 3 Hp, 230 V, 1 ph., 3450 rpm	☑ Electric ☐ Engine			
		Future	☐ Electric ☐ Engine			

ClarkDietz

Date 8/15/2018
Time Start
Time End

Project Kathleen Lift Station 6300 Kathleen Ave., west of Camp Phillips Road, south of Monterey
Location Weston, WI

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers Hinge broken	☐ None			
		Building/Enclosure	☐ None			
		Other (List)				
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Project Mesker-Colleen (corner of) Lift Station Located at the corner of Mesker and Colleen
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:40 a.m.

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	Lots of grease at this station		
		Rock, high groundwater, poor soils		Replaced this station at the same time as Ross. Check that drawings are new.		
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Pass-through driveway	Manufacturing facility behind station		
		Odor and Noise Controls				
		Landscaping	Planted trees			
	Force Main	Route 4"	South on Mesker to Kurizawa			
Capacity	Flows	Initial Minimum				
		Average				
		Peak				
	Pumps	Initial 155 gpm (check) at 37.5 feet TDH	Type ____ No. 2 Size ____	Was a vacuum-prime station - made that into a MH	HWL - 6.0 Lag - 5.0	
		~~Suction lift pumps shown on drawing~~ - replaced				
		Final	Type ____ No. ____ Size ____	146 - 356 starts/time period (2 days)	Lead on - 4.5 LWL - 2.5	
	Wet Well	Size maybe 8' Ø			LWL off - 3.5	
		Condition	Vac truck connection			
		Depth				
		Lining				
	Force Main	Current	Size ____			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Lots of grease - builds up on transducer, and then get HWA; always cleaning it.			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	Has alarm light		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 7.5 Hp, 1750 rpm, 208 V, 3 ph.	☑ Electric ☑ Engine Onsite, 50 kW, gas (Kohler), with ATS	Putting ATS on all new stations.		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Project Mesker-Colleen (corner of) Lift Station Located at the corner of Mesker and Colleen
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:40 a.m.

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers with grates	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Davit crane connection			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☑ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Need:
- Wet well - Rim
- Inverts - Pump On/Off Elevations

Project Mesker-Jelinek Lift Station 5200 E. Jelinek Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	Approx. 5 stations pump into this station, so gets grease buildup.		
		Rock, high groundwater, poor soils		Approx. 2004 Startup		
		Flood Plain Maps Available	☐ Yes ☐ No	*Pretty dependable station (1 electrical fire)		
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Block building	Have contractor coming to fix cracks on top of WW		
		Odor and Noise Controls	Some odor near WW - no complaints - only station with odor			
		Landscaping				
	Force Main	Route	Jelinek to Von Kanel then across highway about 1/8 mi			
Capacity	Flows	Initial Minimum	Lots of flow - normal		HWA - 7.4	
		Average			Lag 2 - 6.5	
		Peak			Lag - 6.0	
	Pumps	Initial	Type Smith & Lov No. 3 Size 8x6 Suction Vertical centrifugal 8" discharge elbow	Pump 2 - bearings out; also have impeller on order; doesn't alternate automatically; switch between them every 2 day	Lead - 5.5 All off - 3.5	
		Final	Type ____ No. ____ Size ____	Leak on one pump's discharge piping - attempted to fix while here.	LWA - 2.2	
	Wet Well	Size Approx. 15'x15' ; over 30' deep	2 hatches; large, square WW			
		Condition				
		Depth	Cleaned 3 weeks ago - no grease now			
		Lining				
	Force Main	Current	Size 8", with valve at discharge, 8'-10' below floor			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Excess grease?			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☑ Variable Speed	Pump 3's VFD on middle level (no room in panel)		
		Future	☐ Constant ☐ Variable Speed	Allen Bradley Panel View 600; programming issues		
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 460V, 3 ph. (verified), 75 Hp	☑ Electric ☑ Engine Natural gas - Cummins	Disconnects located in basement		
		Future 1775 rpm	☐ Electric ☐ Engine			

ClarkDietz

Need:
- Wet well - Rim
- Inverts - Pump On/Off Elevations

Project Mesker-Jelinek Lift Station 5200 E. Jelinek Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters Yes (2 of 2)	☐ None			
		Mixer Wilo-Emu mixer in wet well, with mast and hoist - this failed.	Mixer isn't used, but it's still there; wasn't big enough. ☐ None			
		Hatches/Covers To lower level	☐ None			
		Building/Enclosure	☐ None			
		Other (List) Restroom, hoist upstairs (2 ton), hose in basement, large dehumidifier, one-ton hoist downstairs				
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry	On SCADA			
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Project Park Terrace Lift Station 4506 Cedar Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:45 AM

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	Not many problems, plugs once in a while.		
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments				
		Odor and Noise Controls				
		Landscaping	Under power lines; next to yard, street			
	Force Main	Route	To west			
Capacity	Flows	Initial Minimum				
		Average				
		Peak				
	Pumps	Initial 80 gpm at 14.3 feet TDH	Type Submersible No. 2 Size 4" 1 Hydromatic & 1 Barnes	Don't pump equally!		
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size 6-ft diameter IVV		Vac truck connection		
		Condition				
		Depth Bottom - 1196, Top - 1217				
		Lining				
	Force Main	Current	Size 4-inch DIP Discharge elev = 1206			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Little grease, only clean 2 times a year			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	Alarm light		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 2 Hp, 230 V, 1 ph., 1150 rpm	☑ Electric ☐ Engine Has generator plug			
		Future	☐ Electric ☐ Engine			

ClarkDietz

Project Park Terrace Lift Station 4506 Cedar Ave
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:45 AM

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)				
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Project Ross Avenue Lift Station Corner of Ross & Quirt-Sann
Location Weston, WI

Date 8/15/2018
Time Start 7:30 AM
Time End 7:45 AM

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	Dave, Village of Weston

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No			
		Rock, high groundwater, poor soils		Updated couple years ago - upsized then; was a vacuum prime station		
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition	Elevated above street	Was on other side of street		
	Aesthetic Conditions	Architectural Treatments	Fence			
		Odor and Noise Controls	None			
		Landscaping	None - retaining wall			
	Force Main	Route	To East to Birch			
Capacity	Flows	Initial Minimum				
		Average				
		Peak				
	Pumps	Initial 223 gpm at 48.5 feet TDH	Type Submersible Hydromatic No. 2 Size 4" 8.5" Vortex impeller	Has tube for connecting Vac truck		
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size 7' Ø	IVV	May raise setpoints to run longer - many starts/stops: 58		
		Condition New		for 2.5 hours of run time; 85 for 3.6 hours of run time		
		Depth 12" Invert - 1182.2, Bottom= 1175.0, Rim = 1205.0; Also lists 10" incoming with invert =1184.52; HWL = 1181.5; Lead = 1179.5; Lag = 1180.5; All Pumps Off = 1178.0; LWL = 1177.5				
		Lining None		1.5' pump start elevation, next setpoint 0.5' above that		
	Force Main	Current 6" connects to older 4" FM	Size 6" Top = 1196.0			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Some grease - cleaned within last 2 months			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	PLC goes blank & loses memory - reset & works ok		
		Future	☐ Constant ☐ Variable Speed	Altronex		
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 1750 rpm, 3 ph., 208V, 10 Hp	☑ Electric ☑ Engine (emergency generator onsite)	50 kW Kohler with ATS, natural gas		
		Future	☐ Electric ☐ Engine	TES		

ClarkDietz

Project Ross Avenue Lift Station Corner of Ross & Quirt-Sann
Location Weston, WI

Date 8/15/2018
Time Start 7:30 AM
Time End 7:45 AM

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	No ☐ None			
		Mixer	No ☐ None			
		Hatches/Covers with safety grates	☐ None			
		Building/Enclosure IVV	☐ None			
		Other (List)	Davit crane	*Place hydrant near all new stations - use fire hose to break up grease		
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☑ Auto Dialer ☐ Cell Phone			
		Telemetry	Only Fox St., Mesker - Jelinek			
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Need: - Wet well dimensions Pump On/Off elevations
- Inverts
- Rim

Project Ryan Street Lift Station 5800 Ryan St, just North of Schofield Ave.
Location Weston, WI

Date 8/15/2018
Time Start 9:45 AM
Time End

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	Right next to trail - no problems now that area has built up - had graffiti before.		
		Rock, high groundwater, poor soils		Over 20 yrs old		
		Flood Plain Maps Available	☐ Yes ☐ No	Had plugging when subdivision was		
		100-Year Flood Condition - in floodplain?	Raised WW, MHs nearly	getting built - not now		
	Aesthetic Conditions	Architectural Treatments		In low spot off road		
		Odor and Noise Controls				
		Landscaping				
	Force Main	Route				
Capacity	Flows	Initial Minimum		Less than 2 hours of run time (average between readings	High - 6' 6"	
		Average			Lag - 6' 4"	
		Peak			Lag - 6' 2"	
	Pumps	Initial 600 gpm at 69 feet TDH	Type Submersible Hydromatic No. 3 Size 4"	Usemco station; 1 pump replaced - Barnes now	Start Lead - 6' 0" Stop - 4.0	
		Final	Type ____ No. ____ Size ____		Low Level - 3.5'	
	Wet Well	Size Approx. 12' x 12'; ~25' deep	Usemco station	Vac truck hookup		
		Condition				
		Depth				
		Lining				
	Force Main	Current	Size 8"	Valve vault is full of water. No sump or drain to WW - they never open it.		
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Major grease issues			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed			
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 50 Hp, 460 V, 3 ph., 1750 rpm	☑ Electric ☐ Engine Why are motors so oversized?	Generator plug		
		Future	☐ Electric ☐ Engine			

ClarkDietz

Need: - Wet well dimensions Pump On/Off elevations
- Inverts
- Rim

Project Ryan Street Lift Station 5800 Ryan St, just North of Schofield Ave.
Location Weston, WI

Date 8/15/2018
Time Start 9:45 AM
Time End

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None			
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Hydrant next to panel			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☑ Level Transducer - upgraded ☐ Floats	River Park only other one on transducer		
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

ClarkDietz

Project Tanya-Tricia Lift Station Located at corner of Tanya and Tricia
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:20 AM

Attendees	
Clark Dietz, Inc.	**Client**
Diane Thoune	

Handouts	
1.	4.
2.	5.
3.	6.

Issues	Topic	Item	Condition	Action/Notes	Responsibility	Target Date
Site Selection	Site Conditions	Existing Geotechnical Report	☐ Yes ☐ No	This was supposed to be a temporary station. Need to run gravity to Ryan St. (to southeast). How to do river crossing? Then run along trail, to area of private systems.		
		Rock, high groundwater, poor soils				
		Flood Plain Maps Available	☐ Yes ☐ No			
		100-Year Flood Condition				
	Aesthetic Conditions	Architectural Treatments	Gets wet when it rains			
		Odor and Noise Controls				
		Landscaping	Bushes around it			
	Force Main	Route				
Capacity	Flows	Initial Minimum				
		Average				
		Peak				
	Pumps	Initial 100 gpm at 42 feet TDH	Type Suction lift Smith & Loveless No. 2 Size 4" x 4" 7-1/8" imp.	Sump pump died		
		Final	Type ____ No. ____ Size ____			
	Wet Well	Size 6-foot diameter	Smith & Loveless recessed station Vac truck connection	Vent only has screen		
		Condition				
		Depth Ground elev - 1206, bottom - 1182.99, HWL - 1187.99, Pump 2 On - 1186.99, Pump 1 On - 1186.49, Pumps Off - 1184.49				
		Lining				
	Force Main	Current	Size 4" - verify			
		Future	Size ____			
Wastewater	Characteristics	Unusual quantity /size of gross solids	Grease buildups (major issue) - all across surface, just cleaned 5/18/18			
		Unusual quantity /size of grit				
		Corrosive Constituents				
		Potential for toxic, explosive materials				
		Septic Sewage				
		Large quantities of H_2S				
Mode of Operation	Controls	Current	☐ Constant ☐ Variable Speed	Alarm light		
		Future	☐ Constant ☐ Variable Speed			
		Impact on receiving facility (slug flow)				
	Type of Driver	Current 5 Hp, 1760 rpm, 230V, 3 ph.	☑ Electric ☐ Engine	Generator plug		
		Future (with add-a-phase, has gone out)	☐ Electric ☐ Engine			

ClarkDietz

Project Tanya-Tricia Lift Station Located at corner of Tanya and Tricia
Location Weston, WI

Date 8/15/2018
Time Start
Time End 10:20 AM

Issues	Topic	Item	Preference	Action	Responsibility	Target Date
Owner's Preferences	Preferred Equipment Manufacturers	Pump	☐ Flygt ☐ KSB ☐ Other (List) ☐ None			
		Valves	☐ None			
		Flow Meters	☐ None			
		Mixer	☐ None	Add to take care of grease? They tried - didn't work - broke grease up but didn't pull it down		
		Hatches/Covers	☐ None			
		Building/Enclosure	☐ None			
		Other (List)	Dehumidifier, cathodic protection			
	Pump	Size of New Pumps	☐ Same ☐ Larger ☐ Smaller ☐ TBD			
		Type of Pumps				
		Stand-by Pump	☐ Yes ☐ No ☐ TBD			
	Operation & Control	Back-up Power Supply	Size _____ Fuel _____			
		General Arrangements				
		Equipment Access				
		Site Access (local setbacks)				
		Controls	☐ Level Transducer ☐ Floats			
		Monitoring Systems	☐ Auto Dialer ☐ Cell Phone			
		Telemetry				
		Architectural Treatments				
		Odor and Noise Controls				

Appendix G – Zoning Map

Village and Town of Weston
Marathon County, Wisconsin

OFFICIAL ZONING MAP

Map Date: 4/25/2018
Adoption Date (Village): 4/18/2018
Adoption Date (ETZ): 4/18/2018
Adoption Date (Town): 1/23/2016

Map by Jared Wehner of the Planning and Development Department
Village of Weston

0 0.25 0.5 1 1.5 Miles

LEGEND

MUNICIPAL FEATURES

- Village of Weston — Incorporated Boundary
- ETZ — Extraterritorial Zoning Boundary
- Town of Weston — Unincorporated Boundary
- Right-of-Way
- Wetland Presence
- Surface Water

ZONING DISTRICTS

- AR — Agriculture and Residential
- PR — Parks and Recreation
- RR-5 — Rural Residential-5 Acre
- RR-2 — Rural Residential-2 Acre
- SF-L — Single Family Residential-Large Lot
- SF-S — Single Family Residential-Small Lot
- 2F — Two Family Residential
- MF — Multiple Family Residential
- MH — Manufactured Home
- INT — Institutional
- B-1 — Neighborhood Business
- B-2 — Highway Business
- B-3 — General Business
- BP — Business Park
- LI — Limited Industrial
- GI — General Industrial
- RM — Rural Mixed

OVERLAY ZONING DISTRICTS

- D-CONDO — Design: Condominium Overlay
- D-R — Design: Renaissance Overlay
- D-RT — Design: Rail-to-Trail Overlay
- D-WM — Design: Weston Marketplace Overlay
- Village of Weston Shoreland Overlay
- Marathon County Shoreland Overlay

WELLHEAD PROTECTION OVERLAY

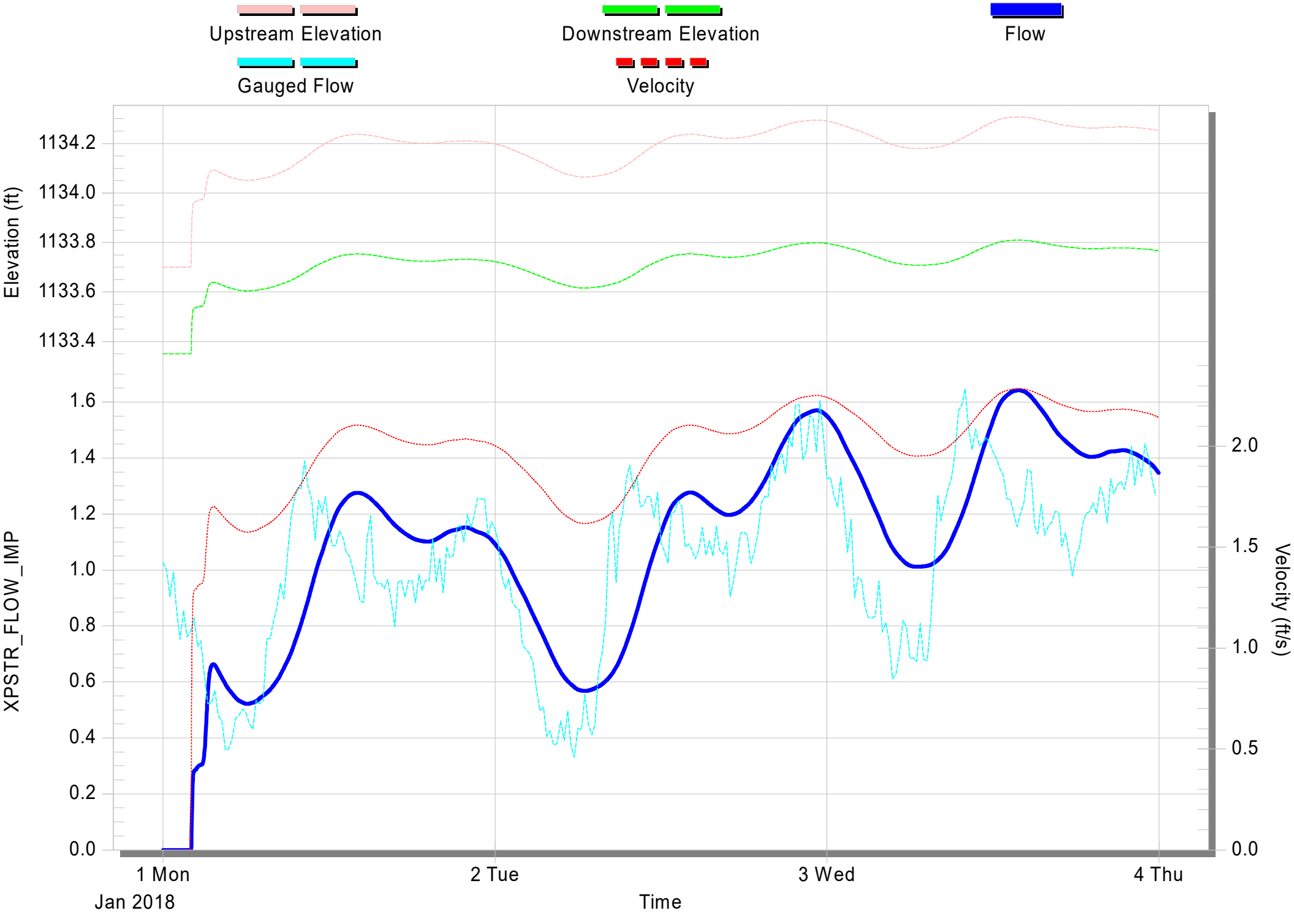
- Zone A — 1-Year Municipal Well Recharge Area
- Zone B — 5-Year Municipal Well Recharge Area

Appendix H – Model Calibration

May 8, 2019 - Meter 1

Conduit Link246 from 63-108 to 63-109

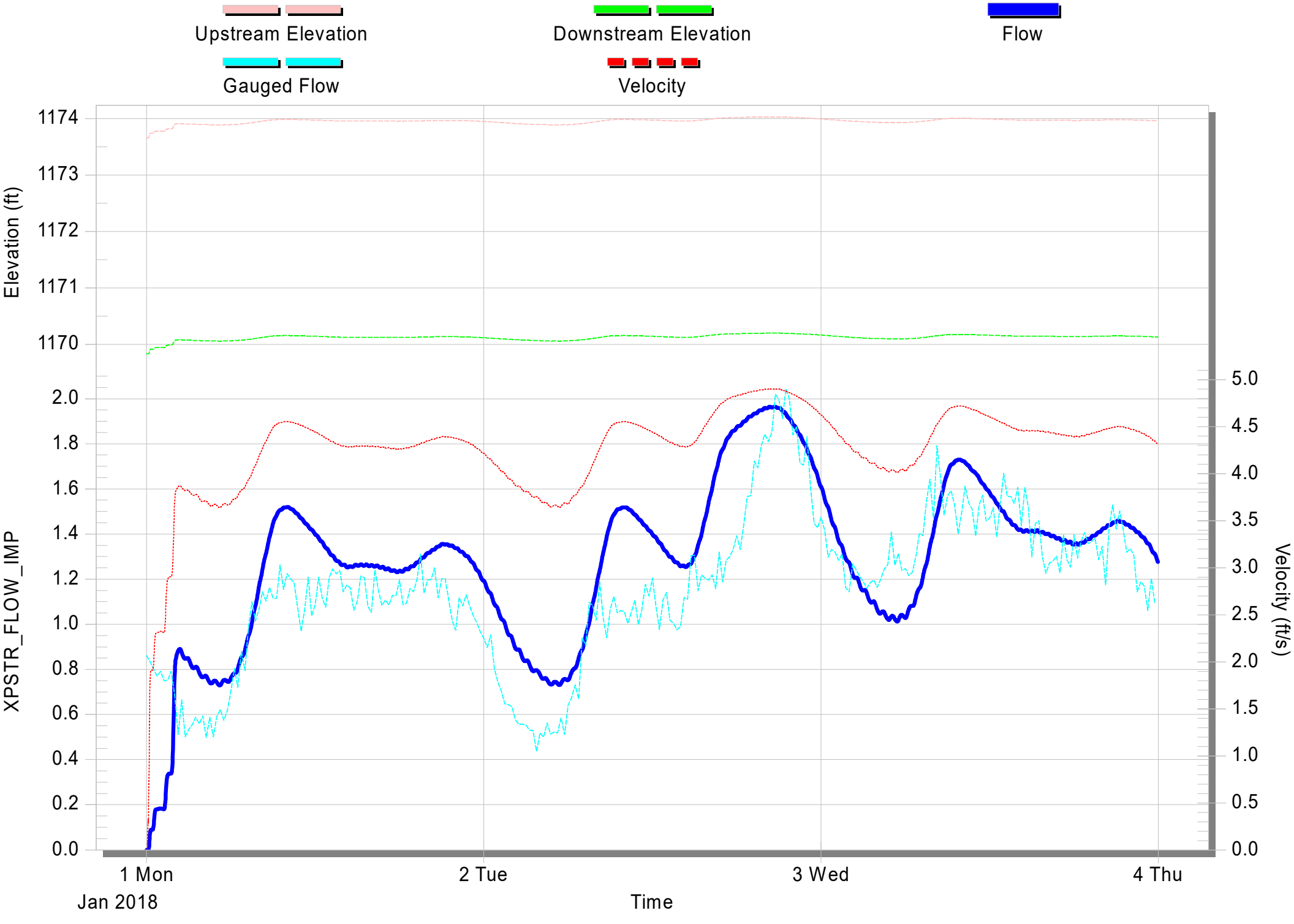
[Max Flow = 1.6421][Max Gauged Flow = 1.6475][Max Velocity = 2.28]



May 8, 2019 - Meter 2

Conduit Link261 from 60-70 to 60-32

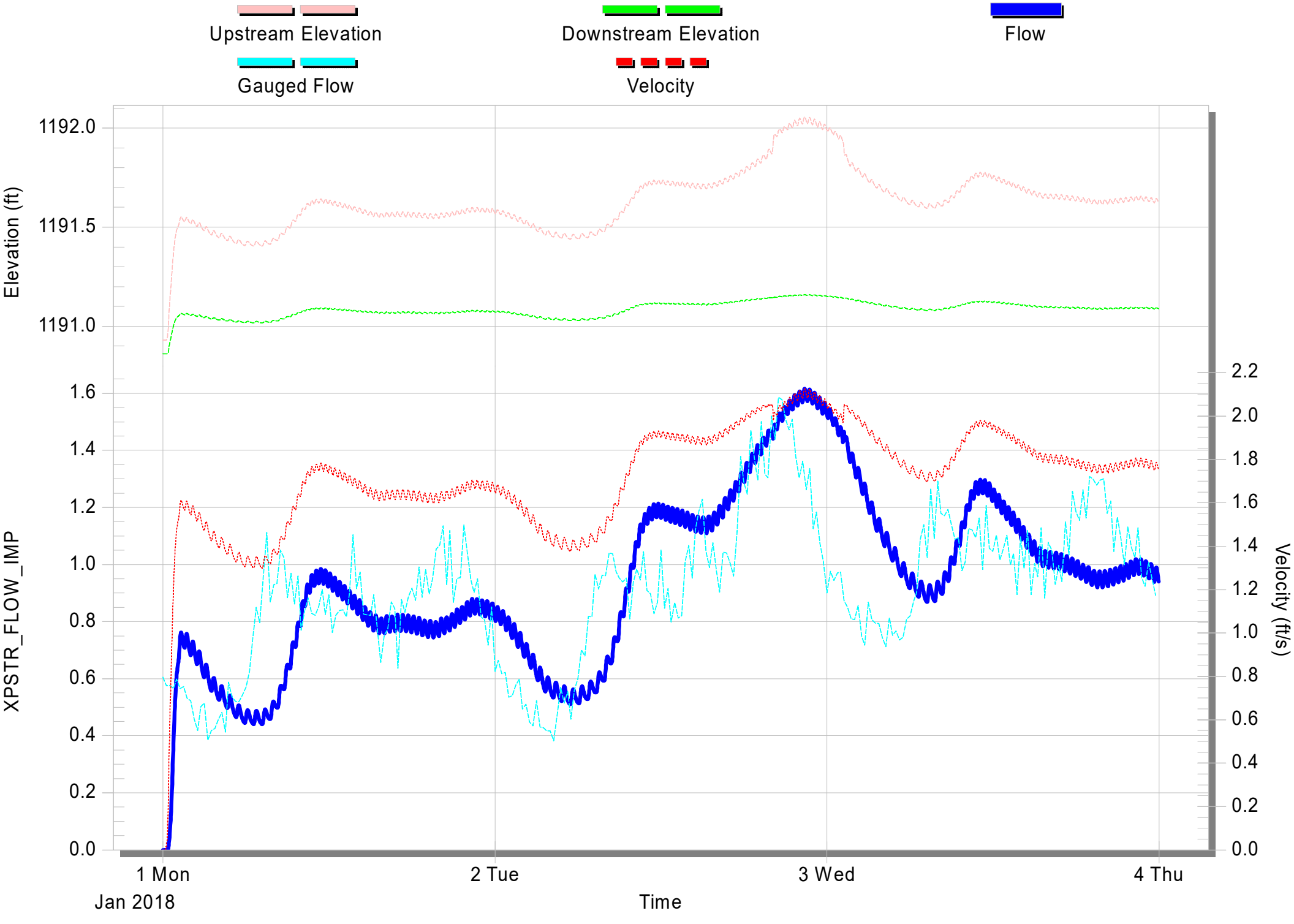
[Max Flow = 1.9651][Max Gauged Flow = 2.0438][Max Velocity = 4.90]



May 8, 2019 - Meter 3

Conduit Link199 from 61-72 to 61-69

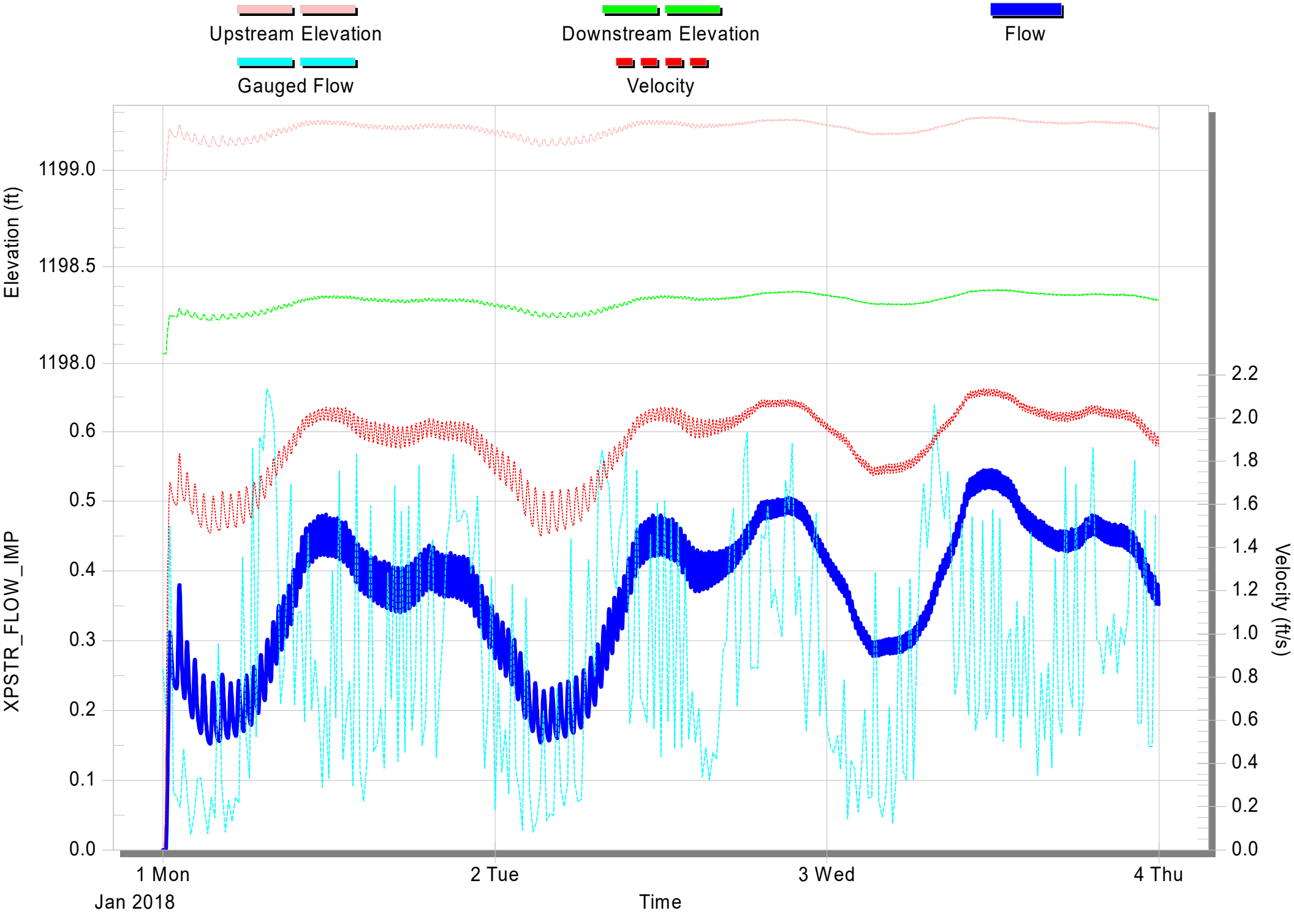
[Max Flow = 1.6157][Max Gauged Flow = 1.5866][Max Velocity = 2.13]



May 8, 2019 - Meter 4

Conduit Link155 from 64-29 to 64-37

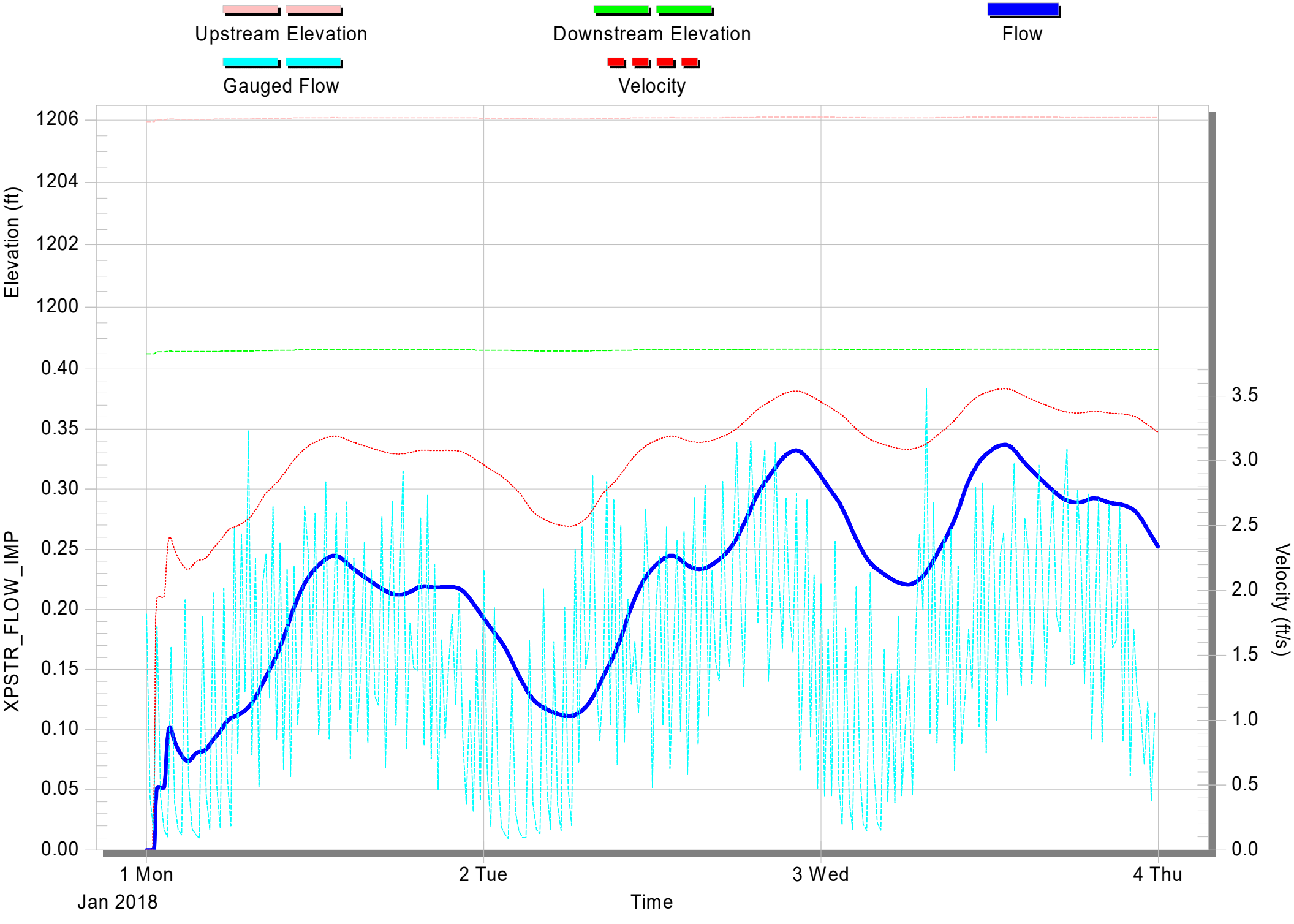
[Max Flow = 0.5451][Max Gauged Flow = 0.6614][Max Velocity = 2.14]



May 8, 2019 - Meter 5

Conduit Link140 from 64-38 to 64-37

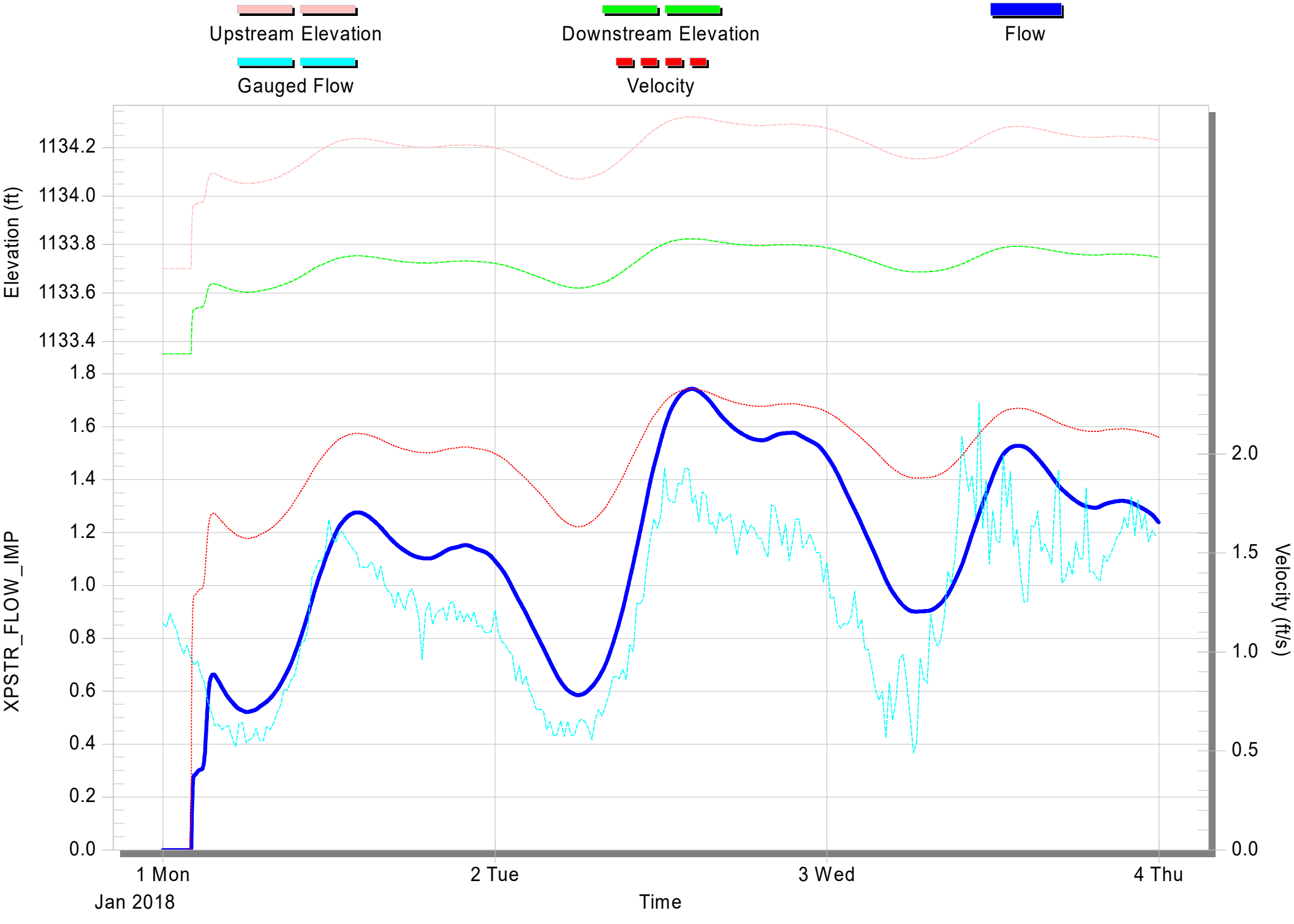
[Max Flow = 0.3368][Max Gauged Flow = 0.3835][Max Velocity = 3.56]



May 19, 2019 - Meter 1

Conduit Link246 from 63-108 to 63-109

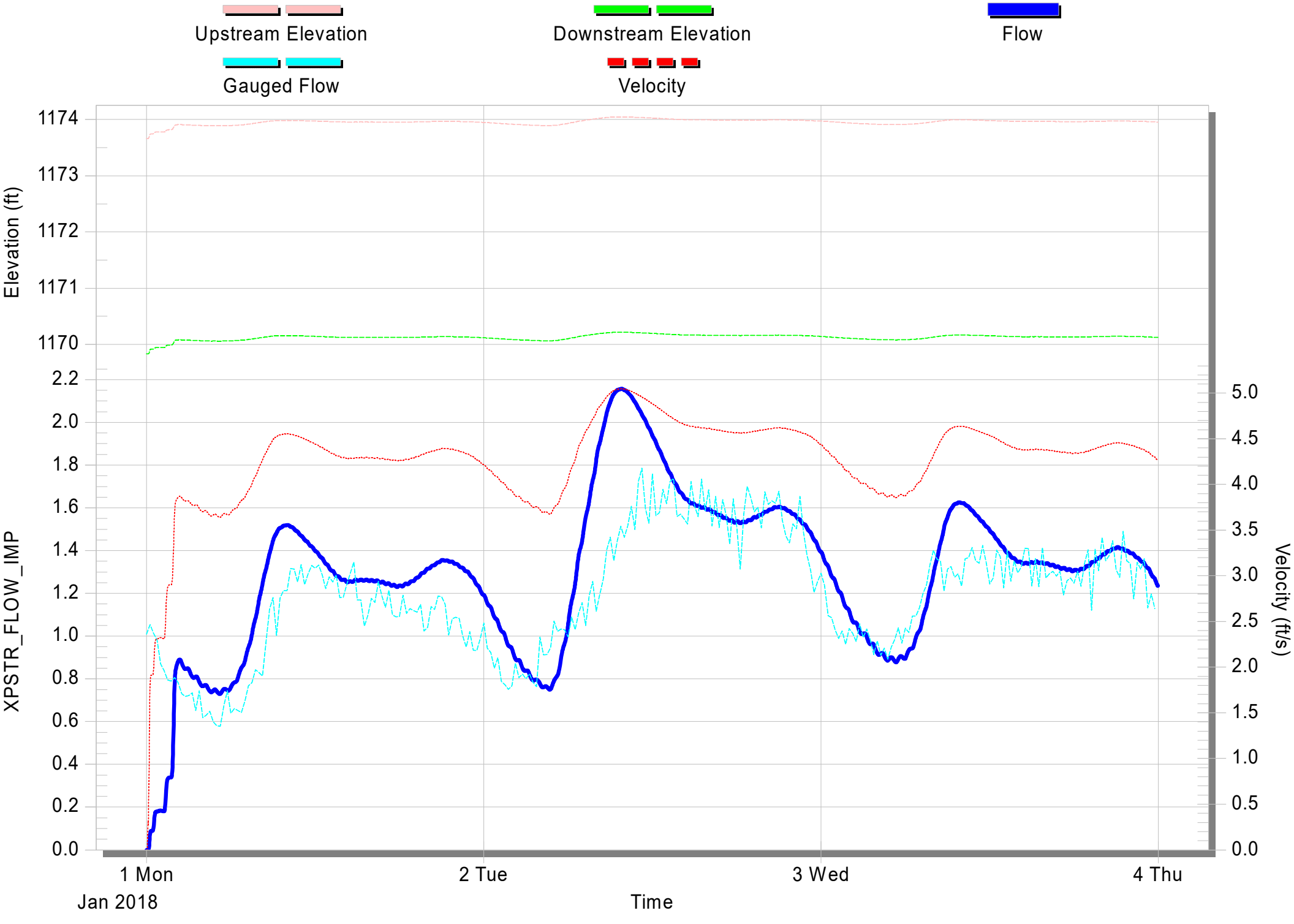
[Max Flow = 1.7435][Max Gauged Flow = 1.6901][Max Velocity = 2.33]



May 19, 2019 - Meter 2

Conduit Link261 from 60-70 to 60-32

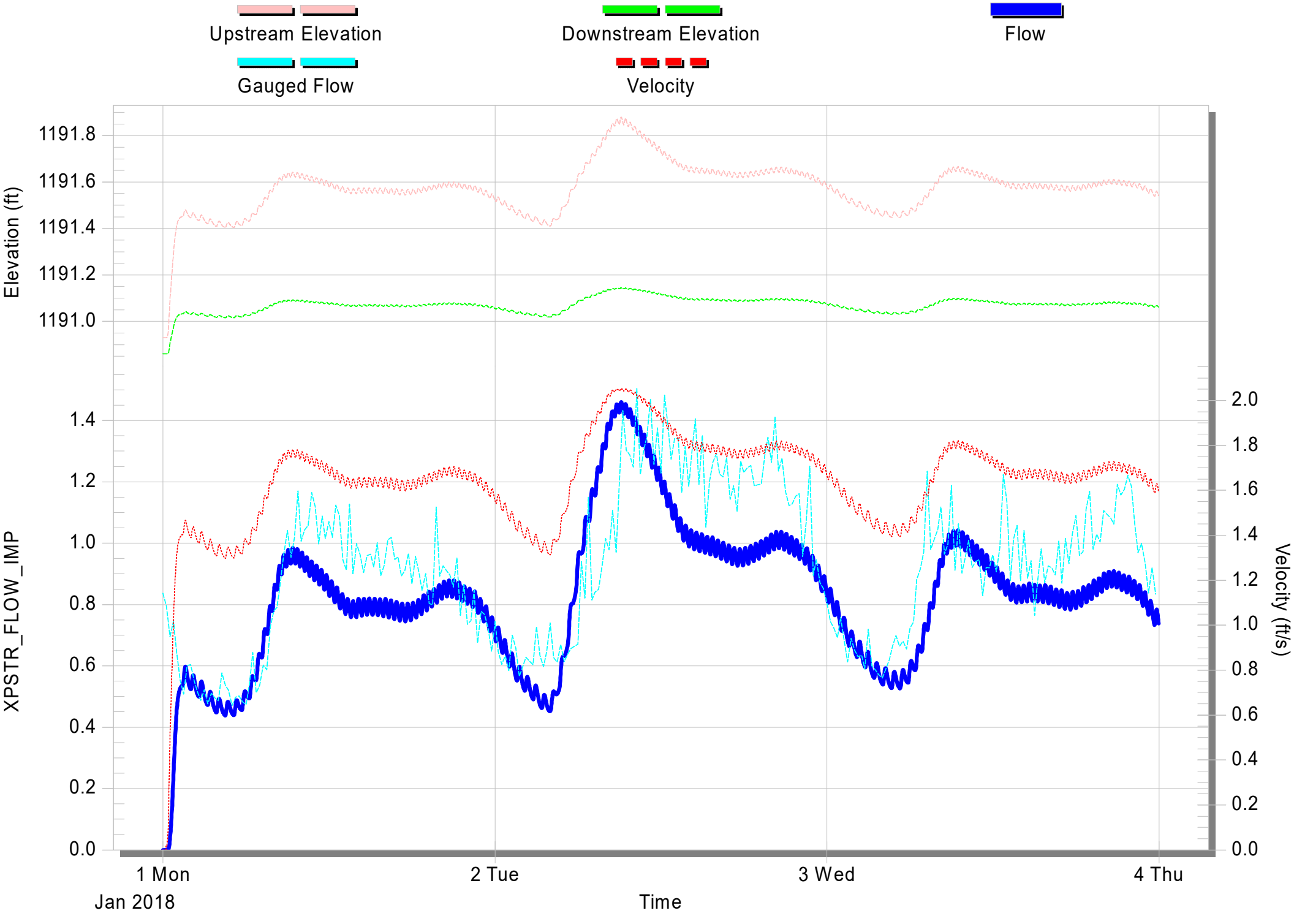
[Max Flow = 2.1570][Max Gauged Flow = 1.7846][Max Velocity = 5.05]



May 19, 2019 - Meter 3

Conduit Link199 from 61-72 to 61-69

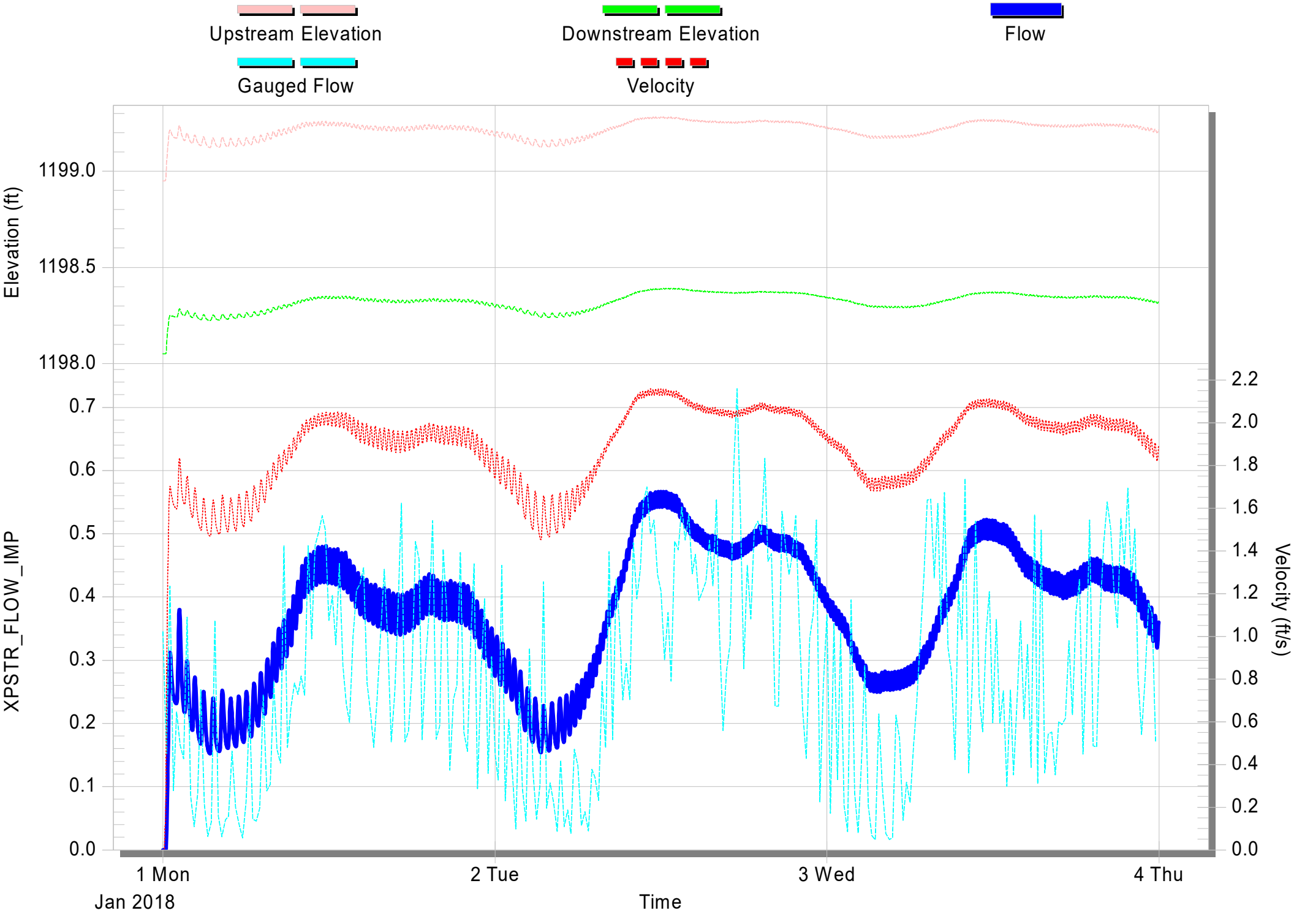
[Max Flow = 1.4600][Max Gauged Flow = 1.5034][Max Velocity = 2.05]



May 19, 2019 - Meter 4

Conduit Link155 from 64-29 to 64-37

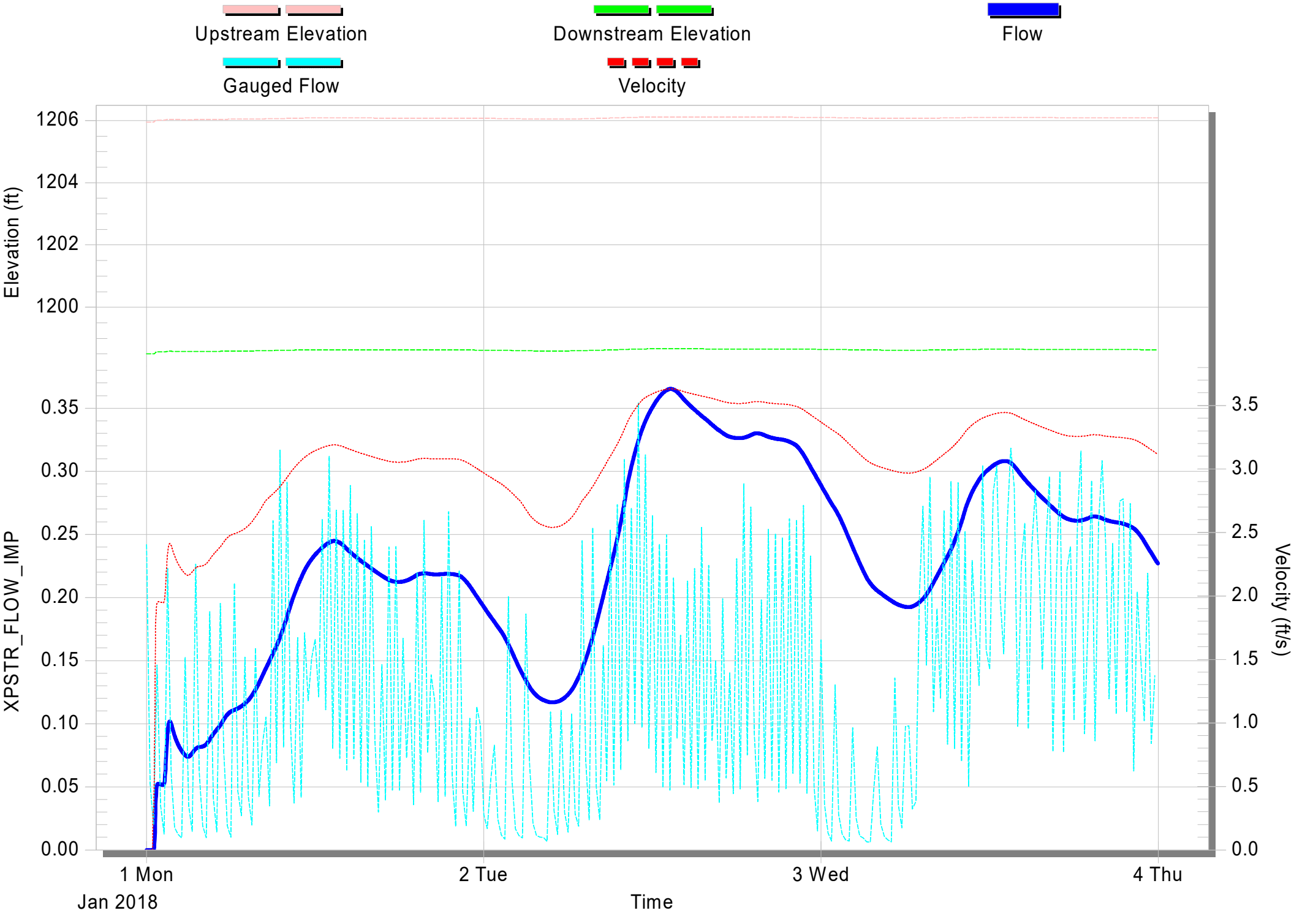
[Max Flow = 0.5665][Max Gauged Flow = 0.7294][Max Velocity = 2.16]



May 19, 2019 - Meter 5

Conduit Link140 from 64-38 to 64-37

[Max Flow = 0.3654][Max Gauged Flow = 0.3547][Max Velocity = 3.63]

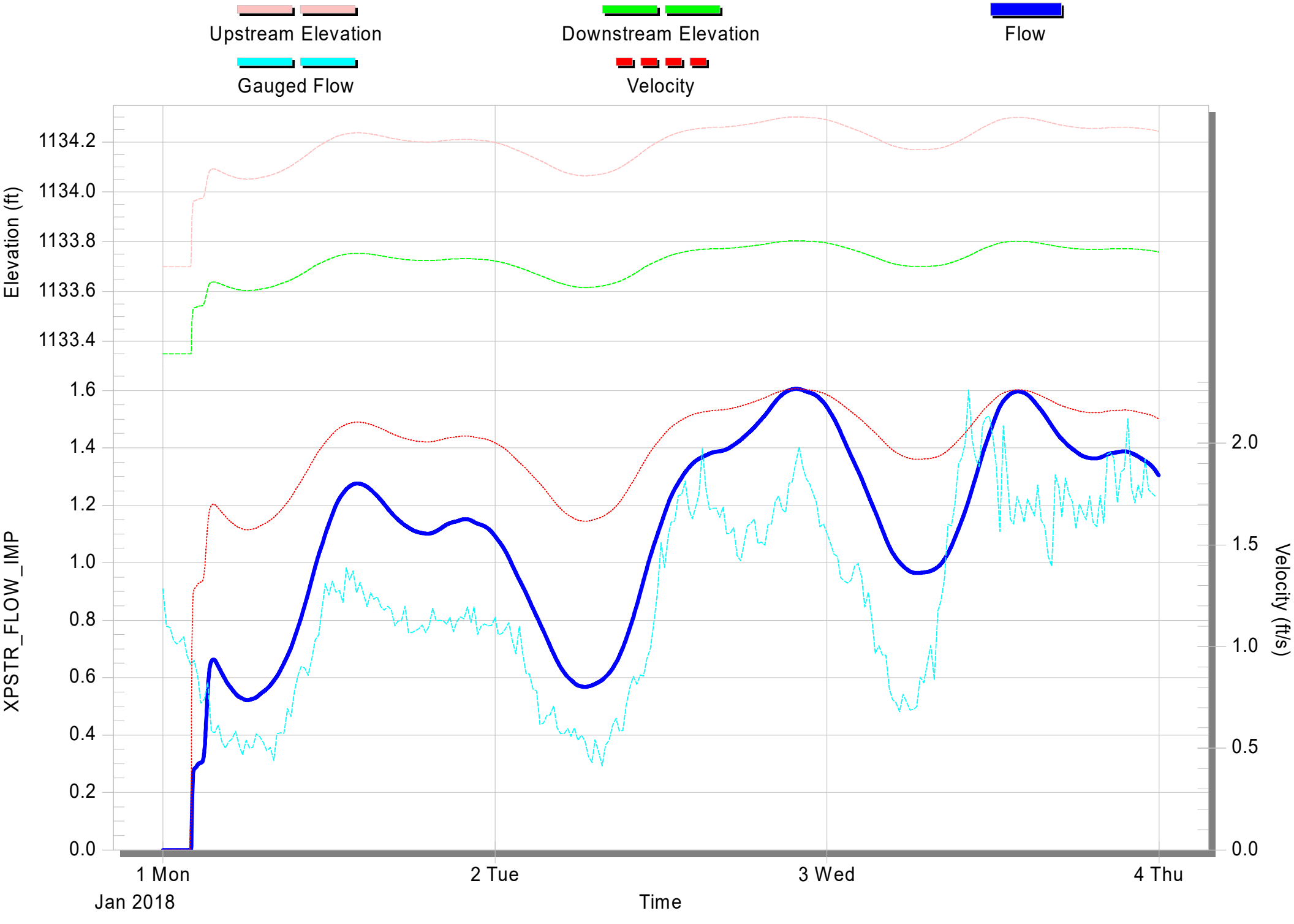


Appendix I – Model Validation

May 27, 2019 - Meter 1

Conduit Link246 from 63-108 to 63-109

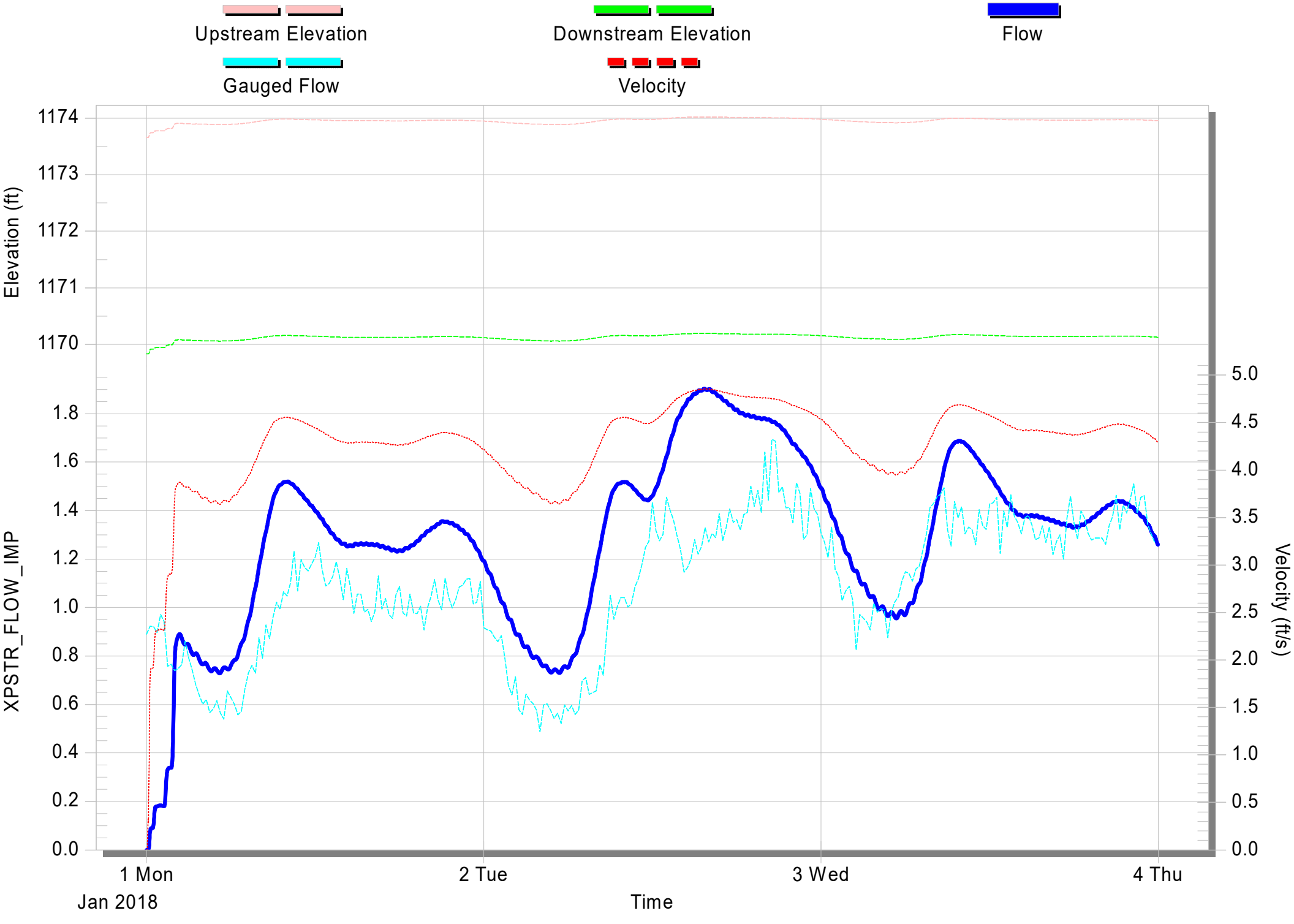
[Max Flow = 1.6059][Max Gauged Flow = 1.6023][Max Velocity = 2.27]



May 27, 2019 - Meter 2

Conduit Link261 from 60-70 to 60-32

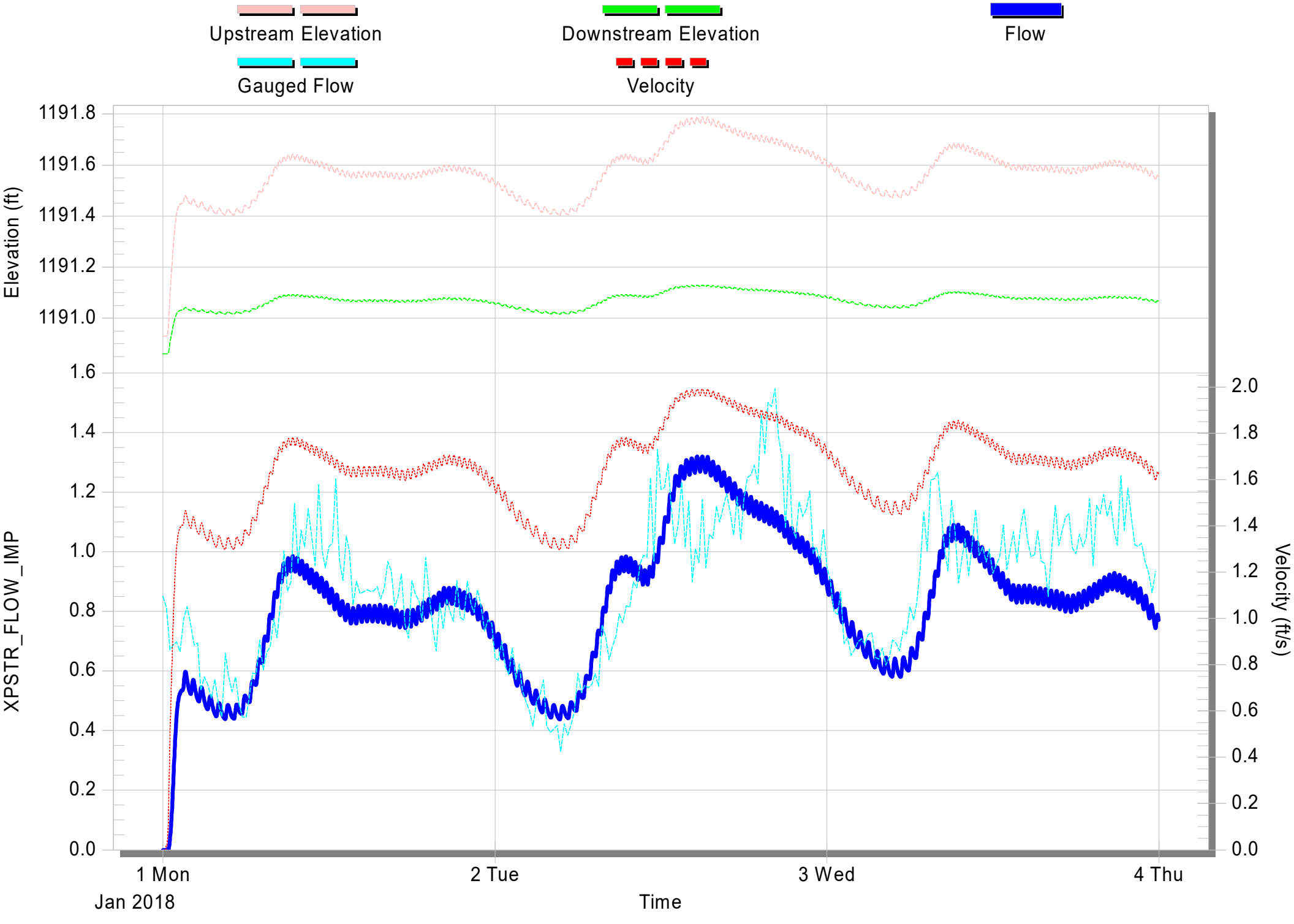
[Max Flow = 1.9026][Max Gauged Flow = 1.6938][Max Velocity = 4.86]



May 27, 2019 - Meter 3

Conduit Link199 from 61-72 to 61-69

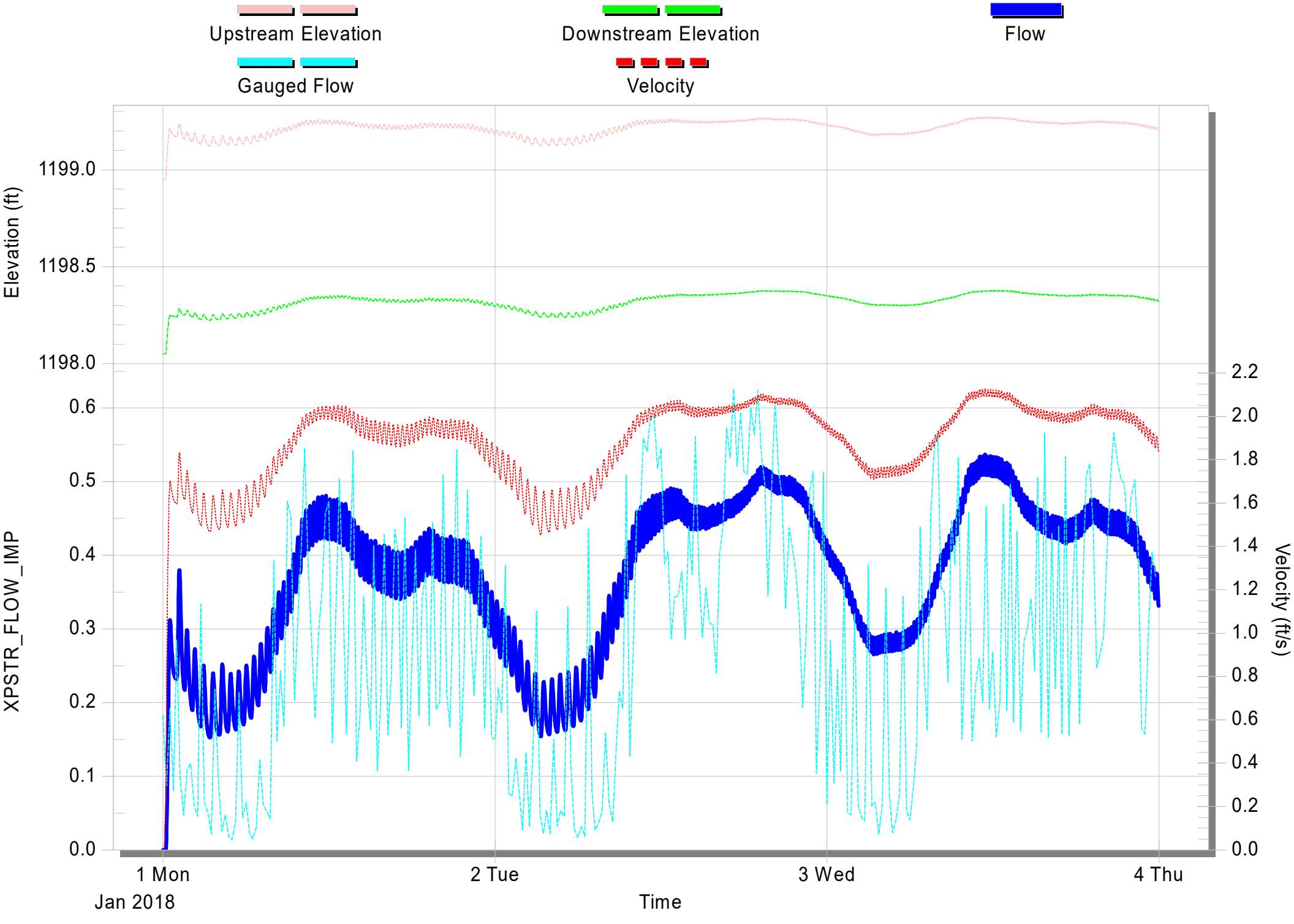
[Max Flow = 1.3201][Max Gauged Flow = 1.5467][Max Velocity = 1.99]



May 27, 2019 - Meter 4

Conduit Link155 from 64-29 to 64-37

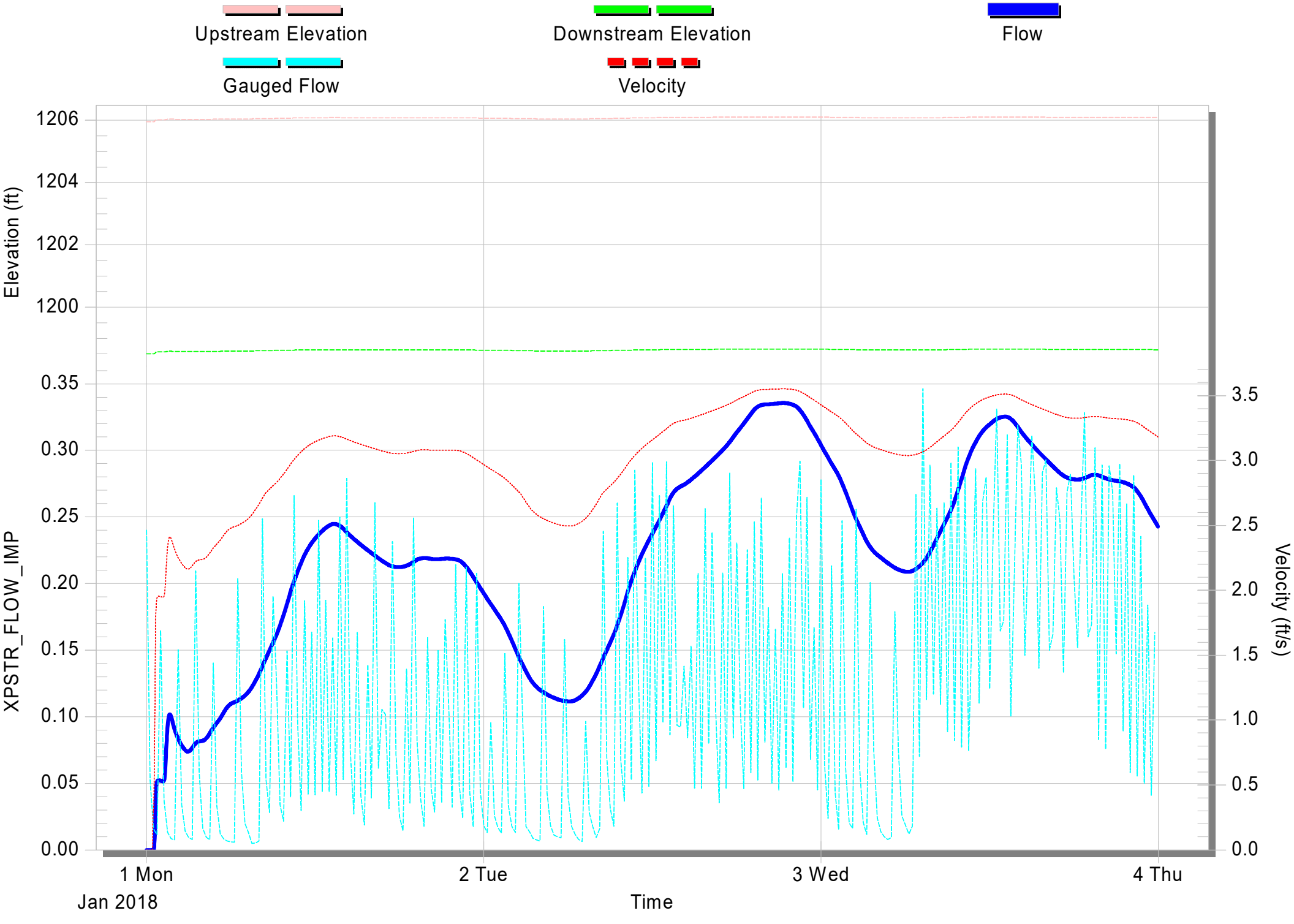
[Max Flow = 0.5367][Max Gauged Flow = 0.6262][Max Velocity = 2.13]



May 27, 2019 - Meter 5

Conduit Link140 from 64-38 to 64-37

[Max Flow = 0.3356][Max Gauged Flow = 0.3463][Max Velocity = 3.55]



Appendix J – Precipitation Frequency

NOAA Atlas 14, Volume 8, Version 2
Location name: Menomonie, Wisconsin, USA*
Latitude: 44.8146°, Longitude: -92.0724°
Elevation: 858.14 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.373** (0.301-0.463)	**0.441** (0.354-0.546)	**0.554** (0.444-0.688)	**0.652** (0.519-0.812)	**0.792** (0.611-1.01)	**0.904** (0.680-1.16)	**1.02** (0.741-1.33)	**1.14** (0.793-1.51)	**1.31** (0.873-1.76)	**1.44** (0.933-1.95)
10-min	**0.547** (0.440-0.678)	**0.645** (0.519-0.800)	**0.811** (0.650-1.01)	**0.955** (0.761-1.19)	**1.16** (0.895-1.48)	**1.32** (0.996-1.70)	**1.50** (1.08-1.95)	**1.67** (1.16-2.21)	**1.92** (1.28-2.58)	**2.11** (1.37-2.85)
15-min	**0.667** (0.537-0.827)	**0.787** (0.633-0.976)	**0.989** (0.793-1.23)	**1.16** (0.927-1.45)	**1.41** (1.09-1.81)	**1.62** (1.22-2.07)	**1.82** (1.32-2.37)	**2.04** (1.42-2.70)	**2.34** (1.56-3.14)	**2.57** (1.67-3.48)
30-min	**0.907** (0.731-1.13)	**1.07** (0.863-1.33)	**1.35** (1.09-1.68)	**1.60** (1.27-1.99)	**1.95** (1.50-2.49)	**2.23** (1.68-2.87)	**2.53** (1.83-3.29)	**2.83** (1.97-3.75)	**3.26** (2.17-4.38)	**3.59** (2.33-4.85)
60-min	**1.17** (0.943-1.45)	**1.38** (1.11-1.71)	**1.74** (1.40-2.16)	**2.07** (1.65-2.58)	**2.55** (1.98-3.28)	**2.96** (2.23-3.82)	**3.38** (2.46-4.43)	**3.84** (2.68-5.10)	**4.49** (3.00-6.05)	**5.01** (3.25-6.77)
2-hr	**1.44** (1.17-1.77)	**1.68** (1.37-2.07)	**2.13** (1.72-2.63)	**2.54** (2.04-3.14)	**3.16** (2.48-4.04)	**3.68** (2.81-4.72)	**4.24** (3.12-5.52)	**4.85** (3.42-6.41)	**5.72** (3.87-7.66)	**6.42** (4.21-8.61)
3-hr	**1.61** (1.31-1.97)	**1.88** (1.53-2.30)	**2.37** (1.93-2.91)	**2.84** (2.29-3.49)	**3.56** (2.81-4.55)	**4.17** (3.21-5.34)	**4.84** (3.59-6.28)	**5.57** (3.96-7.34)	**6.63** (4.52-8.86)	**7.49** (4.95-10.0)
6-hr	**1.89** (1.55-2.30)	**2.20** (1.81-2.68)	**2.78** (2.28-3.39)	**3.34** (2.71-4.07)	**4.20** (3.35-5.33)	**4.94** (3.84-6.29)	**5.76** (4.32-7.43)	**6.66** (4.79-8.71)	**7.96** (5.50-10.6)	**9.03** (6.04-12.0)
12-hr	**2.16** (1.79-2.60)	**2.51** (2.08-3.03)	**3.17** (2.62-3.83)	**3.78** (3.11-4.58)	**4.74** (3.81-5.96)	**5.56** (4.35-7.00)	**6.45** (4.88-8.24)	**7.42** (5.39-9.62)	**8.83** (6.17-11.6)	**9.98** (6.76-13.1)
24-hr	**2.46** (2.06-2.94)	**2.84** (2.37-3.39)	**3.53** (2.93-4.22)	**4.17** (3.45-5.01)	**5.17** (4.20-6.44)	**6.02** (4.76-7.52)	**6.94** (5.31-8.79)	**7.96** (5.85-10.2)	**9.41** (6.66-12.3)	**10.6** (7.27-13.8)
2-day	**2.86** (2.41-3.38)	**3.21** (2.71-3.81)	**3.89** (3.26-4.61)	**4.53** (3.78-5.39)	**5.53** (4.54-6.84)	**6.41** (5.12-7.94)	**7.36** (5.70-9.25)	**8.42** (6.26-10.7)	**9.95** (7.13-12.9)	**11.2** (7.78-14.5)
3-day	**3.14** (2.66-3.71)	**3.50** (2.96-4.13)	**4.17** (3.52-4.93)	**4.81** (4.04-5.70)	**5.82** (4.81-7.16)	**6.70** (5.39-8.26)	**7.66** (5.97-9.58)	**8.73** (6.54-11.1)	**10.3** (7.42-13.2)	**11.5** (8.08-14.9)
4-day	**3.38** (2.87-3.97)	**3.75** (3.18-4.41)	**4.45** (3.76-5.23)	**5.10** (4.29-6.02)	**6.12** (5.06-7.48)	**7.00** (5.65-8.59)	**7.96** (6.22-9.90)	**9.01** (6.78-11.4)	**10.5** (7.64-13.5)	**11.8** (8.29-15.1)
7-day	**3.96** (3.39-4.62)	**4.43** (3.78-5.17)	**5.25** (4.47-6.13)	**5.97** (5.06-7.00)	**7.04** (5.83-8.48)	**7.92** (6.42-9.60)	**8.85** (6.95-10.9)	**9.85** (7.45-12.3)	**11.2** (8.21-14.3)	**12.3** (8.78-15.7)
10-day	**4.50** (3.87-5.22)	**5.05** (4.33-5.87)	**5.97** (5.11-6.95)	**6.76** (5.76-7.89)	**7.89** (6.54-9.40)	**8.78** (7.13-10.5)	**9.70** (7.64-11.8)	**10.7** (8.09-13.2)	**12.0** (8.78-15.1)	**13.0** (9.29-16.5)
20-day	**6.17** (5.35-7.11)	**6.87** (5.95-7.92)	**8.02** (6.92-9.25)	**8.96** (7.70-10.4)	**10.2** (8.54-12.0)	**11.2** (9.17-13.3)	**12.2** (9.67-14.6)	**13.1** (10.1-16.1)	**14.4** (10.7-17.9)	**15.4** (11.1-19.3)
30-day	**7.63** (6.65-8.74)	**8.46** (7.36-9.70)	**9.79** (8.49-11.2)	**10.9** (9.38-12.5)	**12.3** (10.3-14.3)	**13.3** (11.0-15.7)	**14.4** (11.5-17.1)	**15.4** (11.8-18.6)	**16.6** (12.4-20.5)	**17.6** (12.8-22.0)
45-day	**9.51** (8.33-10.8)	**10.5** (9.21-12.0)	**12.1** (10.6-13.9)	**13.4** (11.6-15.3)	**15.0** (12.6-17.3)	**16.2** (13.3-18.9)	**17.3** (13.8-20.5)	**18.3** (14.2-22.0)	**19.5** (14.7-24.0)	**20.4** (15.0-25.4)
60-day	**11.1** (9.78-12.6)	**12.3** (10.8-14.0)	**14.2** (12.4-16.2)	**15.6** (13.6-17.8)	**17.4** (14.7-20.0)	**18.7** (15.5-21.7)	**19.8** (16.0-23.4)	**20.9** (16.2-25.0)	**22.1** (16.6-26.9)	**22.8** (16.9-28.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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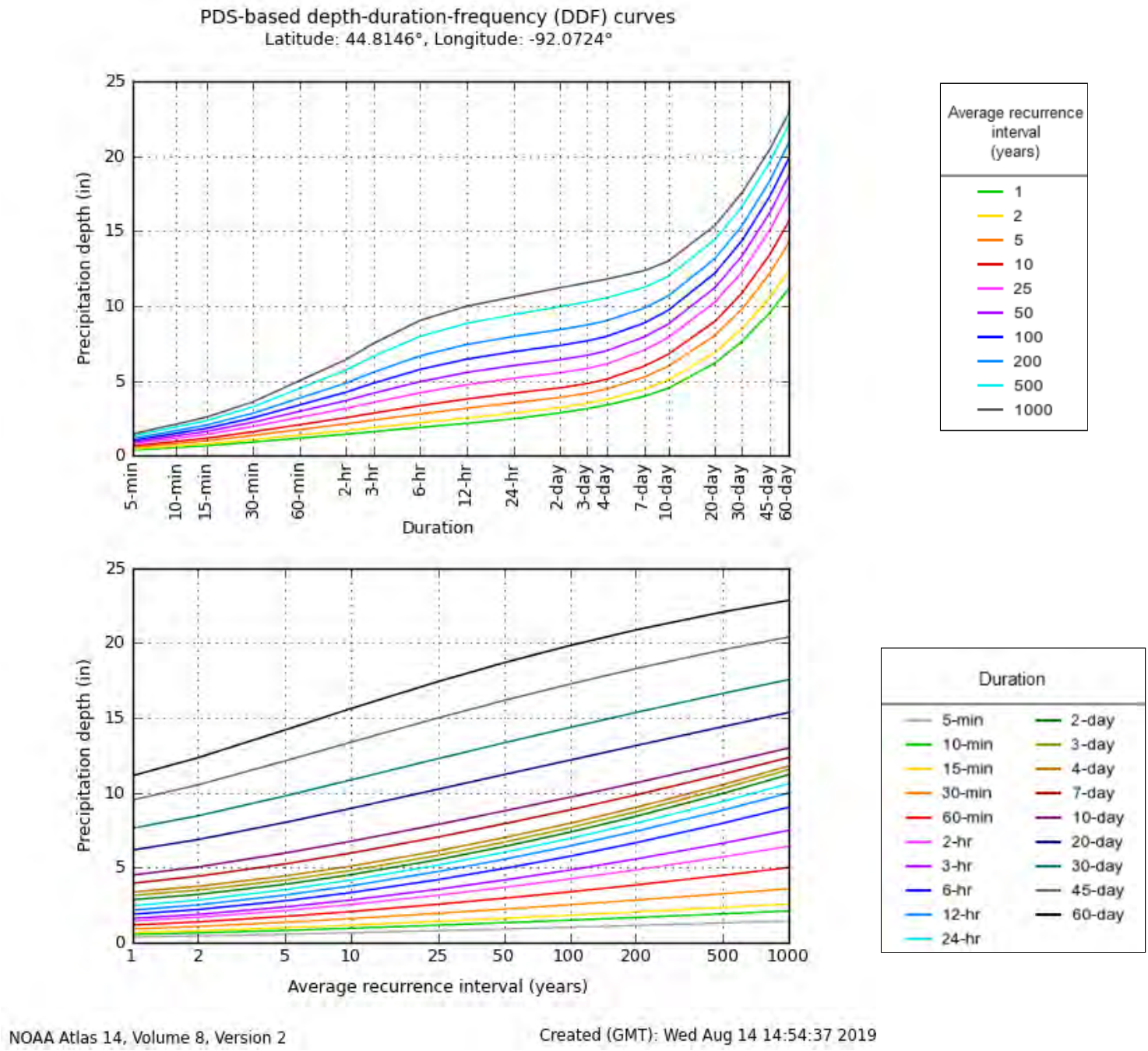
PF graphical



NOAA Atlas 14, Volume 8, Version 2

Created (GMT): Wed Aug 14 14:54:37 2019

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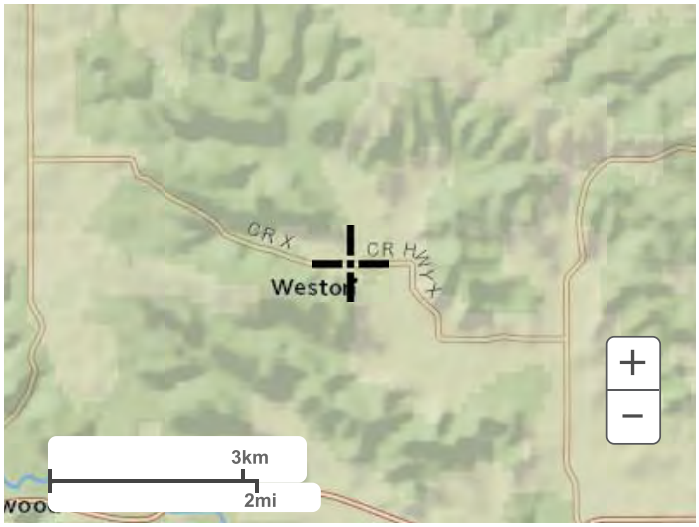
Maps & aerials

Small scale terrain



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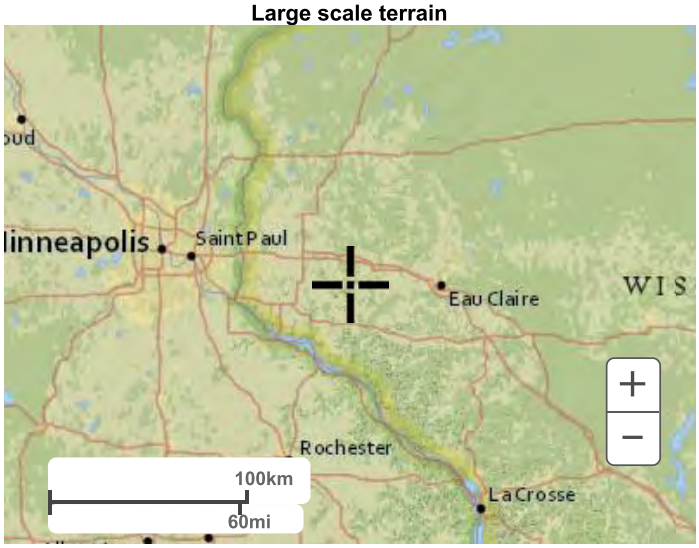
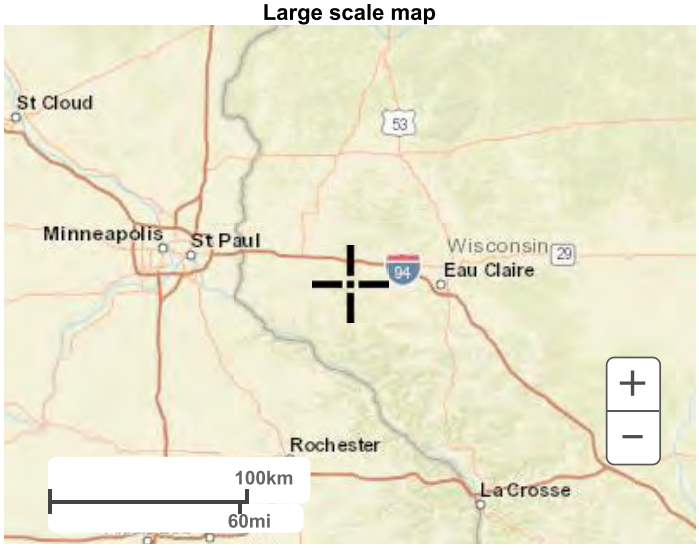


Large scale map



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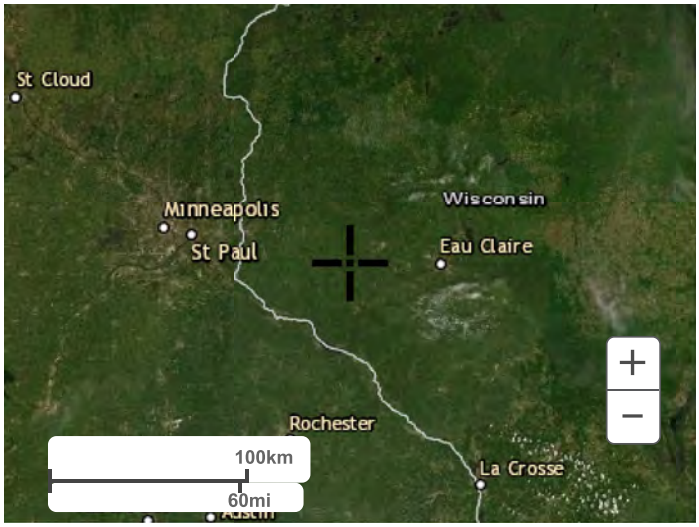

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix K – Current Draft CIP/Project Listing

VILLAGE OF WESTON

DRAFT CAPITAL IMPROVEMENTS PLAN

5/30/19

Sanitary Sewer Utility	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Capital						
Pump Replacements at Park Terrace Lift Station	20,000					
Mesker-Jelinek Lift Station - 3rd Pump		100,000				
Harlyn Avenue Lift Station conversion to submersible			25,000	300,000		
Trisha/Tanya Lift Station conversion to submersible				25,000	300,000	
Utility Van Replacements		28,000				
SCADA Integration for all lift Stations				100,000		
Remote Surveilance System for all sites					100,000	
Mains - Replacements (or rehabilitations)						
Weston School - Sunset, Arrow, S. Timber, Kennedy, Von Kanel			7,000	161,000		
Park Ridge Subdivision - Setter, Boxer, Labrador, Shepherd				2,500	56,000	
Crestwood Acres - Rodney, Kirk, Douglas, etc.					19,200	461,000
East Jelinek and Von Kanel					16,000	382,000
Ferge and Delonay Reconstruction					17,000	400,000
Everest Avenue Reconstruction						10,000
Mains - Extensions						
Prohaska Park Utilities and Shelter					5,500	124,500
Crossing of Eau Claire River at Ryan Street			22,000		510,000	
Well No. 7 and Yellow Banks Park - Gravity Sewer and Lift Station				20,000	500,000	
Birch Street - Cross Pointe to Shorey				4,500	102,000	
Ross Avenue and Kramer Lane (River Bend to Quentin)				12,000	300,000	
Transport Way Extension			8,500		200,000	
Camp Phillips Centre - Streets A and B				43,000	360,000	
Camp Phillips Centre - Street C and Von Kanel				11,500	270,000	
Ryan Street - Weston Avenue to Commerce Drive					13,000	270,000
Northwestern Avenue - CTH X to Town Boundary						20,000
Weston Avenue - Von Kanel to Ryan						23,000
Main Oversizing		50,000	50,000	50,000	50,000	50,000
Operating Budget						
Utility Van Replacements		28,000				
Main Oversizing		50,000	50,000	50,000	50,000	50,000
Annual Manhole Rehabilitations		50,000	50,000	50,000	50,000	50,000
Capital Budget Items	**20,000**	**178,000**	**112,500**	**729,500**	**2,818,700**	**1,740,500**
Operating Budget Items	**-**	**128,000**	**100,000**	**100,000**	**100,000**	**100,000**

Appendix L – Sample Municipal Grinder Pump Policies

LPSSA GRINDER PUMP POLICY OPTIONS
ADOPTED BY SELECTMEN 5-16-16

- Town has acquired grinder pumps on a one-time basis and transfers ownership to property owners
  - -includes a five-year warranty
  - -normal anticipated service life 15-20 years

- Town is exploring acquiring a longer warranty

- Town provide modest compensation (subsidy) for one-time, partial reimbursement of grinder pump installation cost, to be triggered by completed Town inspection of both grinder pump installation and septic system abandonment.

- Town conduct procurement for annual maintenance contract for grinder pump owners to include emergency pump-outs during a temporary power outage. During grinder pump warranty years, this maintenance contract will be coordinated with existing warranty protections.

- Annual maintenance contract to include a routine process for investigating and charging back to property owner in those circumstances in which abuse/improper use of the grinder pump is documented. There must be an incentive to utilize the grinder pump properly and not to abuse/misuse this equipment.

- Upon reaching the end of its useful service life, with no evidence of abuse/improper use, the grinder pump will be replaced by the Town and continue to be owned by the property owner.

Grinder Pump Policy
Approved by County Council – May 11, 2011

1.0 BACKGROUND

Oxford County (the "County") is responsible for municipally owned water and wastewater services for communities within the County. Typically municipal wastewater collection systems have consisted of gravity sewers connected to a local wastewater treatment facility. In some communities, topography and other servicing challenges has required the installation of low-pressure sewers with grinder pumps on individual properties.

This policy is intended to detail the County and property owner (the "Owner") responsibilities in order to ensure the standardization of infrastructure and to attempt to minimize the impact of this alternative servicing method on individual Owners.

2.0 APPROVED GRINDER PUMP PACKAGES

The County is solely responsible for specifying the make and model of grinder pump packages acceptable for use in Oxford County municipal systems. Makes and models other than those approved by the County are not recommended to be used within County municipal systems and shall not be eligible for this policy, including the County maintenance and replacement program described below.

A grinder pump package is defined as the sewage pump, housing chamber, and associated mechanical and electrical appurtenances.

3.0 APPROVED INSTALLERS

The County shall provide periodic training at no charge to contractors in the proper installation of the grinder pump units. Once completing the training the contractors will be placed on an approved installers list that will be maintained by County staff. The County reserves the right to remove installers from the approved list at its sole discretion.

4.0 SERVICING SCENARIOS

Grinder Pumps can be installed at a property for a variety of reasons. This policy covers the following three scenarios:

- The Owner is required to install a grinder pump as part of County servicing project and has the installation completed by an approved installer.
- The Owner is required to install a grinder pump as part of the County servicing project and does not have the unit installed by an approved installer.
- The Owner does not require a grinder pump but wishes to install a unit for ease of servicing and wishes to enter into an agreement with the County for maintenance of the unit.

Owners under each scenario will be treated differently as specified in the sections below.

4.1 Installations as part of a servicing project by approved installer

New Installations

(a) The Owner is responsible for the costs associated with the installation of the unit and the connection to existing private plumbing and the curb stop at property line.

(b) All work on private property shall be in compliance with the requirements of the Area Municipality's Building Department and the Ontario Building Code.

(c) Any upgrade to the property's electrical system required to accommodate the grinder pump will be sole responsibility of the Owner.

(d) The County strongly recommends that electrical wiring of the unit be conducted by a licensed electrician. Owners who complete their own wiring must have it inspected by the Electrical Safety Authority (ESA) for compliance with the Electrical Safety Act.

(e) Following installation, the grinder pump package is under the full ownership of, and is the responsibility of, the Owner.

(f) The Owner is responsible for the decommissioning of existing private sanitary disposal systems in accordance with the requirements of the Department of Public Health and Emergency Services.

(g) The Owner is responsible for ongoing electricity costs for pump operation.

(h) The grinder pump will be provided by the County and delivered to the property. The cost of the County providing the grinder pump package will be incorporated into the portion of the overall County servicing project cost which is billable to the Owner.

(i) The grinder pump will be installed outside of any structures in a location agreeable to both the County and Owner

(j) Upon connection, the County/Installer will meet with the Owner to discuss and verify operation of the grinder pump system and provide a booklet and keys.

(k) The County will organize a warranty inspection by the grinder pump manufacturer within 10-working days of connection to the system.

Routine Maintenance and Repairs and Replacement

(a) Although the ownership, and responsibility for continued operation, of the grinder pump package remains with the Owner, the County will be responsible for routine maintenance and repairs as well as pump replacement services for all eligible units within the wastewater system in fulfillment of its overall responsibilities with respect to the operation of the County wastewater system. The cost for this service will be part of the monthly sewer rate for the system.

(b) The County may conduct periodic inspections of the unit to assess performance or deficiencies.

(c) The County will be responsible for routine maintenance, repairs and pump replacement as part of the operation of the wastewater system and will provide written details to the Owner after work is completed. The County will provide to the Owner an anticipated maintenance schedule that will be reviewed and revised over time.

(d) Where County staff is of the opinion that damage to a pump has been caused by Owner negligence or violation of the County's sewer use bylaw, the Owner will be notified in writing and will be responsible for the cost of the repairs.

(e) Where an Owner wishes to relocate a grinder pump, or make changes to plumbing to accommodate a renovation or other property changes, the Owner is responsible for all costs and must obtain County approval of the system changes.

4.2 Installations as part of a servicing project not by an approved installer

New Installations

Section 4.1 clauses (a) to (h) apply.

Maintenance and Replacement

(a) The County treats this installation as a private pump and will not provide routine maintenance, repair or replacement services as part of the system fees.

(b) Pump replacement on a normal lifecycle basis will be the County's responsibility. Pumps needing to be replaced that are less than eight years of age will be the responsibility of the Owner.

(c) At the Owner's request, the County will enter into an agreement with the Owner for ongoing maintenance and repair services including:

c.1 after hours emergency repairs

c.2 periodic inspections of the unit to assess performance or deficiencies

c.3 routine maintenance

(d) Where staff suspect damage to a pump has been caused by Owner negligence or violation of the County's sewer use bylaw, the Owner will be responsible for the cost of the repairs over and above the maintenance fee agreed to.

(e) Pump installations that predate this policy will be considered to have been installed by an approved installer and will be subject to section 4.1.

4.3 Installations at the Owners Preference

New Installations

At an Owner's request, the County will provide the grinder pump package to the Owner on a cost recovery basis.

Section 4.1 clauses (a) to (g) apply.

Maintenance and Replacement

(a) The County treats this installation as a private pump and will not provide routine maintenance, repair or replacement services as part of the system fees.

(b) Pump replacement is the Owner's responsibility.

(c) Upon request the County will enter into an agreement with the Owner for ongoing maintenance and repair services including:

c.1 after hours emergency repairs

c.2 annual inspections of the unit to assess performance or deficiencies

c.3 routine maintenance

5.0 MAINTENANCE FEES AND ACCESS

As set out in this policy, there will be fees for routine maintenance, repairs and pump replacement for installations under section 4.2 and 4.3. These fees will be set by County Council as part of the Water and Wastewater Rates which are amended from year to year. This fee is not currently set in the Rates Bylaw and prior to setting costs, fees for routine maintenance, repairs and pump replacements will be dealt with through agreement between the Owner and Oxford County.

Through participation in the maintenance program the Owner grants the County and its contractors the right to enter onto the property to undertake repairs and inspections as necessary. When access is required for preventative maintenance or inspections notice will be provided to the Owner at least one business day in advance. Failure to provide reasonable access to the unit will constitute a release to the County of any responsibility for costs associated with repair or replacement of the unit.

The current Owner is required to notify the County in writing when there will be a change of property ownership. The County will then correspond with the new Owner about this policy.

6.0 RELOCATIONS

All costs associated with relocation and/or replacement of a grinder pump package due to property renovations and/or redevelopments are the sole responsibility of the Owner. Any such relocations and/or replacements shall be completed by an approved installer.

7.0 INSURANCE

The County is not responsible for any property damage, or any claims, costs or damages, associated with the improper use or negligence by the Owner or Occupant related to the grinder pump package or any related infrastructure installed on the property of the Owner. In addition, the County is not responsible in any way for investigations or clean-up activities as a result of property damage. The Owner may at their discretion carry insurance to mitigate impacts related to the preceding.

The following examples are provided to illustrate the types of events that the County will not be liable for and is not an exhaustive list.

(a) Sewage back up due to continued water use during a power outage or pump failure

(b) Electrical damage due to lightning strikes/storms

(c) Sewage back up due to disposal of substances in violation with the County's sewer use bylaw.

8.0 OXFORD COUNTY CONTACT PROCEDURE

Owners eligible under this policy for County routine maintenance and repair of their grinder pumps shall follow the procedure below to request an inspection or repair of their unit.

(a) Customers will be issued a unique Identification Number that will identify the grinder pump unit as being part of the County maintenance service at the time of pump commissioning. Customers will be expected to provide this number when calling for service.

(b) For requests during regular business hours (8:30 am to 5:00 pm) Monday to Friday, the Customer shall call the Customer Service Desk at the Oxford County Administration Building at 519-539-9800.

(c) For requests outside of regular business hours and on weekends, the Customer shall call the Public Works Emergency number at 519-537-7961.

(d) At the discretion of the County, the Operator may visit the site to inspect the unit or dispatch an approved installer to complete the inspection/repair.

(e) The County is not responsible for the Owner's costs if they contact a contractor directly without contacting the County.

(f) Following any repair, the Customer will be provided with a description of the failure and repair completed.

Appendix M – Grinder Pump Cost Estimate

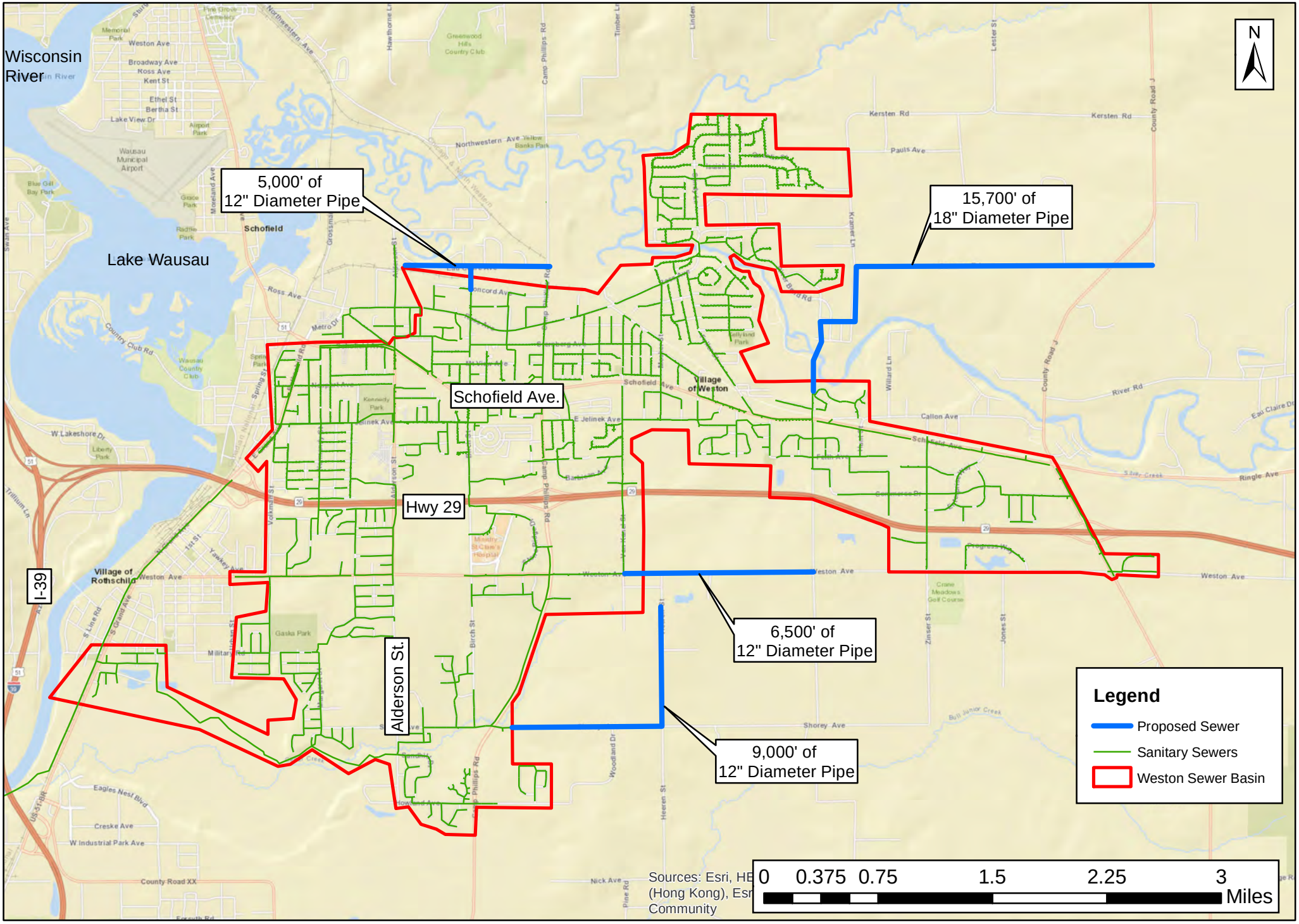
Opinion of Probable Cost

	Quantity	Unit	Unit Price	Installation (1)	Total (2)	Notes
Residential Grinder Pump						
Grinder Pump System	1	each	$ 10,000	$ -	$ 10,000	3
Interior Pipe and Fittings	1	LS	$ 500	$ 250	$ 800	4
1-1/4" HDPE Force Main	100	lf	$ 50	$ -	$ 5,000	5
Subtotal					**$ 16,000**	
Site Work						
Demolition	0%				$ -	
Site Piping	2%				$ 400	
Site Work	3%				$ 500	
Site Grading	3%				$ 500	
Site Electrical	5%				$ 800	
Mobilization/Demobilization	5%				$ 800	
Subtotal					**$ 3,000**	
Contingency	**10%**				**$ 2,000**	
Construction Sub-Total					**$ 21,000**	
Non-Construction Costs	**5%**				**$ 2,000**	
Total Project Cost					**$ 23,000**	

Notes:

1. Unless otherwise noted, installation costs are assumed to be 50% of the unit price for equipment.
2. Line items have been rounded to the nearest $100, subtotals have been rounded to the nearest $1,000.
3. Manufacturer's cost estimate, E/One Model 2100. Includes installation.
4. Estimate is based on recent construction costs.
5. Estimate is based on recent construction costs. Unit price represents installed cost.

Appendix N – Future System Expansion



August 2019

Village of Weston
Proposed Sewer Expansion Location Map

Clark Dietz
Engineering Quality of Life

Appendix O – Draft Weston-Schofield Intergovernmental Agreement

INTERGOVERNMENTAL AGREEMENT

THIS AGREEMENT dated this _____day of _____, 2017, is by and between the VILLAGE OF WESTON, a Wisconsin municipal corporation of Marathon County, Wisconsin (herein "WESTON") and the CITY OF SCHOFIELD, a Wisconsin municipal corporation of Marathon County, Wisconsin (herein "SCHOFIELD").

WHEREAS, in 1969 SCHOFIELD was granted permission by the (then) Town of Weston to install a sanitary sewer, owned and operated by SCHOFIELD, on the centerline of Ross Avenue from Metro Drive to Alderson Street, the northerly half of which lies in SCHOFIELD throughout the subject segment and the southerly half, thereof, lying in WESTON; and

WHEREAS, SCHOFIELD, in turn, permitted properties in WESTON to discharge sewage by gravity to the SCHOFIELD sewerage system from Cut-off Road and other upstream areas; and

WHEREAS, SCHOFIELD has historically billed WESTON as a retail customer as upheld by the Public Service Commission of Wisconsin in 1971; and

WHEREAS, retail rates for the SCHOFIELD sewer utility include costs of debt service on capital improvements and all operation and maintenance costs for the SCHOFIELD sewerage system; and

WHEREAS, the area of WESTON tributary to SCHOFIELD was, and continues to be, tributary to the City of Wausau wastewater treatment facility; and

WHEREAS, following review by the City of Wausau and Wisconsin Department of Natural Resources through an Administrative Law hearing in 1970, the Wisconsin Department of Natural Resources affirmed that gravity sewer service to those areas in WESTON tributary to SCHOFIELD was in the best public interest as compared to separating the flows from WESTON and pumping to the WESTON sewerage system; and

WHEREAS, detrimental impacts to the SCHOFIELD sewerage system are alleged to have been caused by customers of WESTON beginning in approximately 2014; and

WHEREAS, there are also impacts to the SCHOFIELD sewerage system downstream of Metro Drive alleged to be caused by customers of the SCHOFIELD sewerage system, prior to 2014; and

WHEREAS, in 2015 WESTON reviewed the history of the intergovernmental relationship between SCHOFIELD and WESTON for the sewerage system; and

WHEREAS, in 2015 WESTON also reviewed the economics of diverting its flow to the

SCHOFIELD sewerage system back to the WESTON sewerage system, finding that such a diversion is not economical, thereby affirming the 1970 Administrative law determination; and

WHEREAS, maintenance of the flow capacity of the Ross Avenue sewer to Metro Drive in the form of high pressure nozzle “jetting” has historically been conducted by WESTON until approximately 2014, after which WESTON and SCHOFIELD performed maintenance, dependent on circumstances, and without written agreement; and

WHEREAS, the absence of a formal intergovernmental agreement is recognized by SCHOFIELD and WESTON and both parties recognize that a formal agreement is in each party’s best interests for the future.

NOW, THEREFORE, upon the foregoing premises and in consideration of the mutual covenants hereinafter set forth, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby mutually agree as follows:

1. The sanitary sewer main on Ross Avenue from Alderson Street to Metro Drive is owned by SCHOFIELD.
2. WESTON has paid and continues to pay retail rates to SCHOFIELD for wastewater discharged to the SCHOFIELD sewerage system.
3. SCHOFIELD, as the owner of the sewerage system, downstream of Alderson Street, is expected to provide operation and maintenance for its sewerage system as part of its operating and maintenance expenses collected through its retail rates.
4. WESTON recognizes it is subject to compliance with SCHOFIELD’S sewer use ordinance, therefore, if Weston, or a specific customer of WESTON, should cause detrimental impacts to the SCHOFIELD sewerage system, WESTON will be responsible for any surcharges, fines, or penalties, provided for in SCHOFIELD’S ordinance.
5. WESTON would then be responsible to enforce any similar surcharges, fines, or penalties to the responsible party under the terms of WESTON’S sewer use ordinance.
6. Industrial customers of WESTON tributary to the SCHOFIELD sewerage system may also be subject to discharge permits under the Federal Clean Water Act administered by the receiving wastewater treatment facility, currently the City of Wausau.
7. To establish a baseline condition of the SCHOFIELD sewerage system downstream of Alderson Street, WESTON will pay for a condition assessment consisting of cleaning and televising of the SCHOFIELD sewerage system in the year of adoption of this agreement under the following terms:
    a. 100% of cost for the sewers between Alderson Street and Metro Drive.
    b. 50% of the cost for gravity sewers conveying flow from WESTON downstream to the last wastewater pumping station upstream of the City of Wausau’s sewerage system.

8. Following the establishment of baseline condition of the portion of the SCHOFIELD sewerage system to which WESTON is tributary, SCHOFIELD shall be responsible for monitoring of the condition and maintenance of the capacity of the SCHOFIELD sewerage system.
9. SCHOFIELD shall perform routine maintenance, consisting of cleaning and televising, on the portions of its sewerage system which convey wastewater from WESTON customers to the City of Wausau treatment facility every 3 years beginning the fourth year after execution of this agreement. SCHOFIELD shall furnish documentation of the cleaning and televising to WESTON.
10. If SCHOFIELD fails to perform routine maintenance or furnish documentation of said maintenance by December 31 of the year it is due, WESTON shall accomplish the required maintenance and bill SCHOFIELD for the costs incurred.
11. If the hydraulic capacity of the SCHOFIELD sewerage system upon which WESTON relies should be reduced from its current level, SCHOFIELD shall be responsible for any maintenance or capital costs to restore the hydraulic capacity.
12. If WESTON increases its wastewater discharge volume to SCHOFIELD in excess of 125% of 2017 volume such that additional hydraulic capacity is required in the SCHOFIELD sewerage system, the parties agree that an independent engineering consultant shall be retained to analyze the needs and determine an equitable apportionment of costs to increase the capacity. However, the underlying premise for any such assessment is that SCHOFIELD is responsible to maintain the capacity of the existing sewerage system through which WESTON customers discharge wastewater to the City of Wausau.
13. As the underlying premise for the creation of this interdependency between the WESTON and SCHOFIELD sewerage systems was cooperation between the two municipalities in a non-adversarial spirit, so too, is the spirit in which future challenges related to this interdependency should be addressed.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed as of the date and year first above written.

VILLAGE OF WESTON	CITY OF SCHOFIELD
By: _____	By: _____
Barbra Ermeling, its President	Craig, its Mayor
Attest: _____	Attest: _____
Sherry Weinkauf, its Clerk	Lisa Reeves, its Clerk/Treasurer

THIS INSTRUMENT WAS DRAFTED BY:
Keith E. Donner, P.E.,
Director of Public Works
Village of Weston
5500 Schofield Avenue
Weston, WI 54476

170208 intergovernmental agreement, draft 170310

Appendix P – Draft Weston-Rothschild Intergovernmental Agreement

RESOLUTION

WHEREAS, the Village of Rothschild relies on the Village of Weston for transport of Rothschild's raw sewage; and

WHEREAS, Weston has by appropriate legislative action authorized entering into a contract to treat sewage from Rothschild; and

WHEREAS, this agreement is a negotiated contract between the parties, and may be superseded by determinations of public agencies that claim jurisdiction over sewage systems; and

WHEREAS, the Village of Weston Board of Trustees, at their _____, 2019 meeting, discussed and approved entering into a contract with the Village of Rothschild for the transport of raw sewage.

NOW, THEREFORE, BE IT RESOLVE D by the Village Board of the Village of Weston that the proper officials are hereby authorized and directed to execute the attached contract with the Village of Rothschild for the transport of raw sewage.

Approved:

_____

Keith Donner, PE, Administrator

CONTRACT FOR COLLECTION OF RAW SEWAGE

WHEREAS, the Village of Rothschild (hereinafter "Rothschild") is located to the south of the corporate limits of the Village of Weston (hereinafter "Weston") and operates a system of sewers for the collection of sanitary sewage; and

WHEREAS, Rothschild has heretofore utilized Weston sanitary sewers to transport raw sewage in sections of the Village of Rothschild; and

WHEREAS, Weston has by appropriate legislative action authorized entering into a contract to transport sewage from Rothschild; and

WHEREAS, this agreement is a negotiated contract between the parties, and may be superseded by determinations of public agencies that claim jurisdiction over sewage systems.

NOW, THEREFORE, Weston and Rothschild do hereby agree as follows:

1. This agreement shall be for a term of five (5) years, commencing January 1, 2020 and ending December 31, 2024. The terms and conditions of this contract may extend beyond the stated time frame while a renewed contract is negotiated. Sewage rates shall be in effect per paragraph 13 of this contract.

2. Definitions:

   Extension - a sewer main or interceptor main generally laid in streets; and

   Connection - the lateral pipe between the user's premises and an extension.

3. This agreement shall cover the areas of Rothschild shown on the map included in the Appendix to this document.

4. Rothschild shall operate and maintain, at its own expense:

   A. Connecting sewers to deliver Rothschild sewage to Weston, at a maximum discharge rate of 960 gallons per minute. The maximum rate of discharge shall not be increased without prior written consent of the Village of Weston;

   B. A metering station at or near each of the Weston system connection points. The current connection points are shown on the map included in the Appendix to this document.

   C. The meter shall be of a type adapted to the metering of raw sewage under gravity flow and shall totalize and continuously record the flow. The metering station and equipment shall remain the property and responsibility of the Village of Rothschild. The metering equipmentshall be calibrated with the manufacturer's recommendations, at least once per year, at Rothschild's expense.

D. Weston shall, at all times, have the right to examine Rothschild's equipment, determine its accuracy, and review all meter readings.

E. Rothschild shall at all times and at its own expense maintain the metering station in good working order.

5. Rothschild and Weston shall each be solely responsible for maintaining, repairing, and replacing as necessary the sewers and appurtenances located within their respective municipal boundaries. Where sewage flow from both municipalities flows through Weston sewers, Weston and Rothschild will share the associated maintenance, repair, and replacement costs. The cost will be divided approximately based on the percentage of flow from each community flowing into the sewer(s) and/or structure(s). Both Villages must sign off on the cost-sharing method prior to completion of the work, except in case of emergency.

6. Loadings.

A. Suspended solids and BOD loadings shall be the same as that measured by the Rib Mountain Metropolitan Sewerage District at the Cedar Creek metering station.

B. If Rothschild or Weston feels that sampling at the Cedar Creek metering station is not representative of Rothschild's waste, an alternate sampling method will be negotiated.

7. Rothschild shall pay all costs and expenses associated with the delivery of its sewage to Weston, and be liable for all damages to itself or others arising out of such delivery, where Rothschild is responsible and/or liable for those damages or a portion of those damages.

8. Connection Charges.

A. IMPOSITION OF CONNECTION CHARGE. A sewer connection charge of _____ Dollars ($####.00) for each "equivalent meter", as defined herein, shall be paid by the owner of any building for each connection to the sanitary sewerage system occurring after the signing date of this agreement. PROVIDED, however, that these charges shall apply only to new buildings upon which construction was commenced on or after the signing date of this agreement, OR, to all new or existing buildings in areas annexed to the Village of Weston or in areas of the Village of Rothschild that are served by Weston sewers after the signing date of this agreement.

B. EQUIVALENT METER DEFINED. The term "equivalent meter" as used in this Agreement means one unit per water meter. One unit is defined as one residential housing unit or 210 gallons per day and which utilizes a water meter size of either 5/8-inch or 3/4-inch. The number of equivalent units under the following table multiplied by _____ Dollars ($####.00) shall determine the charge for each connection.

Equivalent Meter Table

Water Meter Size (Inches)	Equivalent Units
5/8 and 3/4	1.0
1	2.5
1¼ and l½	5
2	8
3	15
4	25
6	50

9. The capacity of the sewers in Weston's collection system is limited. They are entirely owned by the Village of Weston. So that the citizens of the Village of Weston are not required to unduly expand the capacity of the sewer system in the future, no extension and/or expansion of the Rothschild sewage collection system shall occur without the prior written approval of the Village of Weston and such proposed extension/expansion complies with the current Sanitary Sewer Master Plan. Rothschild shall submit to Weston plans for expansion of the Rothschild sewage collection system prior to submitting for DNR approval.

10. Rothschild shall prepare a complete scale map of its sewage collection system, including thereon interceptor and collector mains. A reproducible copy of this map will be made available to the Weston. On an annual basis the map shall be updated to reflect any changes and Weston shall receive the updated copy. If there are no changes, Rothschild will note such and the latest map on file shall be maintained.

11. All domestic sewage Rothschild delivers to Weston shall be reasonably free of clear waters, defined as including but not limited to storm water, diffused surface water, air conditioning discharge water and groundwater. All sewage is to be free from materials which may tend to foul or clog mains or laterals. The provisions of Sec. 86.4 of Weston Municipal Code and any subsequent amendments to that section, are incorporated herein and made apart hereof. Discharges prohibited thereunder shall not be delivered to the Weston system by Rothschild. Any violation of Sec. 86.4 and any amendments thereto shall immediately cease and be reported to the Weston Director of Public Works. Section 86.4 and any amendments thereto shall apply, and Rothschild agrees to be governed by its provisions.

Rothschild agrees to be responsible for and accomplish such work as necessary within its sewer system to comply with said ordinance. Weston may monitor or test Rothschild sewage, upon reasonable notice, within the Rothschild system.

12. Weston reserves the right to order pretreatment of industrial waste. Industrial users shall meet the requirements of Sec. 86.4.108 of Weston Municipal Code. If, upon monitoring the discharge of such industry, it is determined that the standards of Sec. 86.4, and any amendments thereto, are not being met, Rothschild will be advised in writing by Weston of the name of any industry not in compliance. Rothschild shall immediately cause such pretreatment to be made to industrial waste, as required by Sec. 86.4 and any amendments thereto, prior to continued discharge of such wastes into the Rothschild system.

All costs of such monitoring, including but not limited to analysis of the sewage, shall be charged to the users, and in the event such billing remains unpaid for sixty days, Weston shall bill Rothschild, who shall then pay such bill in the regular course of business.

13. Rothschild will immediately report, in writing, to Weston any proposed new or changed industrial and/or commercial user that meets or may meet any of the following criteria:

- Increases by ten percent or more the volume of wastewater received from Rothschild.

- High strength wastes or potential toxic wastes.

- Wastewater originating from an industrial/commercial user required to comply with Federal and State pretreatment requirements.

With regard to the reportable users as noted above, Weston reserves the right to approve or disapprove such connections to Rothschild's sewage collection system or require the disconnection of such users. Failure of Rothschild to report such connections shall result in a fifty dollar ($50) per day penalty. The penalty shall also apply to any user located outside the Weston Sewer Service Area boundary that connects to the Rothschild sewage collection system. This penalty shall not apply if Rothschild is ordered by the State of Wisconsin to accept sewage from outside the Sewer Service Area.

Rothschild shall have the right to extend sewer service to any area petitioned voluntarily for annexation by the owners and electors of the area and annexed by Rothschild provided the area is within the Sewer Service Area or said boundary as amended. (Rothschild will still need to comply with Paragraph 5 of this agreement and other conditions regarding industrial/commercial conditions.) Also, if Weston is required by the DNR to perform special studies or an industrial survey to comply either with Federal Pretreatment regulations or toxic reduction assessments to meet new discharge requirements, Rothschild may be assessed directly for such activity over and above the charges for sewer service. This special assessment will generally relate to the number of industrial users in each community. Rothschild will be advised in writing in advance of these special studies and possible cost allocation.

In addition, Rothschild will maintain a complete list of all new or changed industrial/commercial users connected to the part of Rothschild's sewer collection system that discharges to Weston. A copy of this list reflecting the current status of Rothschild's industrial/commercial users will be forwarded to Weston annually on or about December 31. This requirement is part of the Federal and State mandate regarding industrial pretreatment regulation. Rothschild will further assist Weston with management of the pretreatment regulations by observing and reporting industrial users that may be required to comply with such regulation.

14. Rothschild shall inspect for floor drain and sump cross-connections. These inspections shall be made not less that once every two years. Additional inspections shall be made from time to time upon Weston's request. Rothschild shall permit agents and/or employees of Weston to accompany the inspectors when requested to do so by Weston.

15. In the event the State of Wisconsin, at any time, issues any order to Weston or Rothschild requiring Rothschild to accept sewage from outside its corporate limits and/or the

Sewer Service Area, Rothschild shall join in an appeal from said order with Weston, at Weston's discretion, and Rothschild shall provide counsel or co-counsel for prosecution of such appeal, and shall equally share the allowable court costs.

16. In the event any agency of any governmental unit having jurisdiction over sanitary sewer extensions, installations, or expansion of the collection system issues orders to Weston, limiting or staying such matters, then Rothschild shall upon notice by Weston be bound by the same order to its terms and conditions.

17. The revised sewage collection rates noted in the following paragraph do not include capital costs of the common interceptor sewer conveying Rothschild's and Weston's wastewater from the west side of the Villages to the RMMSD plant. Rothschild and Weston shall enter into negotiations to determine final cost allocations per each project related to the common interceptor. As a means to settle cost sharing arrangements regarding project costs for the common interceptor, Rothschild and Weston may employ the services of a mutually agreed upon third party competent to make a professional cost allocation settlement. The fees for this third-party opinion will be split 50/50.

18. Rothschild shall pay Weston the cost of handling its sewage pursuant to the latest rate or to any rate schedules established in the future. Weston shall initiate a rate review/analysis as necessary to maintain the normal operation of the collection system. Any rate changes following a review/analysis, including normal operating percentage increases, may be implemented, irrespective of any formal rate study being undertaken. Rothschild shall have the right to review all documentation supporting any proposed rate changes.

A copy of Weston's annual audit will be available after June 30 of each year upon request. Weston will provide Rothschild at least 90 days written notice of the intent to adjust rates. A copy of the new rates and the methodology used to revise the rates will be submitted to Rothschild prior to rate implementation.

(By reference, the most current rate study shall be available for review by Rothschild and will be on file in the Weston Village offices.)

19. Weston shall invoice Rothschild within 10 days following each month for metered charges. Payment shall be due and payable within 30 days from date of invoice. A penalty of one percent per month will be charged for all payments sixty (60) days or more past due. (Disputes in billing are not subject to penalty assessment until both parties agree on the final billing.)

A. Rothschild shall also pay an additional 3% of each quarterly bill to cover the carrying cost which Weston incurs: i.e. Weston must pay the Rib Mountain Metropolitan Sewerage District on a monthly basis. No carrying charge shall be added to any Rothschild billing which is paid on a monthly basis.

B. Rothschild shall pay Weston $0.00 /1000 gallons to cover maintenance costs beginning on the signing date of this agreement. This charge will be adjusted annually on January 1st starting from the signing date of this

agreement. Adjustments will be based on the National Consumer Price Index.

20. Weston and Rothschild hereby acknowledge and agree that this agreement imposes on each of them a duty of good faith and fair dealing.

IN WITNESS WHEREOF, the administrator of the Village of Weston and its clerk, and the Village of Rothschild by its administrator and clerk, have made and executed this contract for the said Village of Weston and the Village of Rothschild, pursuant to authority vested in them by their respective Village Boards.

Signed this ____ day of _____, 2019.

VILLAGE OF WESTON

In Presence of:

_____ _____
Administrator

_____ _____
Clerk

VILLAGE OF ROTHSCHILD

In Presence of:

_____ _____
Administrator

_____ _____
Clerk

Appendix Q – Hook-up Fee, RCA/REU Assessment Documents

VILLAGE OF WESTON
REQUEST FOR CONSIDERATION

ITEM DESCRIPTION:	Consideration of Changes to Collection of Sanitary Sewer Hook-up Fee and/or Reserve Capacity Assessment per Residential Equivalent Unit.
REQUEST PREPARED BY:	Keith Donner, P.E., Director of Public Works & Utilities
REPORT DATE:	Friday, May 30, 2014
MEETING/MEETING DATE:	Property & Infrastructure Committee Meeting (06/02/2014) Board of Trustees Meeting (06/02/2014 or 06/016/2014)
LEGISLATIVE ACTION:	____ Ordinance __X__ Motion ____ Resolution ____ Acknowledge
STAFF RECOMMENDATION:	Recommendation for follow up action related to Collection of Sanitary Sewer Hook-up Fee and/or Reserve Capacity Assessment per Residential Equivalent Unit.
ADMINISTRATOR'S COMMENTS: No additional comments: See attached comments:	 _____ _____:

FISCAL SUMMARY:

Budget Line Item:	
Budget Line Item:	
Budgeted Expenditure:	
Budgeted Revenue:	

STATUTORY REFERENCE:

Wisconsin Statue:	N/A
Administrative Code:	N/A
Municipal Code:	Sec. 86.152
Judicial Ruling:	N/A

1. Policy Question: Should the Property and Infrastructure Committee/Board of Trustees consider changes to the current policy of collecting the Sanitary Sewer Hook-up Fee and Reserve Capacity Assessment per Residential Equivalent Unit (a.k.a. REU Assessment).

2. Issue Background:

   a. Hook-up Fee - Between 1988 and 1992 the Weston Sanitary District constructed the first parts of the Cedar Creek interceptor sewer and tributary sewers in unincorporated parts of the Town of Weston which have since been annexed to the Village of Rothschild. These parts of the Cedar Creek Interceptor only extended to approximately midway between Business Highway 51 and Alderson Street.

      To finance this project the Sanitary District issued a bond and obtained a Clean Water Fund grant administered by the Wisconsin Department of Natural Resources. A final

audit of the project was conducted and summarized in a report from the Wisconsin DNR dated August 18, 1992 (copy attached). The audit report made specific mention, in a special note, of the requirement to deposit $8,000 annually in a replacement fund account. The Director has recollection of reviewing documents/correspondence related to this replacement fund in the past, but was not able to locate those again prior to preparation of this summary. The intent of the fund was to provide for replacement of capital equipment such as pumping stations, interceptor sewers, sewer jetting equipment, etc. This equipment replacement fund was to be (and is) held in a segregated restricted account to be used only for the intended purposes.

In 1988 the Sanitary District adopted an ordinance to establish a sanitary sewer hook-up fee. It is the Director's understanding the hook-up fee was established as the mechanism to provide for the necessary minimum funding in the replacement account required as a condition of the Clean Water Fund grant. The hook-up fee was established as $500.00 per equivalent meter with an equivalent meter table included in the ordinance. So, to accumulate the minimum annual funding of $8,000, sixteen new residential services would need to be connected to the wastewater collection system. A copy of the ordinance is attached.

The sanitary sewer hook-up fee has been collected from ALL new connections to the sanitary sewer collection system since its inception. Although records of its annual collections prior to 1998 are not available, the utility has collected $1,515,223 since 1998. The fund's balance at the end of 2013 was $455,098. The fund balance has fluctuated because it has been used for major projects such as the Mesker-Jelinek pumping station, sewer "vac" truck purchases, and sewer force mains.

b. Reserve Capacity Assessment per Residential Equivalent Unit - In 1998 the newly incorporated Village of Weston was in the process of implementing a capital project plan to support development within its Tax Increment Finance District. Among the projects necessary to support the new TIF District were extensions of the Cedar Creek interceptor sewer and other wastewater transmission projects to transport wastewater from the easternmost parts of the TIF district to the interceptor sewer.

Concurrently with the TIF capital projects, the Village was also in the midst of a residential development boom. Residential subdivisions were being developed east of Alderson Street on the south side of STH 29 and east of Mesker Street on the north side of STH 29. Wastewater transmission capacity was also needed to support this development. It was determined the best way to accommodate the residential wastewater needs was to direct, or re-direct, the wastewater for this development to the Cedar Creek interceptor.

Many of the projects necessary for serving development within the TIF District were also necessary to serve residential customers outside the TIF District. However, there were some additional wastewater transmission projects solely required to support non-TIF, residential development. Overall the wastewater transmission projects would need to be sized to serve anticipated future development, not simply to serve existing development.

The majority of the recommended wastewater transmission improvements were to be financed through sewer utility revenue bonds. Since the projects were primarily interceptor sewers, force mains and pumping stations, there was relatively little cost

recovery through front foot special assessments. However, rather than rely solely upon utility user fees to repay the revenue bonds, a special assessment related to the additional capacity of the system – the Reserve Capacity Assessment per Residential Equivalent Unit (a.k.a. REU assessment) -- was recommended and established to recover the costs of the wastewater transmission system improvements from new customers of the system. In this way new customers would pay their proportionate cost of the wastewater transmission system improvements in relation to the capacity of the system.

A copy of the text of the special assessment report from July of 1998, an assessment district map, and the final resolution for the project are attached. Properties which would be tributary to the wastewater transmission system upstream of the intersection of Birch Street and Shorey Avenue were included in

The report included a list of transmission facilities projects estimated to cost $4,954,000 over a period of 4 years. This total was later amended to $4,703,800. After netting out the estimated front foot assessments of $271,600, the total estimated costs to be recovered through the REU assessment were also amended to be $4,432,200. A copy of the summary table of projects and estimated costs is also attached.

An “REU” (abbreviation for Residential Equivalent Unit) represents 175 gallons per day of wastewater flow as the average from a typical residential household. In terms of REU’s the capacity of the wastewater transmission improvements (primarily the 20 inch diameter portion of the Cedar Creek Interceptor) were determined to have a maximum capacity of between 8,857 and 6,947 REU’s The lower number was used as the basis for system capacity.

Part of the wastewater transmission facilities were to serve existing development east of Mesker Street which was to be re-directed to the Cedar Creek interceptor. The capacity needed for the re-directed wastewater flow was 773 REU’s. Since these re-directed customers already had sewer service, their equivalent REU’s were deducted from the total additional transmission capacity need resulting in 6,174 REU’s as the net total REU’s on which to base the Reserve Capacity Assessment.

With net wastewater transmission project costs estimated at $4,432,200 and net REU’s of 6,174, the RCA/REU assessment rate was recommended to be $725 ($4,432,200/6,174 rounded up) The original report actually used $750.00 per REU which was later amended to the lower figure.

As provided in the resolution, and as was described in the report, “All RCA/REU assessments will be deferred until such time as sewer connection is made for any specific parcel.” We have not considered the REU assessments to be billed until time of connection so the fee has remained at $725.00 per REU.

At the time of the establishment of the RCA/REU, each of the 803 land parcels in the assessment district was arbitrarily assigned a single REU. As land parcels split or were subdivided more parcels were affected. Additionally, as land area was added to the Village’s corporate boundaries (e.g. the Sandy Meadows Subdivisions) the assessment was applied to those parcels. In total an estimated 1,609 parcels are now in the

assessment district with 1,079 having paid REU assessments and leaving approximately 530 parcels in the deferred assessment category.

The report described how the actual REU's would be determined at the time of connection – 1 for a single family residence, 2 for a duplex, other uses referencing a table, and also allowing the determination to be made based on water/wastewater needs of similar land uses if the land use doesn't fit. Residential land uses are fairly straightforward to determine. Non-residential uses require some judgment and staff normally uses an historical basis either from a customer's previous operation and/or similar existing land uses.

3. Issue Analysis: The utility has continued to collect hook-up fee charges from ALL customers in accordance with the ordinance. This also applies to properties served by Weston Municipal Utilities within the Village of Rothschild.

   The utility collects BOTH the hook-up fee and the RCA/REU charge within the REU assessment district.

   The RCA/REU special assessment and its deferred nature causes confusion and, at times, emotional reactions including anger and frustration. With parcels not currently being served, the charge is indicated as a deferred special assessment. The most recent example of this was the Rennes purchase of lots in the Ridgeview Subdivision from Inter-City State Bank. The question has again arisen on land sale agreements for the Business Park South.

   In response to the questions on the Rennes land purchase from Inter-City State Bank, the Director furnished background information to attorney Justin Bates, an associate of Village Attorney Matt Yde. Attorney Bates concluded the REU assessment was properly enacted and the Village was also justified in continuing to collect it. This was not put in the form of a written opinion however.

   In land transactions involving existing special assessments it has been staff experience that buyers and sellers can agree to different arrangements at the time of closing. In some situations the seller is made responsible for the assessment. In others the buyer assumes the assessment. The unique nature of the REU assessment is that the arbitrary 1 REU may not be the actual REU assessment amount and, unless the future land use of a parcel is one single family home, it is impossible to predict how many REU's would be applicable at the time of connection.

   In reviewing the current practice of collecting the Hook-up Fee and the REU assessment there are many questions which come to mind including:
   a. Should the Village continue to collect either one or neither?
   b. Should the Village collect only one or the other dependent on the property location?
   c. If the Village discontinues collection of either of the funds what are the political, legal, and financial implications?
   d. How do these fees compare to similar fees collected in other communities?

e. Should the Village merely maintain status quo and simply make agreements with prospective buyers of Village owned property to pay the REU charges in order to cleanly close sales?
f. Should the Village maintain status quo and hold buyers responsible for the REU charges?
g. Should the Village discontinue the REU assessment and modify the hook-up fee to be determined in the same manner?

There are, no doubt, other questions or possible hybrid situations which could be applicable.

4. Fiscal Impact: The REU assessment has kept $1,114,978 off of the utility rates over a 14 year period which is an average of about $80,000 per year. This is only about 1/4 of the total estimated costs the utility identified to be recovered through the REU assessment though. With the slowing of growth, it is pure speculation as to when the full amount of the REU assessment would be recovered, if ever. However, $80,000 is approximately 4.3% of the sewer utility's total annual revenues of $1,860,000 estimated for 2014.

   Similarly, the hook-up fee has allowed the utility to maintain a capital equipment replacement fund to offset rate impacts as well. From 1998 to 2013 this fund has collected $1,515,223 or just over $100,000 annually.

5. Statutory Reference: Special assessment statutes and possibly case law. Village ordinance creating the hook-up fee.

6. Prior Review: N/A

7. Attachments:
   a. Wisconsin DNR Audit Report letter dated August 18, 1992
   b. Village/Weston Sanitary District Hook-up fee ordinance
   c. "Report of the Village Engineer for Special Assessments on Benefitting Properties Served by Wastewater Transmission Facilities," July 1998, Keith E. Donner, P.E.
   d. Reserve Capacity Assessment District Map.
   e. Final Resolution R-05-98.
   f. RCA/REU assessment district map

8. Recommendation following Staff Review: The Director of Public Works has been asked to provide information related to the REU assessment in order to consider possible changes to current Village practice. The Director does not feel it is appropriate to discuss the REU assessment without the additional discussion of the hook-up fee charge. These fees have the similar purposes, though in the case of the REU assessment it is for cost recovery of money previously spent and in the case of the Hook-up Fee it is for a savings account restricted to major equipment and wastewater transmission facilities. The Director's opinion is that there could be justification in modifying the Village's practices in collecting the REU and Hook-up Fees, but there should first be some additional research to address the questions as discussed under #5, above. However, the Director does not wish to devote time to these issues if there is no desire on the part of the committee.

9. Policy Alternatives:
    a. Investigate collecting only the hook-up fee.
    b. Investigate collecting either the hook-up fee or the REU assessment in the REU assessment district.
    c. Refer to Finance Committee for further discussion and recommendations.
    d. Maintain status quo.
    e. Other options?

10. Legislative Action:

    PIC – Recommend the Director of Public Works coordinate additional investigation of alternatives and return with a final report and recommendation(s) to the Committee.

    BOT –

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

Box 7921
Madison, Wisconsin 53707

August 18, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO: 8700-CG

Mr. Mark W. Thompson
5500 Schofield Avenue
Schofield, Wi 54476

SUBJECT: Final Audit Report-Weston S.D.
Wisconsin Fund Step 3
Grant Number 055 1199 07

Dear Mr. Thompson:

Enclosed is a copy of the final audit report on the above-referenced project, which reflects our final determination of eligible costs. Final payment of the "Balance Due Grantee" on the enclosed report is being sent to you under separate cover.

This letter constitutes the decision of the Department pursuant to s. NR 128.23, Wis. Adm. Code, and shall be final unless the Weston S.D. appeals within 30 days from the receipt of our decision. To appeal this decision, you must mail (certified mail, return receipt requested) or otherwise deliver a written petition to Director of Bureau of Legal Services, stating the reason you believe this decision is erroneous. Any review will be treated as a class 2 contested case and adjudicated in accordance with ch. 227, Stats., and NR 2, Wis. Adm. Code.

If you have any questions on your final audit report, please contact Diane Alme, Project Manager, at (608) 266-5889. We thank you for your contribution to the clean water program in Wisconsin.

Sincerely,

Kathryn A. Curtner, Director
Bureau of Environmental Loans

Enc.
cc: Ron Klein/BOF
North Central District (w/enc.)
Bureau of Legal Services/LC

FINAL AUDIT REPORT

From: Bureau of Finance

Grant No: 0551199-07 step 3

Grantee: Weston Sanitary District No. 1

We have completed our audit of costs claimed under Wisconsin Fund, Point Source Grant No 0551199-07 step 3 to the Weston Sanitary District. The audit was made in accordance with Department of Natural Resources guidelines, Wisconsin Statutes, Wisconsin Administrative Code NR 128, and Government Auditing Standards issued by the U.S. Comptroller General. In accordance with Departmental Guidelines, our examination was limited to the procedure described below:

> We examined documentation provided by the grantee, consultants, and contractors to determine costs allowable for cost sharing under the grant.

The examination was limited to include only those parts of the grantee's accounting and administrative systems that directly support costs of the Point Source Grant Program and thus it did not constitute an examination in accordance with generally accepted auditing standards. However, in connection with the procedures referred to above, no matters came to our attention that caused us to believe that the costs claimed might require adjustment except as indicated in Schedule 1 of this report.

This report is intended for use only with this grant and should not be used for any other purpose.

SCHEDULE 1

COSTS CLAIMED, ACCEPTED, AND ADJUSTED

	Claimed	Accepted	Adjusted	Notes
Construction Contracts:				
Wimmer Construction	$1,127,221.72	$1,127,221.72	$0.00	
Sampler	2,020.00	2,020.00	0.00	
Total Construction Cost	$1,129,241.72	$1,129,241.72	$0.00	
Technical Services:				
Central Wisconsin	$86,735.36	$59,594.37	$27,140.99	(1)
Total Technical Services	$86,735.36	$59,594.37	$27,140.99	
Total Project Cost	$1,215,977.08	$1,188,836.09	$27,140.99	
Parallel Cost Ratio	91.56%	91.56%	91.56%	
Net Cost	$1,113,349.00	$1,088,498.00	$24,851.00	
State Share 60%	$668,009.00	$653,099.00	$14,910.00	
Grant Overrun	0.00	(282.00)	$282.00	(2)
Total State Grant	$668,009.00	$652,817.00	$15,192.00	
Less: DNR Payments Previously Made		652,817.00		
Balance Due Grantee		$0.00		(3)

Explanations and Notes

Note 1 - Of the $86,735.36 claimed under the engineering cost category, we have accepted cost of $59,594.37 as detailed in Table A, attached to this audit report.

Note 2 - The $282 adjusted is the amount in excess of the approved grant amount of $652,817. (See grant amendment #1 for verification.)

Note 3 - Replacement Fund Account - Records presented to the auditor show that the grantee is depositing $8,000 per year which is the amount required as per the approved user charge system. Our review did find one problem, the timing of the deposits - annual deposits are made instead of quarterly deposits. We recommend that quarterly deposits of $2,000 be made to reflect the quarterly billing schedule.

Table A
Central Wisconsin Engineers
Grant No: 0551199-07 step 3
Grantee: Weston Sanitary District No. 1

	Audited Cost	Note Reference
Direct Labor	$30,254.72	(a)
Indirect Cost	25,394.89	(b)
Total Labor	$55,649.61	
Direct Expenses:		
Printing Plans & Specs (eligible share)	641.00	
Other Expenses (eligible share)	377.29	
Total Expenses:	$1,018.29	
Total Cost	$56,667.90	
Profit	4,116.97	(c)
Total Fee	$60,784.87	
Less Ineligibles:		
User Charge System	(750.50)	
Share of plan deposit revenues	(440.00)	
Allowable Cost Computed per Audit	$59,594.37	

(a) The direct labor cost of $30,254.72 was computed by multiplying eligible direct labor hours by the audited hourly rate(s) for each employee.

(b) The indirect cost of $25,394.89 was computed by multiplying the direct labor cost, computed in step (a) above, by the audited indirect rates of 83.41% for 1987 and 89.53% for 1988.

(c) The profit of $4,116.97 represents 31.98% of the contractual profit. The 31.98% is the percent of eligible construction to total construction for the project.

Auditor_____
Date_____
Reviewer____
Date_____

REPORT OF THE VILLAGE ENGINEER
FOR SPECIAL ASSESSMENTS ON BENEFITTING PROPERTIES SERVED BY WASTEWATER TRANSMISSION FACILITIES

Village of Weston
Marathon County
Wisconsin

July 17, 1998

Prepared by:

Keith E. Donner, P.E.
Director of Public Works

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APPENDICES

DECLARATION

This report is required by the Village of Weston in accordance with Resolution Number R-03-98, declaring Intent to Exercise Special Assessment Police Powers. It is submitted to the Village as a Preliminary Assessment Report for the construction of sanitary sewer transmission facilities to serve the Cedar Creek Interceptor drainage basin. This report also includes front foot assessments for sanitary sewer benefitting property on the following streets:

Shorey Avenue between Windemere Place and County Trunk Highway "X";

County Trunk Highway "X" between Shorey Avenue and Weston Avenue;

Weston Avenue between County Trunk Highway "X" and Von Kanel Street; and

Von Kanel Street between Weston Avenue and East Jelinek Avenue.

A copy of the preliminary resolution is included in Appendix A.

PURPOSE and STATEMENT OF BENEFITS

The need for a major interceptor sewer following the described route has been identified since 1982 when the Wausau area Facilities Plan was completed. Additionally there are other transmission facilities required to serve developing areas of the Village. The Weston Sanitary District completed a more detailed review of the required sewer system transmission facilities (i.e., interceptor sewers, pump stations and force mains) in 1992 (Wastewater Interceptor Master Plan, Becher-Hoppe Associates, April 1992). More recently a major amendment to the Urban Sewer Service Area boundary (208 boundary) has been completed for communities served by the Rib Mountain Metropolitan Sewerage

District (RMMSD), including the Village of Weston, recognizing the need to serve the developing areas. These documents are on file at the office of the Village Clerk at the Weston Municipal Center.

The sewer transmission facilities are needed to provide wastewater transmission capacity for property located in the area east of Birch Street south of STH "29" and property east of CTH "X" north of STH "29". The specific area to be assessed is shown on the map included with the assessment hearing notice, a copy of which is included in Appendix A. The boundary is defined by all area not currently sewered which will be tributary to the remaining extensions of the Cedar Creek Interceptor sewer (from its current terminus approximately 400 feet west of the intersection of Shorey Avenue and Birch Street) and which is located within the 208 boundary as it is projected to exist by the year 2010 plus an area along Sandy Lane originally envisioned to be added after the year 2010.

The properties in the assessment district will benefit from the transmission facilities at such time as they connect to sewers in the future. Properties fronted by extensions of gravity lines will receive immediate benefits from the improvements. The public sewerage facilities will replace private wastewater systems and result in improved health, safety and convenience as well as enhanced economic value to each of the properties.

Although approximately 551 acres of land known as Kellyland I and Kellyland II are currently served with municipal sewer service and are to be rerouted to flow to the Cedar Creek Interceptor as a result of these projects, there is sufficient existing

transmission capacity to continue to serve these areas. Therefore, there is no basis for an additional assessment to the property in this area.

STATEMENT OF ESTIMATED COSTS FOR THE PROJECTS

The list of projects and years in which they are projected to be undertaken are shown in the table in Appendix B. The total cost of all projects is estimated to be $4,953,800 to be spent over a 4 year period. Of this total it is estimated that $521,600 will be recovered through front foot assessments or developer contributions. The remaining $4,682,200 must be recovered through other means.

STATEMENT AS TO PROJECT FINANCING METHODS

The net estimated project costs to be financed by the Village, i.e. $4,953,800, shall be generated from two principal sources:

1. 8" equivalency assessments upon property directly benefitting from the improvements

2. A reserve capacity special assessment based upon a Residential Equivalent Unit (RCA/REU) upon all property not currently served with municipal sewage collection.

After considering various methods of financing the project, it has been determined that the combination of the above financing methods is best suited to fairly defray the cost of the project.. Further, the RCA/REU assessment method is recommended over an area assessment because the large area involved makes it difficult, at best, to establish a

schedule of benefits based upon what particular parcels would be developed and what specific development will occur in the future. The RCA/REU method eliminates this speculation since only the property which is actually connected will pay the assessment until the property upon which it is levied has actually been connected to the sewage collection system.

Until the Village begins to collect assessment charges, all project costs will be funded with utility revenue bonds and the debt service supported through existing user charges.

ESTIMATE OF ASSESSABLE PROJECT COSTS and ASSESSMENT RATES

The primary purpose of these projects is to provide the reserve capacity to serve the entire assessment district. In many instances there are large tracts of land directly fronted by sewers which would not be developed immediately. A maximum front footage assessment for property directly benefitted by extensions of interceptor sewers is recommended. The maximum front footage is proposed to be 200 feet. In accordance with the Village's assessment ordinance, the minimum frontage for assessment is 100 feet. Front footage assessments for specific interceptor sewer extensions will be assessed separately as projects are constructed. The front footage assessments included in this report pertain only to the direct frontage as described in the DECLARATION section of this report.

Front Footage Assessments

The front footage assessment rate for this project is calculated by dividing the estimated cost of installing an 8" minimum size sanitary sewer main by the total parcel frontage along the route (both sides). The cost excludes restoration and unique project costs in recognition of the purpose of the projects. The calculation of front foot assessments and the proposed front footage assessments for each parcel along the 20" interceptor sewer route are contained in the spreadsheets in Appendix C. The assessment rate for the 8" equivalent size is $24.81.

All remaining costs related to installing the 8" minimum size sewers are (restoration, wetlands frontage, utility easement frontage, etc.) are included in the costs to be recovered through the RCA/REU assessments.

RCA / REU Assessments

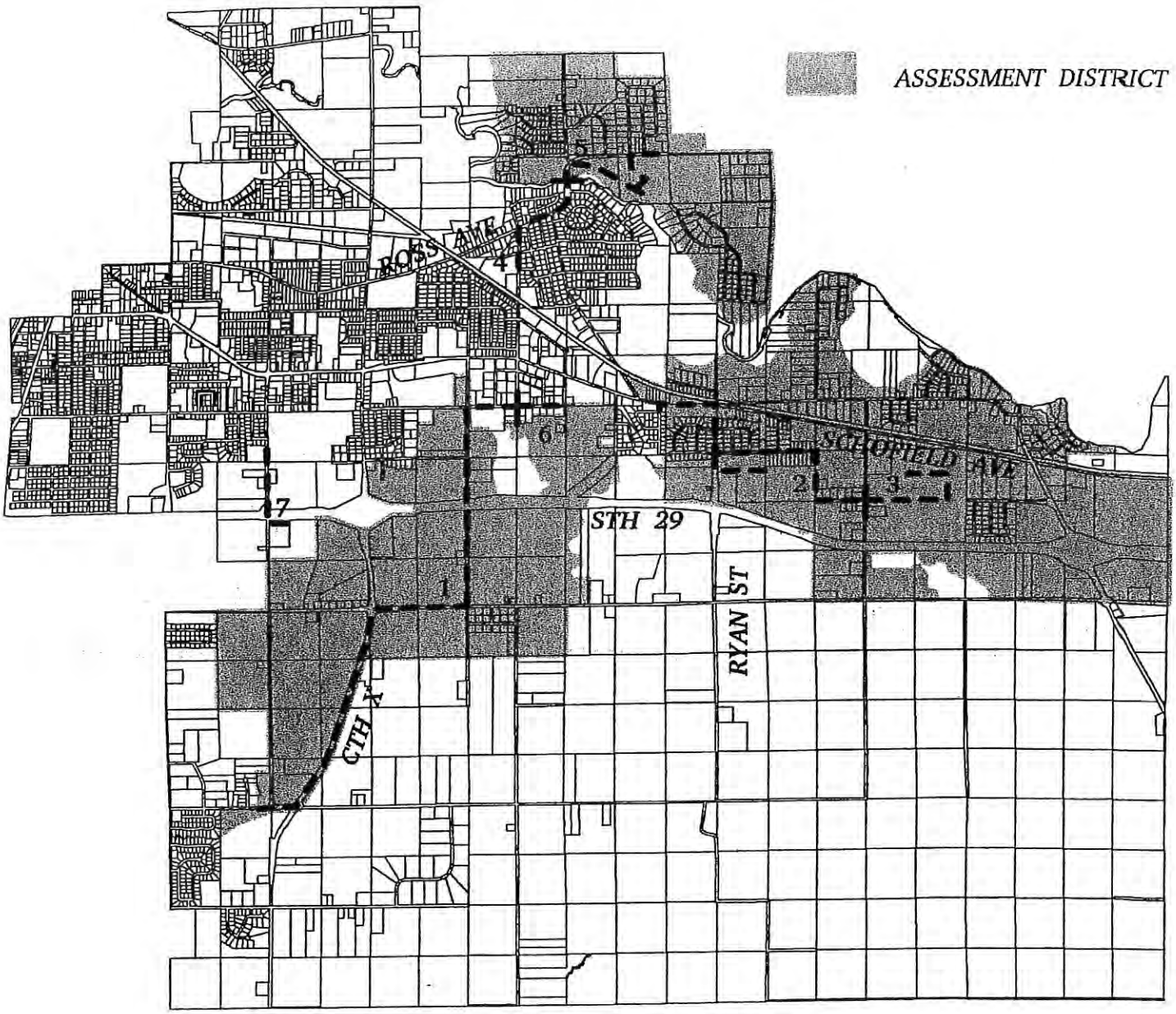
In arriving at the amount of the RCA / REU assessment rate, certain assumptions must be made. First the amount of the 8" minimum size sewers must be estimated so that the balance of costs to be recovered through the RCA/REU can be determined. Second the estimated number of REU's to benefit from the improvements must be estimated. The 8" minimum size sewer costs have been discussed above.

The estimate of the total REU's that will be served in the assessment district is 8,078. Through a review of water pumpage records, one REU is determined to be 175 gallons per day (the average flow from a single family residence with an average of 2.7 persons consuming 75 gallons per day each). There are 773 REU's in the currently

sewered areas which will be rerouted to the Cedar Creek Interceptor (Kellyland areas). The capacity of the Cedar Creek Interceptor (20" ductile iron pipe) is 3.1 MGD. Using a peaking factor of 2.55, this corresponds to a total REU capacity of 6,947. Using a peaking factor of 2.0, the REU capacity of the sewer is 8,857. Although a peaking factor of 2.0 is felt to be more indicative of the wastewater transmission system, the peaking factor of 2.55 is used to calculate the remaining capacity of the interceptor to account for downstream capacity needs (approximately 2,000 REU's difference). The net REU's over which the RCA/REU assessment will be spread is 6,947 - 773 = 6,174. This assumes that the 20" interceptor cannot serve the total drainage basin if build out exceeds about 50% of the land area (consistent with the 1992 Master Plan).

The calculated RCA/REU is $4,682,200 / 6,174 = $758.37. This amount is proposed to be rounded to $750.00 / REU for simplicity. The amount of the assessment will be adjusted annually by adding accrued interest at a rate of 1% above the Village's borrowing interest rate (currently estimated to be 5.25%) At the end of the bond repayment period (20 years) the REU assessment will become a fixed amount as interest would no longer be accrued.

A residential equivalency table as used by the Milwaukee Metropolitan Sewerage District is included in Appendix D. This recovery table will be used to determine the REU's corresponding to specific land uses in the future. The equivalent rates are determined and intended to adjust commercial and industrial uses to an equivalent residential use (1 REU = 175 gallons per day). The minimum REU assessment for any parcel shall be 1.0 REU's.



1. CEDAR CREEK INTERCEPTOR
2. RYAN ST/FEITH AVE
3. CHRISTIE LANE
4. MESKER ST/COLLEEN AVE
5. EAU CLAIRE RIVER
6. EAST JELINEK INTERCEPTOR
7. BIRCH ST INTERCEPTOR

Any future user which cannot be allocated based on the equivalency table will be determined by the Village based on information provided by the site developer as a multiple of an REU but not less than the minimum of 1.0. Duplexes shall be assessed 2.0 REU's. Multiple family dwellings (3 or more separate residences) shall be assessed REU's at a rate of 0.75 times the number of units. Community Based Residential Facilities shall be assessed at a rate of 4.0 REU's.

At this time the amount of the majority of the RCA/REU assessments is unknown since land use can and will change. All RCA/REU assessments will be deferred until such time as a building permit is obtained for any specific parcel. Credit may be due to properties on the border of the assessment area with currently sewered areas where a front footage assessment has previously been levied. In these instances, the amount of the REU assessment shall be based on calculation of the REU's for the actual property usage less the previous sewer assessments.

The table of parcels included in the assessment district is included in Appendix E. A current REU value of 1.0 is assumed for each parcel, a total of 803, whether there is existing development or not. The actual charge for each parcel will be levied on the basis of actual development as determined by the tables and methodologies of this report and as approved in the final resolution.

VILLAGE OF WESTON
RESOLUTION NO. R-05-98
FINAL RESOLUTION AUTHORIZING PUBLIC IMPROVEMENT AND LEVYING SPECIAL ASSESSMENTS AGAINST BENEFITED PROPERTY IN THE CEDAR CREEK INTERCEPTOR DRAINAGE BASIN

WHEREAS, the Public Works and Utilities Committee acting for and on behalf of the governing body of the Village of Weston, Wisconsin, held a public hearing at the D.C. Everest Senior High School auditorium at 5:45 p.m. on the 29th day of July, 1998 for the purpose of hearing all interested persons concerning the preliminary resolution and report of the Village Engineer on the proposed public improvements consisting of the construction of sanitary sewer transmission facilities to serve the Cedar Creek Interceptor Drainage Basin and preliminary assessments against benefited property, and heard all persons who desired to speak at the hearing;

NOW, THEREFORE, be it resolved, the governing body of the Village of Weston, Wisconsin, determines as follows:

1. The report of the Village Engineer for special assessments on benefiting properties served by waste water transmission facilities dated July 17, 1998 as modified, a copy of which is incorporated herein by reference as if fully set forth herein, including the plans and specifications and assessments set forth therein, is adopted and approved.

2. The Village of Weston shall advertise for bids and supervise construction of the improvements in accordance with the

report hereby adopted as modified.

3. The payment for the improvements shall be made by assessing the entire cost to the property benefited as indicated in the report.

4. Assessments shown on the report represent an exercise of the police power and have been determined on a reasonable basis and are hereby confirmed.

5. Assessments for all projects included in the report are hereby combined as a single assessment but any interested property owner may object to each assessment separately or all assessments jointly for any purpose.

6. Front footage assessments as described in the report shall be due within forty-five (45) days of billing date. The front footage assessments may be paid in cash or in five (5) annual installments to the Village Clerk. Installments shall be placed on the next tax roll after the due date for collection and shall bear interest at the rate of 6.5% per annum on the unpaid balance from the due date. Front footage installments or front footage assessments not paid when due shall bear additional interest on the amount due at the rate of one percent (1%) per month.

All RCA/REU assessments will be deferred until such time as sewer connection is made for any specific parcel. The amount of the REU assessment will be adjusted annually by adding accrued interest at a rate of one percent (1%) above the Village's

borrowing interest rate. Any REU not paid within forty-five (45) days of the billing date shall bear additional interest on the amount due at the rate of one percent (1%) per month and shall be placed upon the tax rolls and shown as delinquent taxes.

7. The Village Clerk shall publish this Resolution as a Class 1 notice under Chapter 985, Wis. Stats., in the assessment district and mail a copy of this Resolution and a statement of the final assessment against the benefited property together with a notice of installment payment privileges relating to the front footage assessments to every property owner whose name appears on the assessment roll whose post office address is known or can with reasonable diligence be ascertained.

Dated this 3rd day of August, 1998.

Vilas E. Machmueller

Vilas Machmueller, Village President

ATTEST:

Barbara Ermeling

Barbara Ermeling, Village Clerk

Village of Weston, WI

Cedar Creek Interceptor Drainage Basin - Required Transmission Facilities

Sanitary Sewer Projects	Total Project Estimate	Estimated Front Foot Assessments	REU Assessable Portion	Construction Year
Cedar Creek Interceptor	2,100,000	106,600	1,993,400	1998 & 1999
Mesker-Jelinek Pump Station	600,000	-	600,000	1998 & 1999
Force Main from Mesker-Jelinek	380,000	-	380,000	1998 & 1999
Ryan Street Pump Station	102,000	-	102,000	1999 & 2000
Interceptor Sewer to Ryan Street	465,000	90,000	375,000	1999 & 2000
Force Main from Ryan Street	55,440	-	55,440	1999 & 2000
Christie Lane Pump Station	78,000	-	78,000	2001
Interceptor Sewer to Christie Lane	218,000	-	218,000	2001
Force Main from Christie Lane	63,000	-	63,000	2001
Upgrade Mesker / Colleen Pump Station Force Main	75,000	-	75,000	1999
Pumping Station Revisions/Addition @ Eau Claire River and Ross Avenue	480,000	75,000	405,000	1999 & 2000
Replace Interceptor Sewer on East Jelinek Street	87,360	-	87,360	2000
Total Costs by Year	**$ 3,080,000.00**	**$ 106,600.00**	**$ 2,973,400.00**	**1998**
	$ 1,177,440.00	**$ 165,000.00**	**$ 1,012,440.00**	**1999**
	$ 87,360.00	**$ -**	**$ 87,360.00**	**2000**
	$ 359,000.00	**$ -**	**$ 359,000.00**	**2001**
	$ 4,703,800.00	**$ 271,600.00**	**$ 4,432,200.00**	

Village of Weston Wastewater Utility

RCA/REU Collection

Date: March 6, 2015

Created by the Village of Weston
Tech. Services Department

0 0.25 0.5 1 Miles

Legend

- RCA/REU Boundary
- Parcels NOT Collected From - 701
- Parcels Collected From but not Served - 53
- Parcels Collected From - 1152

NORTHWESTERN AV
EAU CLAIRE AVE
ALDERSON ST
ROSS AV
STERNBERG AV
SCHOFIELD AV
JELINEK AV
BIRCH ST
MESKER ST
SANDY LN
FULLER ST
E JELINEK AV
CAMP PHILLIPS RD
WESTON AV
RYAN ST
ZINSER ST
SHOREY AV
GUSMAN RD
CALLON AV
RIVER RD
COMMERCE DR
X
29
J

VILLAGE OF WESTON
REQUEST FOR CONSIDERATION

ITEM DESCRIPTION:	Consideration of Changes to Collection of Sanitary Sewer Hook-up Fee and/or Reserve Capacity Assessment per Residential Equivalent Unit.
REQUEST PREPARED BY:	Keith Donner, P.E., Director of Public Works & Utilities
REPORT DATE:	Friday, March 20, 2015
MEETING/MEETING DATE:	Finance Committee Meeting (03/25/2015)
LEGISLATIVE ACTION:	____ Ordinance __X__ Motion ____ Resolution ____ Acknowledge
STAFF RECOMMENDATION:	Recommendation to retain the REU for follow up action related to Collection of Sanitary Sewer Hook-up Fee and/or Reserve Capacity Assessment per Residential Equivalent Unit.
ADMINISTRATOR'S COMMENTS: No additional comments: See attached comments:	 _____ _____

FISCAL SUMMARY:

Budget Line Item:	
Budget Line Item:	
Budgeted Expenditure:	
Budgeted Revenue:	

STATUTORY REFERENCE:

Wisconsin Statue:	N/A
Administrative Code:	N/A
Municipal Code:	Sec. 86.152
Judicial Ruling:	N/A

1. Policy Question: Should the Property and Infrastructure Committee/Board of Trustees consider changes to the current policy of collecting the Sanitary Sewer Hook-up Fee and Reserve Capacity Assessment per Residential Equivalent Unit (a.k.a. REU Assessment).

2. Issue Background:

   a. Hook-up Fee - Between 1988 and 1992 the Weston Sanitary District constructed the first parts of the Cedar Creek interceptor sewer and tributary sewers in unincorporated parts of the Town of Weston which have since been annexed to the Village of Rothschild. These parts of the Cedar Creek Interceptor only extended to approximately midway between Business Highway 51 and Alderson Street.

      To finance this project the Sanitary District issued a bond and obtained a Clean Water Fund grant administered by the Wisconsin Department of Natural Resources. A final

audit of the project was conducted and summarized in a report from the Wisconsin DNR dated August 18, 1992 (copy attached). The audit report made specific mention, in a special note, of the requirement to deposit $8,000 annually in a replacement fund account. The Director has recollection of reviewing documents/correspondence related to this replacement fund in the past, but was not able to locate those again prior to preparation of this summary. The intent of the fund was to provide for replacement of capital equipment such as pumping stations, interceptor sewers, sewer jetting equipment, etc. This equipment replacement fund was to be (and is) held in a segregated restricted account to be used only for the intended purposes.

In 1988 the Sanitary District adopted an ordinance to establish a sanitary sewer hook-up fee. It is the Director's understanding the hook-up fee was established as the mechanism to provide for the necessary minimum funding in the replacement account required as a condition of the Clean Water Fund grant. The hook-up fee was established as $500.00 per equivalent meter with an equivalent meter table included in the ordinance. So, to accumulate the minimum annual funding of $8,000, sixteen new residential services would need to be connected to the wastewater collection system. A copy of the ordinance is attached.

The sanitary sewer hook-up fee has been collected from ALL new connections to the sanitary sewer collection system since its inception. Although records of its annual collections prior to 1998 are not available, the utility has collected $1,515,223 since 1998. The fund's balance at the end of 2013 was $455,098. The fund balance has fluctuated because it has been used for major projects such as the Mesker-Jelinek pumping station, sewer "vac" truck purchases, and sewer force mains.

b. Reserve Capacity Assessment per Residential Equivalent Unit - In 1998 the newly incorporated Village of Weston was in the process of implementing a capital project plan to support development within its Tax Increment Finance District. Among the projects necessary to support the new TIF District were extensions of the Cedar Creek interceptor sewer and other wastewater transmission projects to transport wastewater from the easternmost parts of the TIF district to the interceptor sewer.

Concurrently with the TIF capital projects, the Village was also in the midst of a residential development boom. Residential subdivisions were being developed east of Alderson Street on the south side of STH 29 and east of Mesker Street on the north side of STH 29. Wastewater transmission capacity was also needed to support this development. It was determined the best way to accommodate the residential wastewater needs was to direct, or re-direct, the wastewater for this development to the Cedar Creek interceptor.

Many of the projects necessary for serving development within the TIF District were also necessary to serve residential customers outside the TIF District. However, there were some additional wastewater transmission projects solely required to support non-TIF, residential development. Overall the wastewater transmission projects would need to be sized to serve anticipated future development, not simply to serve existing development.

The majority of the recommended wastewater transmission improvements were to be financed through sewer utility revenue bonds. Since the projects were primarily interceptor sewers, force mains and pumping stations, there was relatively little cost

recovery through front foot special assessments. However, rather than rely solely upon utility user fees to repay the revenue bonds, a special assessment related to the additional capacity of the system – the Reserve Capacity Assessment per Residential Equivalent Unit (a.k.a. REU assessment) -- was recommended and established to recover the costs of the wastewater transmission system improvements from new customers of the system. In this way new customers would pay their proportionate cost of the wastewater transmission system improvements in relation to the capacity of the system.

A copy of the text of the special assessment report from July of 1998, an assessment district map, and the final resolution for the project are attached. Properties which would be tributary to the wastewater transmission system upstream of the intersection of Birch Street and Shorey Avenue were included in

The report included a list of transmission facilities projects estimated to cost $4,954,000 over a period of 4 years. This total was later amended to $4,703,800. After netting out the estimated front foot assessments of $271,600, the total estimated costs to be recovered through the REU assessment were also amended to be $4,432,200. A copy of the summary table of projects and estimated costs is also attached.

An “REU” (abbreviation for Residential Equivalent Unit) represents 175 gallons per day of wastewater flow as the average from a typical residential household. In terms of REU’s the capacity of the wastewater transmission improvements (primarily the 20 inch diameter portion of the Cedar Creek Interceptor) were determined to have a maximum capacity of between 8,857 and 6,947 REU’s The lower number was used as the basis for system capacity.

Part of the wastewater transmission facilities were to serve existing development east of Mesker Street which was to be re-directed to the Cedar Creek interceptor. The capacity needed for the re-directed wastewater flow was 773 REU’s. Since these re-directed customers already had sewer service, their equivalent REU’s were deducted from the total additional transmission capacity need resulting in 6,174 REU’s as the net total REU’s on which to base the Reserve Capacity Assessment.

With net wastewater transmission project costs estimated at $4,432,200 and net REU’s of 6,174, the RCA/REU assessment rate was recommended to be $725 ($4,432,200/6,174 rounded up) The original report actually used $750.00 per REU which was later amended to the lower figure.

As provided in the resolution, and as was described in the report, “All RCA/REU assessments will be deferred until such time as sewer connection is made for any specific parcel.” We have not considered the REU assessments to be billed until time of connection so the fee has remained at $725.00 per REU.

At the time of the establishment of the RCA/REU, each of the 803 land parcels in the assessment district was arbitrarily assigned a single REU. As land parcels split or were subdivided more parcels were affected. Additionally, as land area was added to the Village’s corporate boundaries (e.g. the Sandy Meadows Subdivisions) the assessment was applied to those parcels. In total an estimated 1,609 parcels are now in the

assessment district with 1,079 having paid REU assessments and leaving approximately 530 parcels in the deferred assessment category.

The report described how the actual REU's would be determined at the time of connection – 1 for a single family residence, 2 for a duplex, other uses referencing a table, and also allowing the determination to be made based on water/wastewater needs of similar land uses if the land use doesn't fit. Residential land uses are fairly straightforward to determine. Non-residential uses require some judgment and staff normally uses an historical basis either from a customer's previous operation and/or similar existing land uses.

3. Issue Analysis: The utility has continued to collect hook-up fee charges from ALL customers in accordance with the ordinance. This also applies to properties served by Weston Municipal Utilities within the Village of Rothschild.

   The utility collects BOTH the hook-up fee and the RCA/REU charge within the REU assessment district.

   The RCA/REU special assessment and its deferred nature causes confusion and, at times, emotional reactions including anger and frustration. With parcels not currently being served, the charge is indicated as a deferred special assessment. The most recent example of this was the Rennes purchase of lots in the Ridgeview Subdivision from Inter-City State Bank. The question has again arisen on land sale agreements for the Business Park South.

   In response to the questions on the Rennes land purchase from Inter-City State Bank, the Director furnished background information to attorney Justin Bates, an associate of Village Attorney Matt Yde. Attorney Bates concluded the REU assessment was properly enacted and the Village was also justified in continuing to collect it. This was not put in the form of a written opinion however.

   In land transactions involving existing special assessments it has been staff experience that buyers and sellers can agree to different arrangements at the time of closing. In some situations the seller is made responsible for the assessment. In others the buyer assumes the assessment. The unique nature of the REU assessment is that the arbitrary 1 REU may not be the actual REU assessment amount and, unless the future land use of a parcel is one single family home, it is impossible to predict how many REU's would be applicable at the time of connection.

   In reviewing the current practice of collecting the Hook-up Fee and the REU assessment there are many questions which come to mind including:
   a. Should the Village continue to collect either one or neither?
   b. Should the Village collect only one or the other dependent on the property location?
   c. If the Village discontinues collection of either of the funds what are the political, legal, and financial implications?
   d. How do these fees compare to similar fees collected in other communities?

e. Should the Village merely maintain status quo and simply make agreements with prospective buyers of Village owned property to pay the REU charges in order to cleanly close sales?
f. Should the Village maintain status quo and hold buyers responsible for the REU charges?
g. Should the Village discontinue the REU assessment and modify the hook-up fee to be determined in the same manner?

There are, no doubt, other questions or possible hybrid situations which could be applicable.

4. Fiscal Impact: The REU assessment has kept $1,114,978 off of the utility rates over a 14 year period which is an average of about $80,000 per year. This is only about 1/4 of the total estimated costs the utility identified to be recovered through the REU assessment though. With the slowing of growth, it is pure speculation as to when the full amount of the REU assessment would be recovered, if ever. However, $80,000 is approximately 4.3% of the sewer utility's total annual revenues of $1,860,000 estimated for 2014.

   Similarly, the hook-up fee has allowed the utility to maintain a capital equipment replacement fund to offset rate impacts as well. From 1998 to 2013 this fund has collected $1,515,223 or just over $100,000 annually.

5. Statutory Reference: Special assessment statutes and possibly case law. Village ordinance creating the hook-up fee.

6. Prior Review: N/A

7. Attachments:
   a. Wisconsin DNR Audit Report letter dated August 18, 1992
   b. Village/Weston Sanitary District Hook-up fee ordinance
   c. "Report of the Village Engineer for Special Assessments on Benefitting Properties Served by Wastewater Transmission Facilities," July 1998, Keith E. Donner, P.E.
   d. Reserve Capacity Assessment District Map.
   e. Final Resolution R-05-98.
   f. RCA/REU assessment district map

8. Recommendation following Staff Review: The Director of Public Works has been asked to provide information related to the REU assessment in order to consider possible changes to current Village practice. The Director does not feel it is appropriate to discuss the REU assessment without the additional discussion of the hook-up fee charge. These fees have the similar purposes, though in the case of the REU assessment it is for cost recovery of money previously spent and in the case of the Hook-up Fee it is for a savings account restricted to major equipment and wastewater transmission facilities. The Director's opinion is that there could be justification in modifying the Village's practices in collecting the REU and Hook-up Fees, but there should first be some additional research to address the questions as discussed under #5, above. However, the Director does not wish to devote time to these issues if there is no desire on the part of the committee.

9. Policy Alternatives:
    a. Investigate collecting only the hook-up fee.
    b. Investigate collecting either the hook-up fee or the REU assessment in the REU assessment district.
    c. Refer to Finance Committee for further discussion and recommendations.
    d. Maintain status quo.
    e. Other options?

10. Legislative Action:

    PIC – Recommend the Director of Public Works coordinate additional investigation of alternatives and return with a final report and recommendation(s) to the Committee.

    BOT –

May 19, 2015

VIA EMAIL ONLY
kdonner@westonwi.gov
Keith Donner
Village of Weston

Re: Discontinuation of Deferred Special Assessments

Dear Keith:

You asked me to provide a legal opinion on the following two issues:

1. Do deferred special assessments (or any assessments) expire after 20 years, or any period for that matter?
2. Have other communities which have previously implemented a reserve capacity assessment discontinued or rescinded it prior to collecting 100% of the estimated cost?

EXECUTIVE SUMMARY

Do deferred special assessments (or any assessments) expire after 20 years, or any period for that matter?

Answer: A deferred special assessment is no longer deferred once use of the improvement is made in connection with the property or whenever the governing body prescribes it must be paid, whichever occurs first. According to Wis. Stat. § 66.0715(2) the "due date of any special assessment levied against property abutting on or benefited by a public improvement may be deferred on the terms and in the manner prescribed by the governing body while no use of the improvement is made in connection with the property." Prior to the enactment of this statute, Wis. Stat. § 66.605 permitted a governing body to postpone the due date for special assessments against property abutting on or benefited by a public improvement while no use of the improvement was made for a period not to exceed ten years from the date of the final resolution. In 1975, the ten year limitation was removed from Wis. Stat. §66.605 leaving it up to the discretion of the governing body to determine the period of deferral.

Have other communities which have previously implemented a reserve capacity assessment discontinued or rescinded it prior to collecting 100% of the estimated cost?

Answer: I have contacted the League of Wisconsin Municipalities to find out if any other communities that previously implemented a reserve capacity assessment have discontinued or rescinded it prior to collecting 100% of the cost. I was advised that the League has no knowledge of other communities discontinuing a previously implemented reserve capacity assessment and transforming it to a hookup fee before collecting 100% of the assessment. During my searches online for other communities' use of reserve capacity assessments, I found no indication that any community has reopened a deferred assessment and transformed it into a hookup or connection fee for those properties that have not paid the assessment.

BACKGROUND FACTS

A reserve capacity assessment was established by the Village in 1998 as a means to recover costs of constructing waste water transmission improvements tributary to the Cedar Creek Interceptor Sewer and serving the developing eastern side of the Village. When the reserve capacity assessment was established there were 803 parcels assigned one residential equivalent unit (REU) each with a stated intention of being a deferred assessment to be determined and collected at the time a building on affected parcels connects to the sanitary sewer system. One REU equals 175 gallons per day. The estimated equivalent cost to provide 175 gallons per day of waste water transmission capacity for the improvements was then determined to be $725. Single family homes are one REU, but the number of equivalent units for commercial sanitary sewer connections are determined by estimating the expected waste water discharge created by a facility.

As development occurred in the area tributary to these improvements, the number of parcels subject to the RCA/REU increased due to land divisions. There are now 1,600 parcels assessed for the REU assessment as parcels. RCA/REU assessments have been collected from approximately 1,080 parcels. It is my understanding that the Village has collected approximately 25% of the cost of the improvements.

SPECIAL ASSESSMENT STATUTE

Wis. Stat. § 66.0703 addresses special assessments as follows:

> (1)(a) Except as provided in s. 66.0721, as a complete alternative to all other methods provided by law, any…Village may, by resolution of its governing body, levy and collect special assessments upon property in a limited and determinable area for specific benefits conferred upon the property by any municipal work or improvement; and may provide for the payment or all or part of the cost of the work or improvement out of the proceeds of the special assessments.
>
> ***
>
> (10) If the actual cost of any project, upon completion or after the receipt of bids, is found to vary materially from the estimates, if any assessment is void or invalid, or if the governing body decides to reconsider and re-open any assessment, it may, after giving notice as provided in sub. (7) (a) and after a public hearing, amend, cancel or confirm the prior assessment. A notice of resolution amending, canceling or confirming the prior assessment shall be given by the clerk as provided in sub. (a)(d). If the assessments are amended to provide for the refunding of special assessment B bonds under s. 66.0713(6), all direct and indirect costs reasonably attributable to the refunding of the bonds may be included in the

> cost of the public improvements being financed.
> (11) If the cost of the project is less than the special assessments levied, the governing body, without notice for a hearing, shall reduce each special assessment proportionately and if any assessments or installments have been paid the excess over costs shall be applied to reduce succeeding unpaid installments, if the property owner has elected to pay in installments, or refunded to the property owner.
>
> ***
>
> (13) Every special assessment levied under this section is a lien on the property against which it is levied on behalf of the municipality levying the assessment or the owner of any certificate, bond or other document issued by public authority, evidencing ownership of or any interest in the special assessment, from the date of the determination of the assessment by the governing body. The governing body shall provide for the collection of the assessments and may establish penalties for payment after the due date. The governing body shall provide that all assessments or installments that are not paid by the date specified shall be extended upon the tax roll as a delinquent tax against the property and all proceedings in relation to the collection, return and sale of property for delinquent real estate taxes applied to the special assessment, except as otherwise provided by statute.
>
> (14) If a special assessment levied under this section is held invalid because this section is found to be unconstitutional, the governing body may reassess the special assessment under any applicable law.

Wis. Stat. § 66.0715(2) provides as follows:

> (2) Deferral.
> (a) Notwithstanding any other statute, the due date of any special assessment levied against property abutting on or benefited by a public improvement may be deferred on the terms and in the manner prescribed by the governing body while no use of the improvement is made in connection with the property. A deferred special assessment may be paid in installments within the time prescribed by the governing body. A deferred special assessment is a lien against the property from the date of the levy.
> (b) If a tax certificate is issued under s. 74.57 for property which is subject to a special assessment that is deferred under this subsection, the governing body may provide that the amounts of any deferred special assessments are due on the date that the tax certificate is issued and are payable as are other delinquent special

> assessments from any monies received under s. 75.05 or 75.36.
> (c) the lien of any unpaid amounts of special assessment deferred under this subsection with respect to which a governing body has not taken action under par. (b) is not merged in the title to property taken by the county under Ch. 75.

Wis. Stat. § 66.0715(2) permits a municipality to defer a special assessment while no use of the improvement is made in connection with the property. Therefore, there is no 10, 20, 30 or 50 year requirement that the deferred special assessment be collected at any time prior to connection.

OPTIONS

1. Stay the course and continue to collect the deferred special assessment once the parcel connects to the commercial sanitary sewer system.

2. Pursuant to Wis. Stat. § 66.0703(10), the Village may reconsider and reopen any assessment after giving notice and after a public hearing. Upon reopening, the Board could do any of the following:

    a. Amend the special assessment to take into consideration the development that has occurred and reapportion the assessment amounts among those benefited properties.

    b. Place additional conditions on the deferred special assessments, such as a firm deadline if the connection is not made by that date, etc.;

    c. Remove those parcels from the special assessment that are different in character because of their location, have the Village cover the difference and then implement a hookup fee for those parcels to reimburse the Village;

3. Regardless of what is done with this deferred special assessment, it makes sense to implement a hookup fee for parcels that have not been assessed and want to connect to our system. This will give the Village the option of collecting a connection fee instead of having to special assess the parcel. This works particularly well for parcels outside the Village's borders that connect to our system.

ANALYSIS

From a legal perspective, a hookup fee has no advantage over an already created deferred special assessment. Certainly, a hookup fee approach may be preferred before special assessing parcels, and it definitely is preferred for those parcels outside of the Village who want to connect to our system. Although the Village can specially assess properties outside the Village, to do so requires the cooperation of the governing municipality. On the other hand, a hookup fee does not require any participation or involvement by the governing municipality of the parcel.

It is my understanding that the primary reason for changing from a deferred special assessment

to a hookup or connection fee is that developers/purchasers are being spooked by these deferred special assessments showing up on title searches. Although these deferred special assessments are liens against the property, they are not recorded at the Register of Deeds office so they should not appear in a normal title search. Any information related to special assessments typically comes from the Village Clerk. Because both the buyer and seller are now aware of this deferred special assessment, they can take that into account in determining an appropriate sales price. Likewise, if the Village moves to a hookup fee, a title insurance search will not reveal any information related to this hookup fee. If the buyer/developer does not research Village ordinances prior to purchasing the property, the buyer/developer may not become aware of the hookup fee until after closing on the property. If the hookup fee is a substantial amount, the buyer/developer may feel he over paid for the lot. Although the buyer/developer has no one to blame but himself for his lack of due diligence, I suspect that our employees will take the blunt of that anger. The hookup fee places the complete cost of connection on the buyer/developer while the deferred special assessment will require the seller and buyer to negotiate the lien as part of the purchase price.

If the Village wants to discontinue this special assessment, then the safest option is for the Village to reopen the special assessment, assume and pay the remaining cost of the special assessment, and obtain reimbursement from each lot that has not paid the special assessment through a hookup fee when the lot connects to the system. I don't think it is wise for us to try to change a special assessment into a hookup fee without the Village agreeing to pay for that portion of the special assessment that has not yet been collected. If the Village attempts to do so, parcel owners who have paid the special assessment will argue that they should be reimbursed because the special assessment was cancelled.

If any one of these options look attractive to the Village, please let me know and I will focus in on that particular option. The Village has a lot to consider. We have only collected about 25% of the costs of the improvements. Some of the parcels may not connect in the foreseeable future.

Please call me after you have had an opportunity to digest this letter.

Very truly,

Matthew E. Yde

Matthew E. Yde
Strasser & Yde, S.C.

MEY:jmz

cc: Daniel Guild

Appendix R – Opinions of Probable Cost for Future Projects

Fox Street Sewer Upgrades

	Quantity (1)	Unit	Unit Price (2)	Total (3)
Sewer System Upgrades				
Removing Pavement	8,000	sy	$ 15	$ 120,000
Granular Backfill	1,300	cu yd	$ 15	$ 20,000
18-inch PVC Sanitary Sewer	3,400	feet	$ 120	$ 408,000
HMA Pavement	2,600	tons	$ 80	$ 208,000
48" Manhole	10	each	$ 5,300	$ 53,000
Sanitary Sewer Lateral	500	feet	$ 40	$ 20,000
Replacement Subgrade Material	400	cu yd	$ 25	$ 10,000
Subtotal				**$ 839,000**
Site Work				
Demolition/Clearing	5%			$ 42,000
Site Work	5%			$ 42,000
Site Grading	5%			$ 42,000
Mobilization/Demobilization	5%			$ 42,000
Subtotal				**$ 126,000**
Contingency	**25%**			**$ 242,000**
Construction Sub-Total				**$ 1,207,000**
Non-Construction Costs	**15%**			**$ 182,000**
Total Project Cost				**$ 1,389,000**

Notes:

1. Quantities are based on preliminary estimates of necessary removals and materials.
2. Unit price estimates are based on recent construction costs and include labor.
3. Line items and subtotals have been rounded to the nearest $1,000.

Weston Avenue

	Quantity (1)	Unit	Unit Price (2)	Total (3)
Sewer System Upgrades				
Removing Pavement	35,000	sy	$ 15	$ 525,000
Granular Backfill	4,500	cu yd	$ 15	$ 68,000
12-inch PVC Sanitary Sewer	15,500	feet	$ 80	$ 1,240,000
HMA Pavement	11,500	tons	$ 80	$ 920,000
48" Manhole	40	each	$ 5,300	$ 212,000
Sanitary Sewer Lateral	7,800	feet	$ 40	$ 312,000
Replacement Subgrade Material	1,500	cu yd	$ 25	$ 38,000
Subtotal				**$ 3,315,000**
Site Work				
Demolition/Clearing	5%			$ 166,000
Site Work	5%			$ 166,000
Site Grading	5%			$ 166,000
Mobilization/Demobilization	5%			$ 166,000
Subtotal				**$ 498,000**
Contingency	**25%**			**$ 954,000**
Construction Sub-Total				**$ 4,767,000**
Non-Construction Costs	**15%**			**$ 716,000**
Total Project Cost				**$ 5,483,000**

Notes:

1. Quantities are based on preliminary estimates of necessary removals and materials.
2. Unit price estimates are based on recent construction costs and include labor.
3. Line items and subtotals have been rounded to the nearest $1,000.

Northwest Side

	Quantity (1)	Unit	Unit Price (2)	Total (3)
Sewer System Upgrades				
Removing Pavement	12,000	sy	$ 15	$ 180,000
Granular Backfill	1,500	cu yd	$ 15	$ 23,000
12-inch PVC Sanitary Sewer	5,000	feet	$ 80	$ 400,000
HMA Pavement	3,700	tons	$ 80	$ 296,000
48" Manhole	15	each	$ 5,300	$ 80,000
Sanitary Sewer Lateral	5,000	feet	$ 40	$ 200,000
Replacement Subgrade Material	500	cu yd	$ 25	$ 13,000
Subtotal				**$ 1,192,000**
Site Work				
Demolition/Clearing	5%			$ 60,000
Site Work	5%			$ 60,000
Site Grading	5%			$ 60,000
Mobilization/Demobilization	5%			$ 60,000
Subtotal				**$ 180,000**
Contingency	**25%**			**$ 343,000**
Construction Sub-Total				**$ 1,715,000**
Non-Construction Costs	**15%**			**$ 258,000**
Total Project Cost				**$ 1,973,000**

Notes:

1. Quantities are based on preliminary estimates of necessary removals and materials.
2. Unit price estimates are based on recent construction costs and include labor.
3. Line items and subtotals have been rounded to the nearest $1,000.

Town of Weston - Gusman Road

	Quantity (1)	Unit	Unit Price (2)	Total (3)
Sewer System Upgrades				
Removing Pavement	35,000	sy	$ 15	$ 525,000
Granular Backfill	5,700	cu yd	$ 15	$ 86,000
18-inch PVC Sanitary Sewer	15,700	feet	$ 120	$ 1,884,000
HMA Pavement	11,700	tons	$ 80	$ 936,000
48" Manhole	41	each	$ 5,300	$ 217,000
Sanitary Sewer Lateral	7,900	feet	$ 40	$ 316,000
Replacement Subgrade Material	1,500	cu yd	$ 25	$ 38,000
Subtotal				**$ 4,002,000**
Site Work				
Demolition/Clearing	5%			$ 201,000
Site Work	5%			$ 201,000
Site Grading	5%			$ 201,000
Mobilization/Demobilization	5%			$ 201,000
Subtotal				**$ 603,000**
Contingency	**25%**			**$ 1,152,000**
Construction Sub-Total				**$ 5,757,000**
Non-Construction Costs	**15%**			**$ 864,000**
Total Project Cost				**$ 6,621,000**

Notes:

1. Quantities are based on preliminary estimates of necessary removals and materials.
2. Unit price estimates are based on recent construction costs and include labor.
3. Line items and subtotals have been rounded to the nearest $1,000.

Opinions of Probable Cost

Lift Station SCADA System

Manufacturer's cost estimate of approximately $20,000 per station (installed cost).
Includes system components such as panels, RTUs, antennas, and main computer.

Lift Station Surveillance System

Estimate based on recent manufacturers' cost estimates.
Includes exterior camera, motion sensor with light, and intrusion alarm at each station.
Includes interior camera at stations with buildings.
Assumes connection to existing SCADA system.

Fox Street Lift Station

Based on recent lift station construction costs.
Includes new pumps, associated electrical upgrades, and installation.

Yellow Banks Park Lift Station & Force Main

Lift Station: Used estimate from Village's CIP ($520,000).
Force Main: Used rough construction cost estimate of $200/foot, assuming 5,000-foot force main.

Ryan Street Lift Station

Includes replacement of existing pumps and structural upgrades to the valve vault.

Southeast Side Lift Station & Force Main

Lift Station: Assumed station sized/designed similar to the Yellow Banks Park station.
Force Main: Used rough construction cost estimate of $200/foot, assuming 5,000-foot force main.

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