



Town of Uxbridge, MA 2020 Flow Metering Program and I/I Analysis

Updated - Final

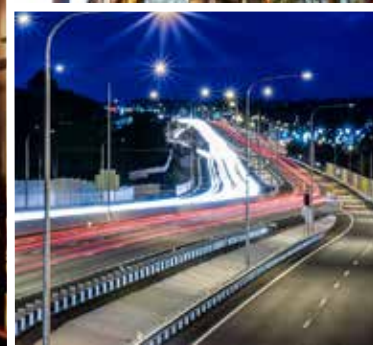




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List of Common Acronyms

CCTV	Closed Circuit Television
CIWEM	Chartered Institution of Water and Environmental Management
CMR	Code of Massachusetts Regulations
CWMP	Comprehensive Wastewater Management Plan
I/I	Infiltration and Inflow
LF	Linear Feet
MassDEP	Massachusetts Department of Environmental Protection
NSE	Nash-Sutcliffe Efficiency
mgd	Million Gallons per Day
PACP	Pipeline Assessment Certification Program
PVC	Polyvinyl Chloride
R.O.W.	Right-of-Way
SSES	Sewer System Evaluation Survey
SSO	Sanitary Sewer Overflow
SWMM	Storm Water Management Model
RDII	Rainfall Derived Infiltration and Inflow
WWTF	Wastewater Treatment Facility



1. Introduction

Code of Massachusetts Regulations (CMR), Title 314, Section 12.04(2) regulation requires that all sewer authorities develop and implement an ongoing Infiltration and Inflow (I/I) control program in their sewer systems. Key requirements of the regulations include removal of public and private inflow sources, performance of an infiltration and inflow analysis of the sewer system, and implementation of sewer system repairs according to a schedule that is approved by the State of Massachusetts. Upon completion of repairs, the municipality must not have a risk of overflow in a 5-year, 24-hour rain event.

A phased evaluation of the sewer system was performed that was consistent with the Massachusetts Department of Environmental Protection's (MassDEP) "Guidelines for Performing I/I Analyses and Sewer System Evaluation Surveys" (Issued 1993, Updated May 2017). This report summarizes the I/I Analysis Report that was conducted and includes the following components:

- Describes the work completed for the flow metering program
- Presents the results of the I/I analysis
- Assesses the risk for sanitary sewer overflows (SSOs) for the 5-year, 24-hour design storm
- Recommends a plan and schedule for completing a Sewer System Evaluation Survey (SSES) for excessive I/I areas

1.1 Service Area

The Town of Uxbridge is located in Worcester County, Massachusetts. It is near the Rhode Island border between Worcester, MA and Woonsocket, RI. It is bordered by Whitinsville to the north, Millville and Mendon to the east, Rhode Island to the south, and Whelockville and Douglas to the west. The Town is divided by the Mumford and Blackstone River, which essentially splits the Town into three parts.

The Town is home to approximately 14,000 people as of the 2019 census estimate. Population growth has been steady at a rate of approximately 2 percent per year. The Town does not experience significant seasonal population changes. This means that the town plans on expanding service to houses that are septic and to accommodate future population growth in accordance with its approved CWMP, but no major population or flow increases are expected in the near future.

Uxbridge is primarily a commuter town for nearby cities. It is largely residential and is generally comprised of single-family housing on subdivided lots. Some pockets of commercial properties are located in the center of the Town and along main thoroughfares. Impervious area for a town like this is limited to roofs, driveways, roads, and parking lots.

2. Existing Collection System and Present Condition

The Town of Uxbridge owns and operates a separate wastewater collection and treatment system consisting of approximately 180,000 linear feet of gravity sewer, five pump stations, approximately



2,700 linear feet of force main, and a wastewater treatment system. A full inventory of existing conditions was conducted, and a copy of the memorandum is included in Appendix A.

The sanitary collection system in Uxbridge dates to the mid-1970's. An inventory of these sewers is located in Table 2.1. The original collection system is comprised primarily of asbestos cement, ductile iron, and reinforced concrete sewers. These sewers are generally located in the center and southern parts of town, near the wastewater plant. Newer sewers are constructed of polyvinyl chloride (PVC), these sewers are located on the town edges. The layout of pipe materials is located in Appendix B.

Table 2.1 Town of Uxbridge Gravity Collection System Materials

Material	Total Length (LF)	Percentage of Total System
Asbestos Cement	87,171	49%
AC & DI	1,399	<1%%
DI & RC	142	<1%
Ductile Iron	1487	<1%
Polyvinyl Chloride (PVC)	63,645	36%
RC	19,944	11%
Unknown	3,630	2%
Total	177,418	100%

Gravity collection system pipe diameters range from 6-inches to 30-inches (Table 2.2). The collection system generally conveys flow from north to south through a main interceptor that parallels the Mumford and Blackstone Rivers.

Table 2.2 Town of Uxbridge Gravity Collection System Pipe Sizes

Pipe Diameter (inches)	Total Length (LF)	Percentage of Total System
6	632	<1%
8	123,214	70%
10	7,285	4%
12	9,749	5%
14	1,409	<1%
16	12,050	7%
18	2,985	2%
24	6,812	4%
30	13,282	7%
Total	177,418	100%

Since its original construction, multiple gravity extensions have been added to the system. These extensions extend out from the original system. It's expected that expansion will continue as density increases and new construction is connected to the collection system. The existing collection system has five one-barrel inverted siphons and one major pumping station.

The collection system does not have any underdrain systems, known stormwater connections, and has not had any wet-weather related overflow, bypasses, or surcharges. The flow metering analysis that was conducted in 2005 indicated that, during the wet season, groundwater was above pipe level



for the majority of the collection system. The high groundwater appears to be one of the main potential sources of infiltration into the sewer system.

The sewer system has only one permanent flowmeter that is installed at the Wastewater Treatment Facility (WWTF) influent. Flow is monitored using a magnetic flow meter on the influent pump discharge. Effluent from the plant is monitored using a v-notch weir with an ultrasonic flow meter. No permanent flow meters are in the collection system.

2.1 Manhole Inspections Summary

The Town conducted an extensive manhole inspection program in 2017, which is summarized in the 'Manhole Inspections and Smoke Testing Report', prepared by GHD and dated 2017. The manhole system in the Town consists of 1,017 manholes and from 2005 to 2019, 984 manholes were inspected. 33 new manholes have been added to the system in the last 5 years and are not scheduled for inspection yet due to their age. The Report recommended a multi-year manhole rehabilitation program, which the Town is currently implementing. The Manhole Inspection Reports are in Appendix C.

2.2 Observed Problems

The Town has an annual infiltration/program rehabilitation program. Below is a summary of infiltration/inflow work completed within the last five years:

1. Town-wide manhole inspections and smoke testing of two sub-sections of the Town were conducted as recommended in the '2005 I/I Analysis'. Due to the low quantity of I/I that was observed during the inspection period, none of the sewer rehabilitation repairs were found to be cost-effective to rehabilitate based on the amount of infiltration observed during the inspections. Although minimal infiltration was noted during the manhole inspections, it was recommended that structural and hydraulic deficiencies identified during the manhole inspections be rehabilitated to maintain system integrity.
2. The Town has inspected 50 additional manholes and repaired 20 chimneys to reduce I/I.
3. The Town conducted a closed circuit television (CCTV) inspection of a portion of the main interceptor gravity sewer that was suspected to be in poor condition. Defects were classified using the NASSCO Pipeline Assessment Certification Program (PACP). A point location of infiltration was discovered during the CCTV inspection. During FY 2017, the Town initiated design to repair the defect. Construction was completed in spring 2018.
4. The Town completed design and repair of manhole rehabilitation measures to address priority deficiencies identified during the manhole inspections in 2019.

3. Collection System Assessment

This section summarizes the I/I investigation performed in accordance with MassDEP's regulations in 314 CMR 12.04(2). The objectives were to identify and quantify excessive I/I based on MassDEP's "Guidelines for Performing I/I Analyses and Sewer System Evaluation Surveys – dated



May 2017,” and assess the risk for wet weather sanitary sewer overflows or bypasses for the 5-year, 24-hour storm event.

As outlined in the 2017 guidelines, MassDEP considers the following I/I sources as excessive.

- I/I sources directly or indirectly contributing substantial volumes to wet weather SSO events, as set forth in a MassDEP enforcement action, or otherwise as necessary to prevent SSO events for a five year storm event, or a twenty five year storm event to areas with sensitive uses, such as public water supplies, bathing areas, shell-fishing areas, or endangered species habitats.
- Infiltration sources which can cost-effectively be removed from the sewer system.
- All public and private inflow sources unless existing conditions render such removal technically infeasible or cost-prohibitive.”

3.1 Flow Monitoring

The first step of the I/I analysis was to develop a flow monitoring program for the Town. Flow data was used to characterize flows and performance of the sewer system. The flow was also be used for model calibration. Metering sites were selected by reviewing collection system mapping to divide the system into sewersheds tributary to each flowmeter.

Flow monitoring and groundwater monitoring locations are shown in Appendix D. In accordance with MassDEP guidelines, the collection system was divided into sub-systems less than 20,000 linear feet for the flow metering program. Rain gauge data was collected from two rain gauges, one located at the Uxbridge DPW Building (146 Hecla Street) and the other at the Uxbridge WWTF (80 River Road). Continuous monitoring was conducted for 10 consecutive weeks between April 6 and June 18, 2020 in accordance with Mass DEP guidelines.

3.1.1 Data Collection Program

The rationale for flowmeter location selection is included in GHD’s March 10, 2020 memorandum, “Inventory of Existing Conditions”. The 15 flowmeters used for the investigation divided the gravity system into 15 sewersheds with a flowmeter installed in strategic locations at the furthest downstream point of each sewershed. The flowmeter and rain gauge locations are presented in Table 3.1. Field logs and site information associated with flow-metering location is included in Appendix E.

Table 3.1 Flowmeter and Rain Gauge Locations

Instrument	Associated Sewershed	Location
Flowmeter 1	Sewershed 1	WWTP R.O.W.
Flowmeter 2	Sewershed 2	South Main Street R.O.W.
Flowmeter 3	Sewershed 3	South Main Street R.O.W.
Flowmeter 4	Sewershed 4	36 South Main Street
Flowmeter 5	Sewershed 5	Douglas Street at Snowling Road
Flowmeter 6	Sewershed 6	2 Snowling Road
Flowmeter 7	Sewershed 7	105 Douglas Street
Flowmeter 8	Sewershed 8	277 North Main Street
Flowmeter 9	Sewershed 9	School Street R.O.W.



Instrument	Associated Sewershed	Location
Flowmeter 10	Sewershed 10	Crown and Eagle Road
Flowmeter 11	Sewershed 11	16 Mendon Street R.O.W.
Flowmeter 12	Sewershed 12	11 South Main Street
Flowmeter 13	Sewershed 13	DPW R.O.W.
Flowmeter 14	Sewershed 14	145 Hecla Street
Flowmeter 15	Sewershed 15	2 West River Road
Rain Gauge 1	Sewershed 1	71 River Road (WWTF)
Rain Gauge 2	Sewershed 14	145 Hecla Street

3.1.2 Data Collection and Validation

Data validation is an important step in all flow monitoring studies. Downloaded data were visually inspected for completeness, including the presence of flow dropouts, outliers, and drifting level measurements. These data were excluded from the datasets prior to the I/I analysis or referred to the flowmetering company for correction when appropriate.

3.1.3 Data Summary

The adjusted flow data for each metering location are presented graphically, including precipitation in Appendix F. Table 3.2 summarizes observations concerning any malfunctioning instruments that may have affected data collection.

Table 3.2 Site Data and Observations

Site Number	Date	Observation
6	4/23/20	Depth and velocity readings changed because of a sensor relocation within the pipe. The flow calculations remained the same.
15	5/8/20@20:10 to 5/9/20@17:00	The ultrasonic sensor became fouled. There is no data for this duration.
13	11/12/20	Removed data from last five rows.

Dry Weather Flow

Following validation, the data were reviewed to select appropriate dry weather conditions and suitable wet weather events for the I/I analysis. The MassDEP guidance lists two methods for estimating the sanitary (dry) weather flow component: water consumption and flow meter data. Flow meter data was used to characterize dry weather flow. To account for the dry weather flow pattern during the rainfall derived infiltration and inflow (RDII) analysis, a representative 24-hour dry weather flow pattern was identified with at least three days of preceding dry weather. The dry days selected for each of the three months displayed in Table 3.3.

Table 3.3 Dry Weather Flow Periods

Month	Specified Time Period (Date)
April	9,10, 11, 14, 15, 19
May	2, 3, 4, 19, 20, 21, 22
June	3, 11, 12, 13, 14, 15, 16



Scattergraph Analysis

Characterizing actual system performance is a critical first step in model development because the constructed model should be a representation of reality. To do this, velocity-depth scattergraphs were developed to inform on sewer capacity and hydraulic behavior of the collection system during the monitoring period. This type of flow data analysis compares measured velocity and depth data to a theoretical Manning partial flow diagram. The result provides insight into whether the hydraulic behavior of a sewer is optimal or not, and possible causes of unwanted behavior can be inferred from the velocity-depth relationship.

Scattergraphs for meters 1 through 14 are in Appendix G. A scattergraph was not made for flowmeter 15 due to the use of a Palmer-Bowles flume meter in this location (which does not record velocity). Flow in the sewer system was generally characterized as free-surface flow. None of the flowmeters showed any overflows during the metering period. However, the influence of the downstream pumping station on upstream sewers was evident in the scattergraphs for 13 and 14. This influence does not appear to negatively affect sewer performance.

The scattergraphs did show a high variability in depth and velocity under all conditions, especially in the upstream subbasins. The likely cause of this was low flows pushing the limits of the sensors. Typical detection limits for area velocity sensors used in temporary flow studies are approximately 2 percent (or 0.05 ft/s) of velocity and 0.26 percent of level in a lab. These detection limits can be higher in the field, where the quantity of solids in wastewater and manhole/pipe quality can significantly affect sensor repeatability. Many of the flowmeters exhibited a level range of 1- to 4-inches at the same velocity, which creates a high variability in calculated flows in smaller sewers.

3.1.4 Rainfall Analysis

Rainfall during the monitoring period could be characterized as frequent with low intensity rain, a summary of these events is in Table 3.4. This type of rainfall is common in the northeast United States during the spring season. No significant rain events were observed during the metering period.

Table 3.4 Rin Events During the Metering Period

Dates	Duration (hours)	Total Volume (inches)
04/08-4/9	37.1	0.58
04/12	16.0	1.34
04/16-4/17	16.9	0.75
04/20	3.4	0.51
04/23	12.4	0.28
04/25-4/27	35.4	0.78
4/29-5/1	42.1	1.00
5/7-5/8	11.2	0.48
5/10	6.9	0.49
05/14-5/15	25.4	0.87
5/29	1.9	0.15
6/4-6/5	35.7	0.63
6/10	5.3	0.56



4. Model Development

Bentley SewerGEMS Connect Edition Update 2 was selected for modelling of the Town of Uxbridge sewer system. This software uses a proprietary build of the EPA-SWMM (Version 5) sewer model that is compatible with the Town's existing SewerCAD model. This allowed the existing model to be directly imported into the software without and data preparation. The added benefit of using this software is that it will allow the Town to quickly switch between steady-state sewer design models and dynamic wet-weather analysis models without requiring different software packages.

4.1 Model Calibration

The Town's existing SewerCAD model was directly imported into the SewerGEMS software. The SewerCAD model was created using record drawing information. This model was calibrated to flow data and level that was collected between April and June 2020. The goal of model calibration is to develop a sewer model that accurately represents performance of the Town's sewer system. This model will be used to determine impacts of proposed development, identify sources of I/I, and gauge risk of overflows during a 5-year, 24-hour rain event.

4.1.1 Weather Flows

Dry weather baseflow was input into the model using the average dry weather diurnal curves derived from flow monitoring and treated like a repeating daily pattern that does not change over time. This is analogous to baseflow in natural streams. The initial estimate of average daily baseflow assigned to each manhole was based on water use data provided by the Town. These values were adjusted, and curves were defined so that modeled baseflow fit the data. This methodology indirectly accounts for non-human sources of baseflow like constant groundwater infiltration.

Some flowmeters exhibited change in baseflow values over time that was not related to the amount of rainfall over the service area. This correlated with changes in groundwater depths measured at the metering manholes and is likely caused by groundwater infiltration. The groundwater readings are attached in Appendix H. When appropriate, a monthly flow multiplier was added to the baseflow patterns to account for these mechanics. This allowed for the model to account for seasonal groundwater changes without requiring complex aquifer models. Short term changes in groundwater infiltration that correlated with rainfall were captured as part of wet weather calibration.

4.1.2 Wet Weather Flows

Wet weather flow was modeled using the RTK hydrograph method. This model is a unit hydrograph method (Figure 4.1) that was derived for modeling infiltration and inflow (I/I) in sanitary sewer systems and was incorporated into SWMM in version 5. The key assumption in this method is that the majority of runoff in a sanitary sewer system does not enter the sanitary sewer system and preferentially enters storm sewers, streams, or ponds. The flow that does enter the sewer system can be approximated as a three-part hydrograph that is comprised of a "fast" (direct inflow), "medium" (slower runoff), and "slow" (infiltration) response. The total hydrograph is combined to approximate the overall wet weather response of the sewer system. When combined, the convoluted hydrographs create an approximation of measured flow in the system.

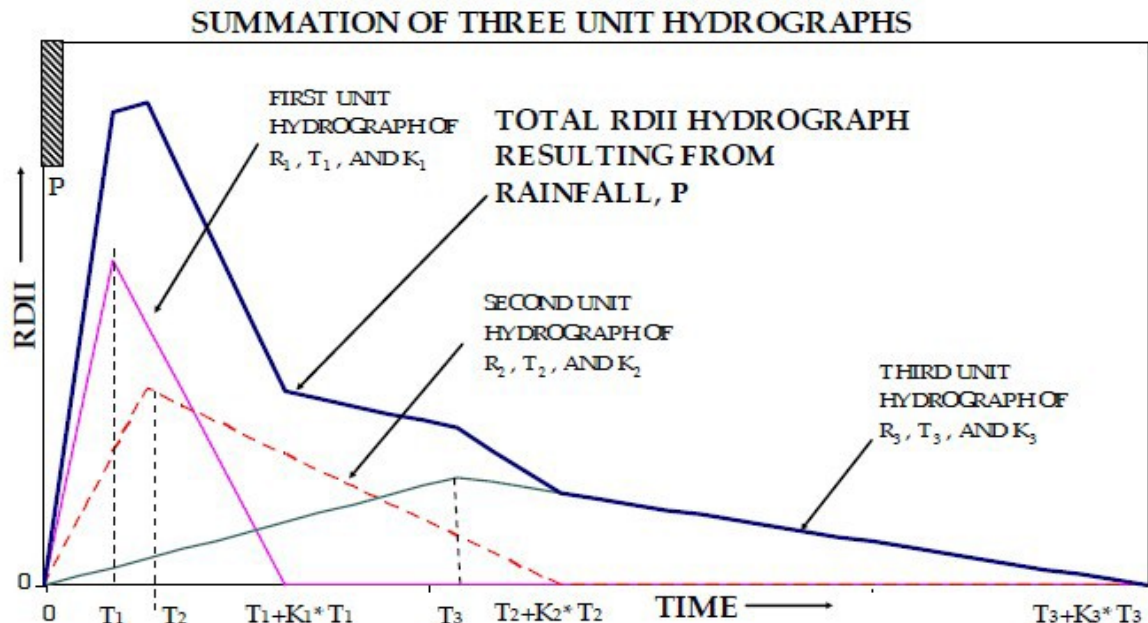


Figure 4.1 RTK Unit Hydrograph Definition

Source: "Computer Tools for Sanitary Sewer System Capacity Analysis and Planning, USEPA, Oct 2007)

The factors that define the RTK unit hydrograph are:

- Sub-catchment area
- R – Fraction of rainfall entering into the sanitary sewer
- T – Time of concentration to the inflow point
- K – "Tail" factor, adjusts the trailing end of the hydrograph, multiplied by the time of concentration
- Initial Abstraction – A term that covers runoff that is captured by evapotranspiration, surface ponding, or stormwater sewer system before it enters a sanitary sewer.

A benefit of this method compared to the standard SWMM RUNOFF subroutine is that the storm response is quantified using measured flow data instead of estimated using the physical characteristics of the watershed. This prevents the modeler from needing to "force" parameters intended for runoff modeling in storm sewers and natural systems to sanitary sewers. A drawback is that these hydrographs can change based on antecedent conditions. To account for this, different unit hydrographs may be defined for different seasonal patterns.

An initial estimate of sub-catchment areas were developed by measuring the approximate surface area associated with sanitary manholes using parcel data. This method usually greatly overpredicts the drainage area associated with RDII, so the areas associated with the manholes were reduced until total R -values in the unit hydrographs fell within a range of 0.001 to 1.

Continuous calibration to spring rainfall data (between April 1 and June 1) was used for model construction. This method has become standard practice for models in recent years because recent advances in computing power allow for long simulations that take a fraction of the time required



when SWMM was first programmed. This form of calibration uses an entire flow dataset where model parameters are adjusted until a representative set of model parameters can generally represent all the rainfall events instead of one or two rain event simulations.

4.1.3 Model Calibration Results

Model calibration criteria was set using targets identified by the Chartered Institution of Water and Environmental Management (CIWEM) Urban Drainage Group Code of Practice for the Hydraulic Modelling of Urban Drainage Systems guidance presented in Table 4.1. The model shape criteria established by CIWEM was generally qualitative in nature but the standard target metric for shape is a Nash-Sutcliffe Model efficiency (NSE) greater than 0.5. Achieving these criteria would inform model suitability for use as a predictive tool.

Table 4.1 CIWEM Storm Verification Targets

Parameter	Target
Shape	Shape matches storm response
Peak Flow	+25% to -15%
Peak Volume	+20% to -10%

Graphical comparisons of the full-term and selected storm model hydrographs are included in Appendix I and the hydrograph for the entire simulation is in Appendix J. Model calibration metrics, list in Table 4.2, shows that model calibration generally fell within the target values. Some of the flowmeters had flow values that were near the minimum number of decimal points figures used in the model, which created high percent differences even though the total difference is 10,000 gallons or less. However, NSE values are below the goal values. Likely causes of this are the very low flows measured by the upstream meters.

Variability in data during dry weather meant that achieving a high temporal correlation between model data and collected flow data may not be possible. Many of the peak flows measured by the flowmeter do not seem to correlate with wet weather, so it is possible that solids in wastewater could have caused false meter readings by hitting velocities sensors. Measured dry weather flows also started to shift in time in the month of June. The cause of this is unknown and is reduced the value of the NSE in the full simulation.

While the model correlation metric was generally not as high as intended, the shape of the modeled dry-weather curves generally followed the shape of the measured data. Some flowmeters where the metric was excessively low, like at FM 5, FM 6, and FM 15 were in subbasins that experienced low flows and variable diurnal curves that SWMM is incapable of accommodating in a long-term simulation, which impacted the metric. FM 6 and FM 2 also showed peak flows that occurred long after rain events finished, which SWMM is also unable to accommodate without forcing parameters out of unrealistic bounds. It's possible that those peak flows are errors with the flowmetering equipment and were neglected during model calibration.

Overall, the model appears to be fit for use as a predictive too. The model fit in individual rain events has NSE values near or over 0.5 and is within the target range in the downstream reaches of the sewer system where higher flows are expected. Model fit to individual storms was better than the full simulation with peak flows generally being overpredicted during wet weather. This provides a level of confidence that the risk assessment of overflows in larger rain events will be conservative.



Table 4.2 Model Calibration Results

Flowmeter	Full Simulation			April 12 – April 19			April 26 – May 5		
	NSE	Volume Difference	Peak Flow Difference	NSE	Volume Difference	Peak Flow Difference	NSE	Volume Difference	Peak Flow Difference
1	0.65	2%	41%	0.69	4%	0%	0.44	-7%	-45%
2	0.50	-5%	39%	0.56	5%	-1%	0.44	1%	-44%
3	0.32	-2%	19%	0.45	-7%	-9%	-0.45	0%	-8%
4	-0.02	-14%	-174%	0.00	3%	-26%	0.03	-6%	-41%
5	-0.28	-30%	-45%	-1.26	45%	-43%	-0.71	31%	-30%
6	0.16	2%	33%	0.45	5%	32%	-0.12	12%	-7%
7	0.28	-15%	26%	0.03	24%	13%	0.39	12%	-42%
8	0.14	-18%	27%	0.20	45%	-38%	0.13	15%	-33%
9	0.33	-10%	15%	0.22	9%	-28%	0.29	15%	-25%
10	0.19	-14%	-12%	0.02	13%	-23%	0.10	3%	-29%
11	0.43	-13%	-31%	-0.19	15%	12%	0.62	4%	-6%
12	0.40	-13%	-8%	0.40	11%	9%	0.44	10%	2%
13	0.22	-14%	76%	0.16	14%	5%	0.55	-15%	-78%
14	0.31	3%	19%	-0.28	0%	-19%	0.74	-10%	-69%
15	-0.28	5%	-43%	-2.46	37%	7%	0.16	-11%	-62%



4.1.4 Infiltration and Inflow Characterization

I/I in the Uxbridge sewer system showed a strong groundwater infiltration component and very little direct inflow. This type of I/I is evident in the long rising and falling in the diurnal curve that is evident in the months of April and May. Some high peak flows that showed up in the flow metering data do not appear to be correlated with rainfall and are likely not from I/I. Examples of this are discovery of a blockage pumps that surcharged pipe at the West River Pumping Station followed by a high peak flow as the pipe drained and clean water tests of the West River Pumping Station on 5/1 which can be seen in the hydrographs of FM 13 and 14.

4.2 Estimating Risk of 5-Year, 24-Hour Storm Event

The 5-year 24-Hour rainfall event used for estimating overflow risk was generated using the “Extreme Precipitation in New York & New England” web tool created by the Northeast Regional Climate Center (precip.eas.ny.gov). This entity analyzes more recent rainfall events in an attempt to account for more extreme rainfall that has recently occurred as a result of climate change. According to the tool, Uxbridge, MA has a 5-year, 24-hour total rainfall of 4.07 inches. This was assigned to a localized, dimensionless total precipitation S-Curve that is similar to an SCS-Type 2 rain event.

This rain event was simulated during the high groundwater period in April and produced peak flows at each flowmeter listed in Table 4.3. These flows generally correlate with a peaking factor of 5, which is within the normal range expected for a sewer system of this age. Model results show no signs of excessive surcharge, even at the inverted siphons. This indicates that the town is not at risk of overflows during the evaluation event under MassDEP regulations.

Table 4.3 5-Year 24-Hour Simulation Results

Flowmeter	Pipe Capacity at Flowmeter (mgd)	Peak Flow During Simulation (mdg)
1	6.4	3.2
2	6.8	3.2
3	1.5	0.1
4	2.2	0.4
5	1.2	0.06
6	1.9	0.3
7	2.4	0.6
8	4.2	0.3
9	3.5	0.4
10	1.1	0.3
11	4.4	0.7
12	5.8	1.5
13	2.1	0.1
14	3.4	0.9
15	0.6	0.6



5. Conclusions and Recommendations

Model calibration produced a conservative model that is appropriate for risk analysis and flow projections. As a result, the 5-year 24-hour rainfall event model did not indicate a risk of a sanitary system overflow during the design storm. There are no required capacity related next steps recommended as a result of this study and as a result these are no budgetary recommendations for capacity related inflow/infiltration projects.

The following items are recommended to be completed as next steps in the Town's pro-active infiltration/inflow maintenance program.

- Continue the implementation of the manhole structural rehabilitation program, as recommended in the 'Manhole Inspections and Smoke Testing Report', prepared by GHD and dated 2017.
- Inspect the 2% of sewer pipes that are composed of unknown materials.
- Due to the age of the infrastructure, it is recommended that a CCTV inspection program be implemented for at least the main gravity interceptor and asbestos cement portions of the original collection system so that a risk-based rehabilitation and maintenance program can be implemented.

The Town plans to continue this pro-active infiltration/inflow maintenance program through an annual budget appropriation of up to \$300,000.



about GHD

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Appendices

Appendix A

Inventory of Existing Conditions Memorandum



Memorandum

March 10, 2020

To:	Ning Chen, MassDEP	Ref. No.:	11144264
From:	Anastasia Rudenko, PE, BCEE, ENV SP <i>AR</i> Marc Drainville, PE, BCEE, LEED AP	Tel:	774-470-1637 774-470-1634
cc:	Benn Sherman, PE, Town of Uxbridge, MA		
Subject:	Uxbridge, MA Infiltration and Inflow Analysis – Inventory of Existing Conditions		

1. Background

In 2017 the Town of Uxbridge, MA submitted the “Uxbridge I/I Analysis and SSES Plan – Addendum to 2005 Report” to MassDEP. The Plan was approved with conditions by MassDEP in a letter dated April 13, 2018. The approval required that the Town submit an I/I Analysis to address excessive I/I and assess the risk for sanitary sewer overflows for the 5-year 24-hour storm.

This memorandum summarizes the Uxbridge Inventory of Existing Conditions for the I/I Analysis referenced above. The memorandum was developed based on the ‘Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Survey,’ prepared by MassDEP – dated May 2017 (referred to as the MassDEP Guidelines for the remainder of this document).

2. Summary of Previous I/I Work

The Town of Uxbridge, MA has proactively implemented an infiltration / program. Below is a summary of infiltration / inflow work completed within the last five years:

1. Town-wide manhole inspections and smoke testing of two sub-sections of the Town were conducted as recommended in the ‘2005 I/I Analysis’. Due to the low quantity of I/I that was observed during the inspection period, none of the sewer rehabilitation repairs were found to be cost-effective to rehabilitate based on the amount of infiltration observed during the inspections. Although minimal infiltration was noted during the manhole inspections, it was recommended that structural and hydraulic deficiencies identified during the manhole inspections be rehabilitated to maintain system integrity.
2. The Town has inspected 50 additional manholes and repaired 20 chimneys to reduce I/I.
3. The Town conducted a CCTV inspection of a portion of the main interceptor gravity sewer that was suspected to be in poor condition. Defects were classified using the NASSCO Pipeline Assessment Certification Program (PACP). A point location of infiltration was discovered during the CCTV



inspection. During FY 2017, the Town initiated design to repair the defect. Construction was completed in Spring 2018.

4. The Town completed design and repair of manhole rehabilitation measures to address priority deficiencies identified during the manhole inspections in 2019.

3. Inventory Sources of Information

The following sources of information were reviewed in the development of this memorandum:

- GIS Data provided by the Town of Uxbridge, MA in 2014.
- Available Uxbridge collection system drawings.
- 'Town of Uxbridge, MA - Manhole Inspections and Smoke Testing Report' prepared by GHD, dated June 2017.
- 'Town of Uxbridge, Massachusetts Infiltration/Inflow Analysis Final Report', prepared by Beta Group, Inc. and revised in October 2005.
- Uxbridge WWTF flow records.
- Data from previous I/I work

The following sources of information were not available for review:

- Streamflow monitoring level data.

4. Inventory of Existing Conditions

The Town of Uxbridge owns and operates a separate wastewater collection and treatment system consisting of approximately 189,000 linear feet of gravity sewer, five pump stations, approximately 2,700 linear feet of force main, and a wastewater treatment system.

The sanitary collection system in Uxbridge dates to the mid-1970's. The original collection system is comprised primarily of asbestos cement, ductile iron, and reinforced concrete sewers (Table 3.1).

Table 3.1 Town of Uxbridge Gravity Collection System Materials

Material	Total Length (LF)	Percentage of Total System
Asbestos Cement	200	47%
Concrete	88,800	11%
Ductile Iron	20,300	1%
Polyvinyl Chloride (PVC)	1,500	41%
Total	188,800	100%



Gravity collection system pipe diameters range from 6-inches to 30-inches (Table 3.2). The collection system generally conveys flow from north to south through a main interceptor.

Table 2.2 Town of Uxbridge Gravity Collection System Pipe Sizes

Pipe Diameter (inches)	Total Length (LF)	Percentage of Total System
6	500	<1%
8	132,600	70%
19	3,700	2%
12	15,500	8%
14	1,400	1%
16	12,000	6%
18	3,000	2%
24	6,800	4%
30	13,300	7%
Total	188,800	100%

The gravity portion of the collection system has five one-barrel inverted siphons at river crossings, which are designed to flow full under normal operating conditions. Since its original construction, multiple gravity extensions have been added to the system. The collection system does not have any underdrain systems and has not had any infiltration/inflow related overflow, bypasses, or surcharges. The flow metering analysis that was conducted in 2005 indicated that, during the wet season, groundwater was above pipe level for the majority of the collection system.

The WWTF has an influent magnetic flow meter and an effluent v-notch weir with an ultrasonic flow meter. The system does not have any permanent flow meters in the collection system.

A site visit was conducted on March 5, 2020 to identify and inspect proposed manholes for flow monitoring. No problems or issues were observed during the site visit.

5. Flow Monitoring Program

Proposed flow monitoring and groundwater monitoring locations are shown in Figure 1 (attached). In accordance with MassDEP guidelines, the collection system has been divided into sub-systems less than 20,000 linear feet for the flow metering program. Rain gauge data will be collected from two rain gauges, one located at the Uxbridge DPW Building (146 Hecla Street) and another at the Uxbridge WWTF (80 River Road).. Continuous monitoring shall be conducted for a minimum of 10 consecutive weeks between March 1 and June 30, 2020.

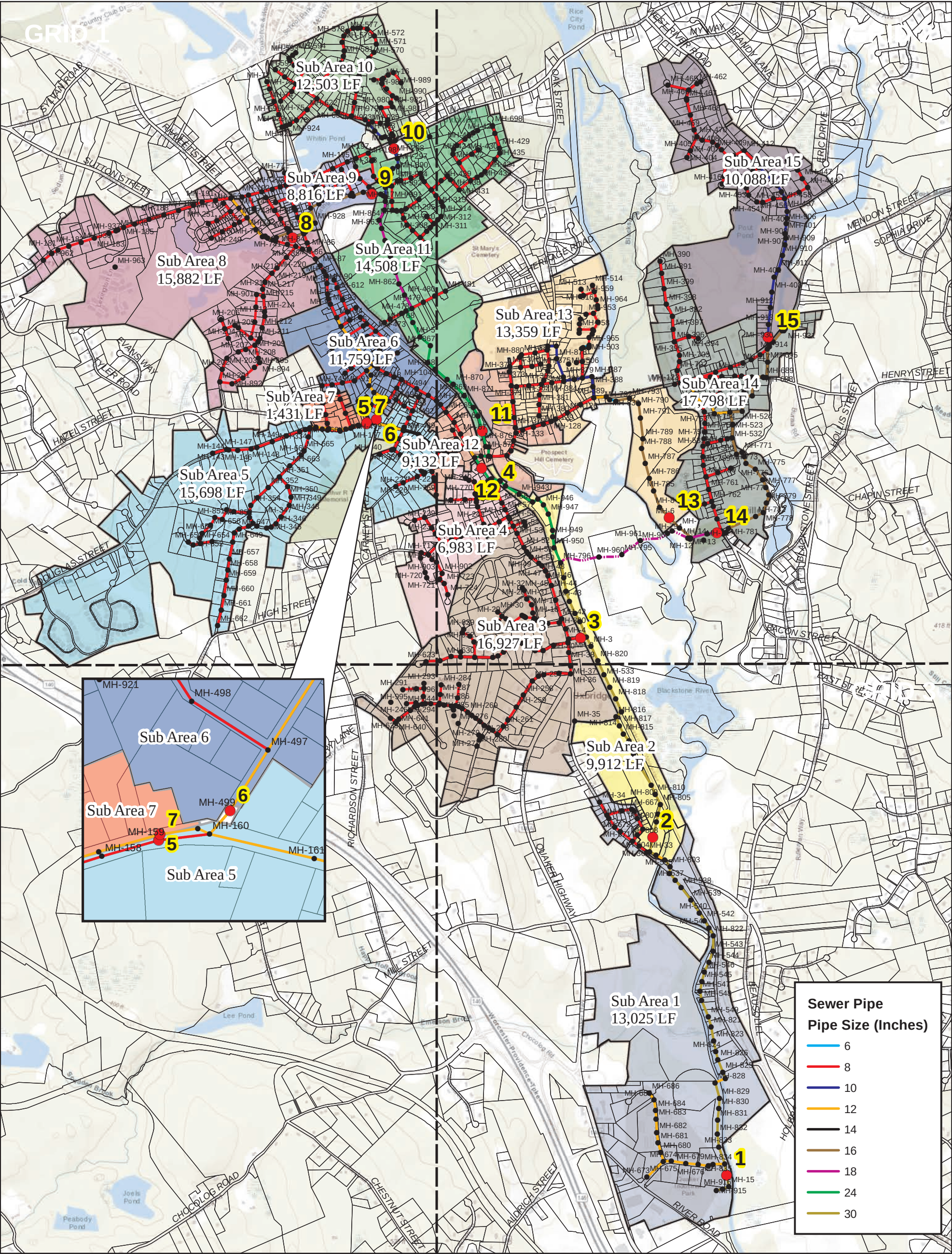
6. I/I Analysis Schedule

The schedule for the I/I Analysis is summarized below:



1. Compile and submit Inventory of Existing Conditions – March 2020.
2. Conduct sewer flow monitoring for minimum of 10 consecutive weeks between March 1 and June 30, 2020.
3. Recommendations for further study to identify infiltration and inflow sources will be prepared once sewer flow monitoring has concluded and will be submitted to MassDEP.

A handwritten signature in black ink, appearing to be "AR", is located in the bottom right corner of the page.



LEGEND

- Grid
- Flow Meter w/Area No.
- Sewer Manhole
- Force Main
- Parcel

Sub Area

Sub Area 1	Sub Area 12	Sub Area 15	Sub Area 4	Sub Area 7
Sub Area 10	Sub Area 13	Sub Area 2	Sub Area 5	Sub Area 8
Sub Area 11	Sub Area 14	Sub Area 3	Sub Area 6	Sub Area 9

Paper Size ANSI B

0 650 1,300 2,600 Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet

TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT

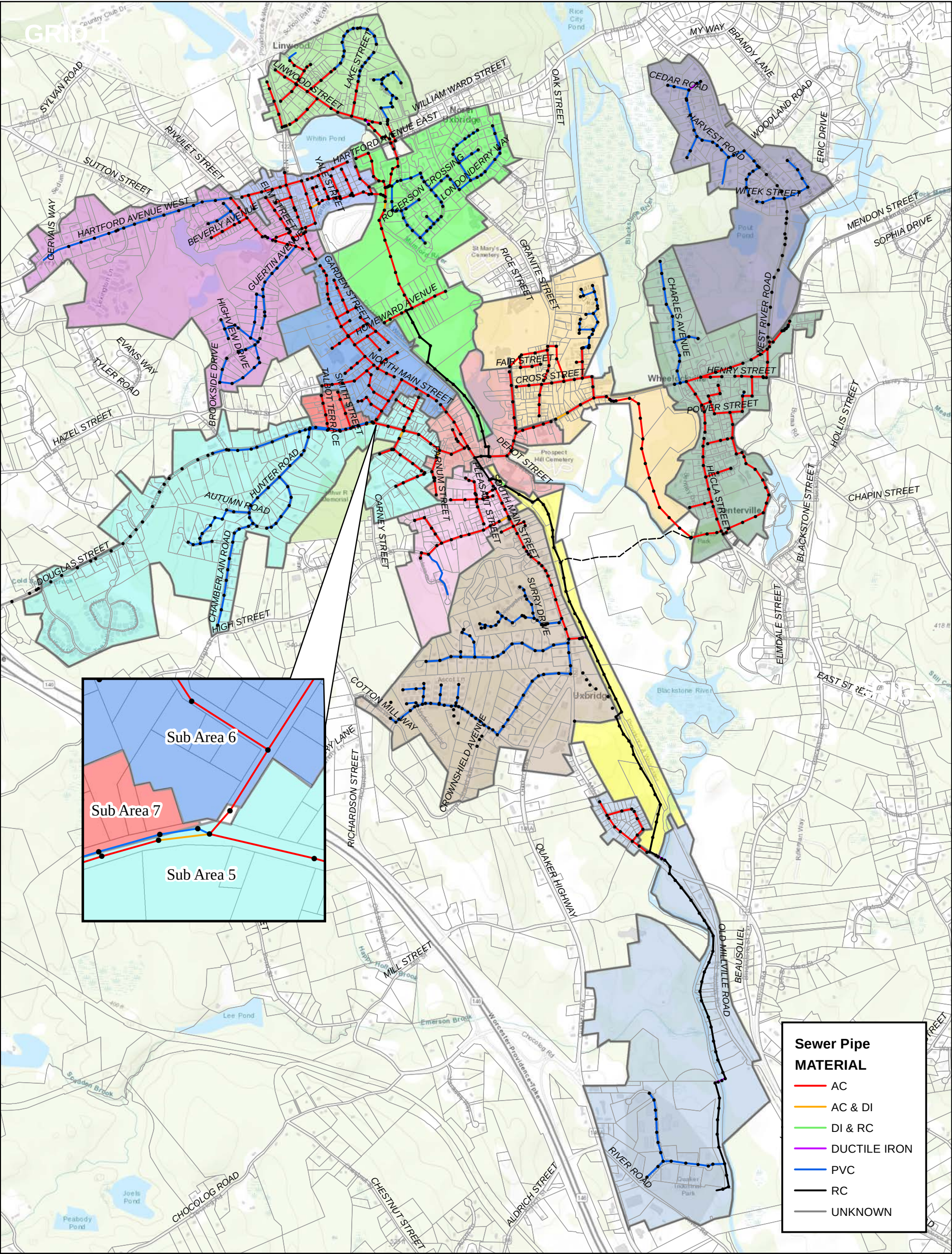
Job Number 111-44264
Revision -
Date 18 Mar 2020

SUB AREA & FLOW METER LOCATIONS
GRID LOCATION MAP

Figure 1

Appendix B

Pipe Materials



LEGEND

----- Force Main

• Gravity Manhole

Parcel

Sub Area

Sub Area 1	Sub Area 12	Sub Area 15	Sub Area 4	Sub Area 7
Sub Area 10	Sub Area 13	Sub Area 2	Sub Area 5	Sub Area 8
Sub Area 11	Sub Area 14	Sub Area 3	Sub Area 6	Sub Area 9

Paper Size ANSI B

0 650 1,300 2,600

Feet

Map Projection: Lambert Conformal Conic

Horizontal Datum: North American 1983

Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet

TOWN OF UXBRIDGE, MA

SEWER MANHOLE REHABILITATION PROJECT

UXBRIDGE COLLECTION SYSTEM

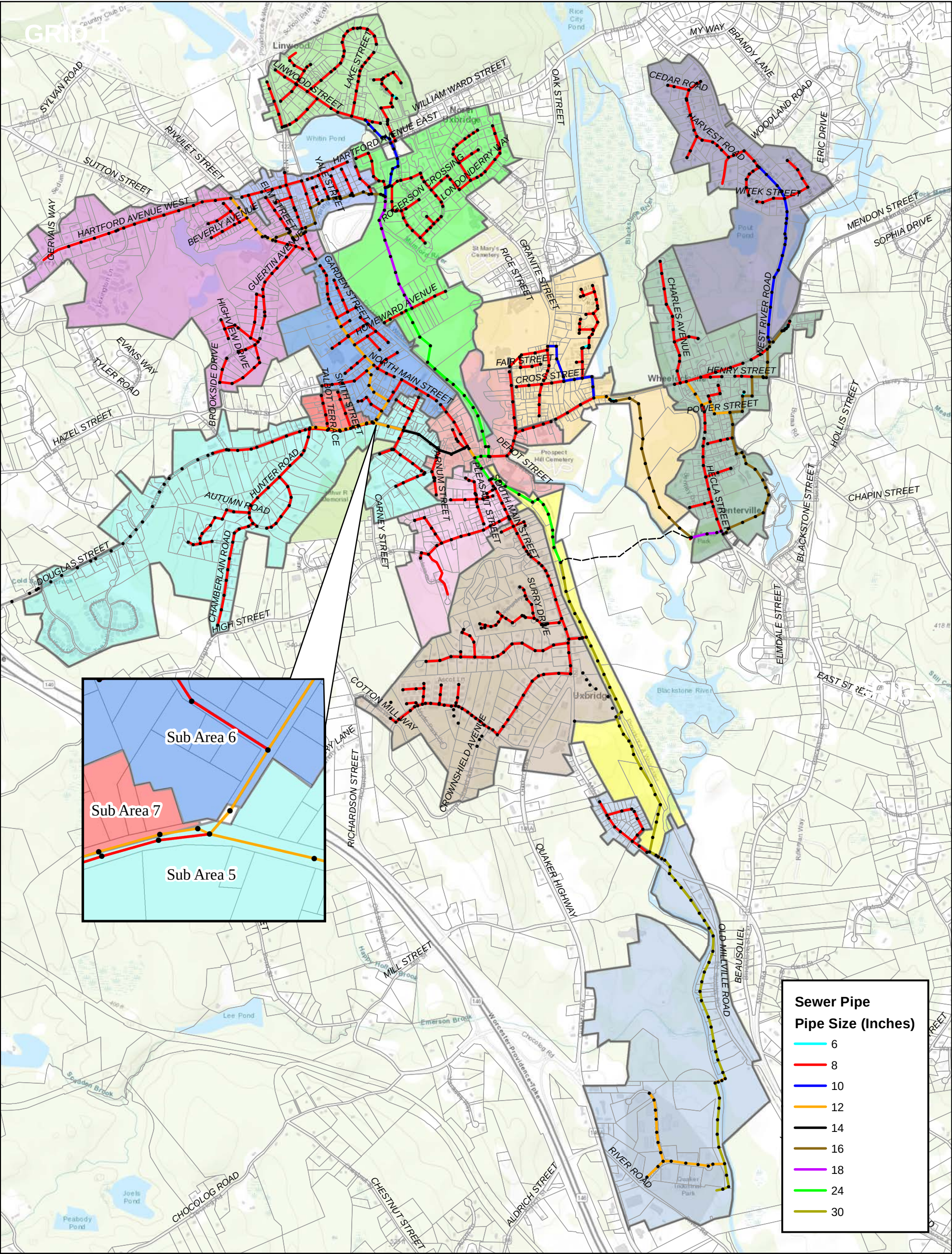
PIPE MATERIAL

Job Number 111-44264

Revision 1

Date 13 Apr 2021

Figure 6



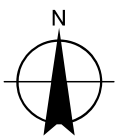
LEGEND

- Force Main
- Gravity Manhole
- Parcel

Sub Area

Sub Area 1	Sub Area 12	Sub Area 15	Sub Area 4	Sub Area 7
Sub Area 10	Sub Area 13	Sub Area 2	Sub Area 5	Sub Area 8
Sub Area 11	Sub Area 14	Sub Area 3	Sub Area 6	Sub Area 9

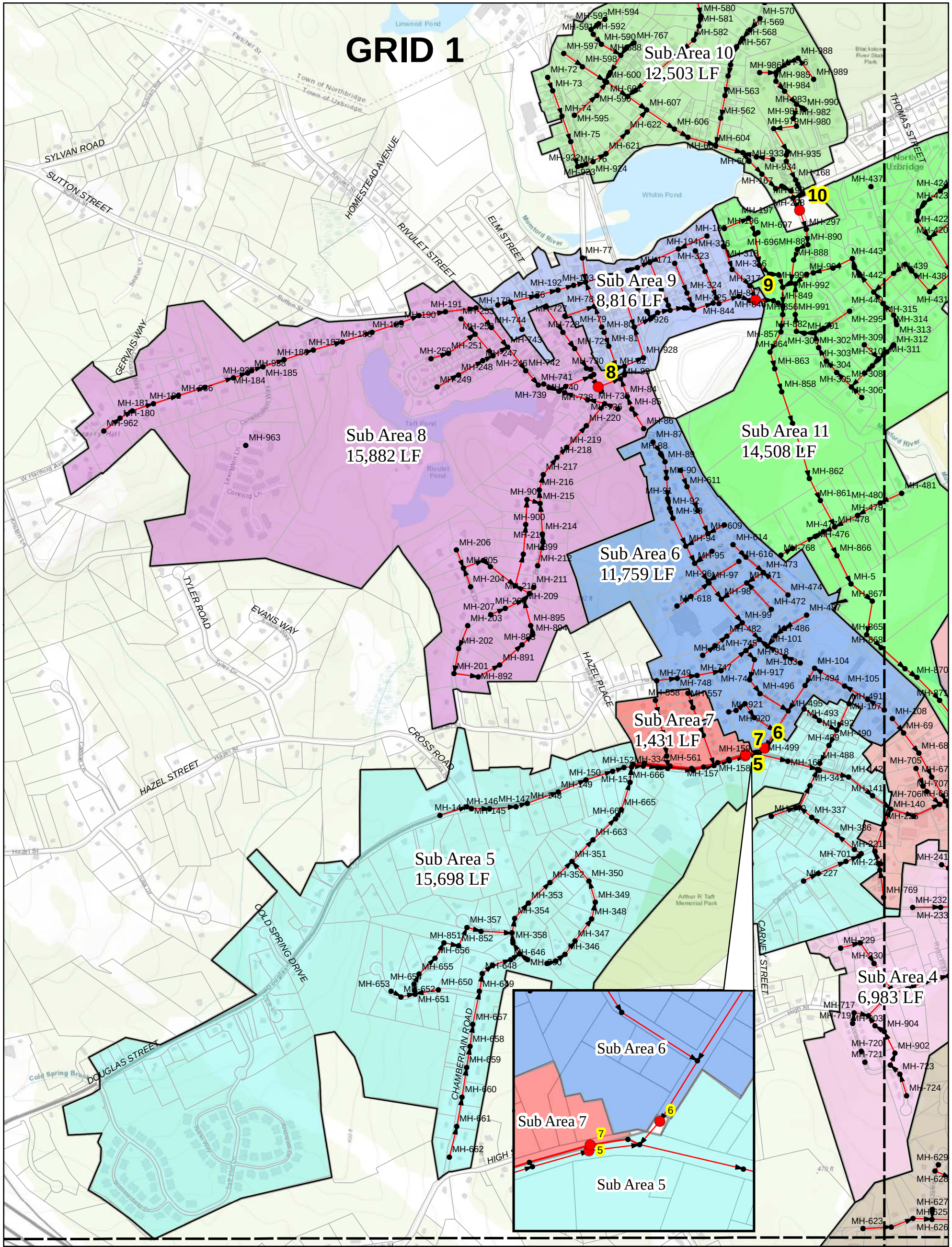
Paper Size ANSI B
0 650 1,300 2,600
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet



TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT
UXBRIDGE COLLECTION SYSTEM
PIPE SIZE

Job Number 111-44264
Revision 1
Date 13 Apr 2021

Figure 5



LEGEND

Grid

Parcel

Force Main

Gravity Sewer w/Flow Direction

Flow Meter w/Area No.

Gravity Manhole

Sub Area

Sub Area 1

Sub Area 10

Sub Area 11

Sub Area 12

Sub Area 13

Sub Area 14

Sub Area 15

Sub Area 2

Sub Area 3

Sub Area 4

Sub Area 5

Sub Area 6

Sub Area 7

Sub Area 8

Sub Area 9

Paper Size ANSI B

0

450

900

1,800

Feet

N

TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT

Job Number 111-44264
Revision 1
Date 13 Apr 2021

SUB AREA, FLOW METER LOCATIONS
& FLOW DIRECTION - GRID 1

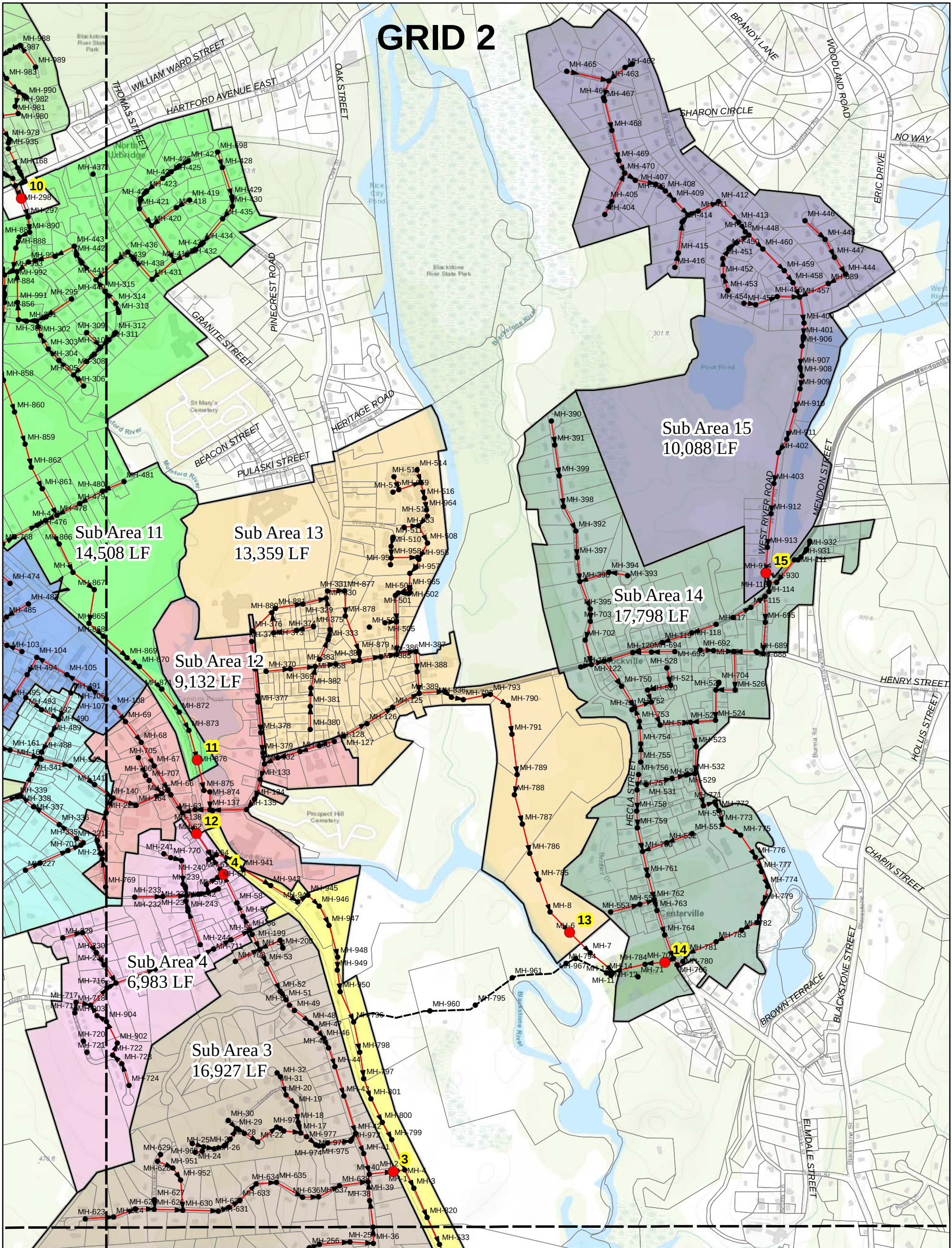
Figure 2

G:\111\11144264 TOWN OF UXBRIDGE INFILTRATION INFO\GIS\Maps\PDF\April 2021 DEP Comments Adressed\mxd\Subarea & Flow Meter Locations flow direction Grid 1 Figure 2.mxd 1545 Iyannough Road Hyannis, MA 02601 USA T 774 470 1630 E hyamail@ghd.com W www.ghd.com

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GRID 2



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

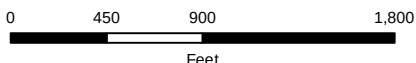
LEGEND

- Grid
- Parcel
- Force Main
- Gravity Sewer w/Flow Direction
- Flow Meter w/ Area No.
- Gravity Manhole

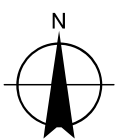
Sub Area

- | | | | | |
|-------------|-------------|-------------|------------|------------|
| Sub Area 1 | Sub Area 12 | Sub Area 15 | Sub Area 4 | Sub Area 7 |
| Sub Area 10 | Sub Area 13 | Sub Area 2 | Sub Area 5 | Sub Area 8 |
| Sub Area 11 | Sub Area 14 | Sub Area 3 | Sub Area 6 | Sub Area 9 |

Paper Size ANSI B



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet

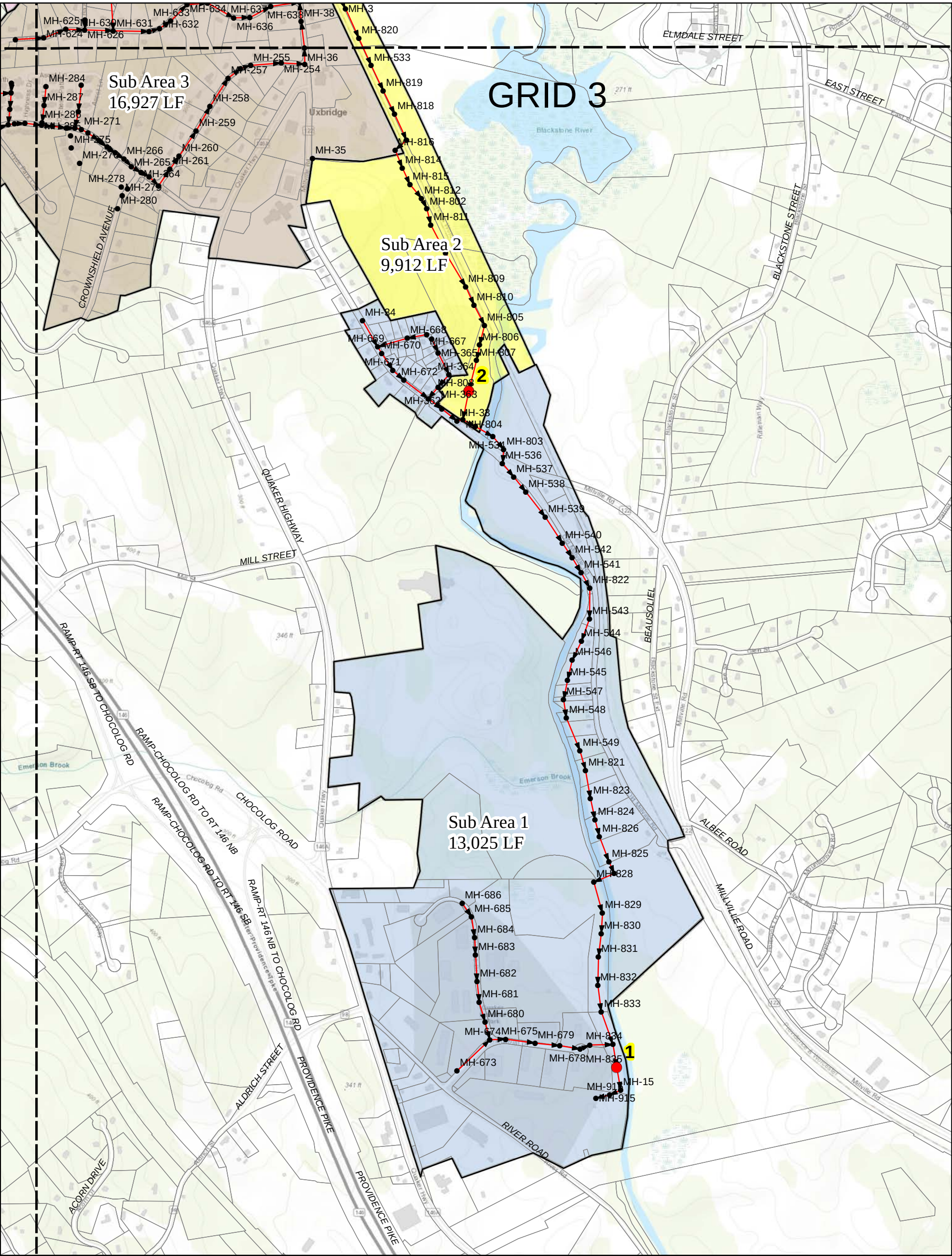


TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT

Job Number 111-44264
Revision -
Date 13 Apr 2021

SUB AREA, FLOW METER LOCATIONS
& FLOW DIRECTION - GRID 2

Figure 3



LEGEND

Grid

Parcel

Force Main

Sewer Pipe w/Flow Direction

Flow Meter w/Area No.

Gravity Manhole

Sub Area 1

Sub Area 10

Sub Area 11

Sub Area 12

Sub Area 13

Sub Area 14

Sub Area 15

Sub Area 2

Sub Area 3

Sub Area 4

Sub Area 5

Sub Area 6

Sub Area 7

Sub Area 8

Sub Area 9

0

450

900

1,800

Paper Size ANSI B

Feet

N

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet

GHD

TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT

Job Number

111-44264

Revision

-

Date

13 Apr 2021

SUB AREA ,FLOW METER LOCATIONS
& FLOW DIRECTION - GRID 3

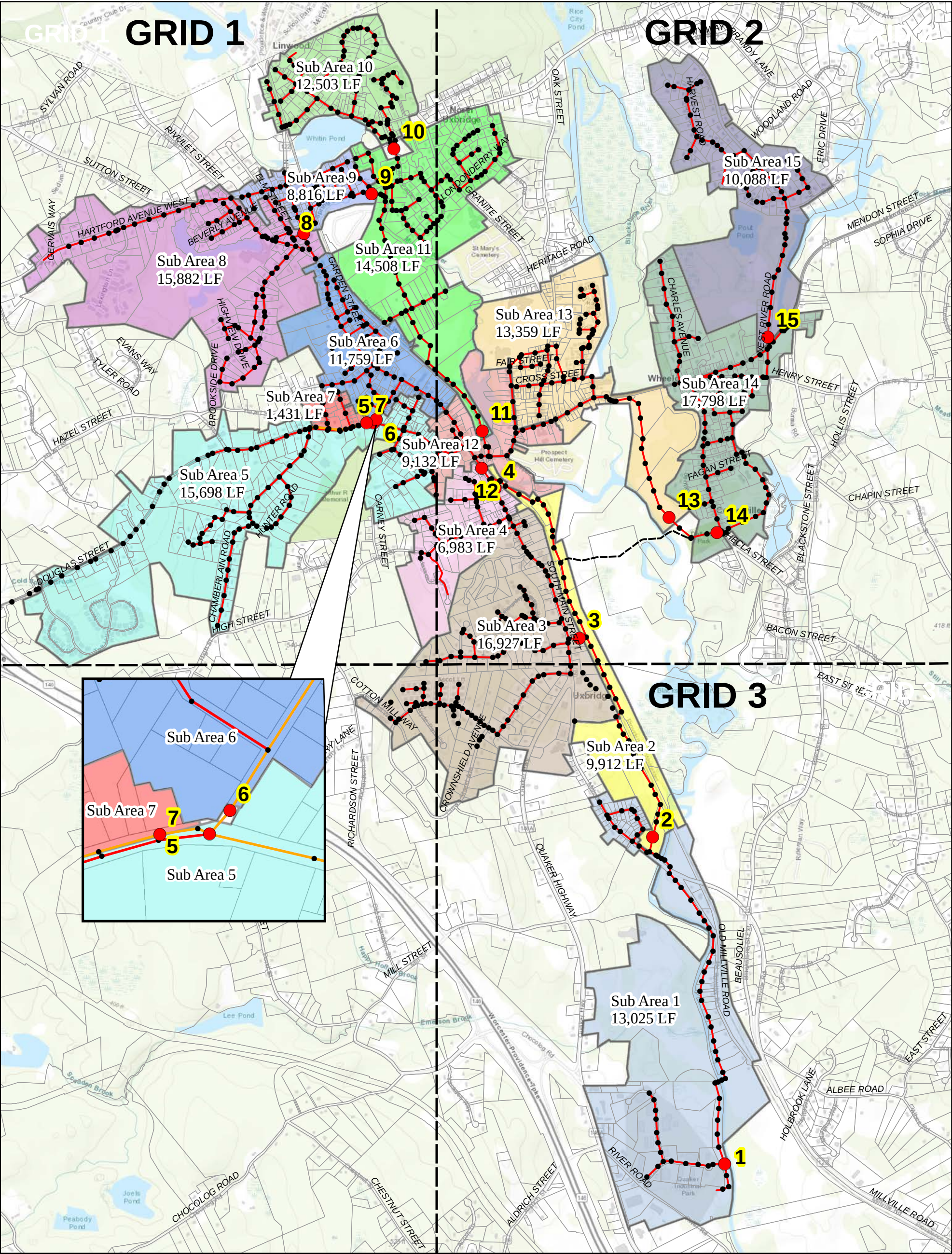
Figure 4

G:\111\11144264 TOWN OF UXBRIDGE INFILTRATION INFO\GIS\Maps\PDF\April 2021 DEP Comments Adressed\mxd\Subarea & Flow Meter Locations flow direction Grid 3 Figure 4.mxd

1545 Iyannough Road Hyannis, MA 02601 USA T 774 470 1630 E hyamail@ghd.com W www.ghd.com

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Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:jobrien



LEGEND

- Grid
- Force Main
- Gravity Sewer
- Parcel
- Flow Meter w/Area No.

Sub Area

Sub Area 1	Sub Area 12	Sub Area 15	Sub Area 4	Sub Area 7
Sub Area 10	Sub Area 13	Sub Area 2	Sub Area 5	Sub Area 8
Sub Area 11	Sub Area 14	Sub Area 3	Sub Area 6	Sub Area 9

Appendix C

Manhole Inspection Reports

Uxbridge

ssManholeInspections

Inspection ID:

INSP-51-SSMH

Manhole ID:

SSMH-817

Inspection Date:

Aug 23, 2017

Time:

10:40 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-222-SSMH

Manhole ID:

SSMH-6

Inspection Date:

Aug 06, 2017

Time:

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

JH, BG

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [*] N/A

Inlet C Condition:

☐ [] Good

☐ [] Poor

☐ Damaged

☐ Clogged

☐ N/A

Outlet Condition:

☐ Good

☐ Poor

☐ Damaged

☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-199-SSMH

Manhole ID:

SSMH-363

Inspection Date:

May 17, 2017

Time:

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

CW JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [*] N/A

Inlet C Condition:

☐ [] Good

☐ [] Poor

☐ Damaged

☐ Clogged

☐ N/A

Outlet Condition:

☐ Good

☐ Poor

☐ Damaged

☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-49-SSMH

Manhole ID:

SSMH-820

Inspection Date:

Aug 23, 2017

Time:

10:28 am

Completed By:

☐ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-47-SSMH

Manhole ID:

SSMH-120

Inspection Date:

Aug 22, 2017

Time:

11:03 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG ML

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [] None

☐ [*] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-48-SSMH

Manhole ID:

SSMH-123

Inspection Date:

Aug 23, 2017

Time:

9:57 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG ML

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [] None

☐ [*] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-50-SSMH

Manhole ID:

SSMH-533

Inspection Date:

Aug 23, 2017

Time:

10:34 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-228-SSMH

Manhole ID:

SSMH-789

Inspection Date:

May 15, 2017

Time:

10:30 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

JAH BG

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

- ☐ [*] Good
- ☐ [] Poor

Structure Condition:

- ☐ [*] Good
- ☐ [] Poor
- ☐ [] Broken

Fat/Oil/Grease Condition:

- ☐ [*] None
- ☐ [] Minor
- ☐ [] Moderate
- ☐ [] Severe

Inlet A Condition:

- ☐ [*] Good
- ☐ [] Poor
- ☐ [] Damaged
- ☐ [] Clogged

Inlet B Condition:

- ☐ [] Good
- ☐ [] Poor
- ☐ [] Damaged
- ☐ [] Clogged
- ☐ [*] N/A

Inlet C Condition:

- ☐ [] Good
- ☐ [] Poor

☐ Damaged

☐ Clogged

☐ N/A

Outlet Condition:

☐ Good

☐ Poor

☐ Damaged

☐ Clogged

Comments:

Inspection Prepared from Photos by J Legg

Uxbridge

ssManholeInspections

Inspection ID:

INSP-229-SSMH

Manhole ID:

SSMH-790

Inspection Date:

May 15, 2017

Time:

10:45 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

JAH BG

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

- ☐ [*] Good
- ☐ [] Poor

Structure Condition:

- ☐ [*] Good
- ☐ [] Poor
- ☐ [] Broken

Fat/Oil/Grease Condition:

- ☐ [*] None
- ☐ [] Minor
- ☐ [] Moderate
- ☐ [] Severe

Inlet A Condition:

- ☐ [*] Good
- ☐ [] Poor
- ☐ [] Damaged
- ☐ [] Clogged

Inlet B Condition:

- ☐ [] Good
- ☐ [] Poor
- ☐ [] Damaged
- ☐ [] Clogged
- ☐ [*] N/A

Inlet C Condition:

- ☐ [] Good
- ☐ [] Poor

☐ Damaged

☐ Clogged

☒ N/A

Outlet Condition:

☒ Good

☐ Poor

☐ Damaged

☐ Clogged

Comments:

Report prepared from Photos

Uxbridge

ssManholeInspections

Inspection ID:

INSP-226-SSMH

Manhole ID:

SSMH-812

Inspection Date:

Aug 23, 2017

Time:

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

CW, JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [*] N/A

Inlet C Condition:

☐ [] Good

☐ [] Poor

☐ Damaged

☐ Clogged

☐ N/A

Outlet Condition:

☐ Good

☐ Poor

☐ Damaged

☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-53-SSMH

Manhole ID:

SSMH-814

Inspection Date:

Aug 23, 2017

Time:

10:50 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

BG JC

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Uxbridge

ssManholeInspections

Inspection ID:

INSP-52-SSMH

Manhole ID:

SSMH-816

Inspection Date:

Aug 23, 2017

Time:

10:42 am

Completed By:

☒ Town

☐ Contractor

☐ Other

Completed By (if Other):

Inspected By (Initials):

JC BG

Cover Condition:

☒ Good

☐ Poor

☐ Broken

Shelf Condition:

☒ Good

☐ Poor

Step Condition:

☐ [*] Good

☐ [] Poor

Structure Condition:

☐ [*] Good

☐ [] Poor

☐ [] Broken

Fat/Oil/Grease Condition:

☐ [*] None

☐ [] Minor

☐ [] Moderate

☐ [] Severe

Inlet A Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

Inlet B Condition:

☐ [*] Good

☐ [] Poor

☐ [] Damaged

☐ [] Clogged

☐ [] N/A

Inlet C Condition:

☐ [*] Good

☐ [] Poor

- ☐ Damaged
- ☐ Clogged
- ☐ N/A

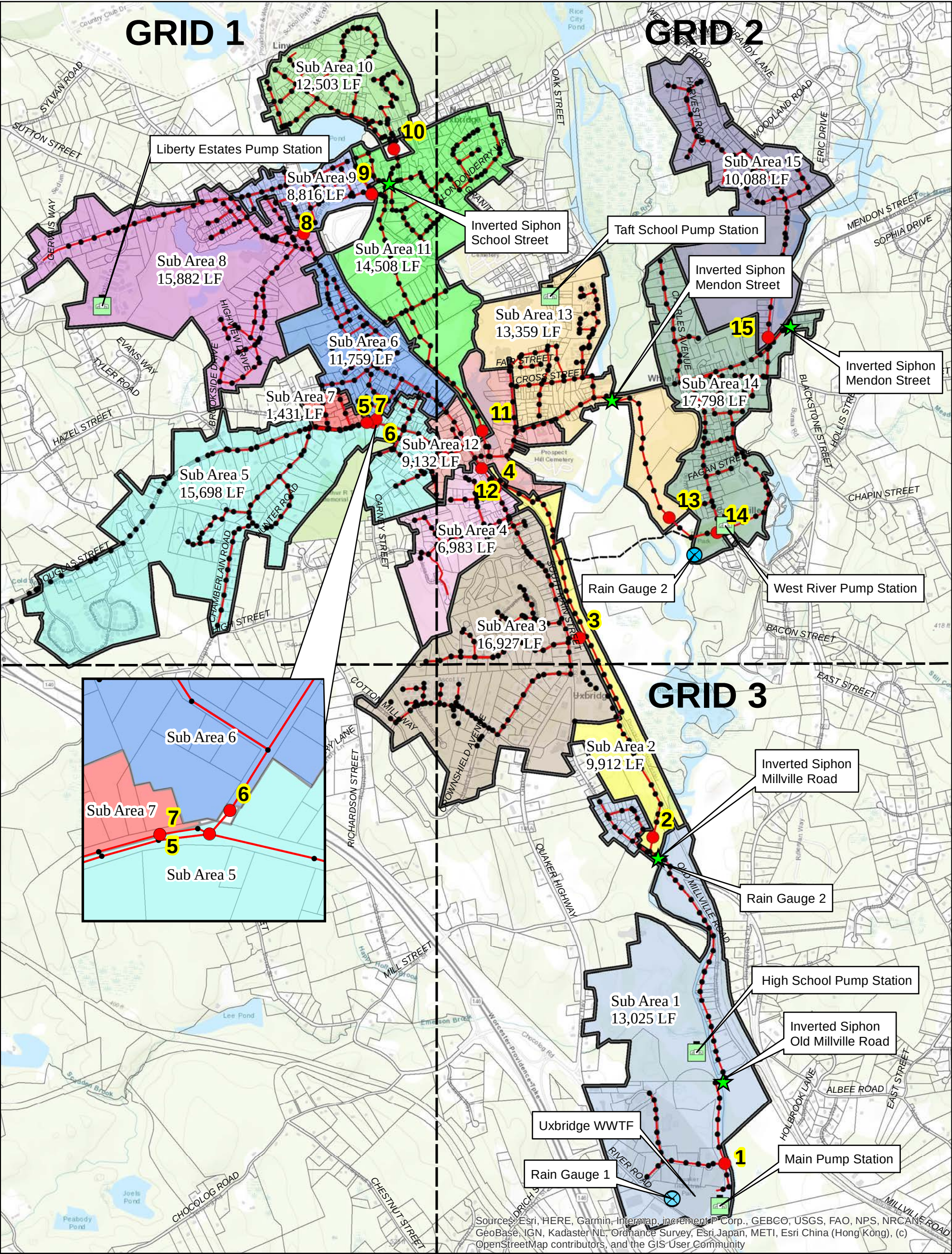
Outlet Condition:

- ☐ Good
- ☐ Poor
- ☐ Damaged
- ☐ Clogged

Comments:

Appendix D

Flow Meter and Groundwater Meter Locations



Legend

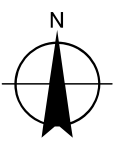
- Rain Gauge
 - Inverted Siphon
 - Pumping Station
 - Grid
 - Force Main
 - Gravity Manhole
 - Gravity Sewer
 - Flow Meter / Groundwater Monitoring Location
- Sub Area**
- | | | | | |
|-------------|-------------|-------------|------------|------------|
| Sub Area 1 | Sub Area 12 | Sub Area 15 | Sub Area 4 | Sub Area 7 |
| Sub Area 10 | Sub Area 13 | Sub Area 2 | Sub Area 5 | Sub Area 8 |
| Sub Area 11 | Sub Area 14 | Sub Area 3 | Sub Area 6 | Sub Area 9 |

Paper Size ANSI B

0 650 1,300 2,600

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet



TOWN OF UXBRIDGE, MA
SEWER MANHOLE REHABILITATION PROJECT

SUB AREAS, FLOW METERS, RAIN GAUGES,
INVERTED SIPHONS - LOCATION MAP

Job Number: 111-44264
Revision: 1
Date: 15 Apr 2021

Figure 1

Appendix E

Flow Meter/Rain Gauge Field Logs

Flow Analysis Graph

Site:

Site 1

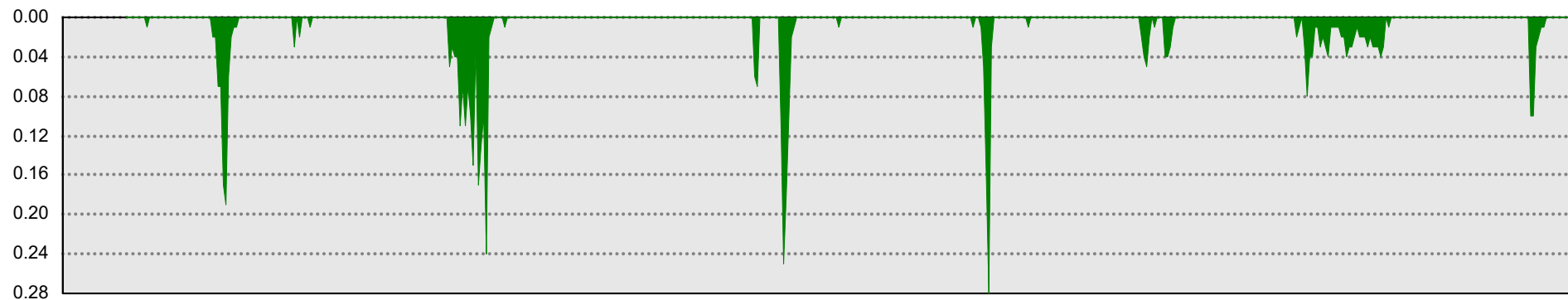
WWTP R.O.W.

Uxbridge, MA

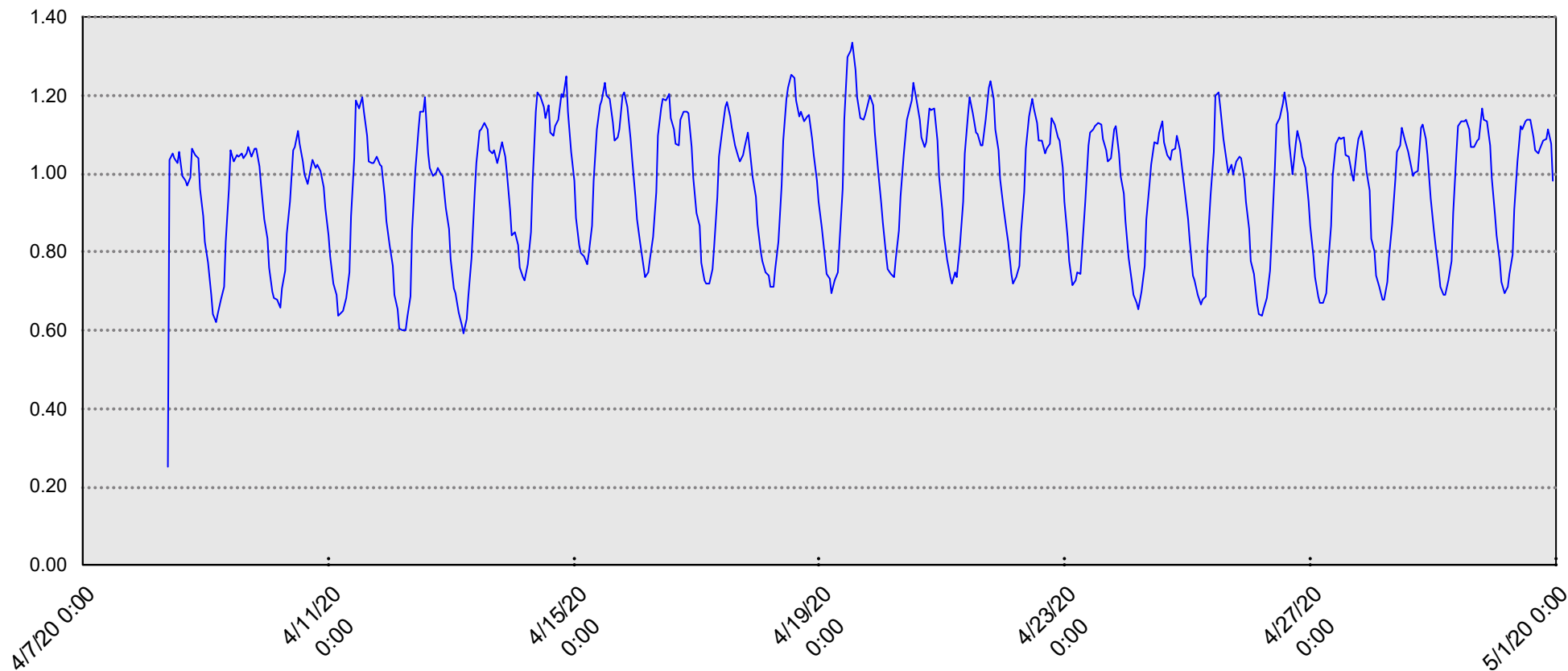


30" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 2

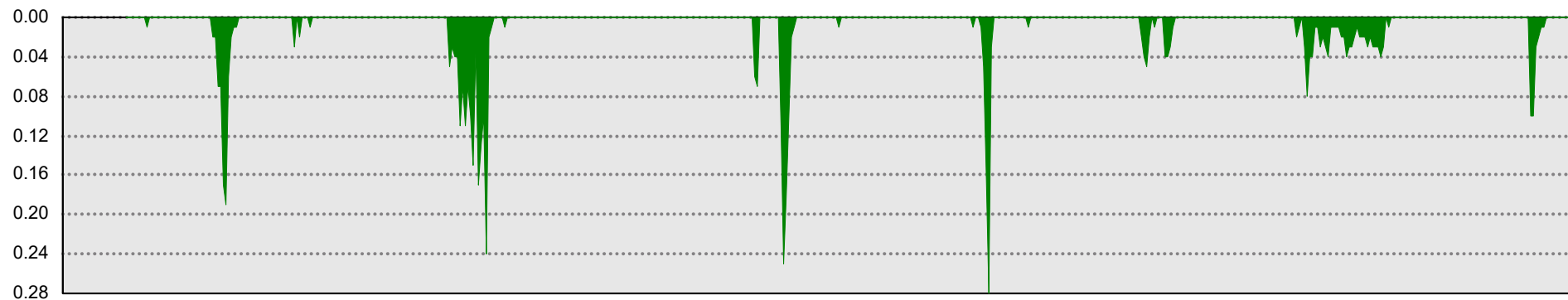
South Main Street R.O.W.

Uxbridge, MA

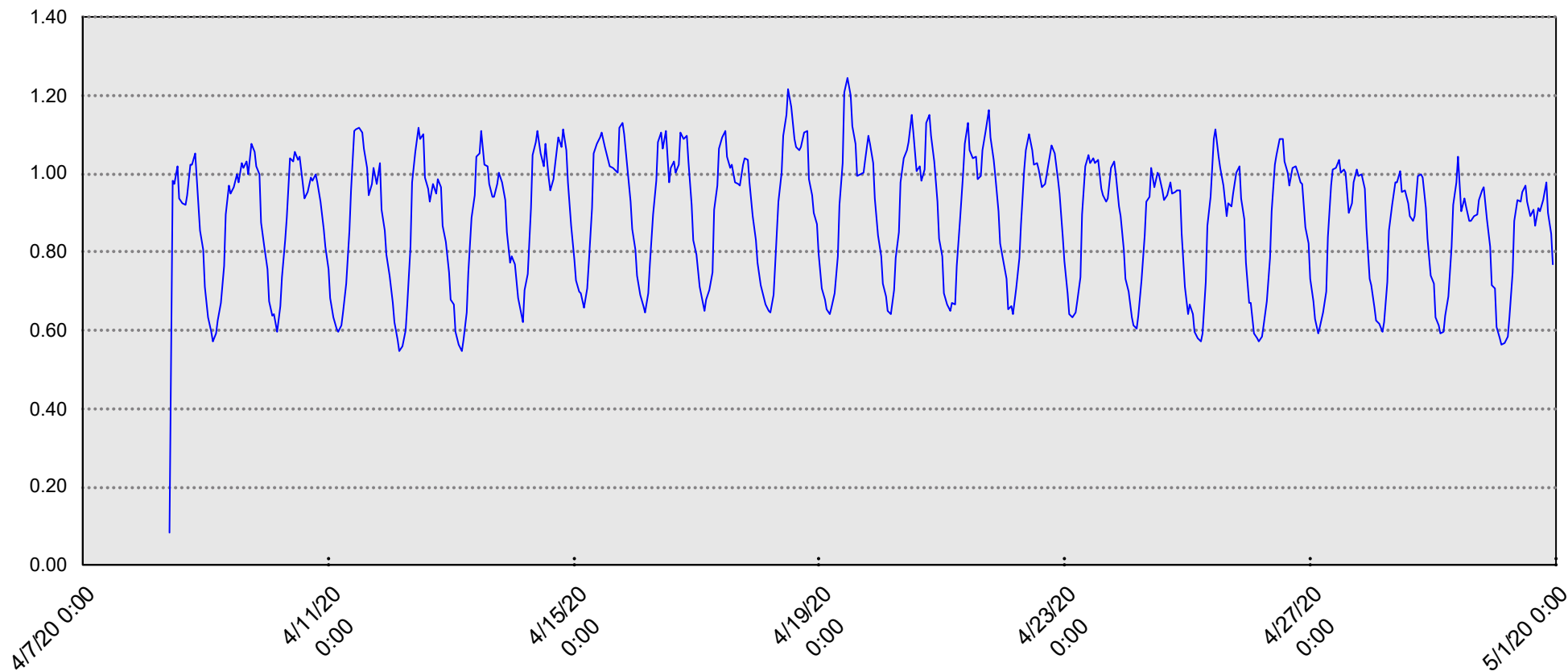


30" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 3

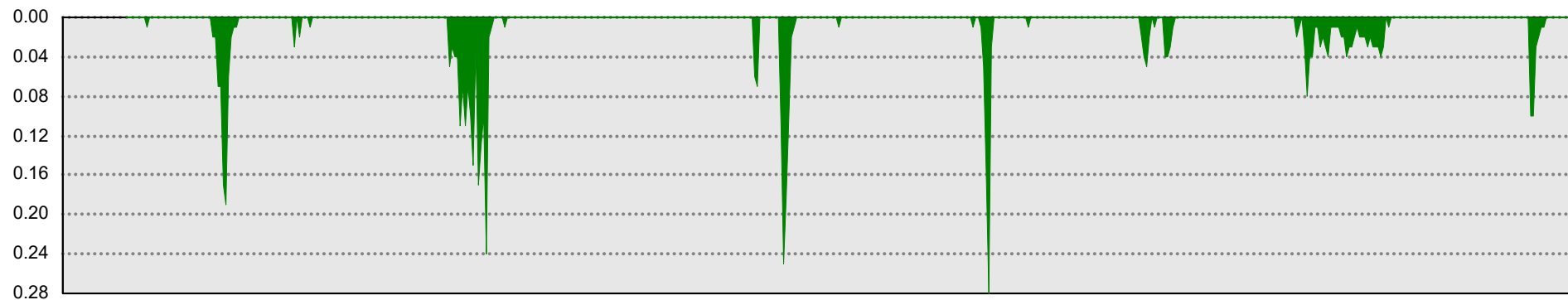
South Main Street R.O.W.

Uxbridge, MA

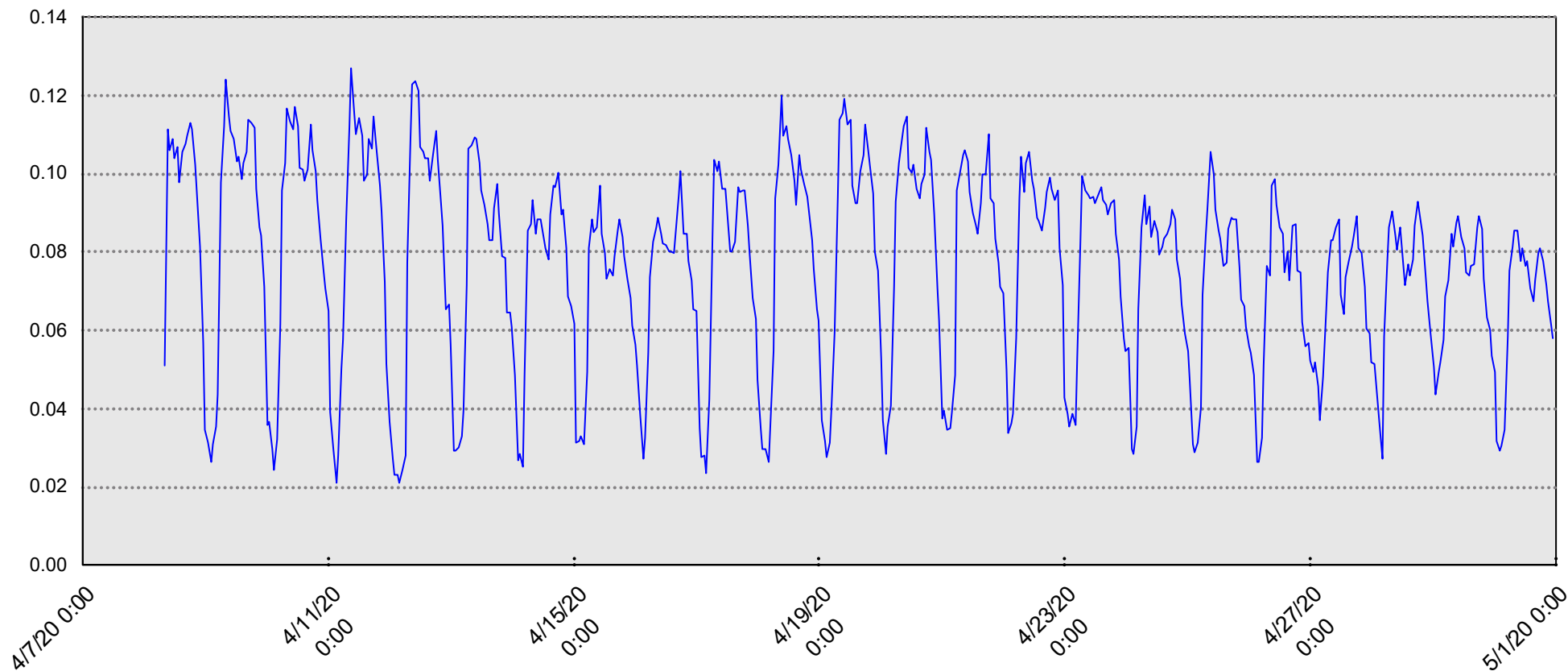


8" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 4

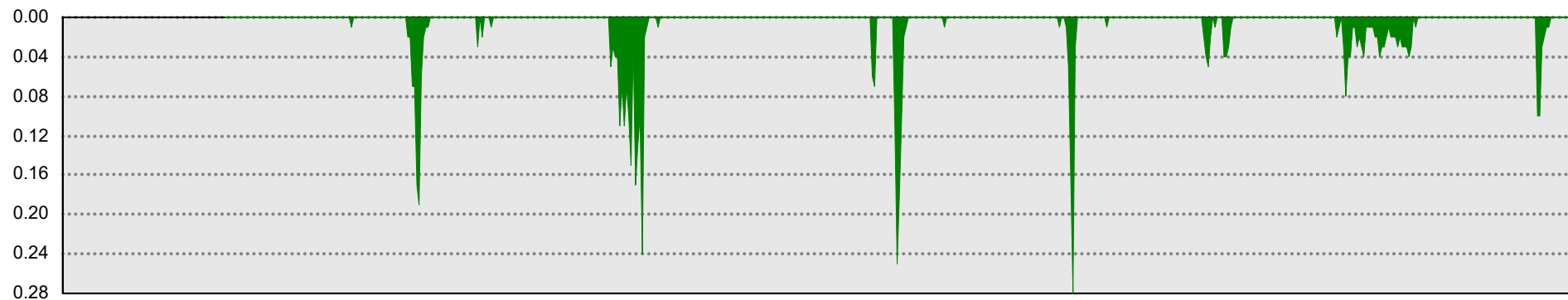
36 South Main Street

Uxbridge, MA

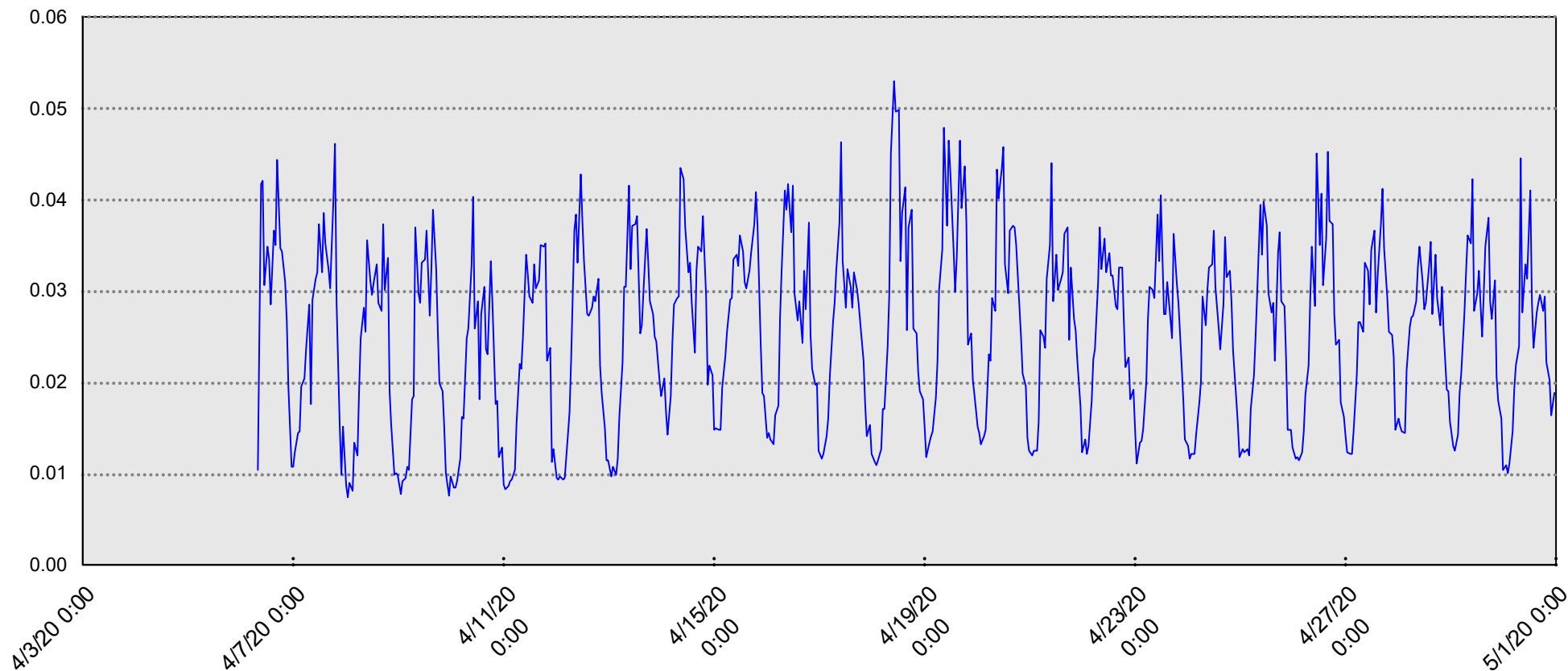
8" Circular line



Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 5

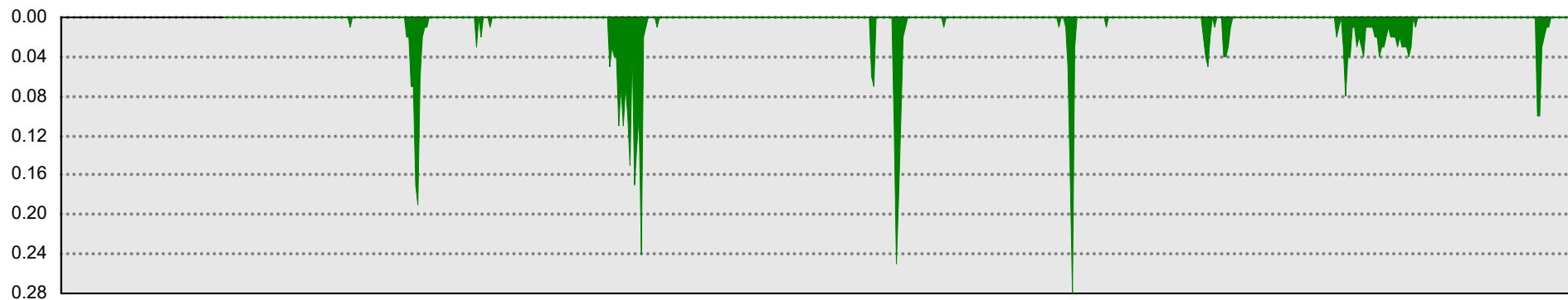
Douglas Street at Snowling Road

Uxbridge, MA

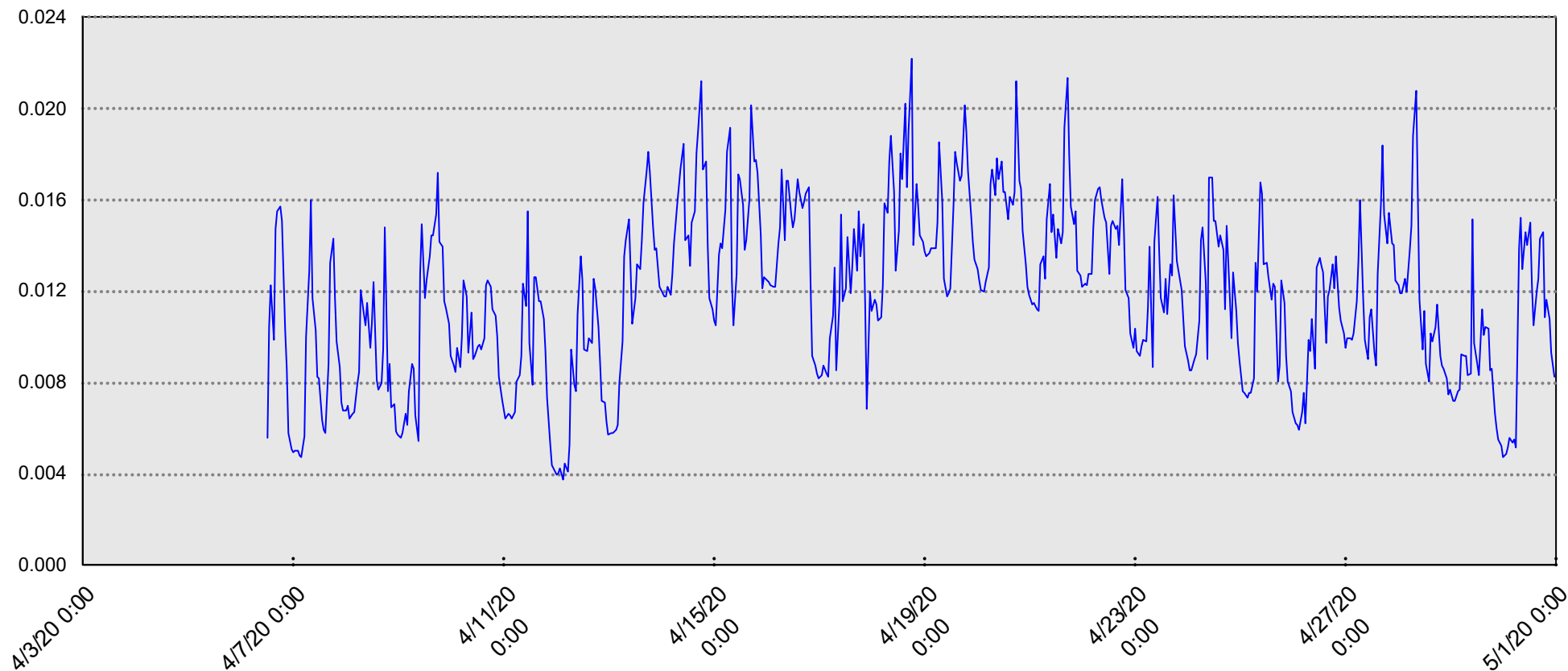


8" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 6

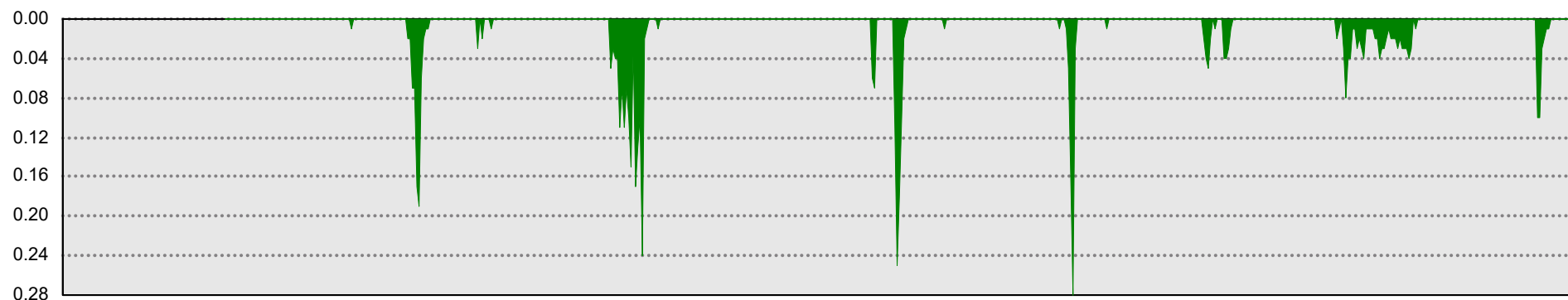
2 Snowling Road

Uxbridge, MA

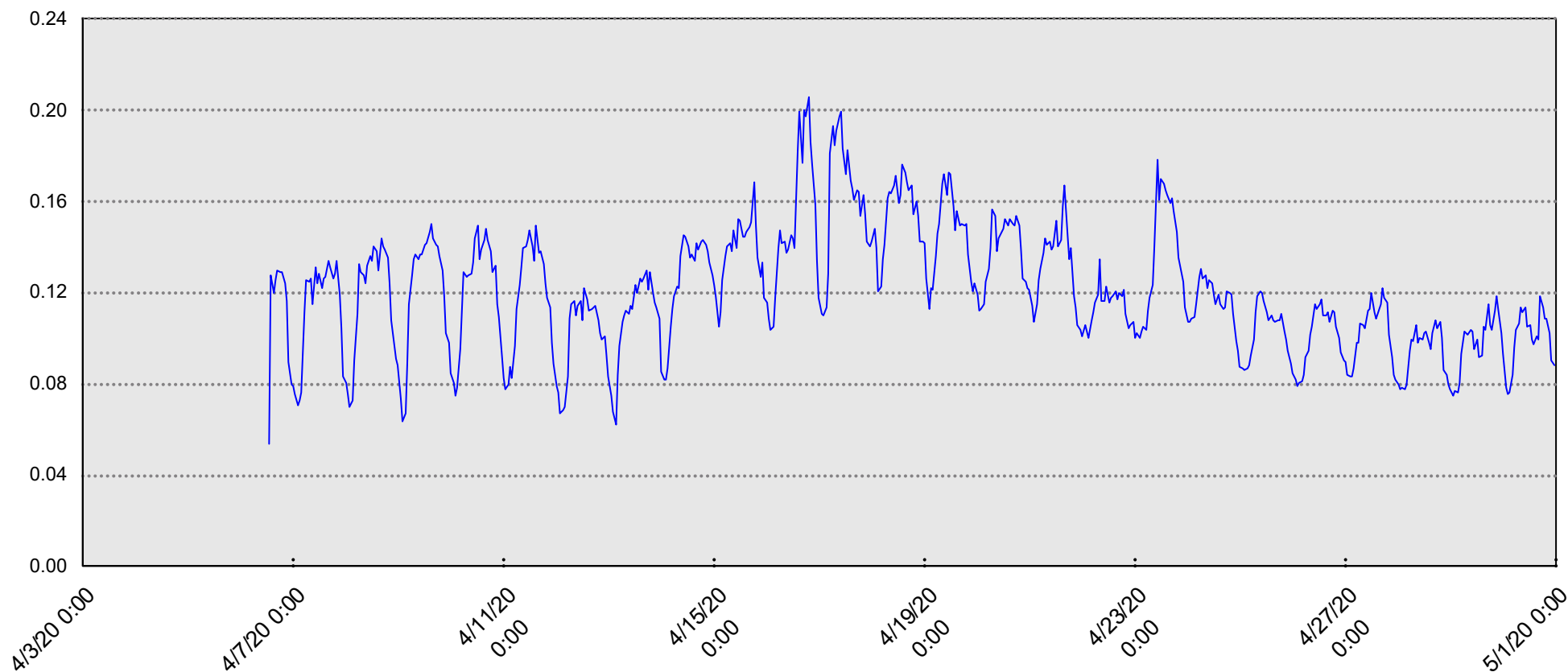


12" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 7

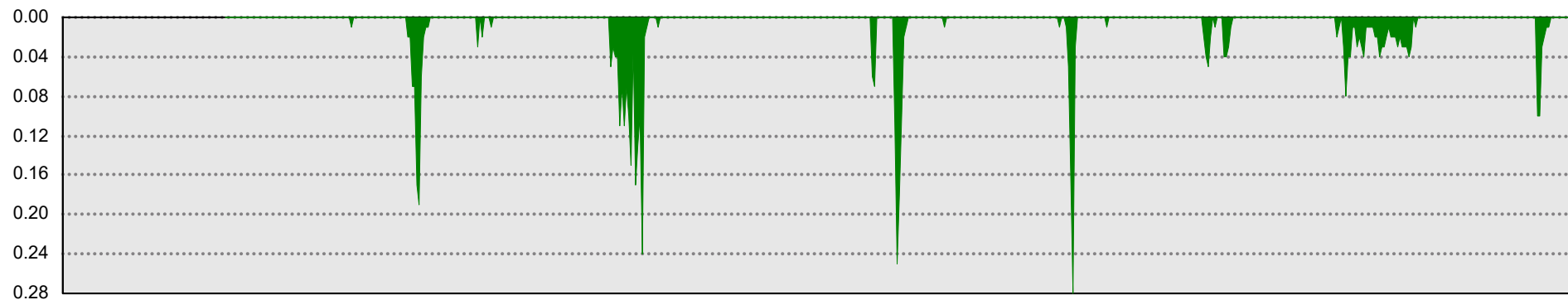
105 Douglas Street

Uxbridge, MA

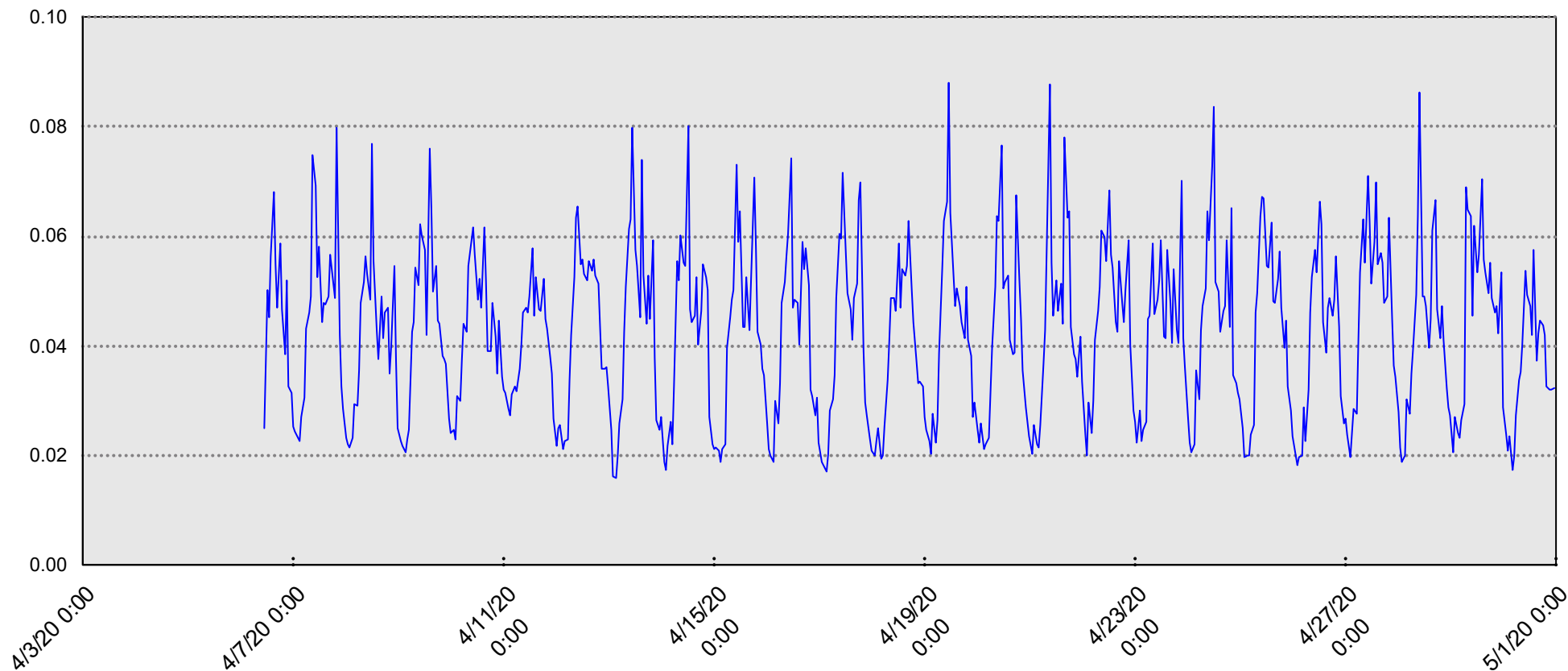


12" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 8

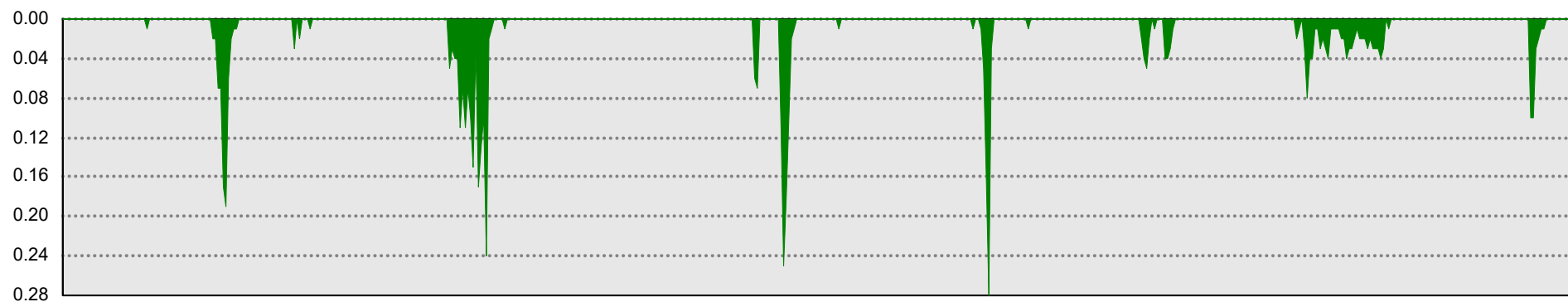
277 North Main Street

Uxbridge, MA

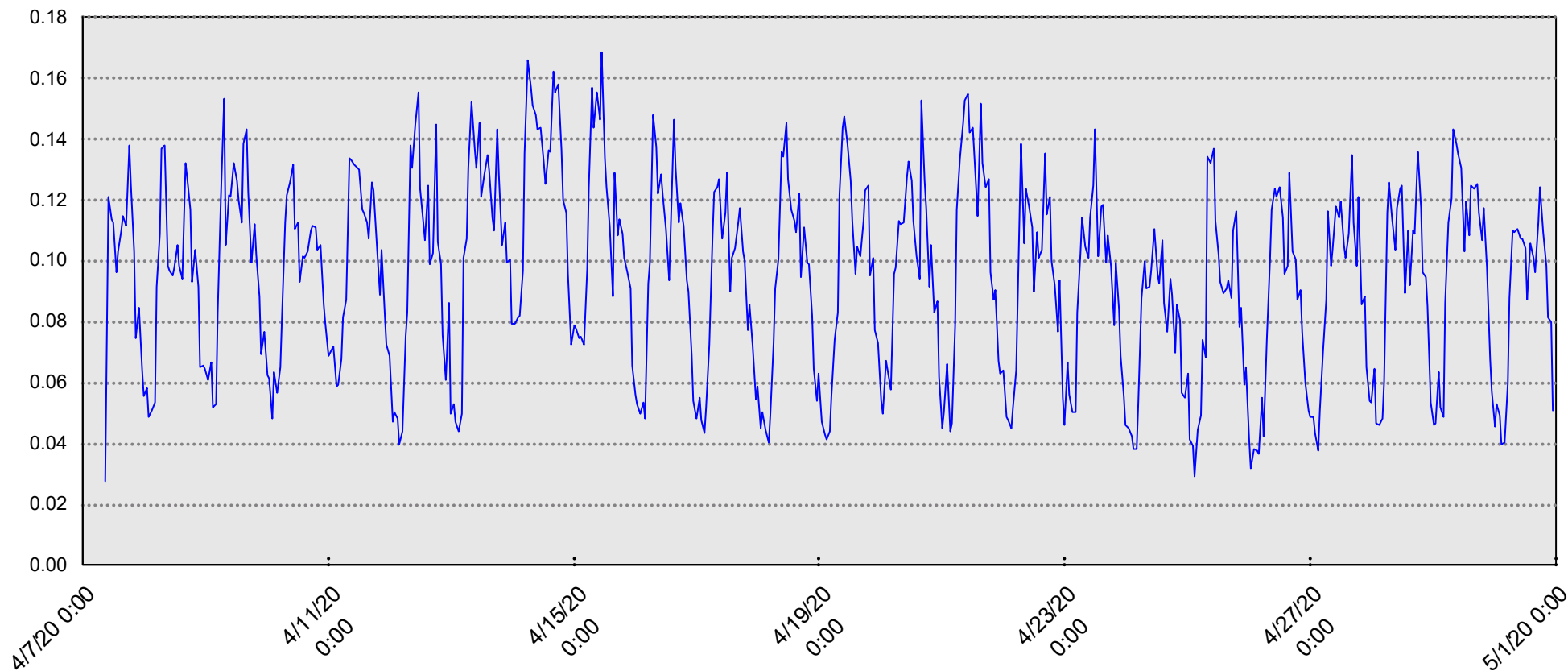


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 9

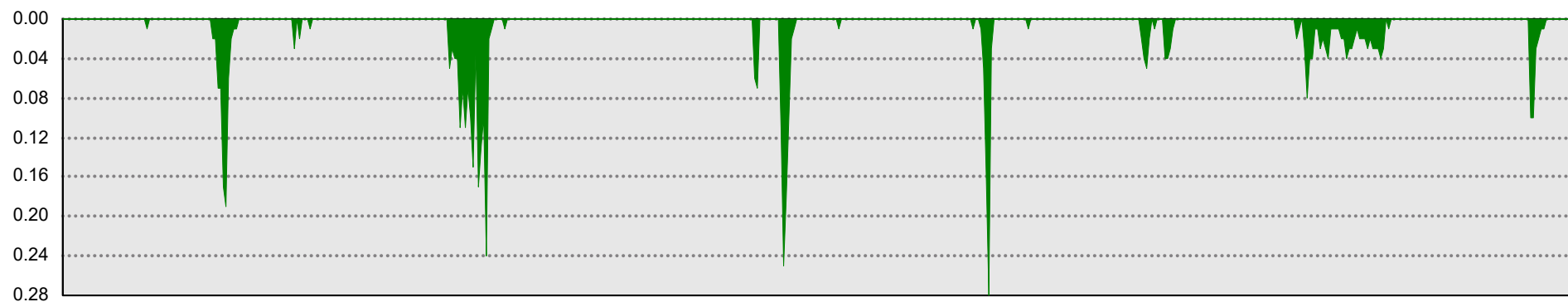
School Street R.O.W.

Uxbridge, MA

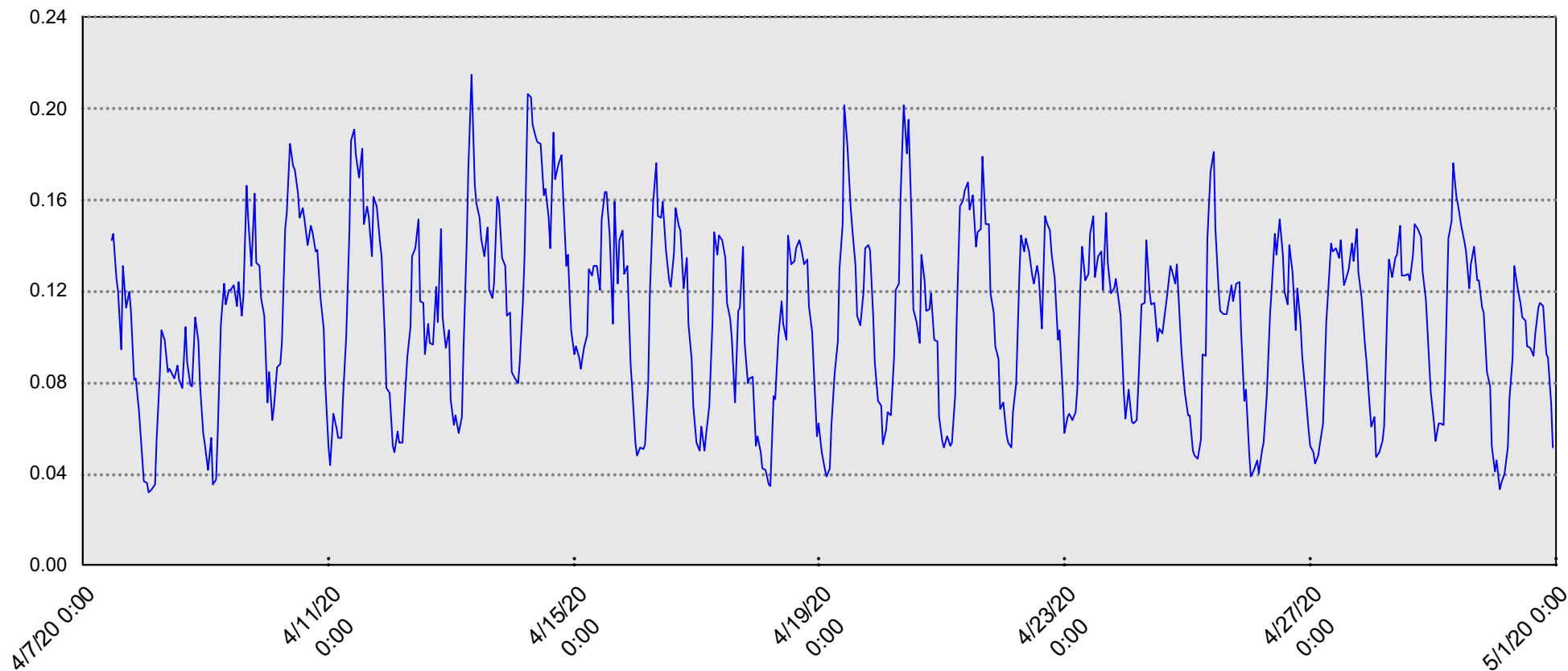


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 10

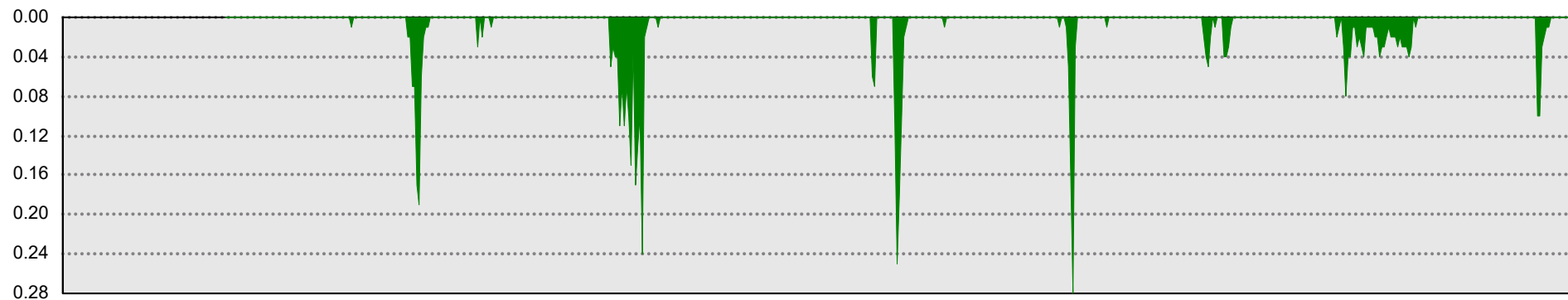
Crown and Eagle Road

Uxbridge, MA

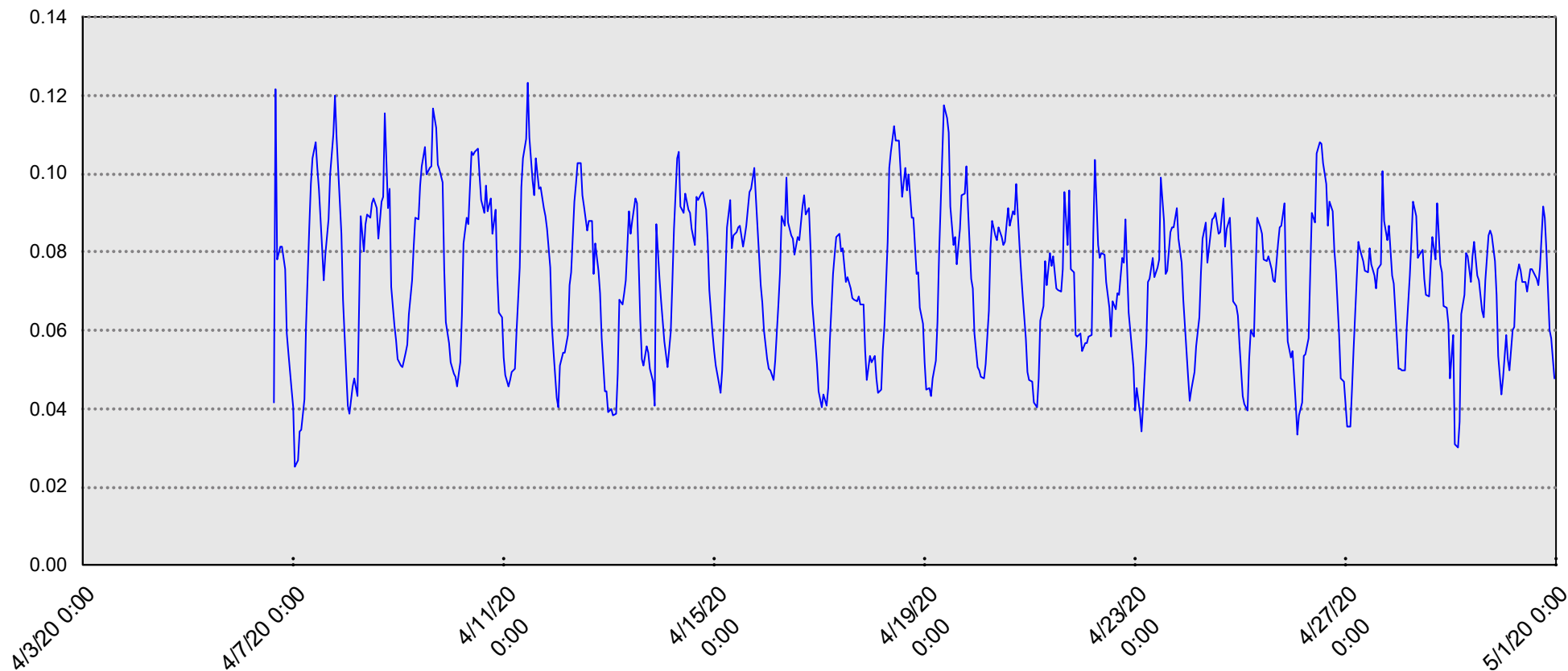


10" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 11

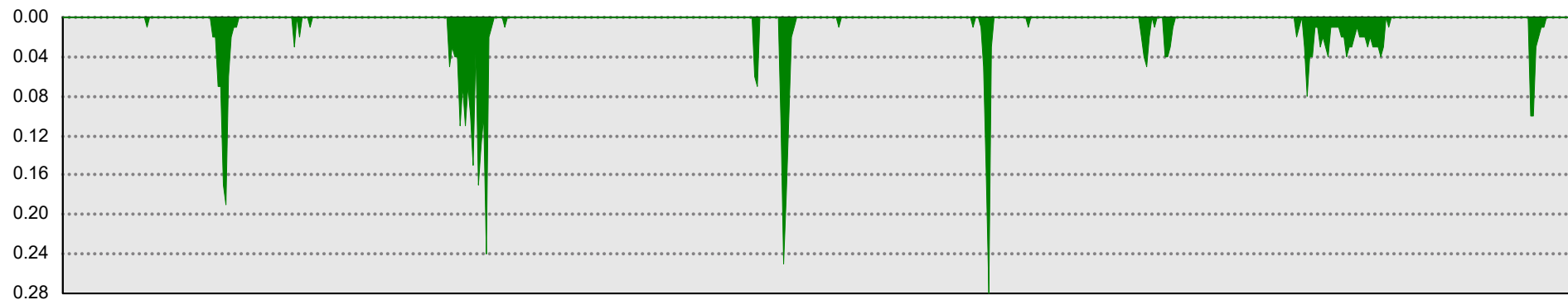
16 Mendon Street R.O.W.

Uxbridge, MA

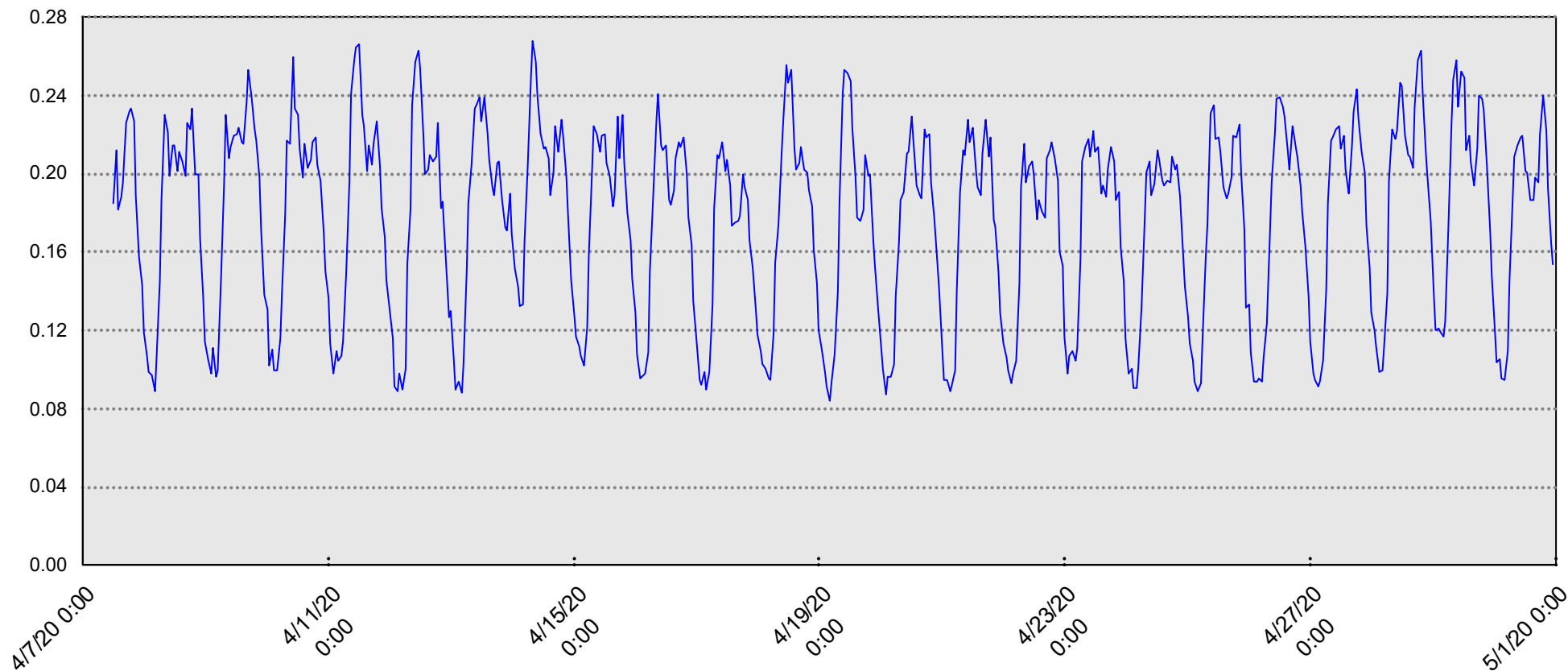


24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

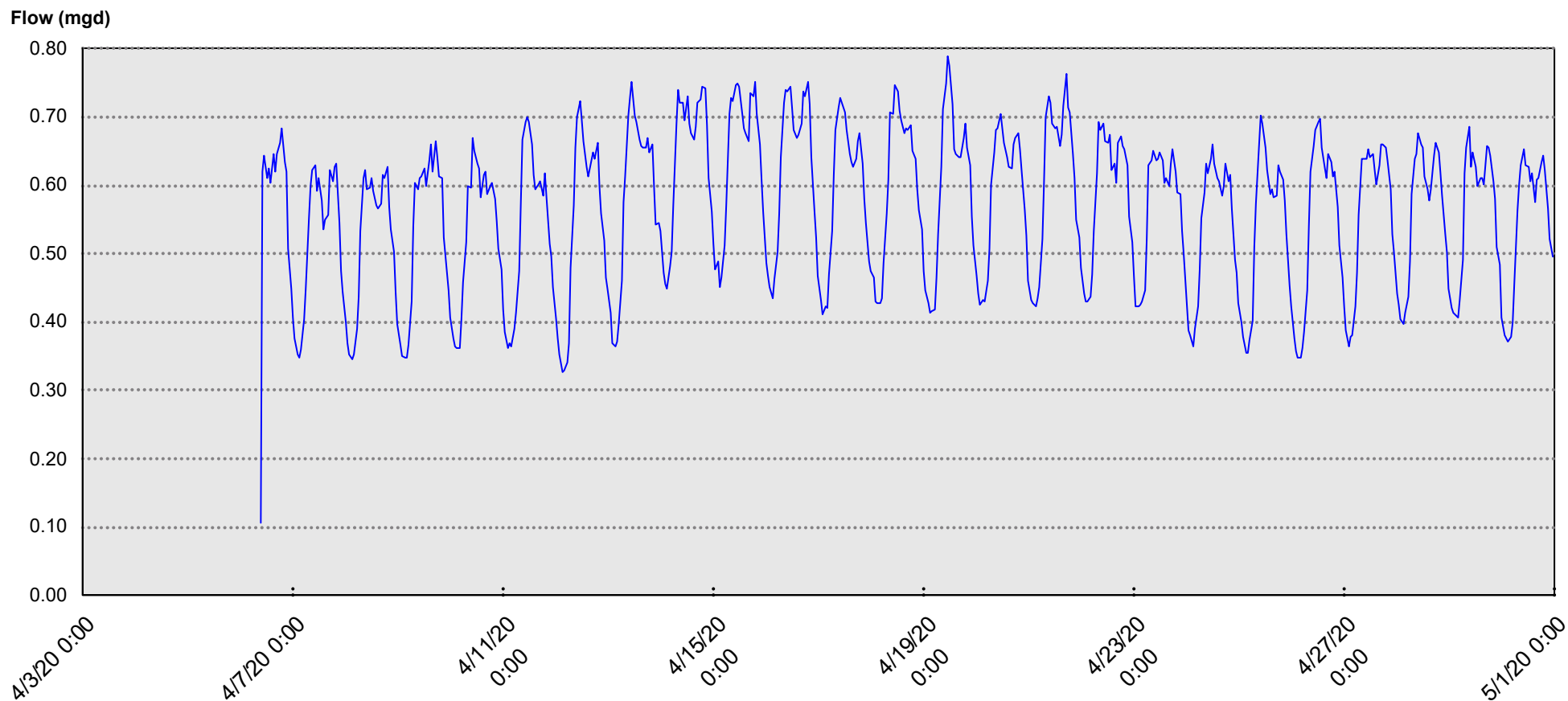
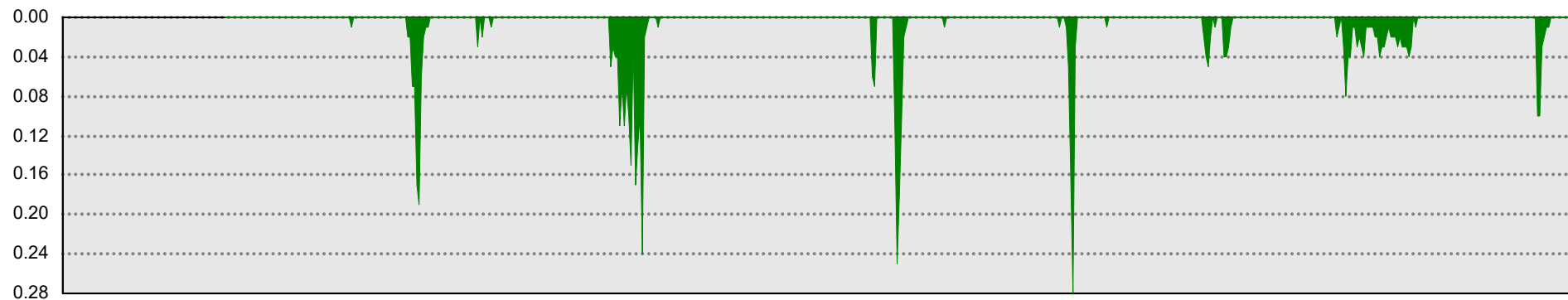
Site:
Site 12
11 South Main Street

Uxbridge, MA



24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow Analysis Graph

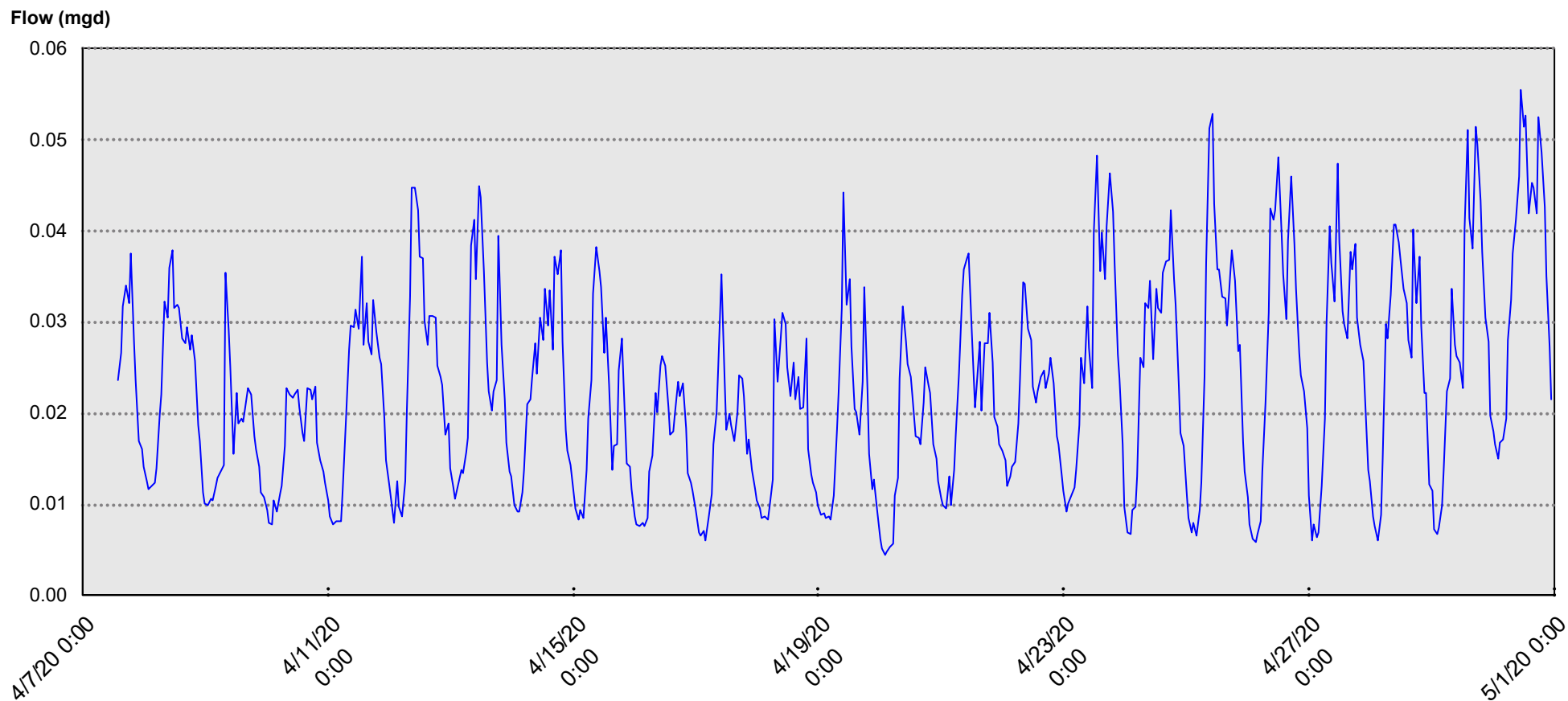
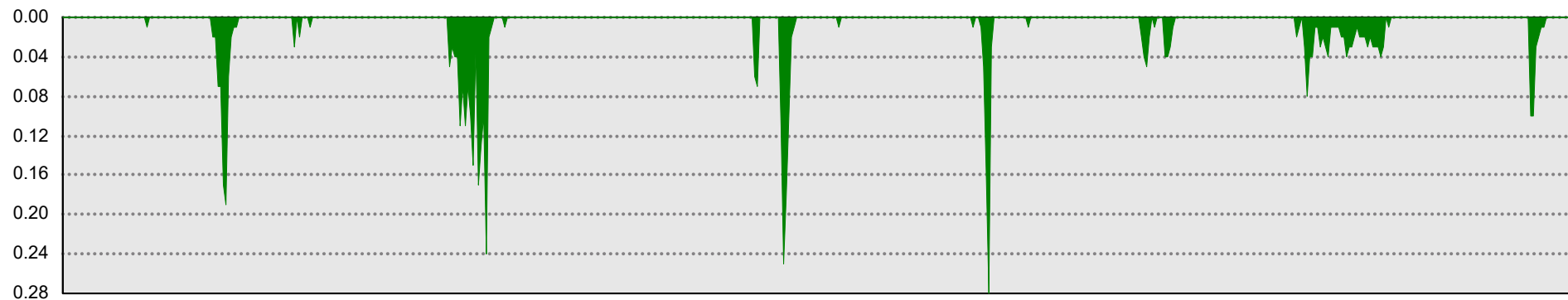
Site:
Site 13
DPW R.O.W.

Uxbridge, MA



16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow Analysis Graph

Site:
Site 14
145 Hecla Street

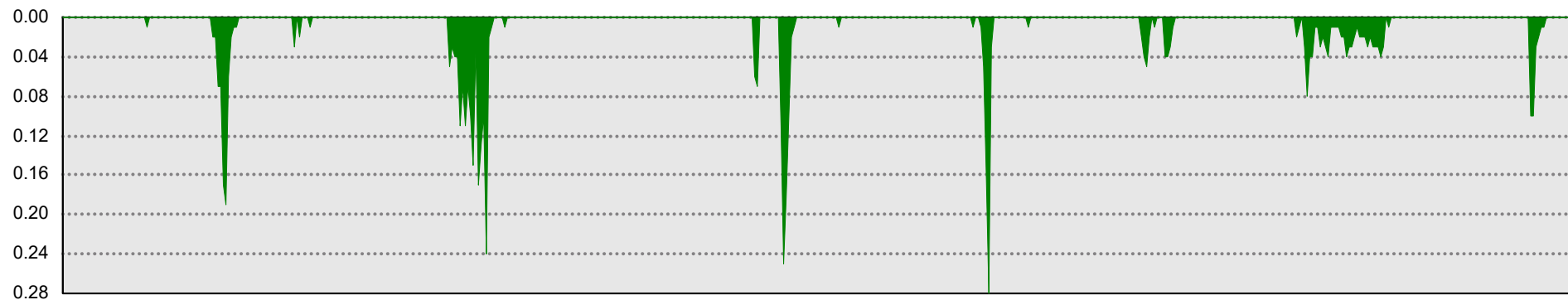
Uxbridge, MA



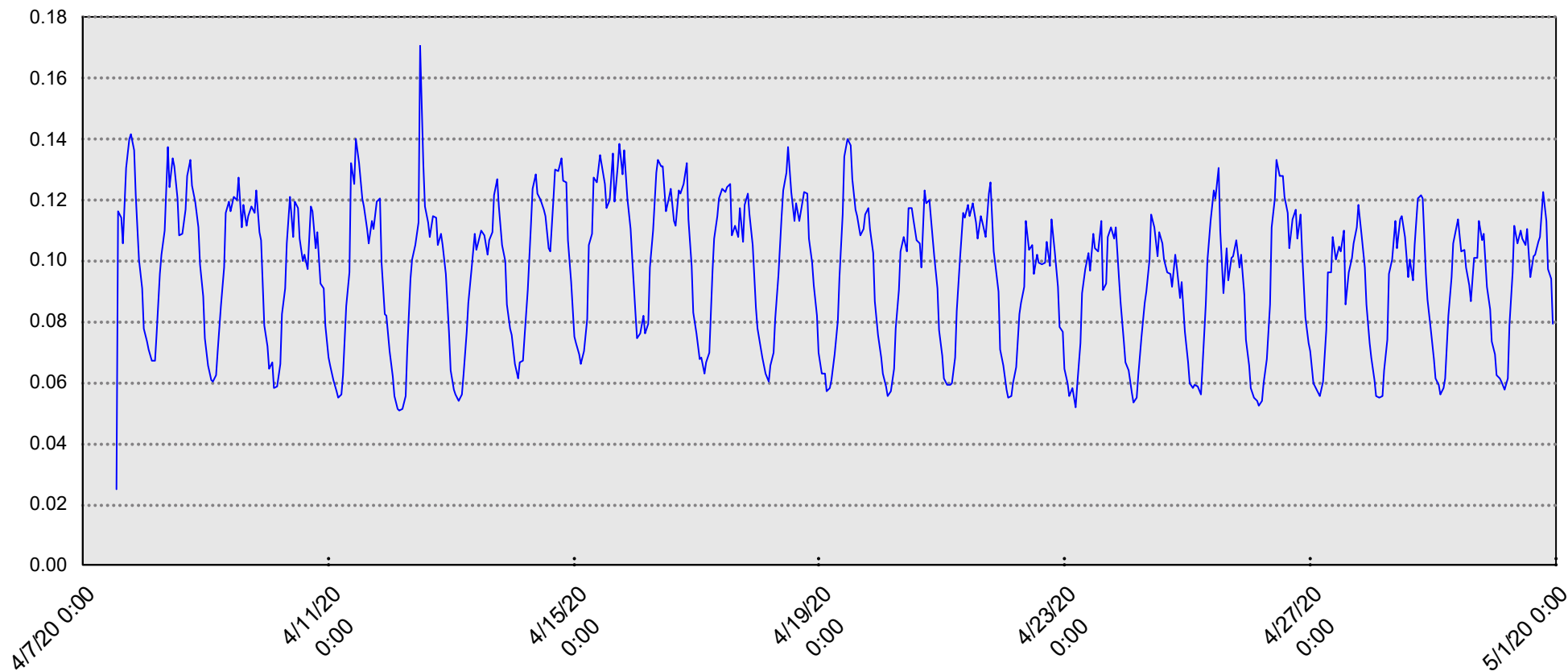
18" Circular line

Rain (in) Printed on: 8/3/2020

Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 15

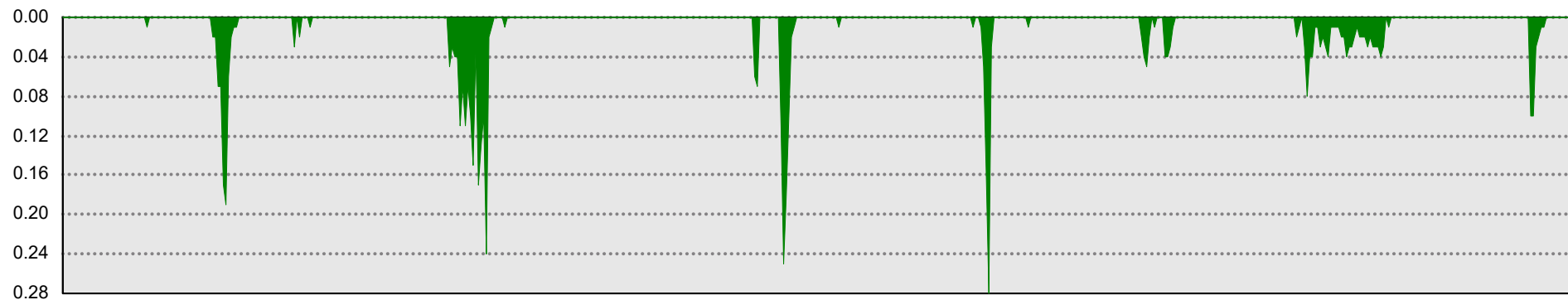
2 West River Road

Uxbridge, MA

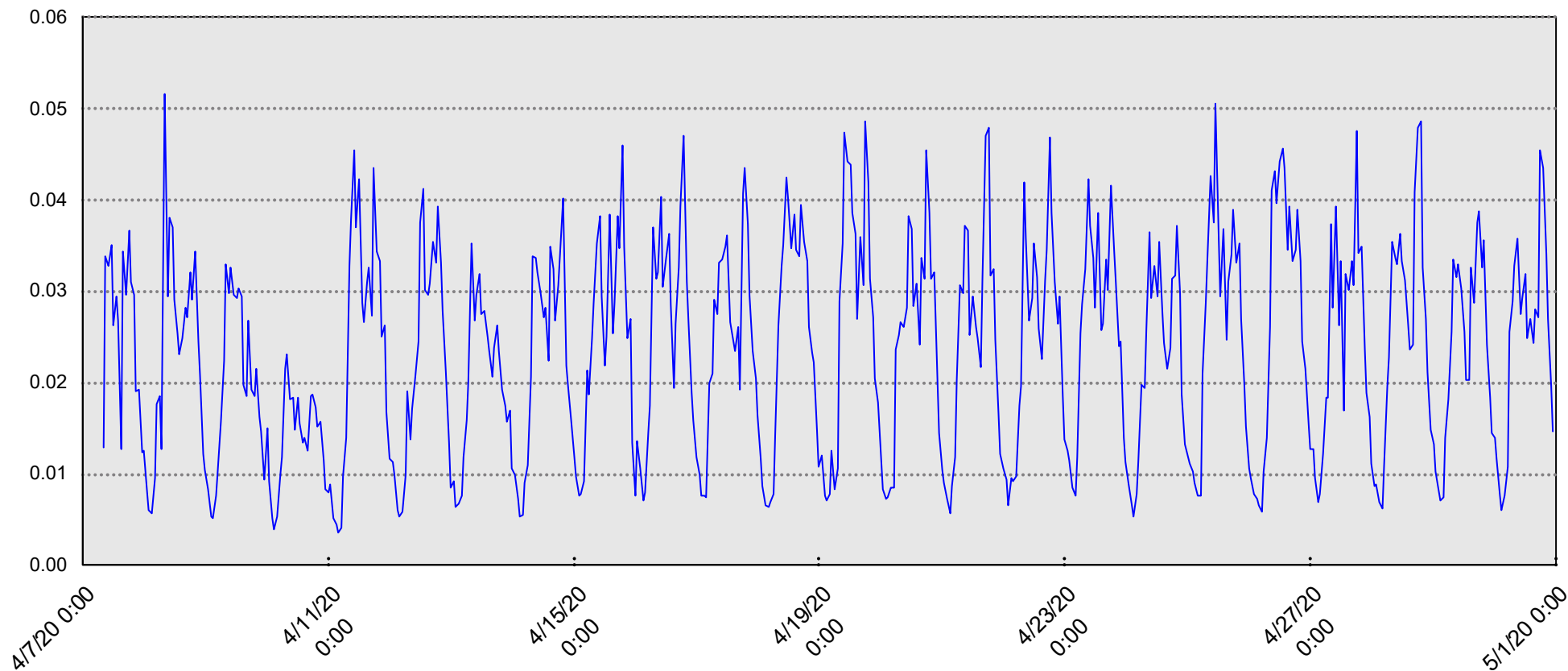


6" Palmer-Bowlus flume in an 8" line

Rain (in) Printed on: 8/3/2020 Period Covered: 04/06/2020 - 05/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 1

WWTP R.O.W.

Uxbridge, MA



30" Circular line

Rain (in)

Printed on:

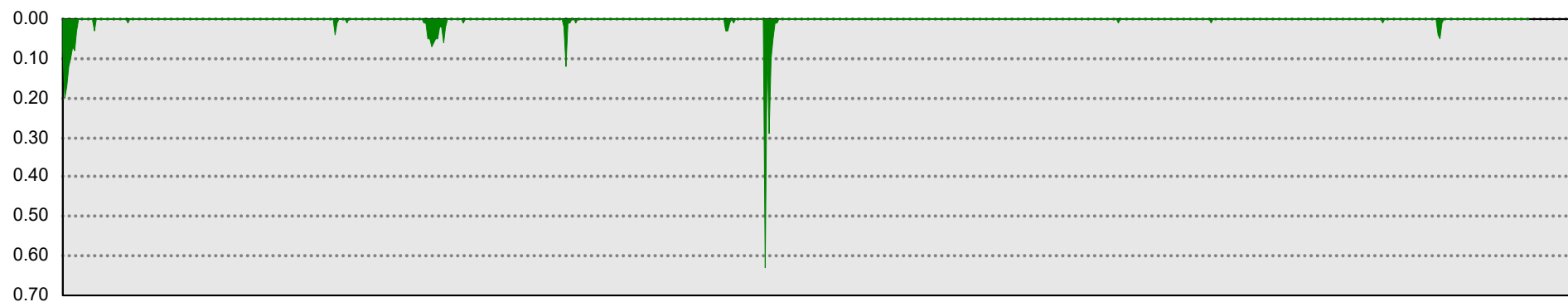
8/3/2020

Period Covered:

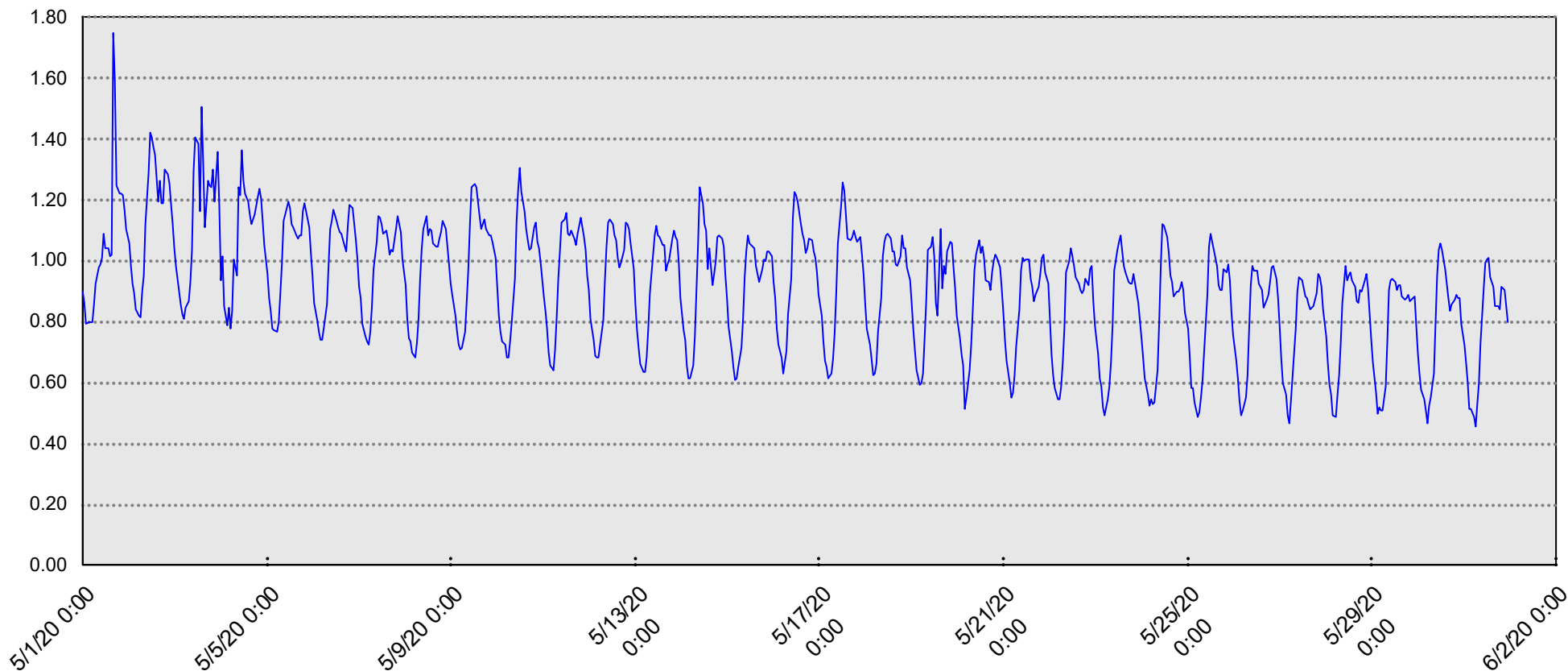
05/01/2020

- 06/01/2020

Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 2

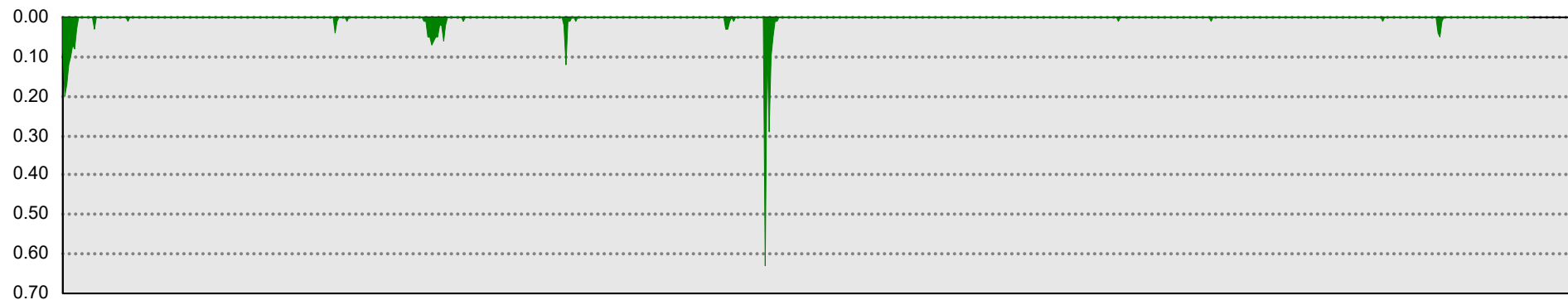
South Main Street R.O.W.

Uxbridge, MA

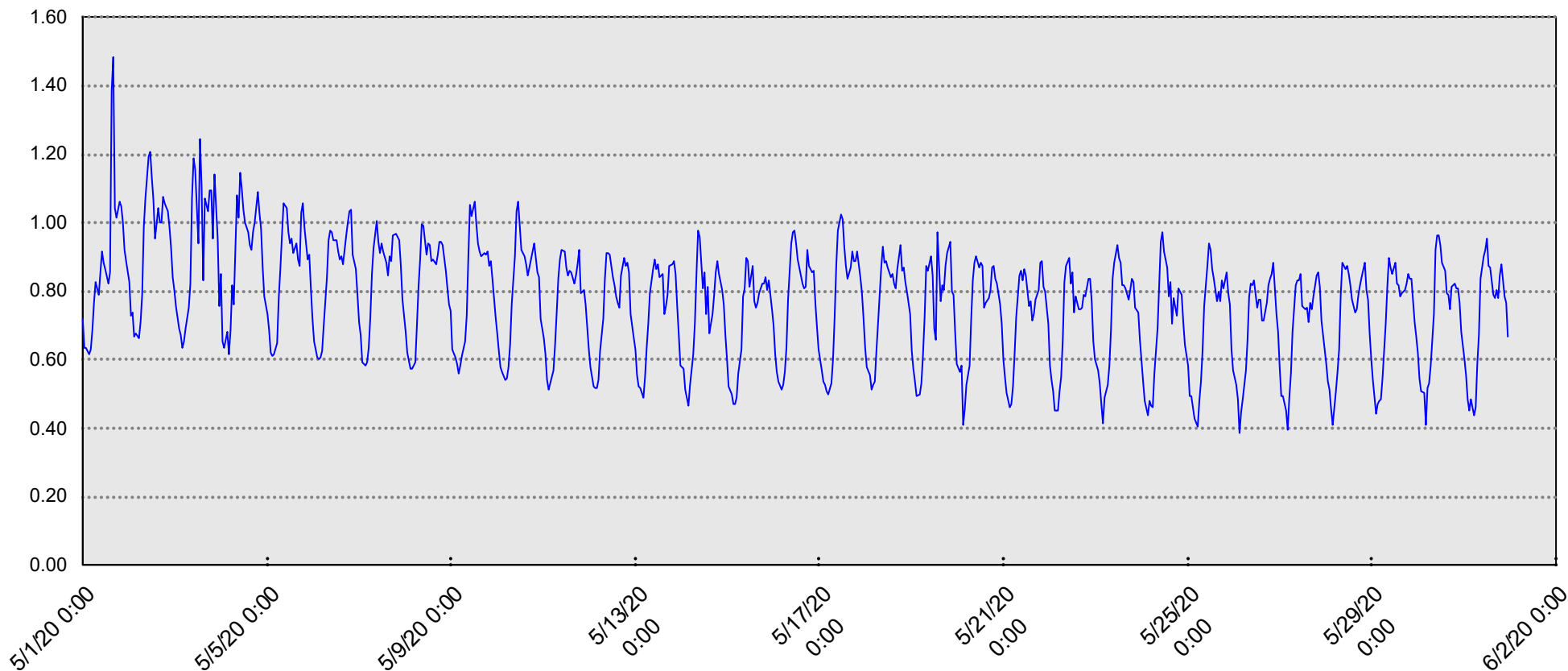


30" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 3

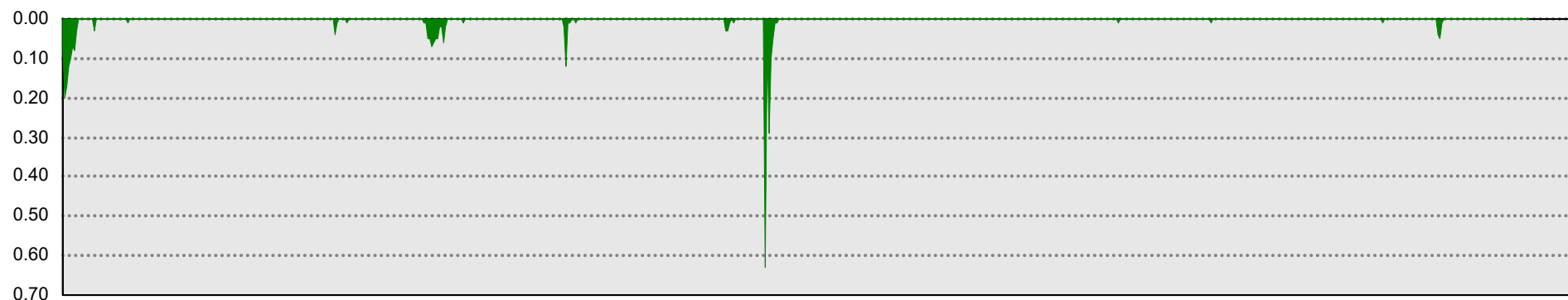
South Main Street R.O.W.

Uxbridge, MA

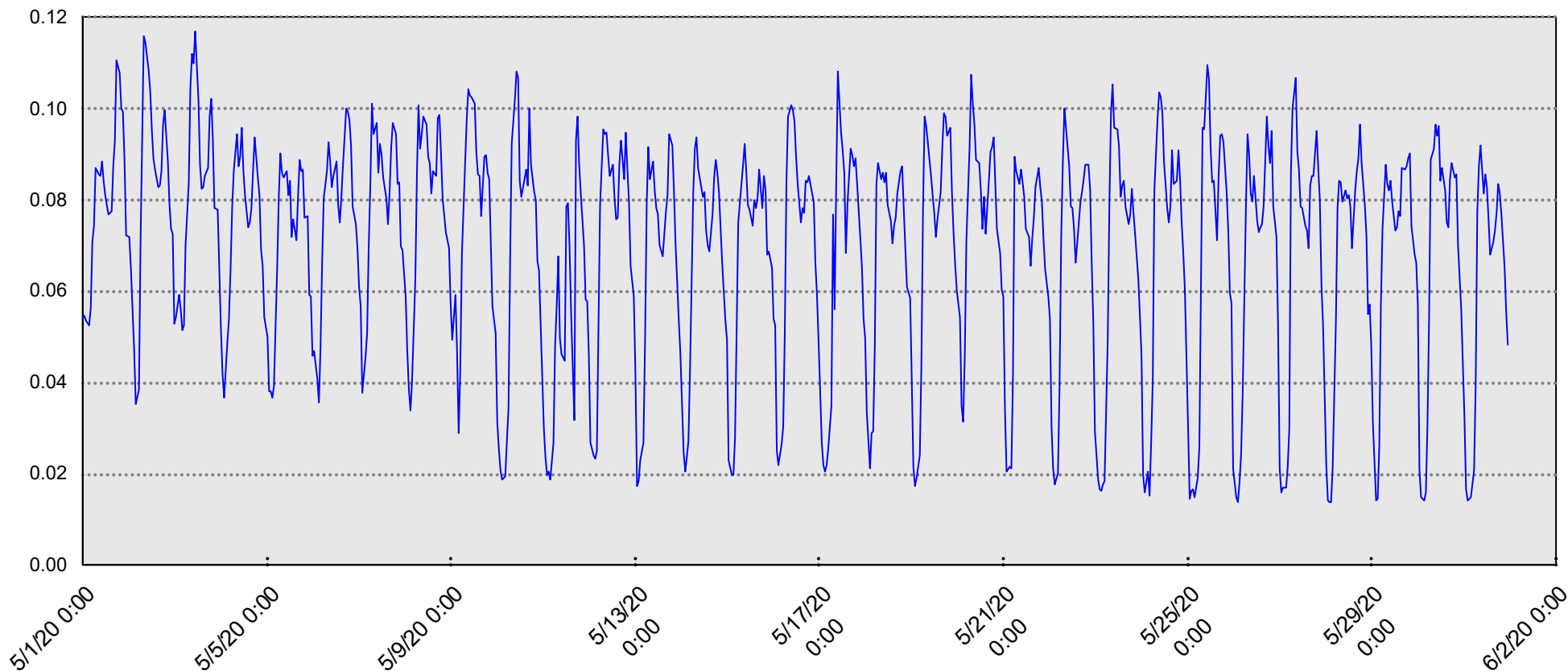


8" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 4

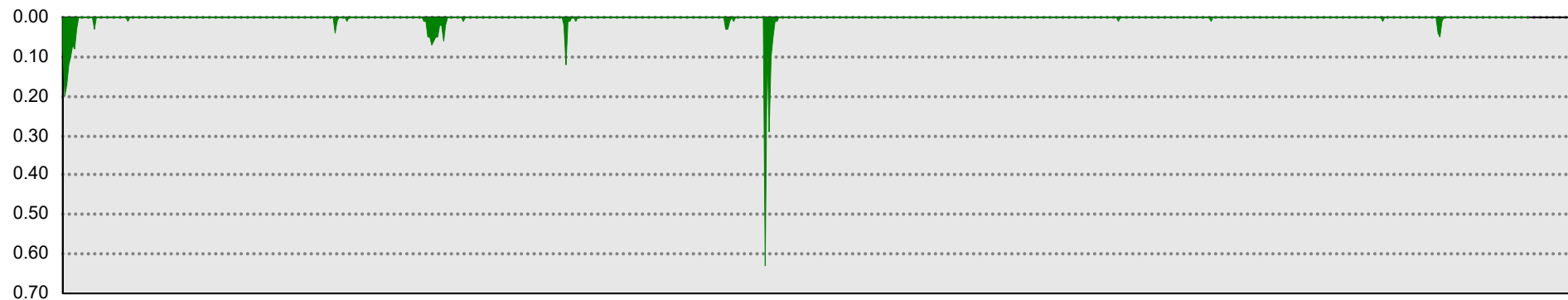
36 South Main Street

Uxbridge, MA

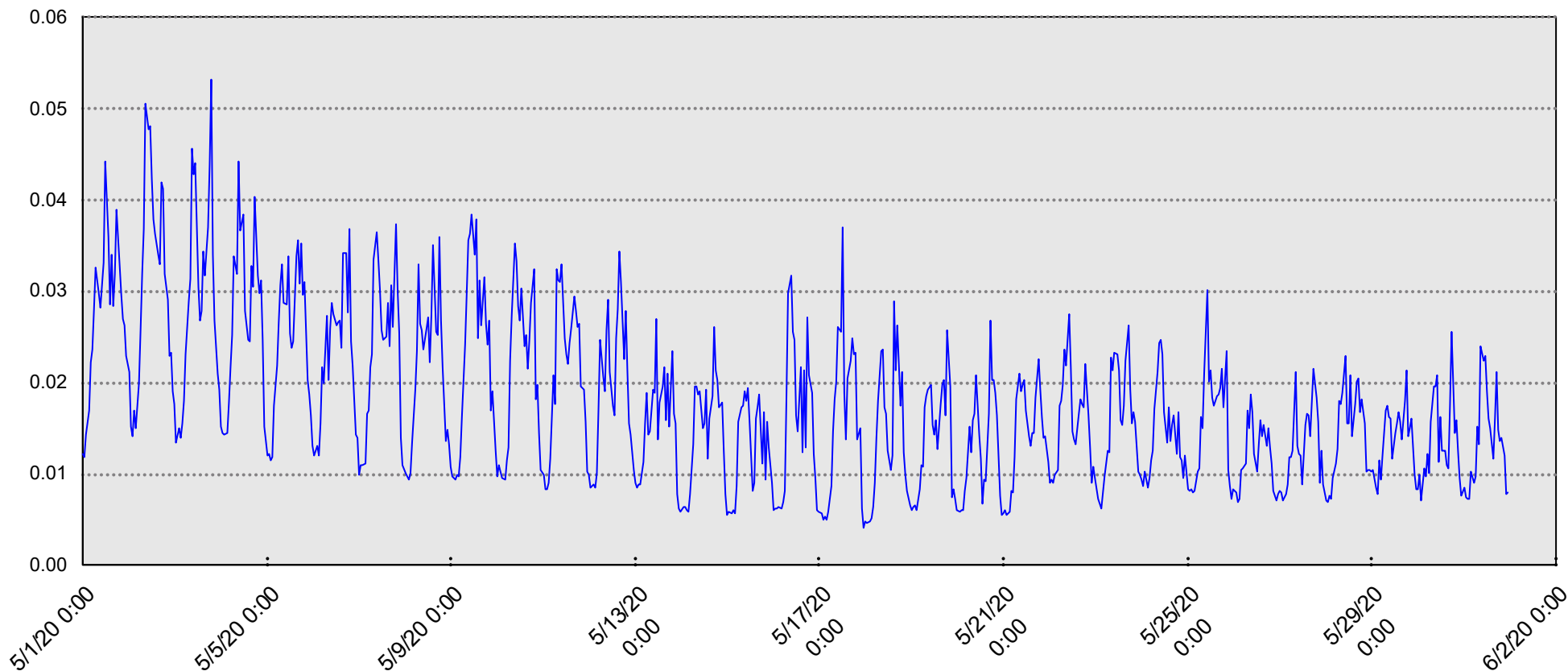


8" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 5

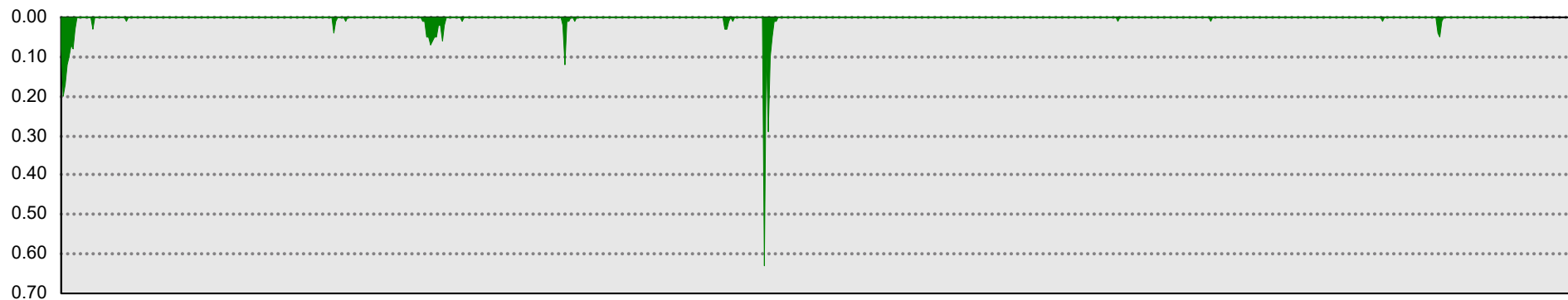
Douglas Street at Snowling Road

Uxbridge, MA

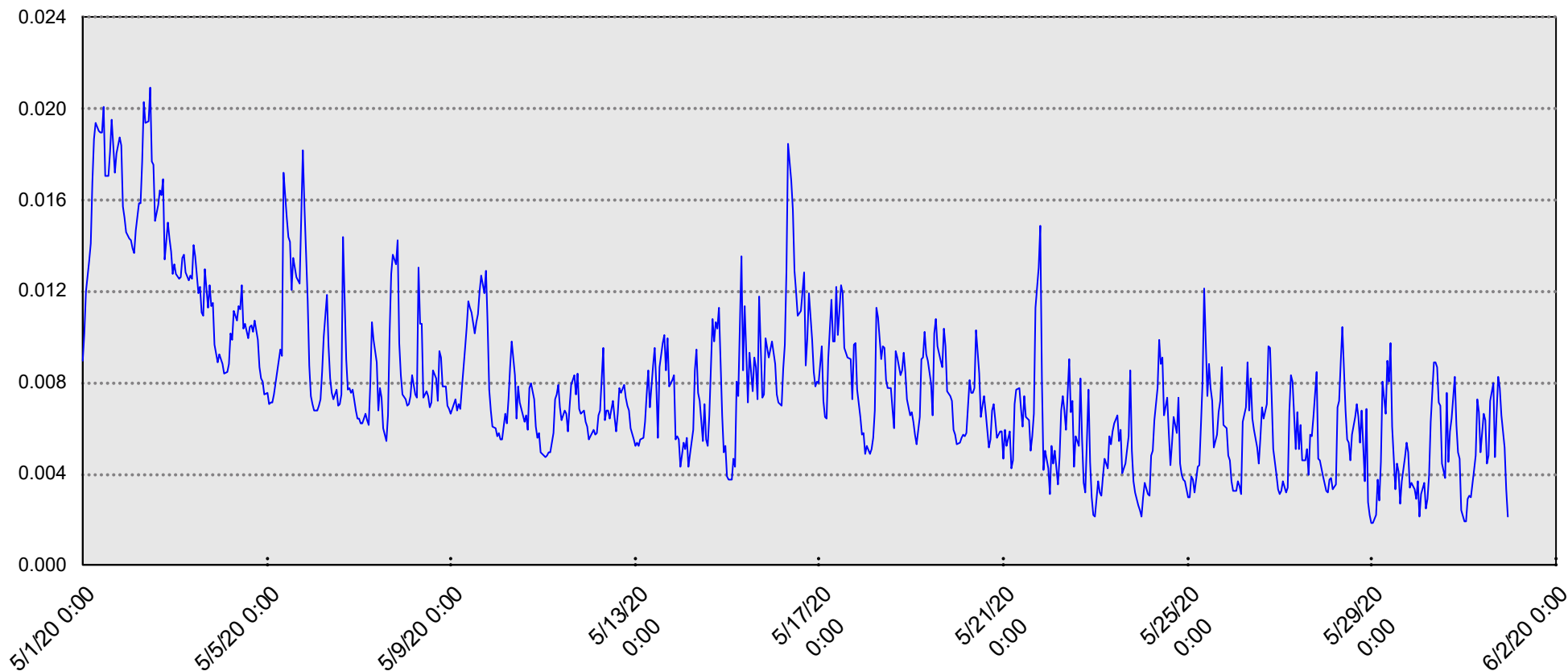


8" Circular line

Rain (in) **Printed on:** 8/3/2020 **Period Covered:** 05/01/2020 - 06/01/2020 **Every** 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 6

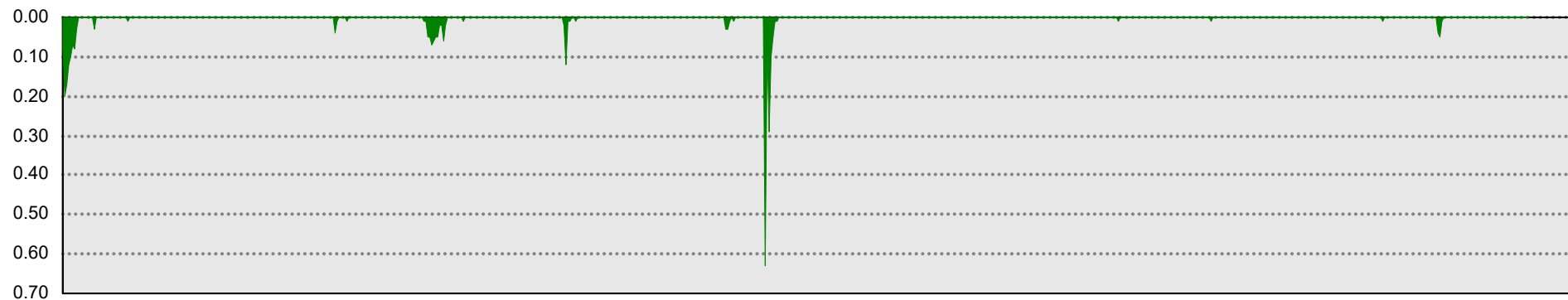
2 Snowling Road

Uxbridge, MA

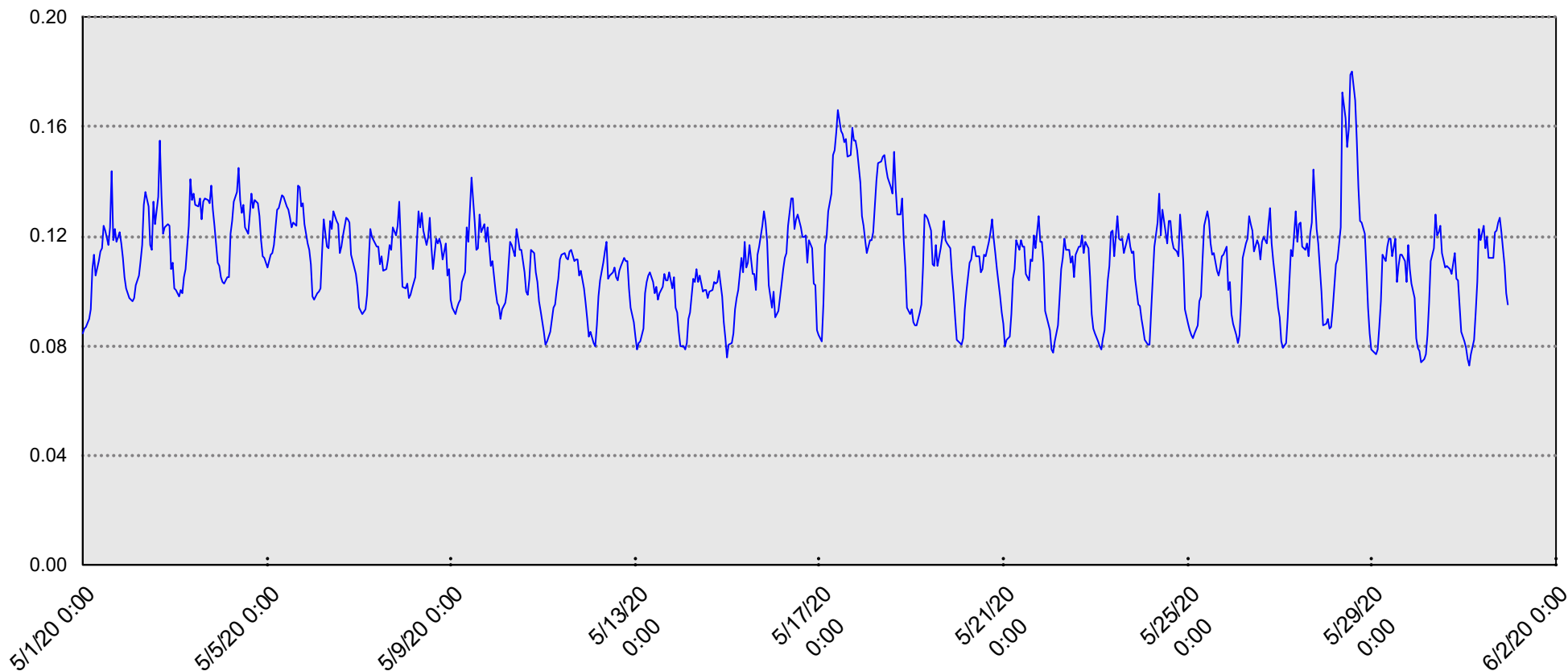


12" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 7

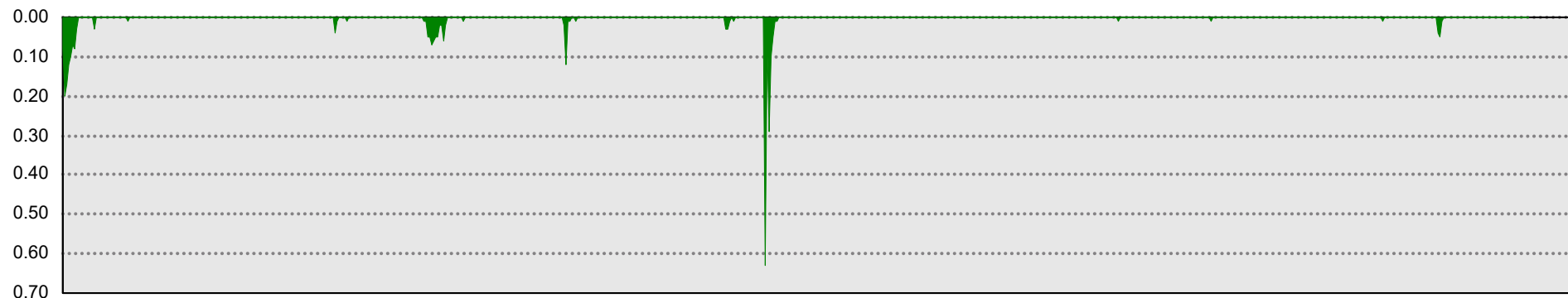
105 Douglas Street

Uxbridge, MA

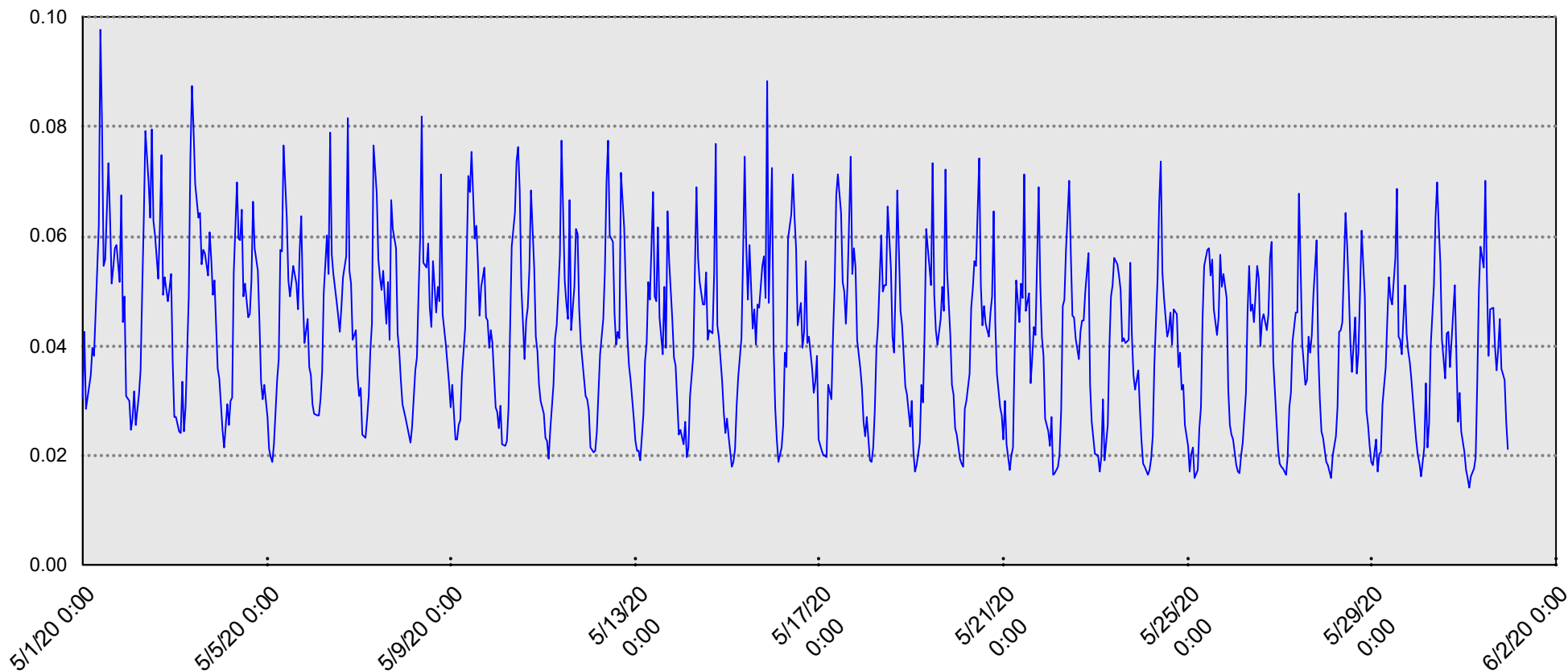


12" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 8

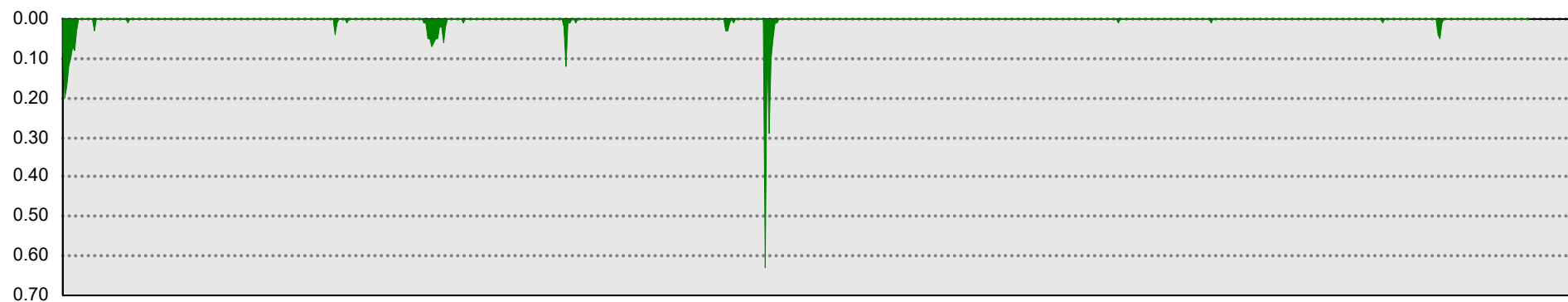
277 North Main Street

Uxbridge, MA

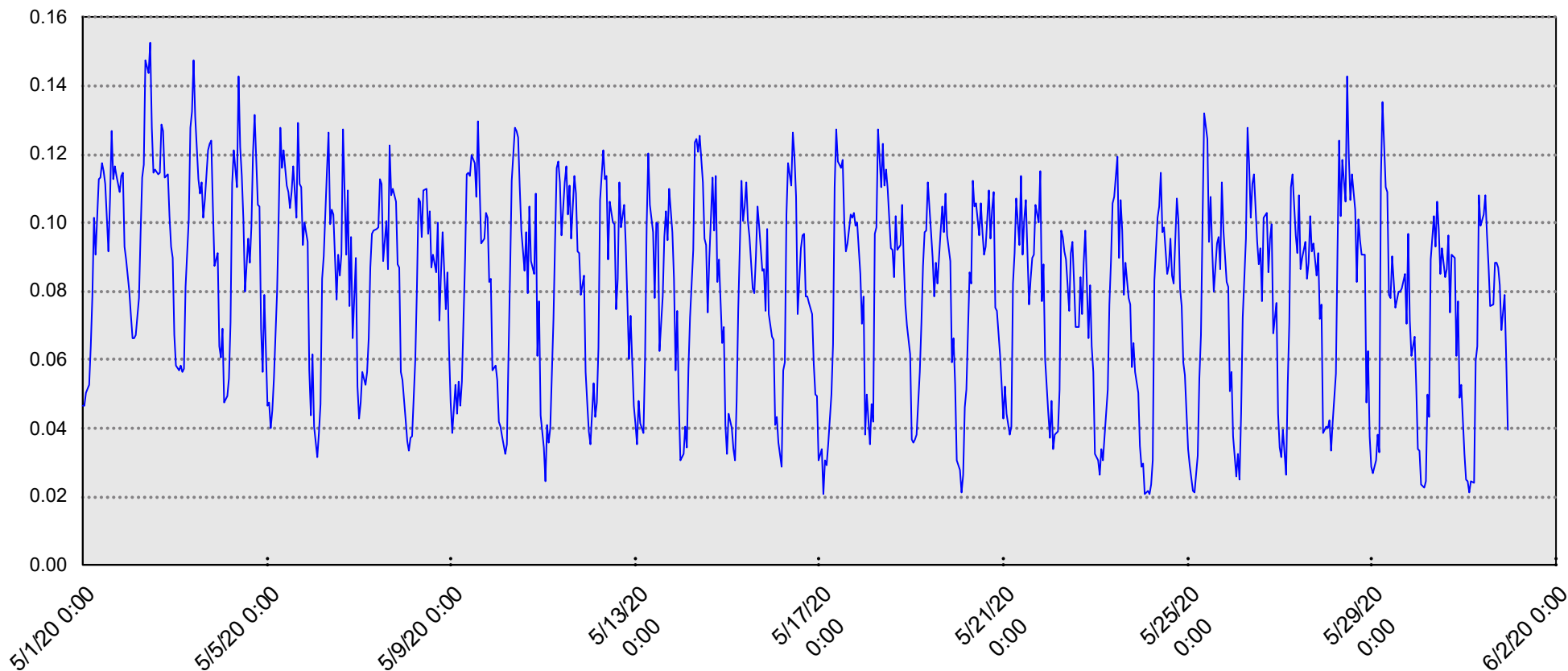


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 9

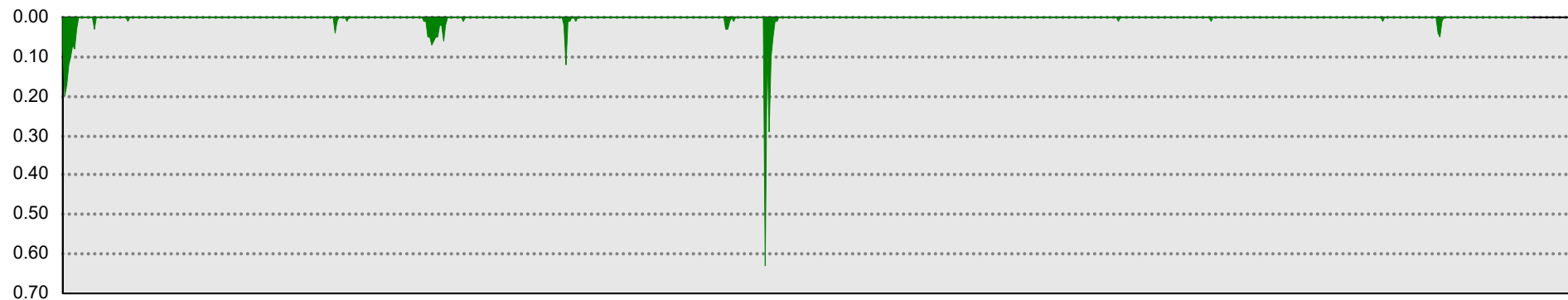
School Street R.O.W.

Uxbridge, MA

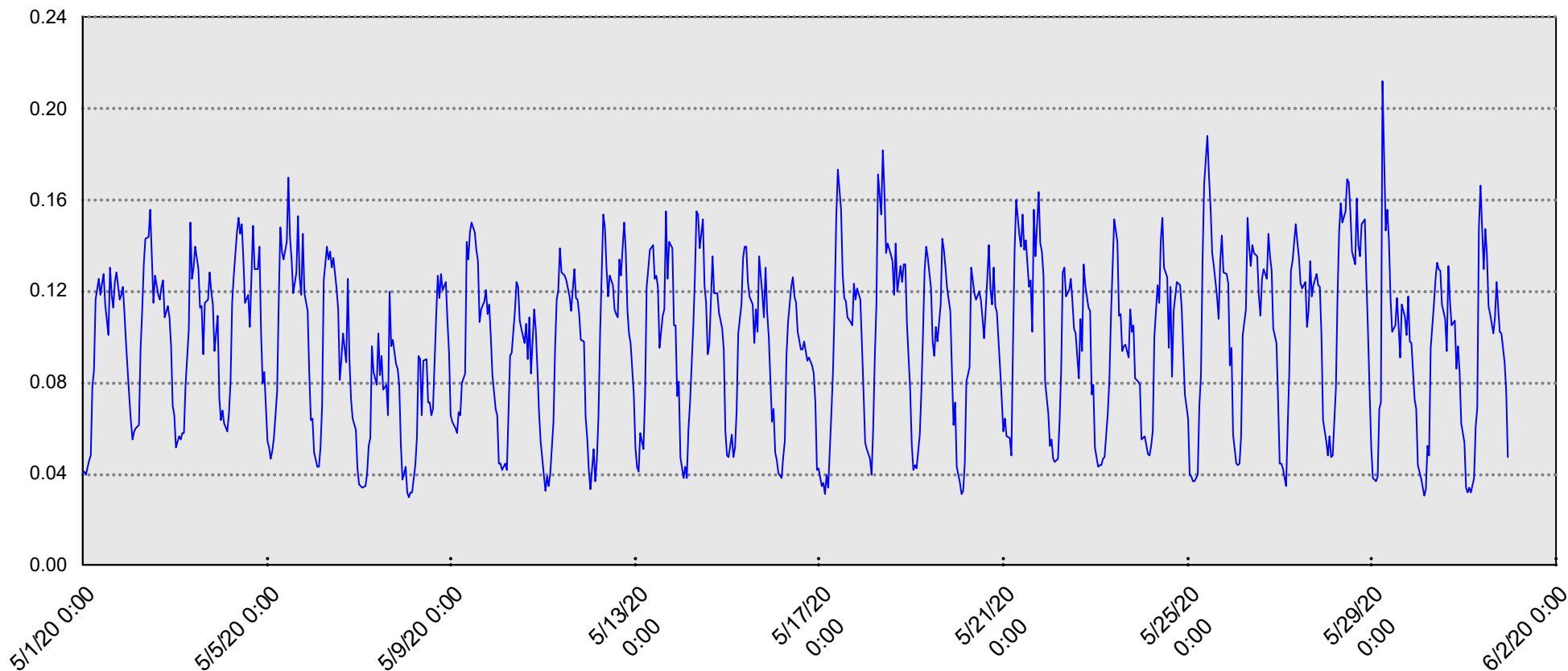


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 10

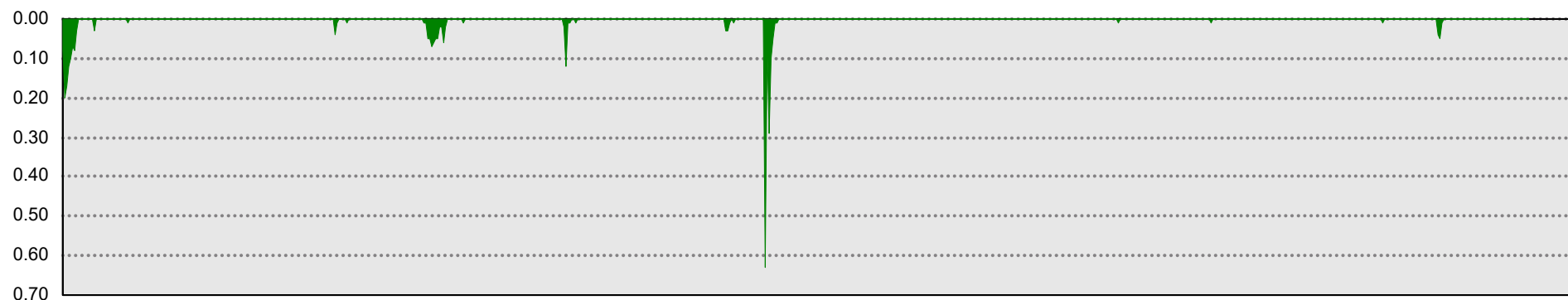
Crown and Eagle Road

Uxbridge, MA

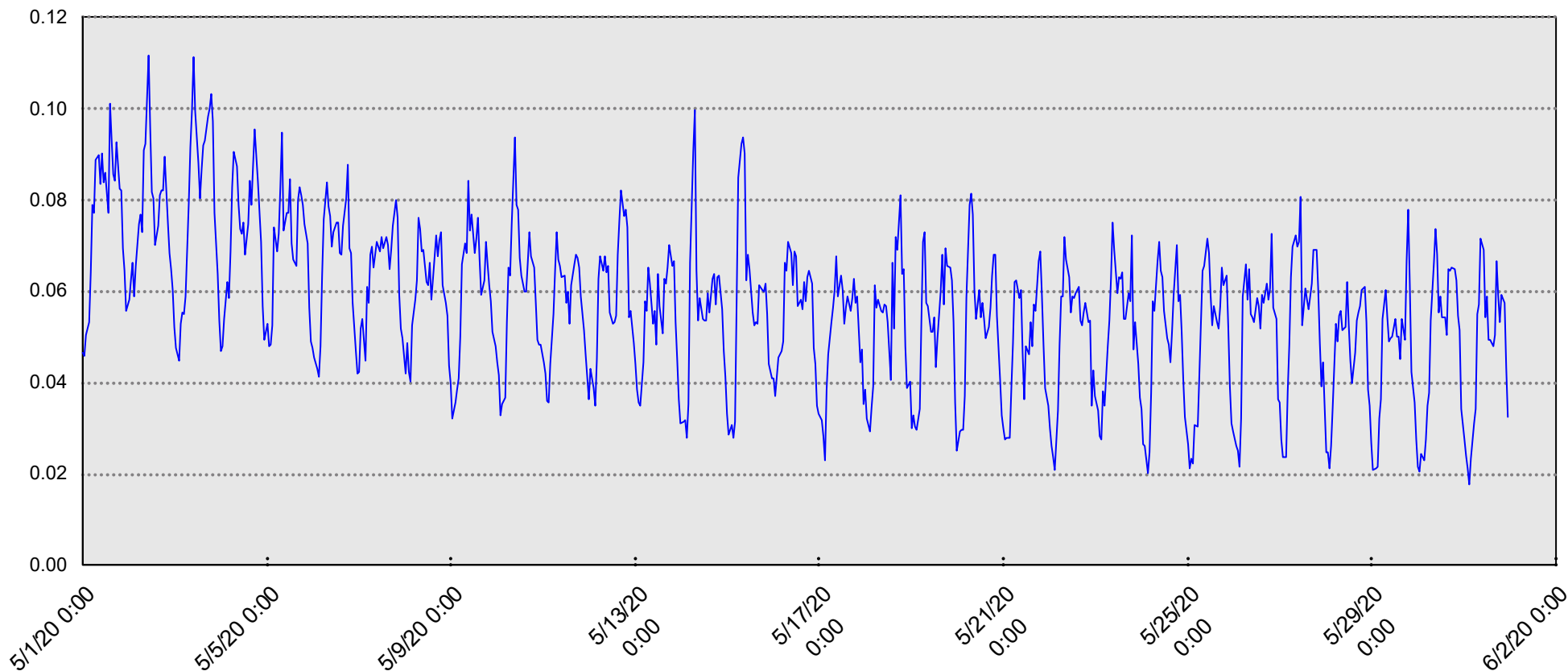


10" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 11

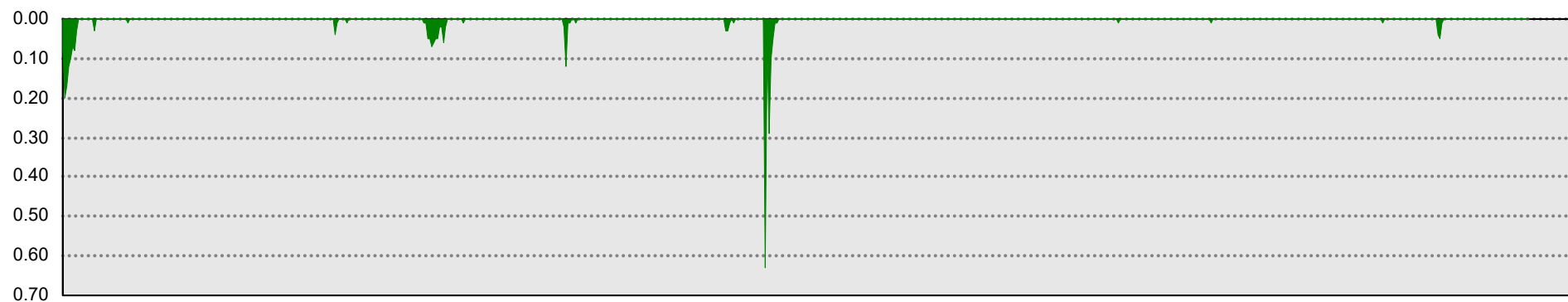
16 Mendon Street R.O.W.

Uxbridge, MA

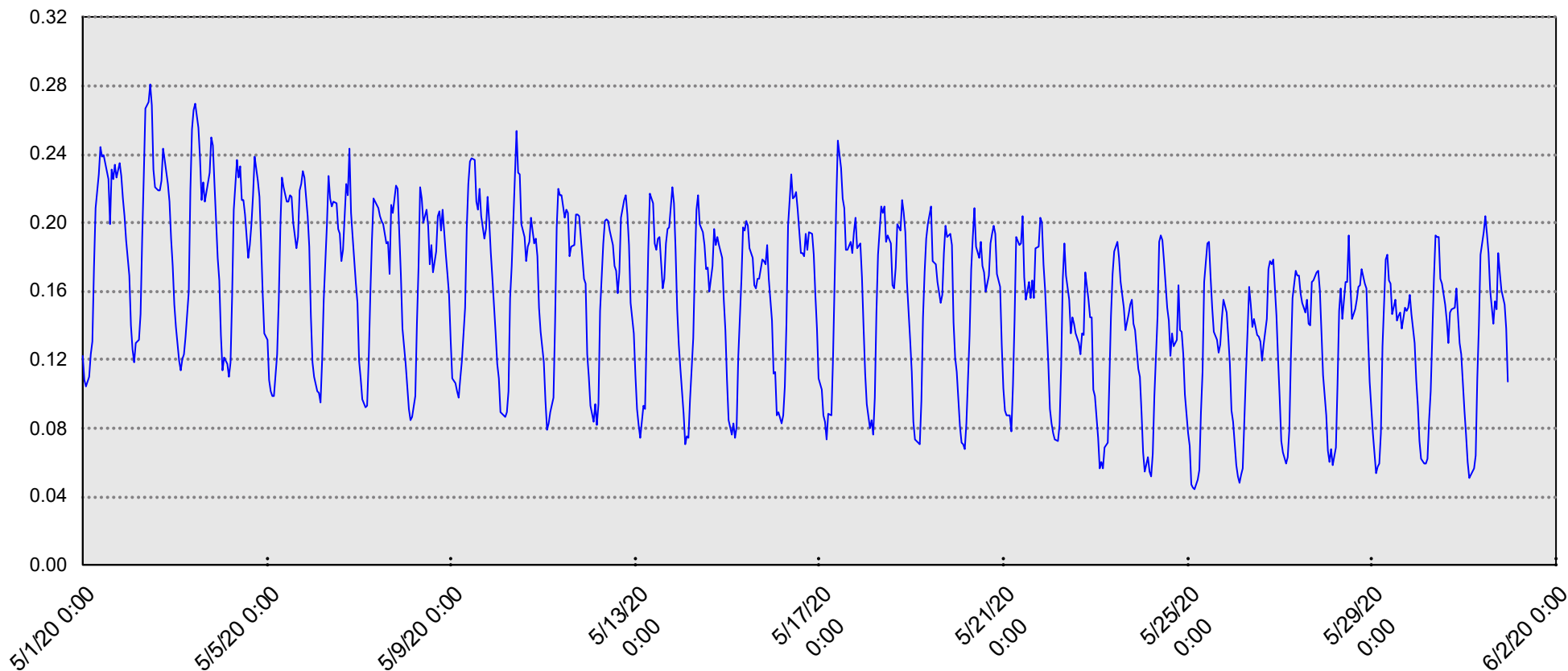


24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 12

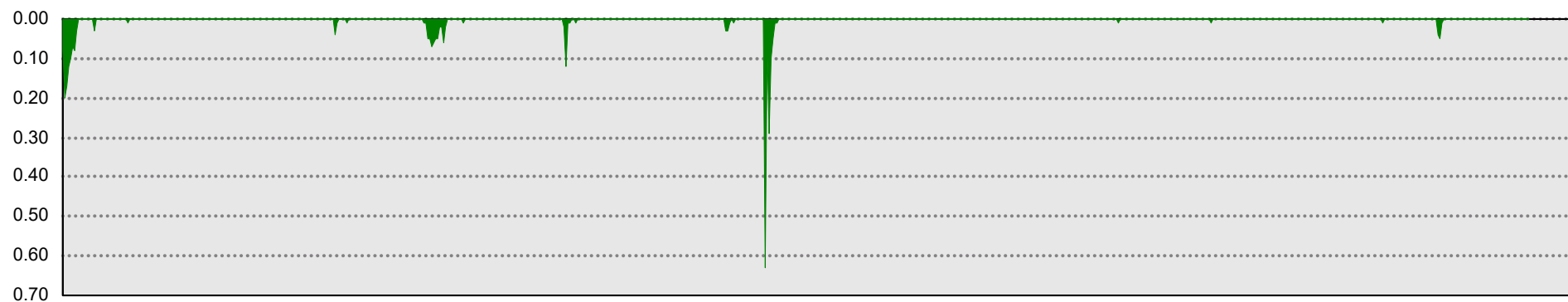
11 South Main Street

Uxbridge, MA

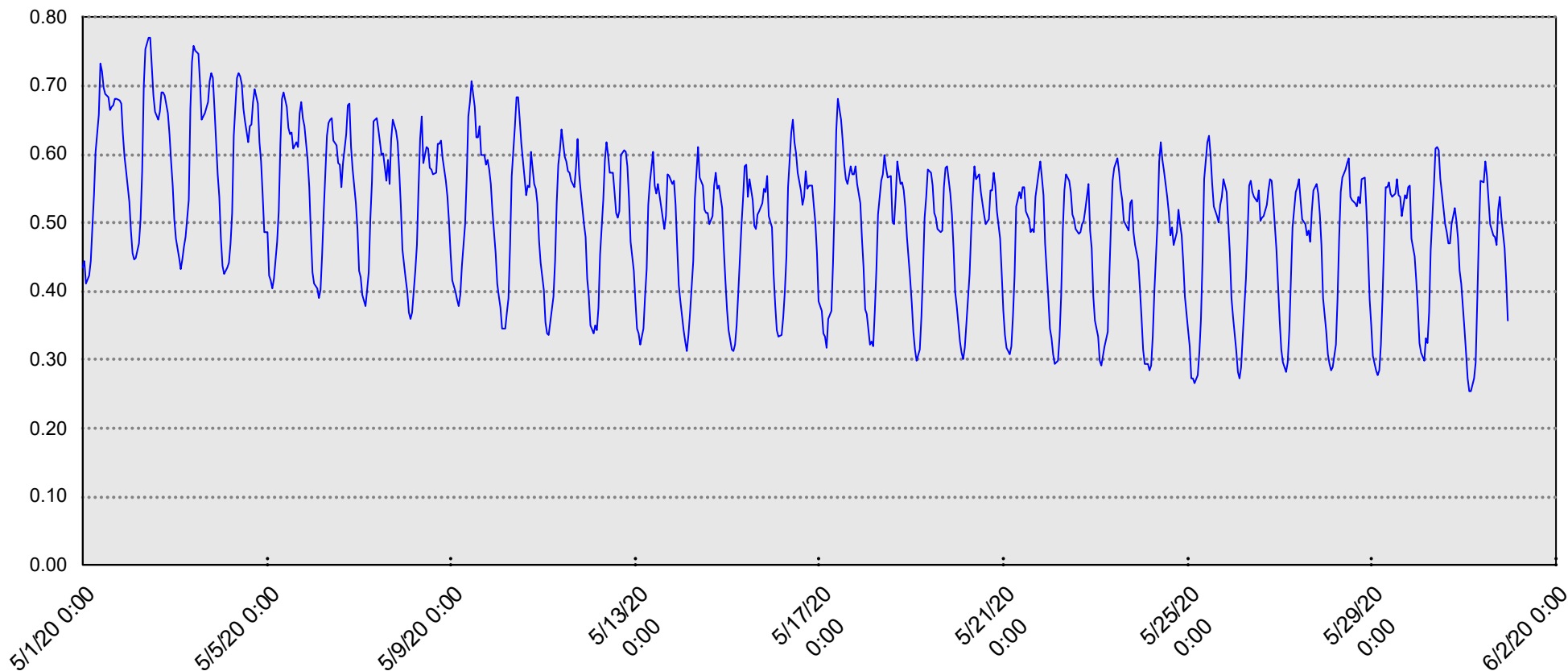


24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 13

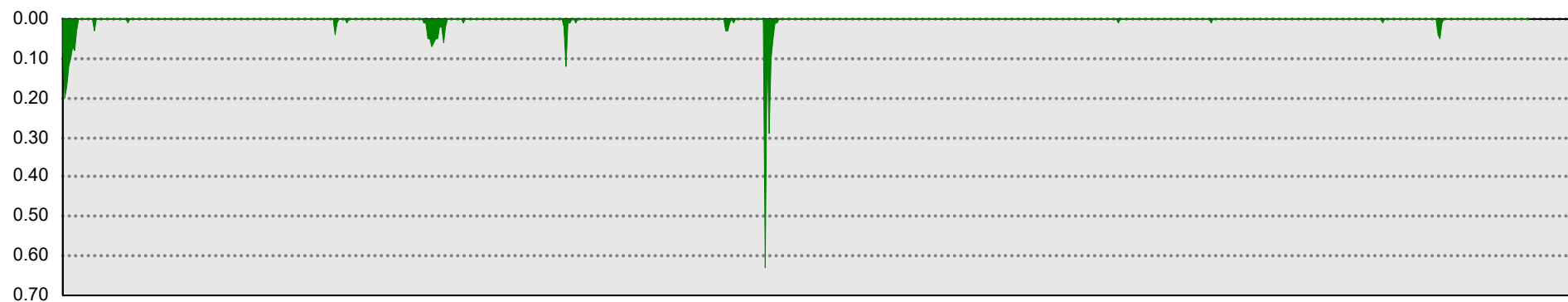
DPW R.O.W.

Uxbridge, MA

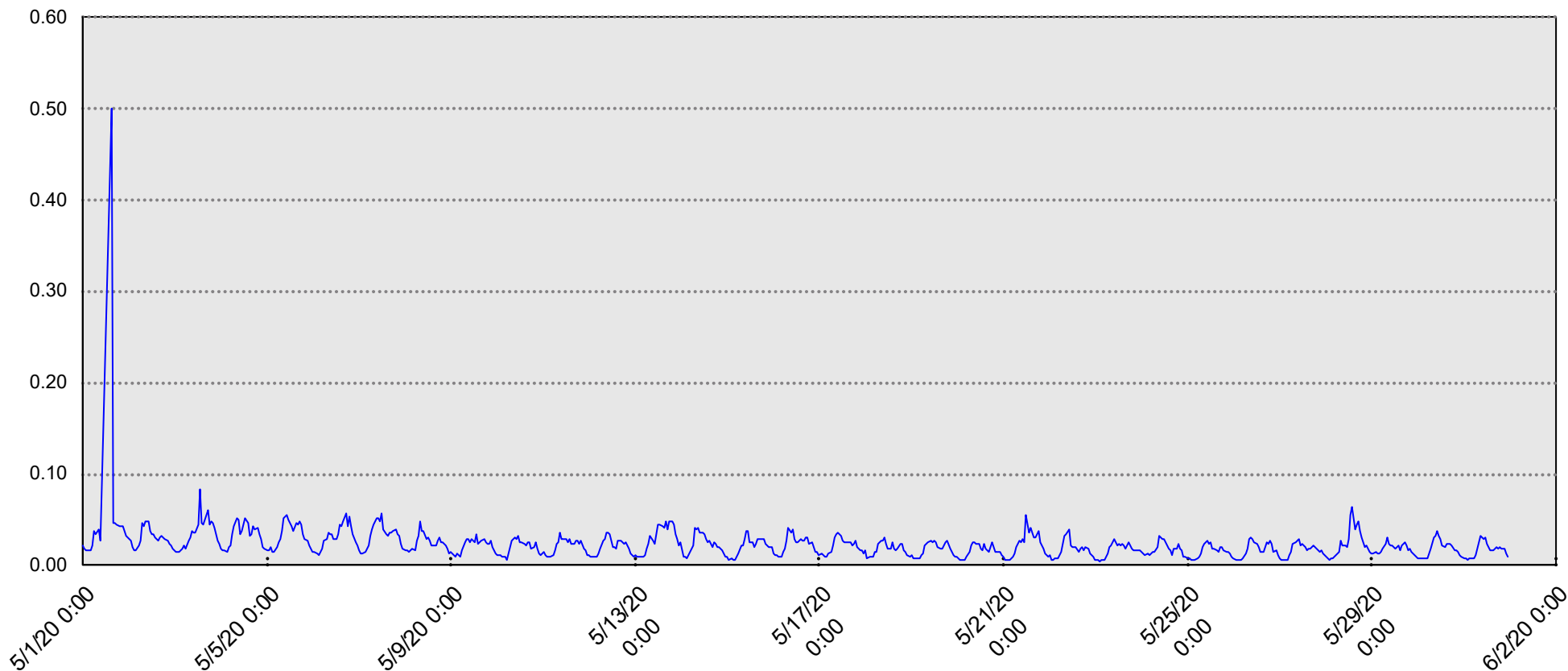


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 14

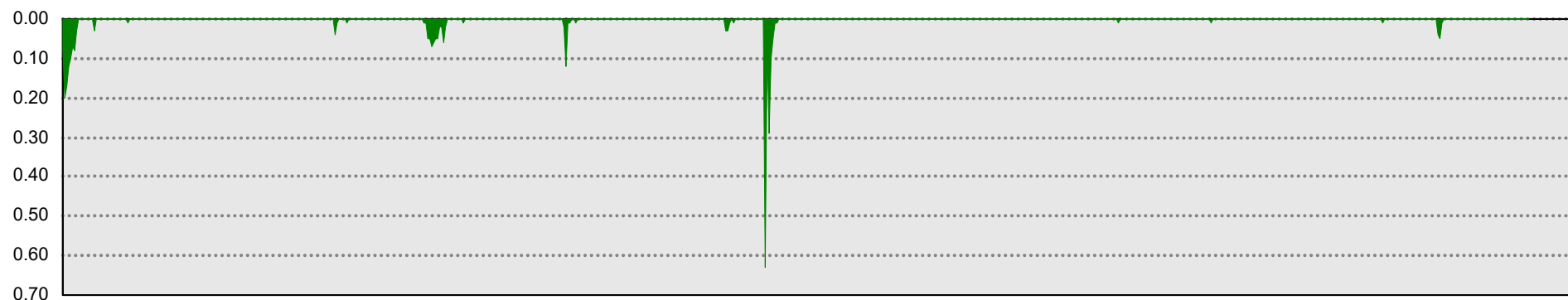
145 Hecla Street

Uxbridge, MA

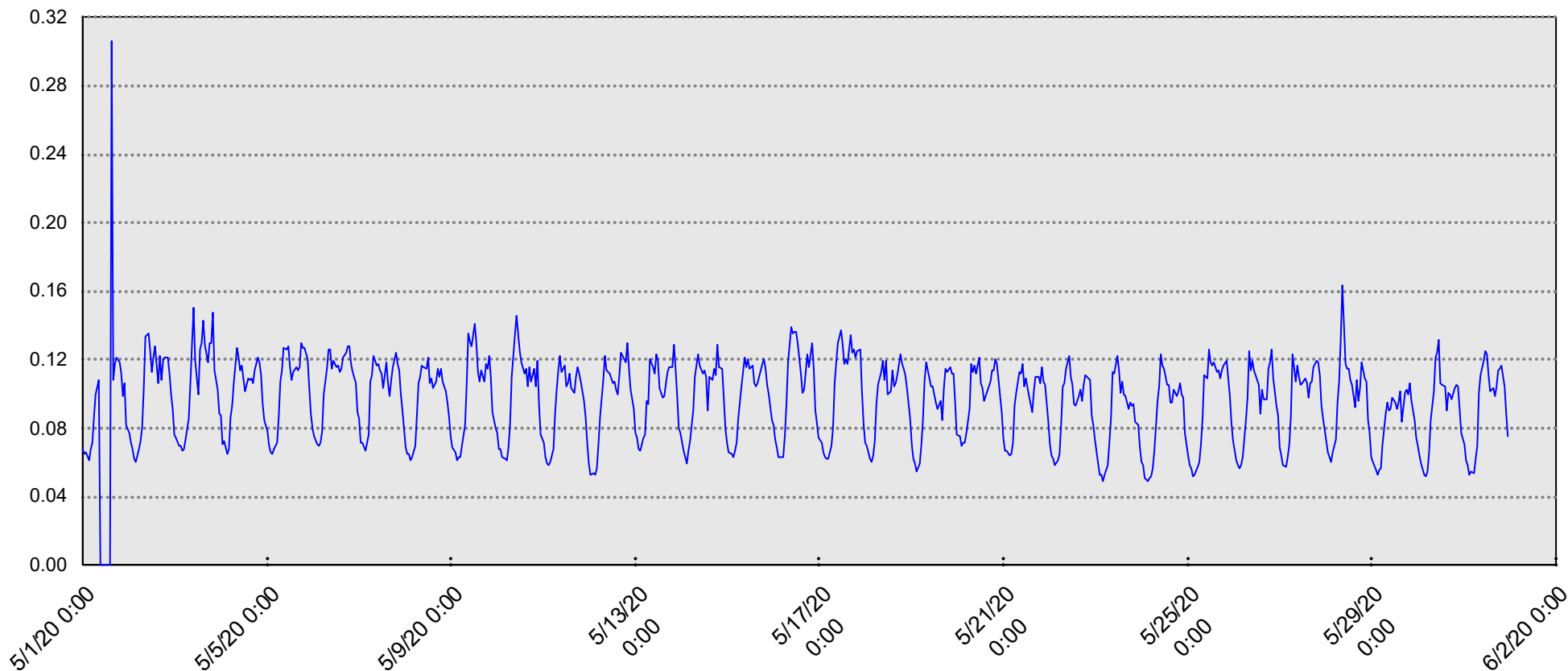


18" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 15

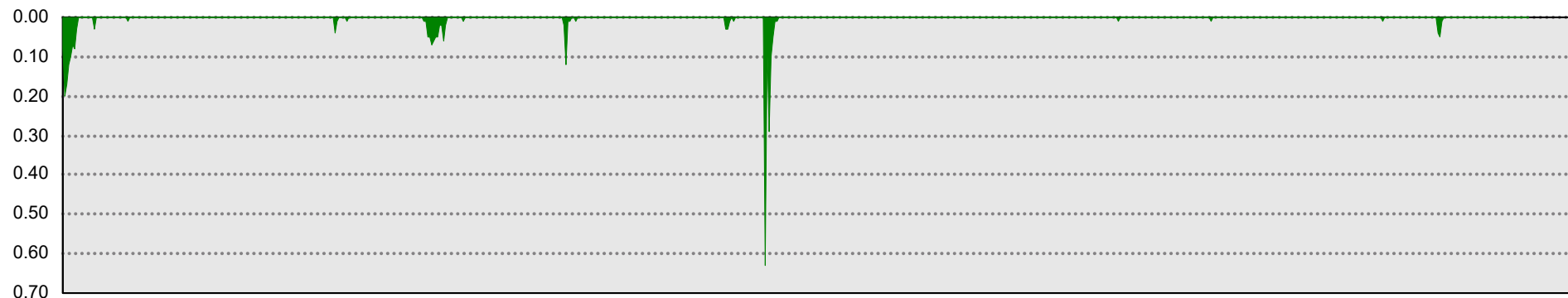
2 West River Road

Uxbridge, MA

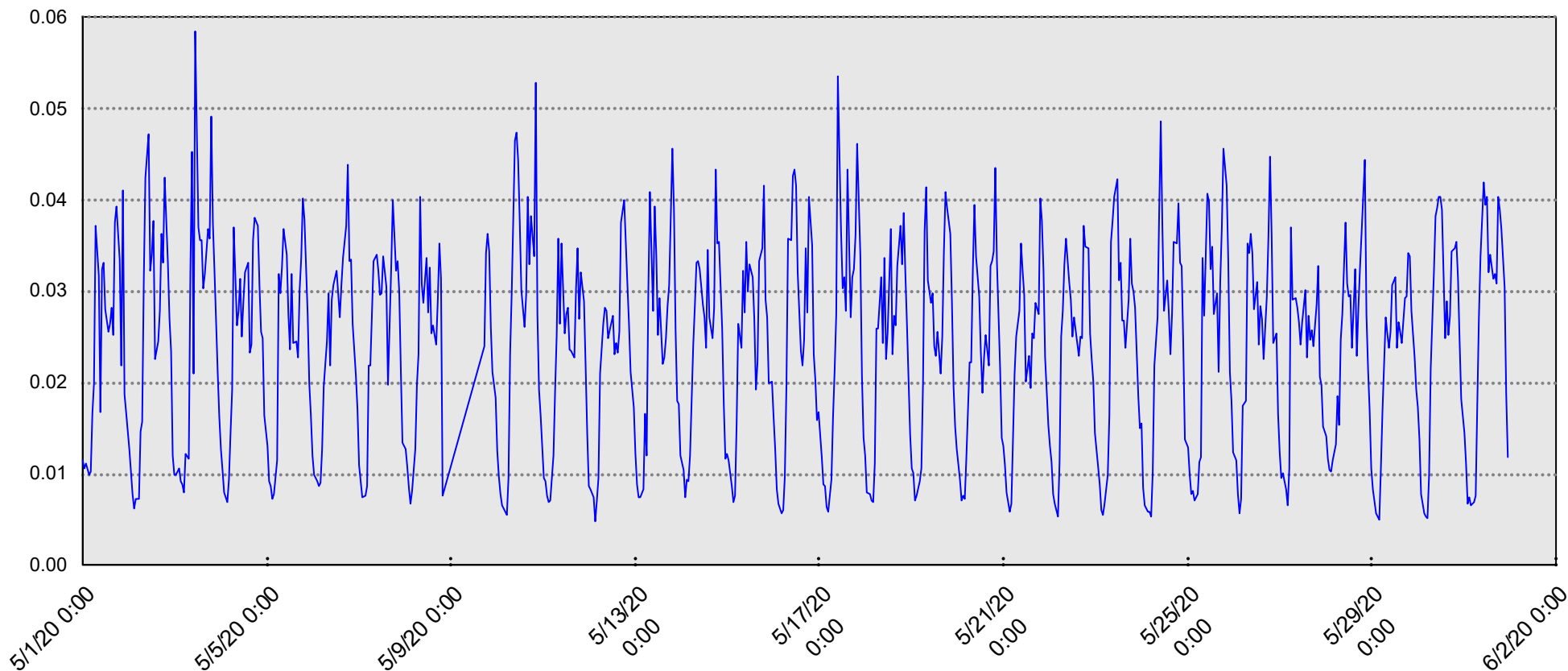


6" Palmer-Bowlus flume in an 8" line

Rain (in) Printed on: 8/3/2020 Period Covered: 05/01/2020 - 06/01/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 1

WWTP R.O.W.

Uxbridge, MA

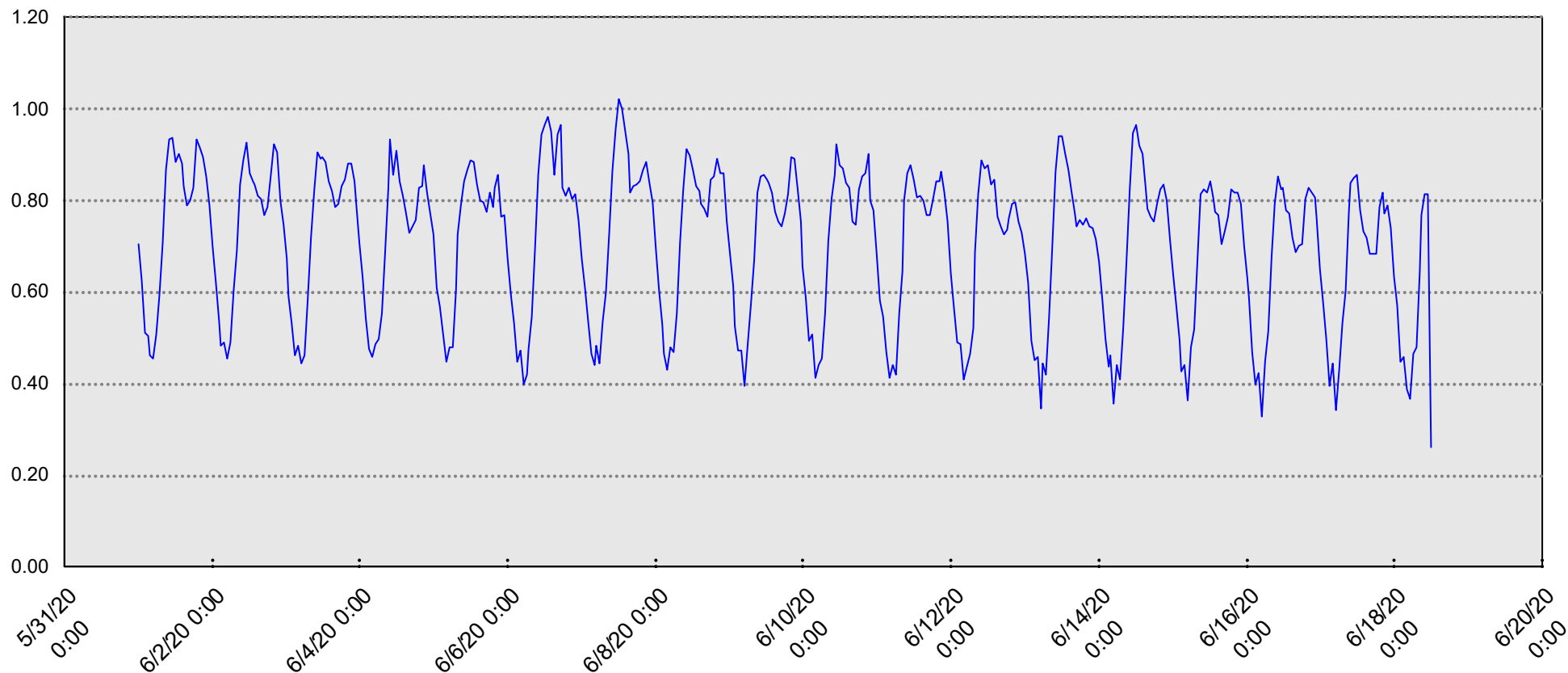


30" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 2

South Main Street R.O.W.

Uxbridge, MA

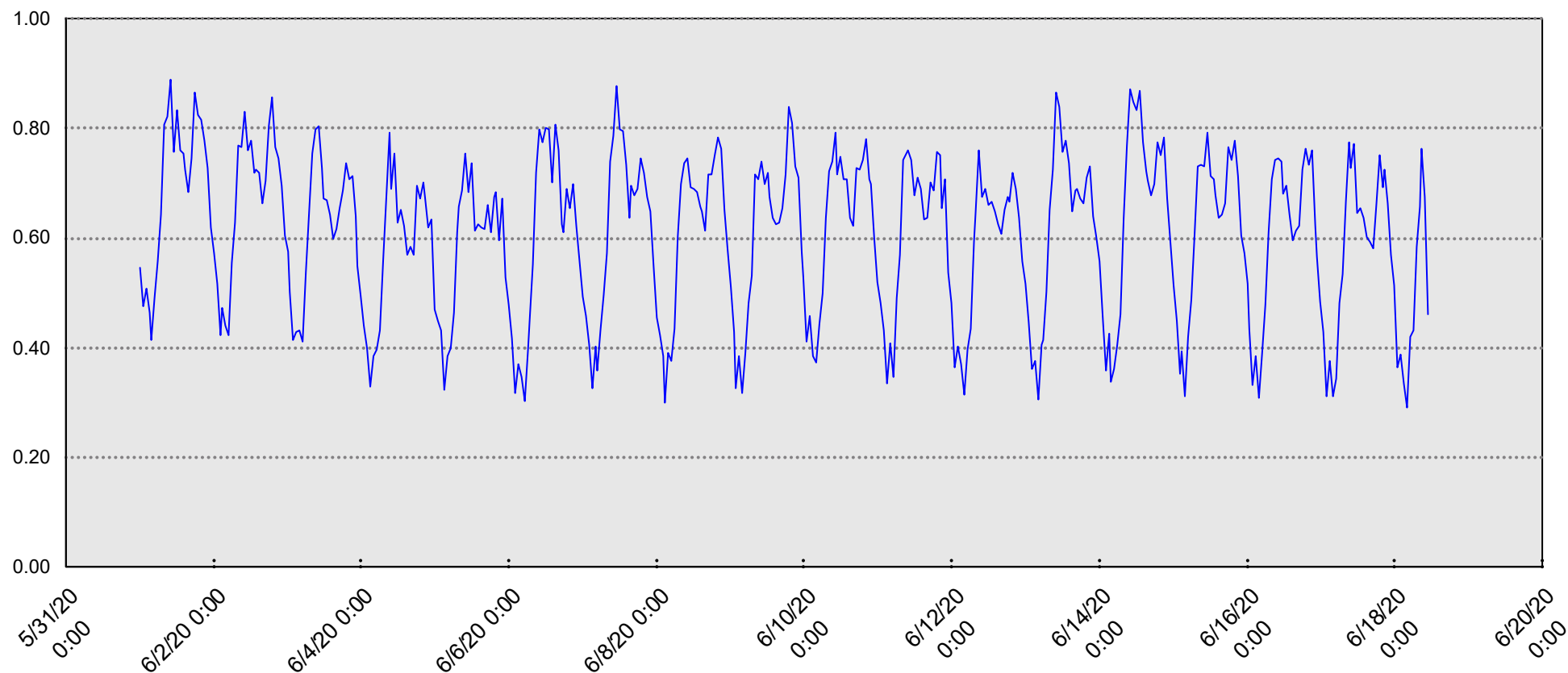


30" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 3

South Main Street R.O.W.

Uxbridge, MA

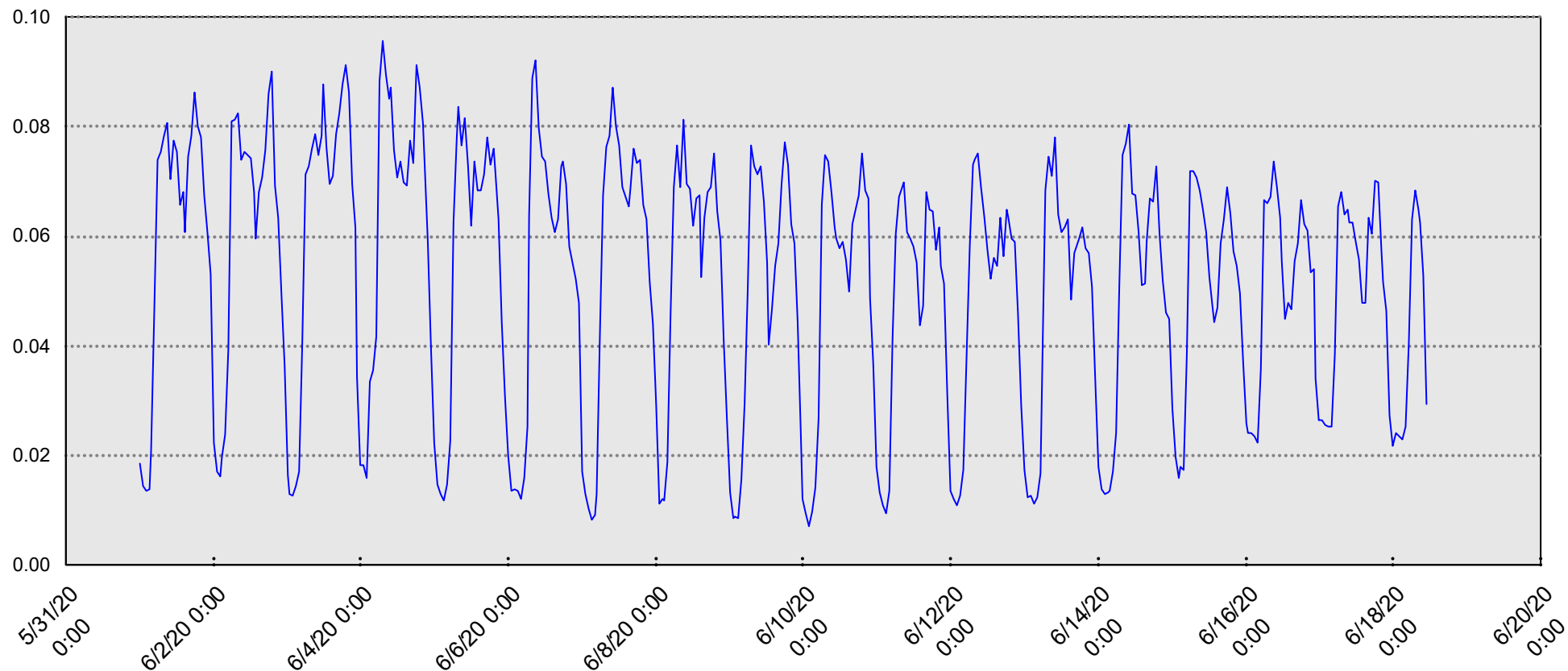
8" Circular line



Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 4

36 South Main Street

Uxbridge, MA

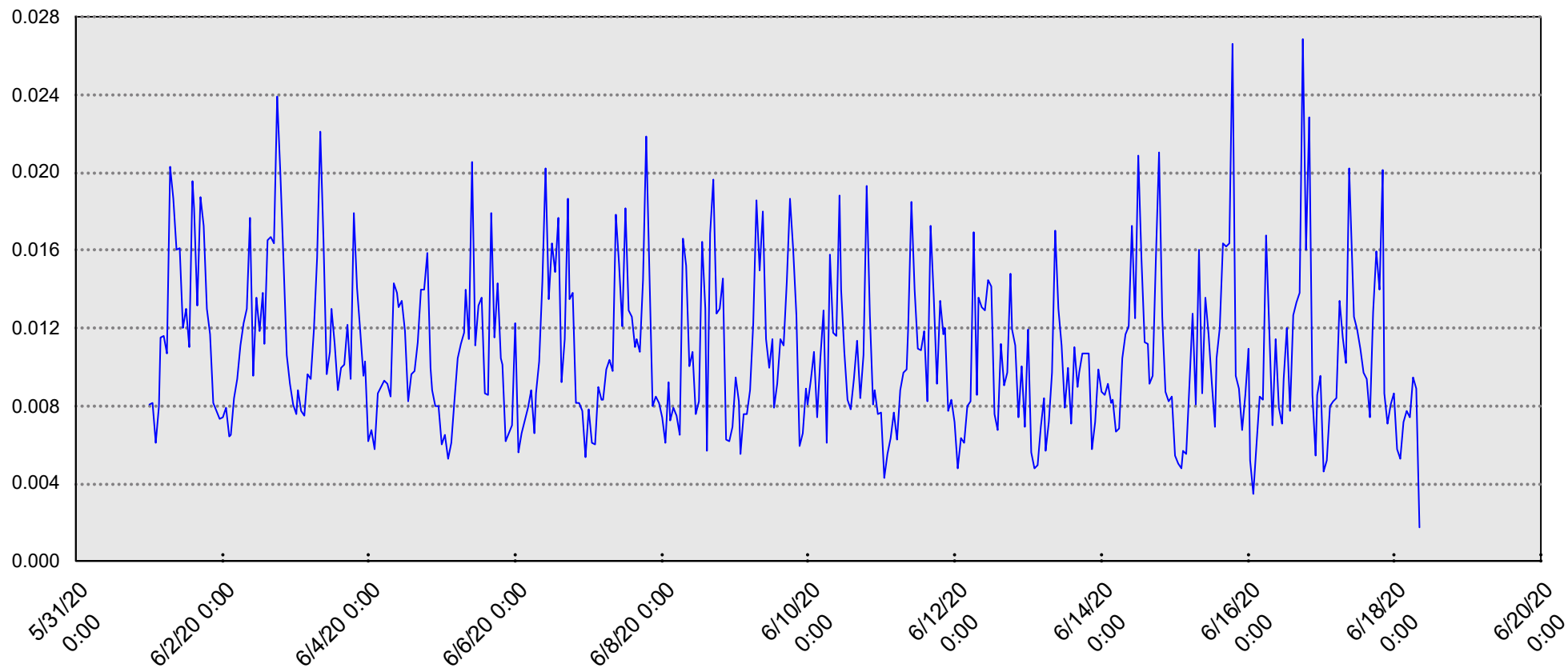
8" Circular line



Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 5

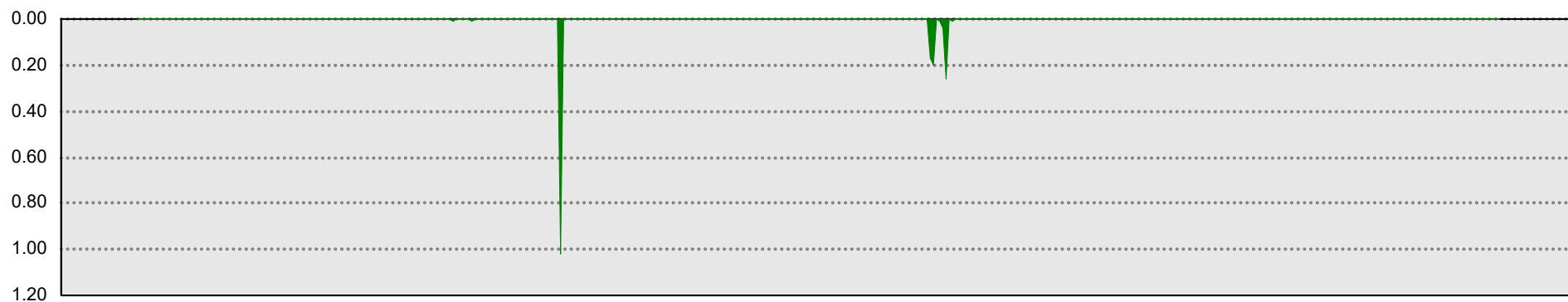
Douglas Street at Snowling Road

Uxbridge, MA

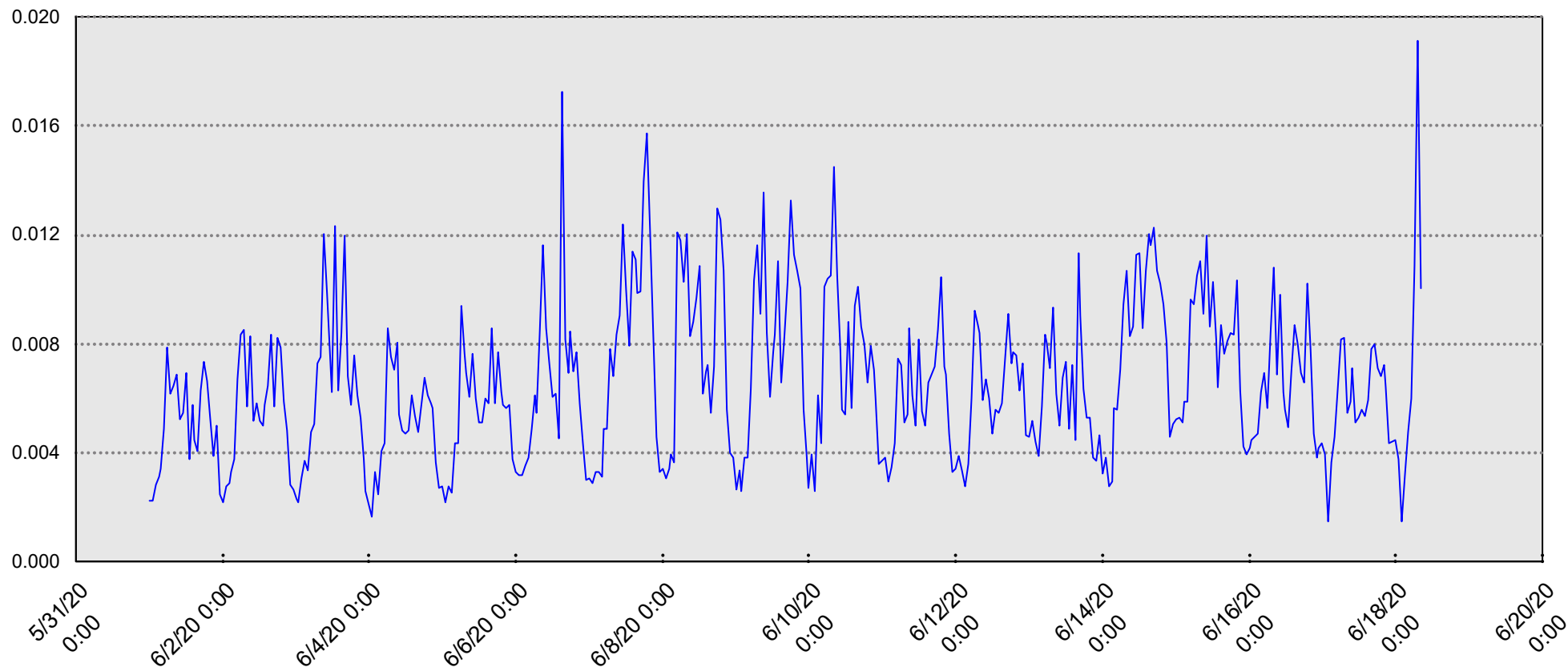
8" Circular line



Rain (in) **Printed on:** 8/3/2020 **Period Covered:** 06/01/2020 - 06/19/2020 **Every** 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 6

2 Snowling Road

Uxbridge, MA

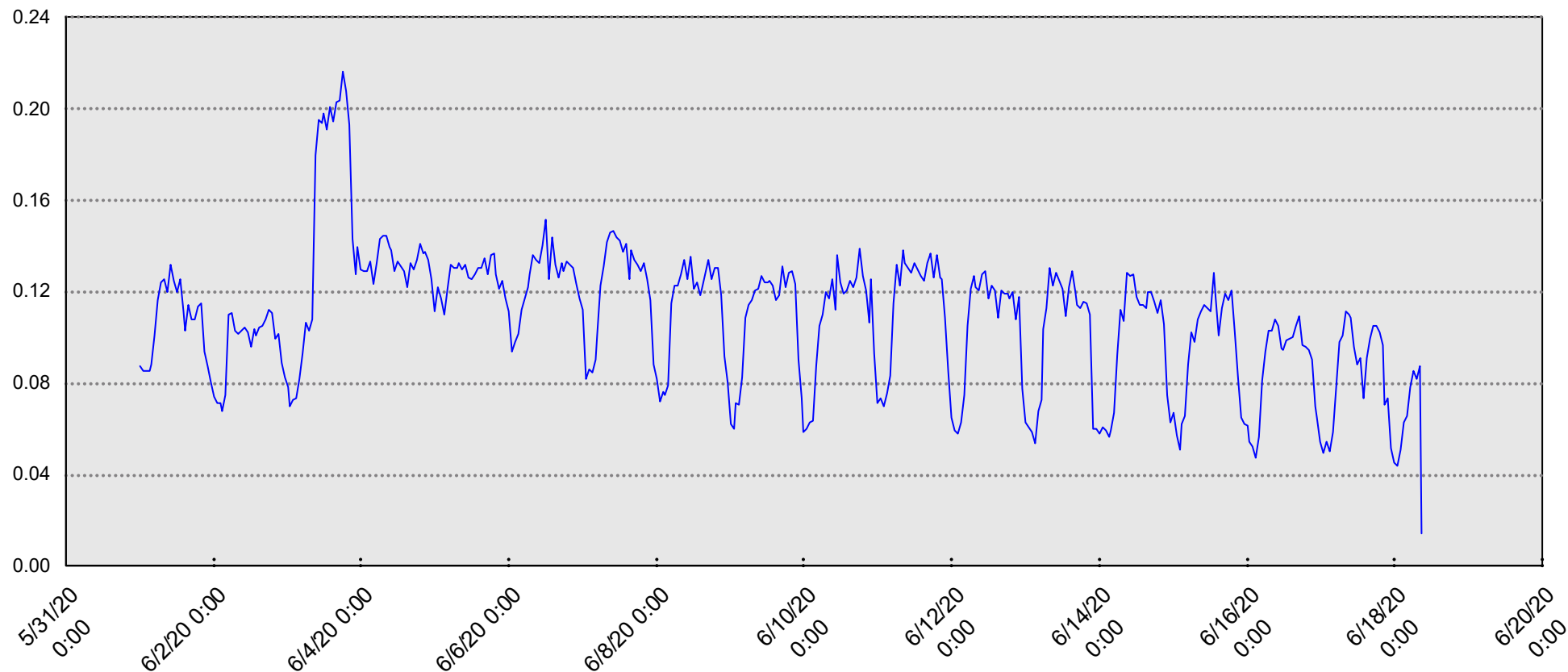
12" Circular line



Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 7

105 Douglas Street

Uxbridge, MA

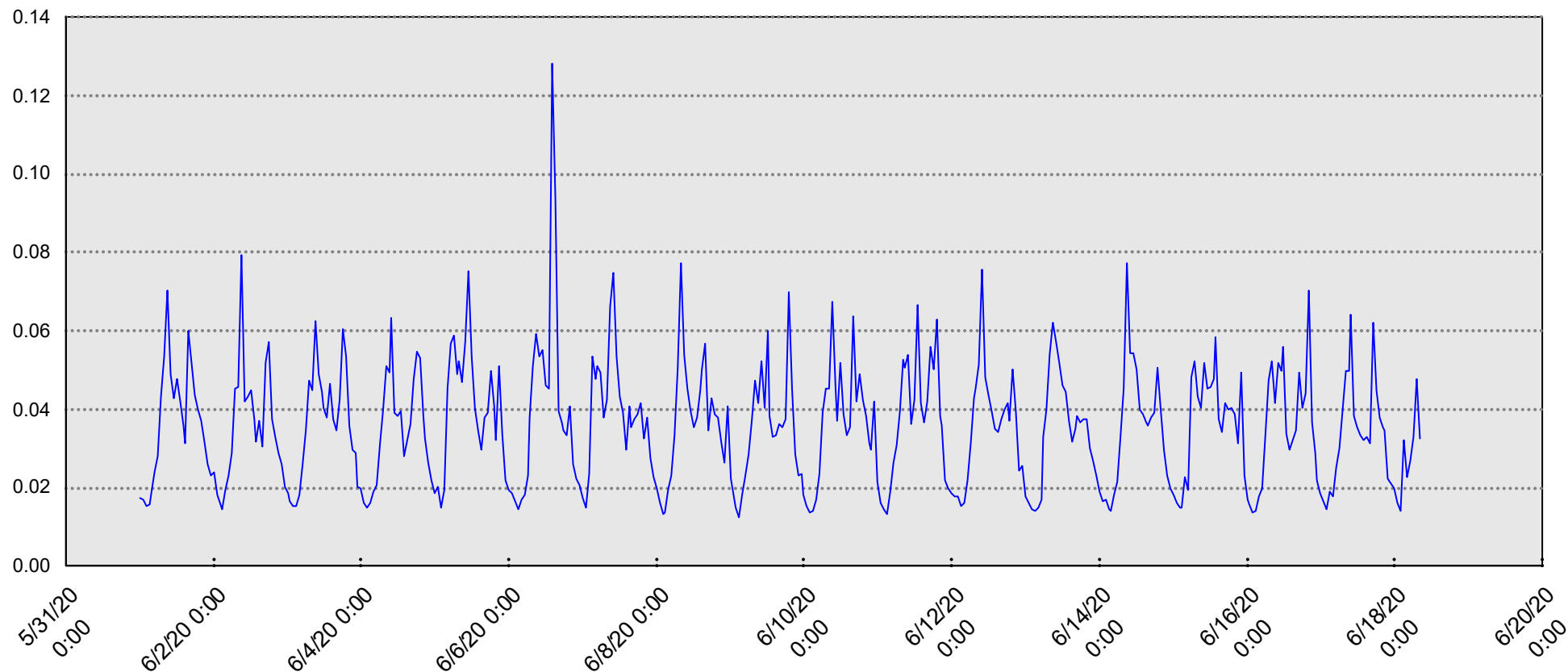


12" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 8

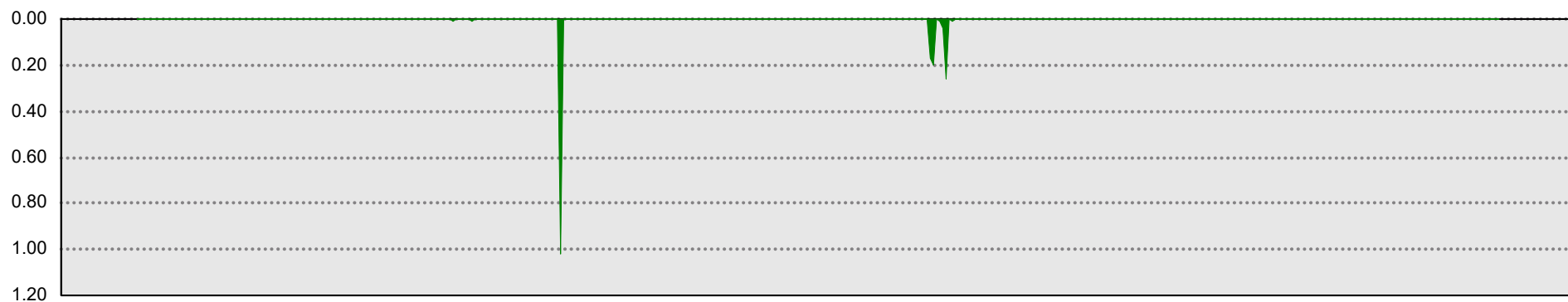
277 North Main Street

Uxbridge, MA

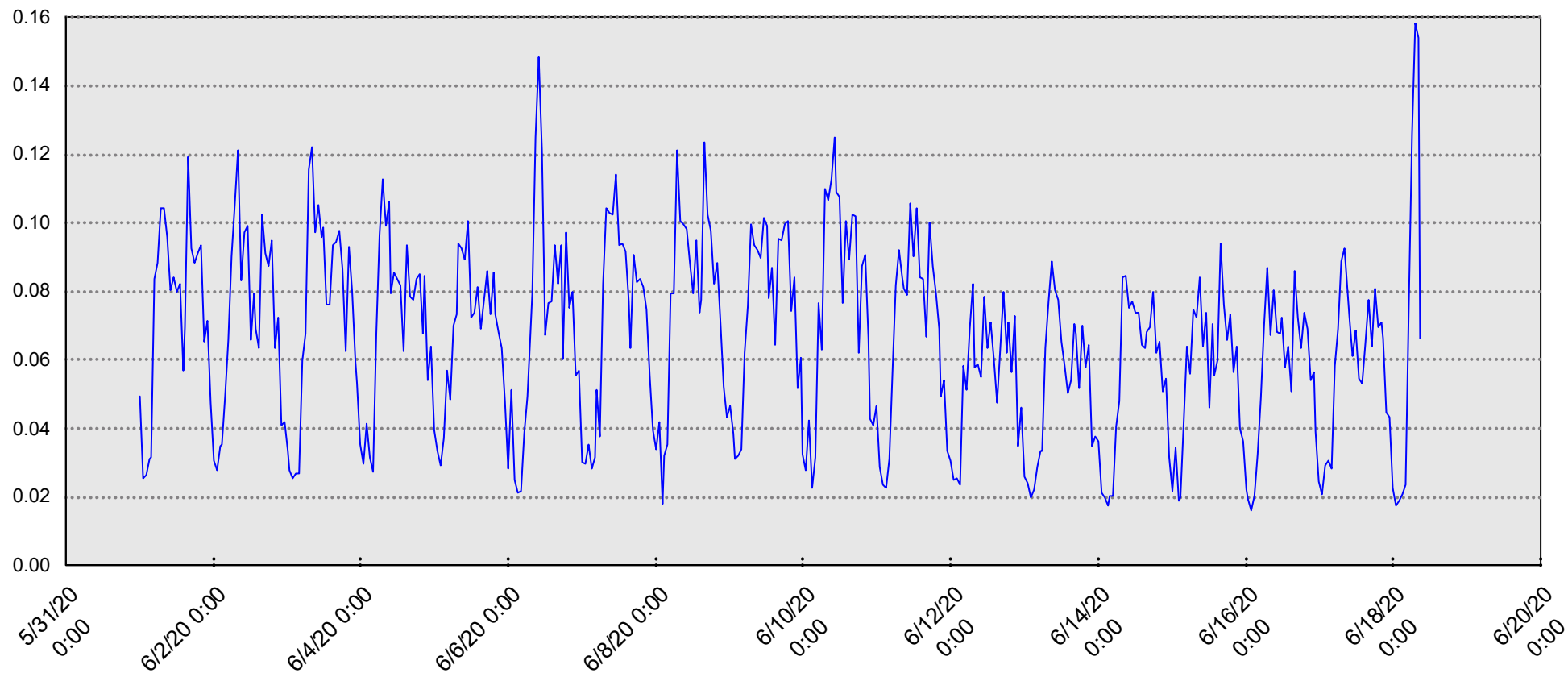


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 9

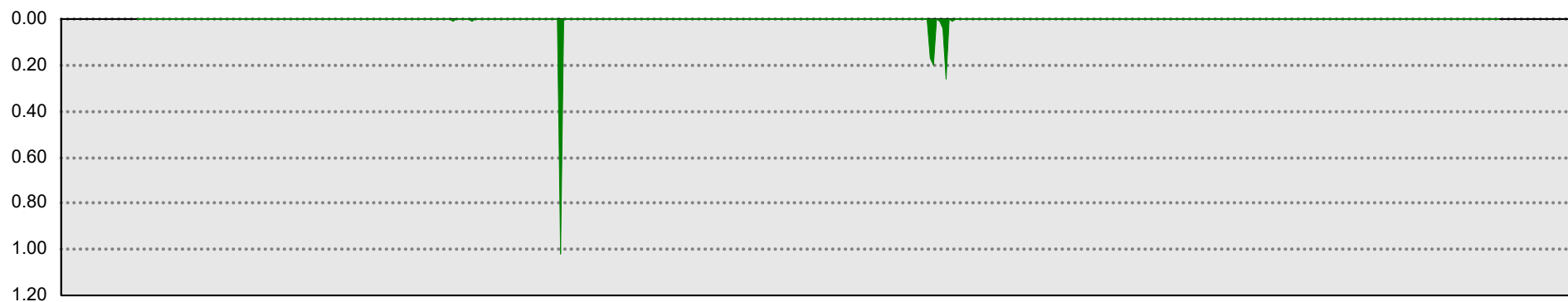
School Street R.O.W.

Uxbridge, MA

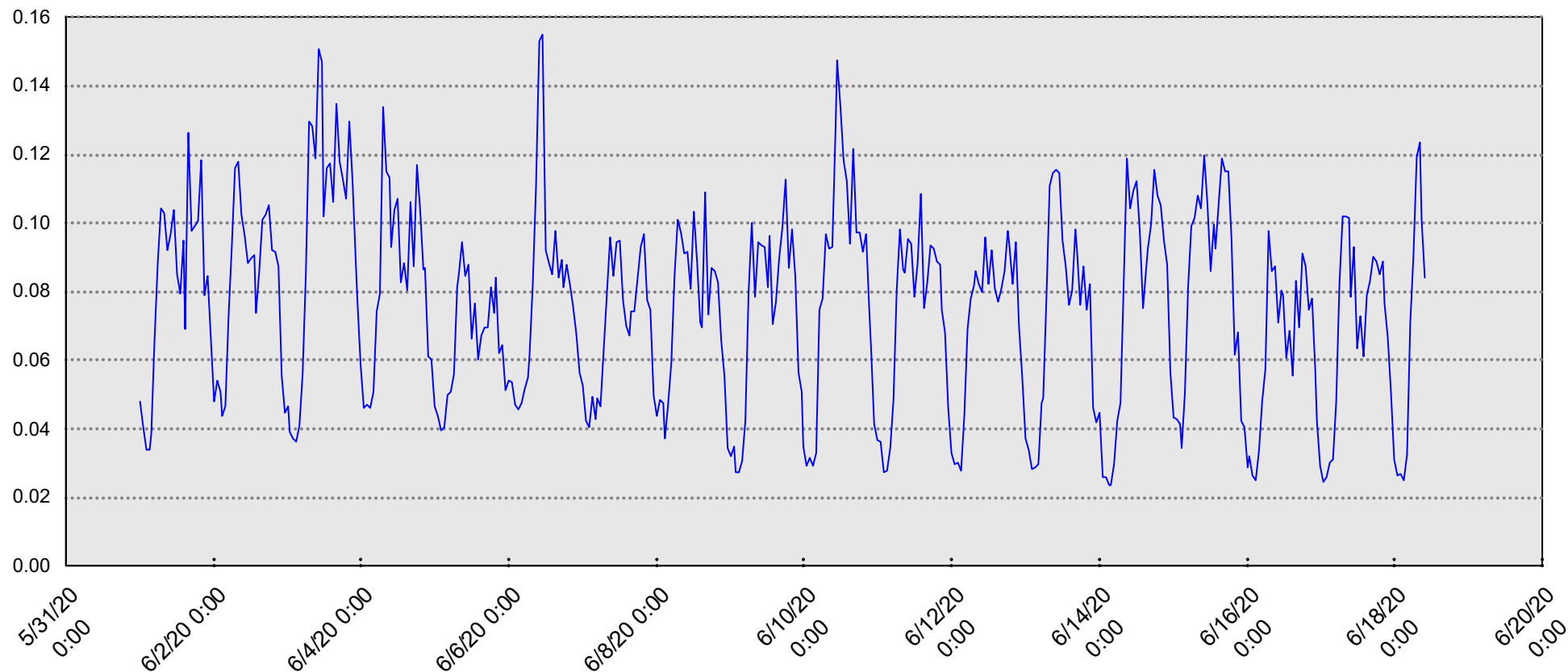


16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 10

Crown and Eagle Road

Uxbridge, MA

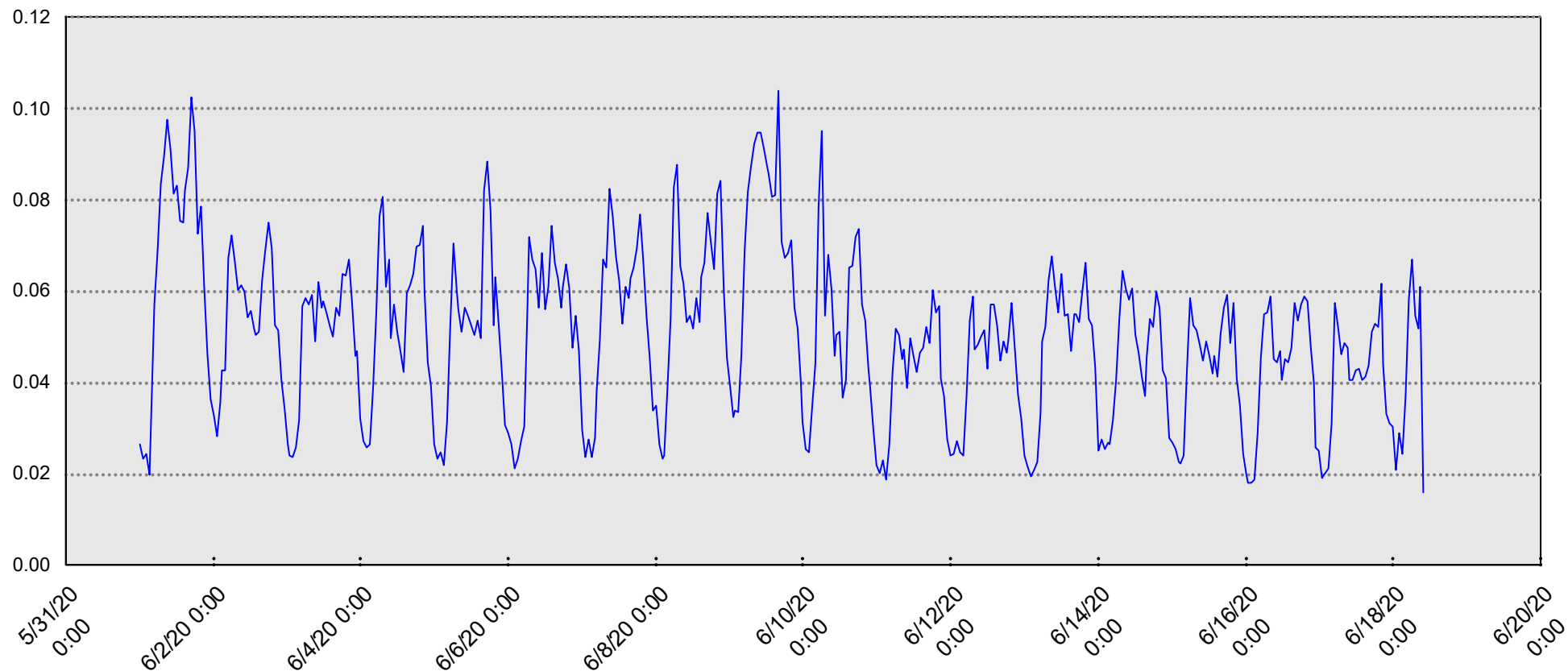


10" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 11

16 Mendon Street R.O.W.

Uxbridge, MA

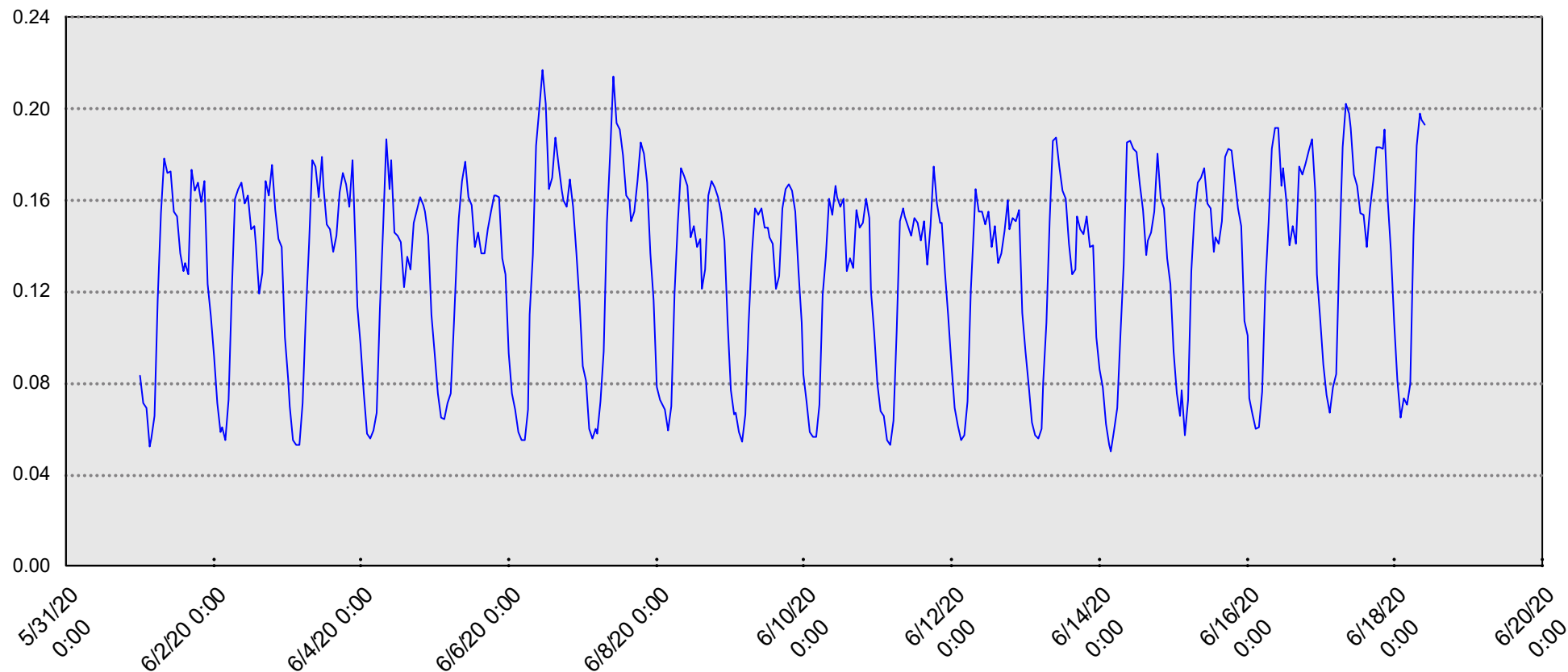


24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 12

11 South Main Street

Uxbridge, MA

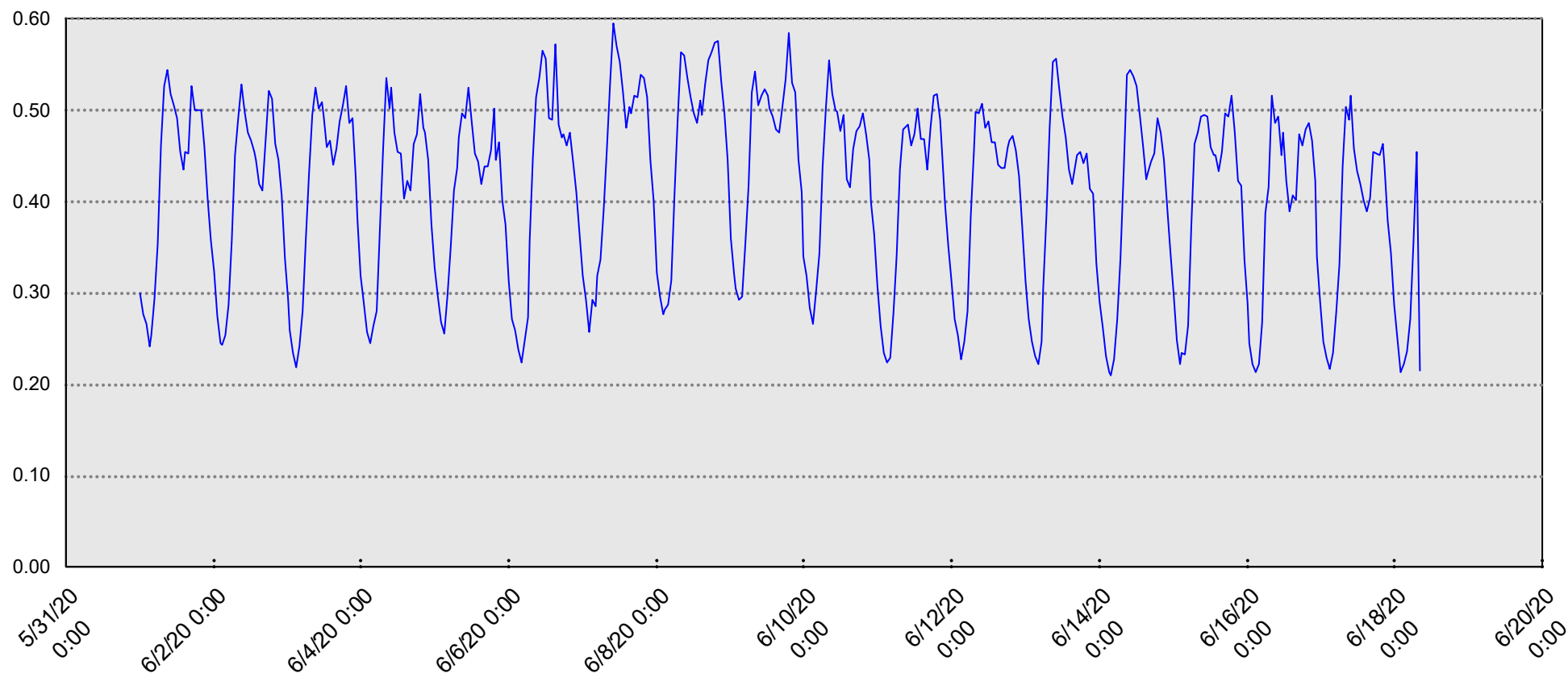


24" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

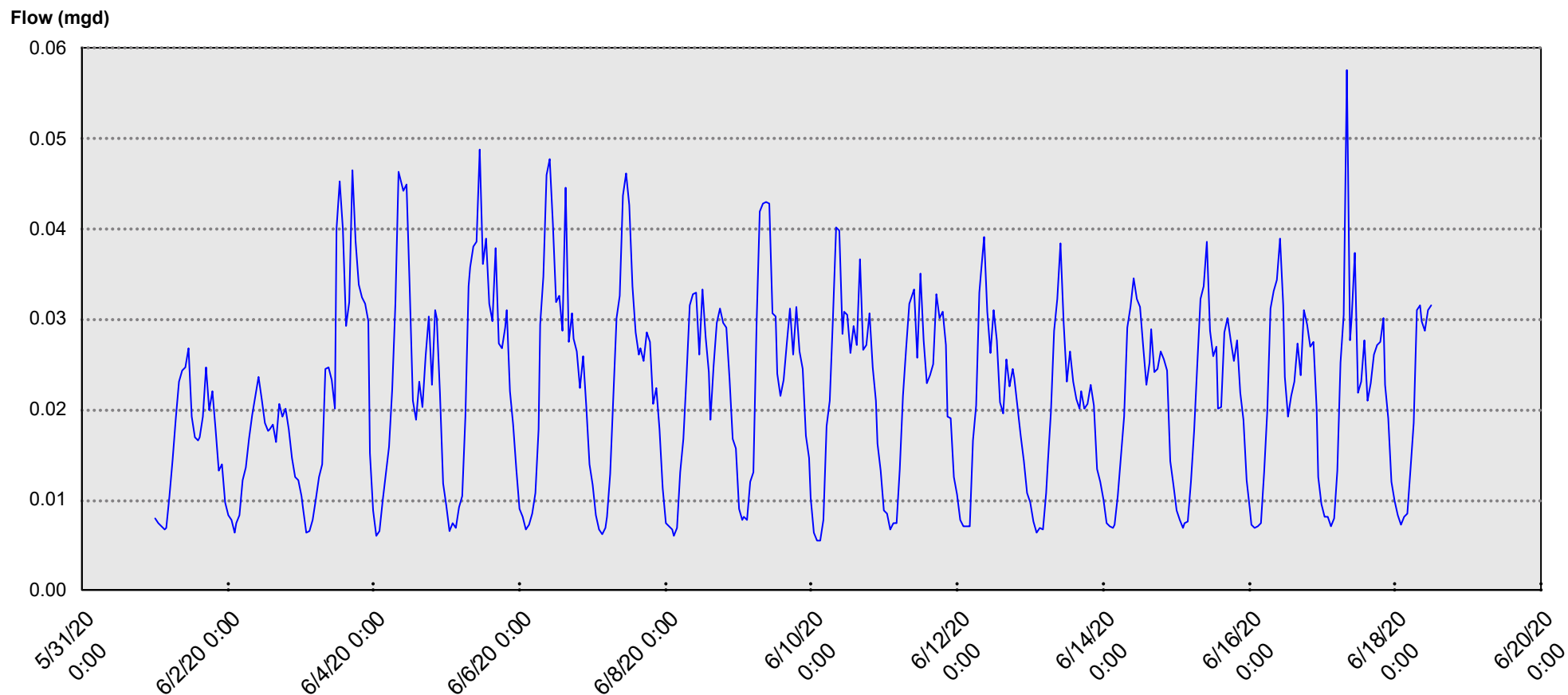
Site:
Site 13
DPW R.O.W.

Uxbridge, MA



16" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow Analysis Graph

Site:

Site 14

145 Hecla Street

Uxbridge, MA

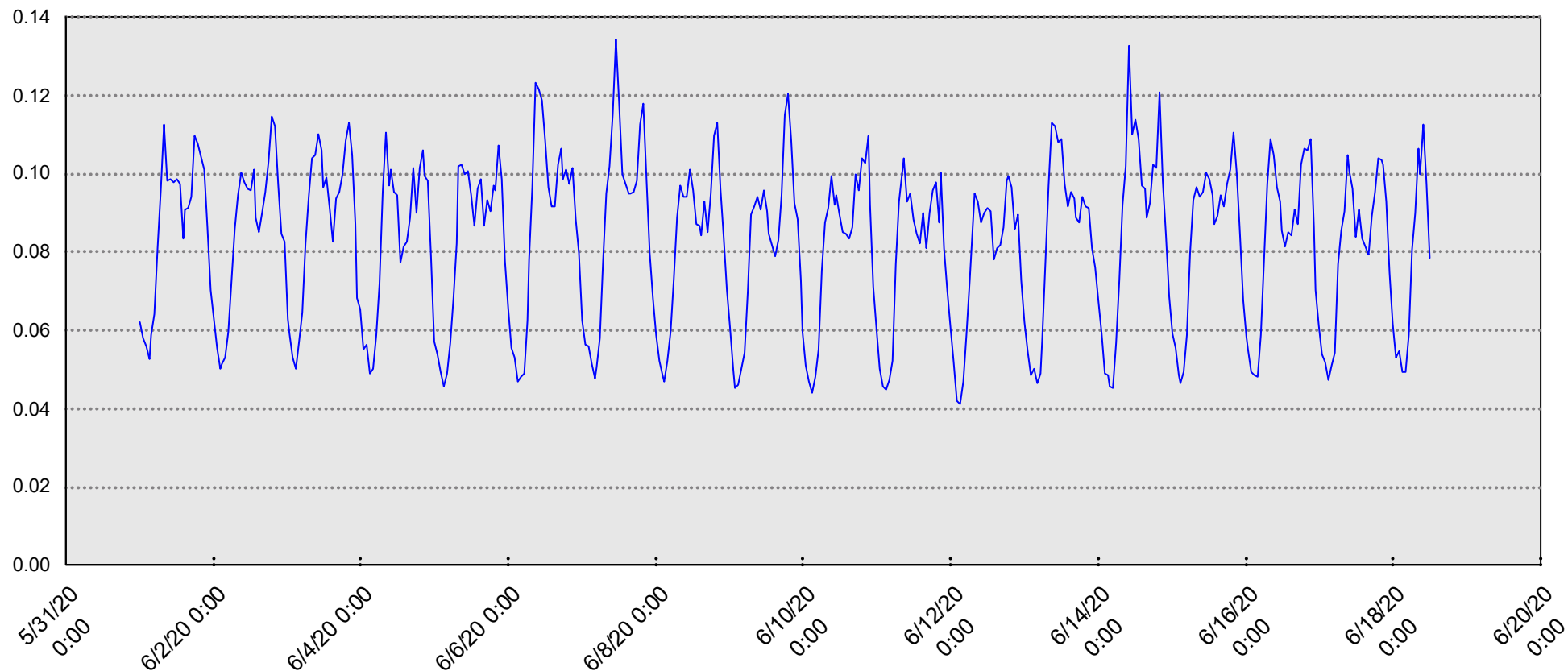


18" Circular line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Flow Analysis Graph

Site:

Site 15

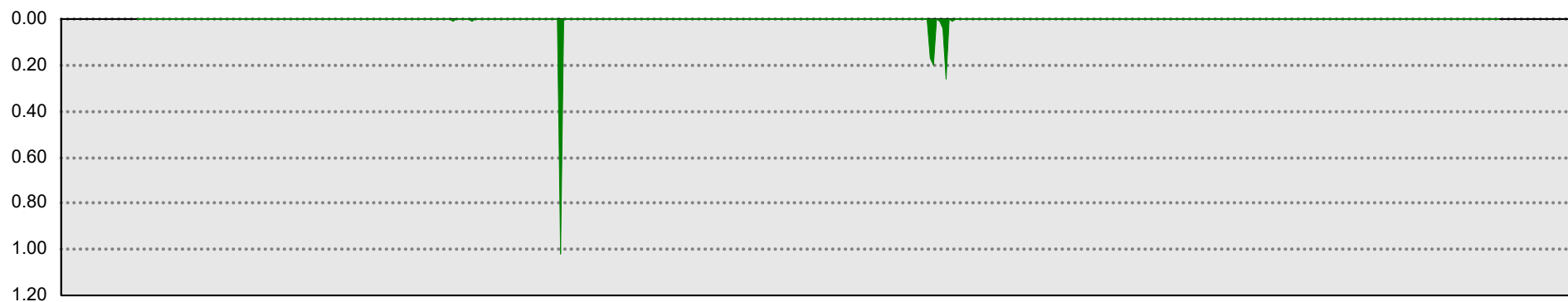
2 West River Road

Uxbridge, MA

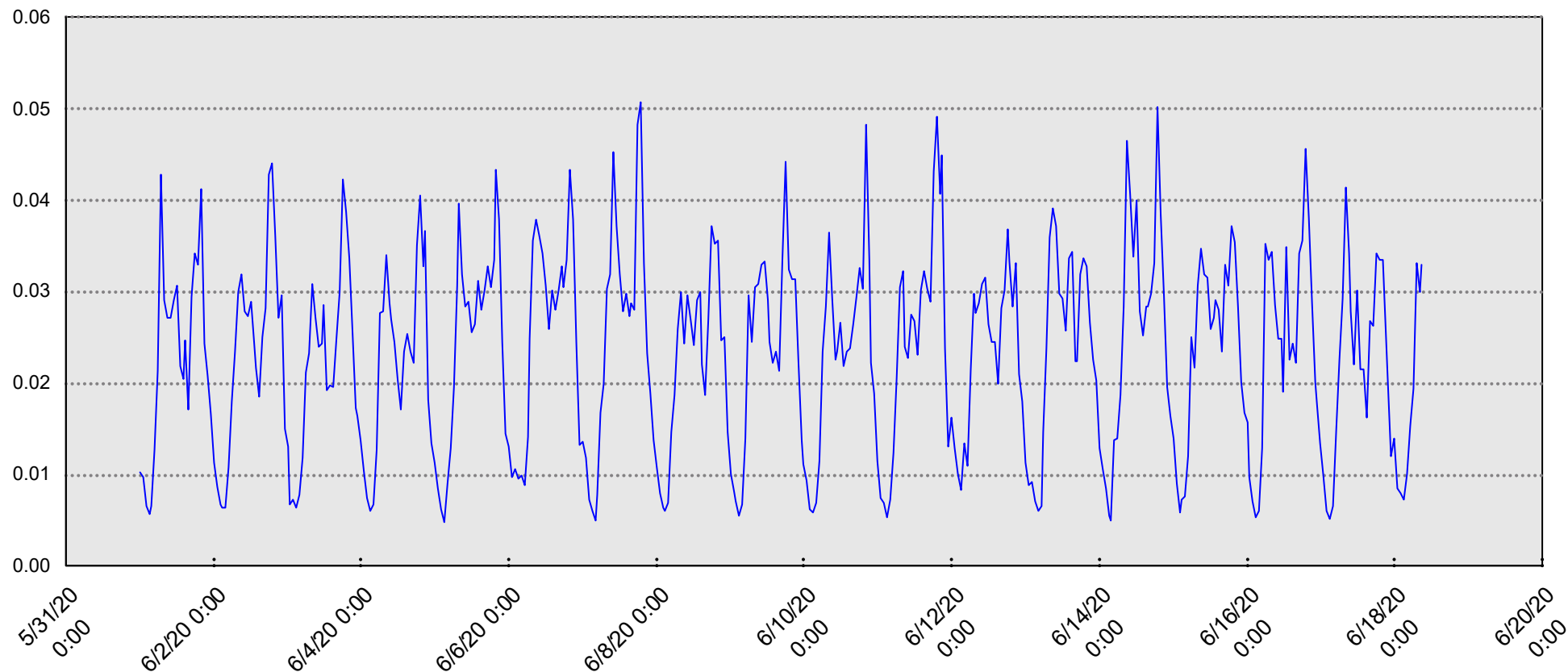


6" Palmer-Bowlus flume in an 8" line

Rain (in) Printed on: 8/3/2020 Period Covered: 06/01/2020 - 06/19/2020 Every 1 Hour



Flow (mgd)



Appendix F

Flow Monitoring Data Summaries

Summary Flow Report



Site:

Site 1

WWTP R.O.W.

Uxbridge, MA

30" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/8/2020 (Wed)	0.823	1.128	0.600	0.01	0.01	0.01
4/9/2020 (Thu)	0.582	1.232	0.909	0.64	0.24	0.05
4/10/2020 (Fri)	0.627	1.232	0.911	0.06	0.03	0.01
4/11/2020 (Sat)	0.602	1.350	0.923	0.00	0.00	0.00
4/12/2020 (Sun)	0.524	1.288	0.891	0.00	0.00	0.00
4/13/2020 (Mon)	0.547	1.189	0.911	1.47	0.27	0.06
4/14/2020 (Tue)	0.658	1.303	1.030	0.01	0.01	0.01
4/15/2020 (Wed)	0.735	1.331	1.038	0.00	0.00	0.00
4/16/2020 (Thu)	0.681	1.273	1.016	0.00	0.00	0.00
4/17/2020 (Fri)	0.656	1.249	0.974	0.06	0.06	0.01
4/18/2020 (Sat)	0.649	1.333	0.998	0.74	0.28	0.05
4/19/2020 (Sun)	0.646	1.391	1.028	0.01	0.01	0.01
4/20/2020 (Mon)	0.686	1.350	1.014	0.00	0.00	0.00
4/21/2020 (Tue)	0.680	1.329	1.003	0.54	0.36	0.08
4/22/2020 (Wed)	0.706	1.268	0.995	0.01	0.01	0.01
4/23/2020 (Thu)	0.660	1.225	0.973	0.00	0.00	0.00
4/24/2020 (Fri)	0.614	1.201	0.940	0.26	0.06	0.01
4/25/2020 (Sat)	0.625	1.297	0.937	0.00	0.00	0.00
4/26/2020 (Sun)	0.590	1.432	0.934	0.29	0.08	0.02
4/27/2020 (Mon)	0.602	1.170	0.935	0.55	0.05	0.01
4/28/2020 (Tue)	0.629	1.190	0.940	0.01	0.01	0.01
4/29/2020 (Wed)	0.631	1.255	0.977	0.00	0.00	0.00
4/30/2020 (Thu)	0.636	1.188	0.975	0.28	0.13	0.02
Total for period			21.851	4.94		
Min:			0.524			
Avg:			0.950			
Max:			1.432			

Summary Flow Report

Site:

Site 2

South Main Street R.O.W.

Uxbridge, MA



30" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/8/2020 (Wed)	0.746	1.173	0.519	0.01	0.01	0.01
4/9/2020 (Thu)	0.512	1.285	0.868	0.64	0.24	0.05
4/10/2020 (Fri)	0.553	1.182	0.877	0.06	0.03	0.01
4/11/2020 (Sat)	0.533	1.220	0.879	0.00	0.00	0.00
4/12/2020 (Sun)	0.496	1.264	0.847	0.00	0.00	0.00
4/13/2020 (Mon)	0.484	1.194	0.853	1.47	0.27	0.06
4/14/2020 (Tue)	0.571	1.280	0.934	0.01	0.01	0.01
4/15/2020 (Wed)	0.595	1.235	0.942	0.00	0.00	0.00
4/16/2020 (Thu)	0.559	1.244	0.933	0.00	0.00	0.00
4/17/2020 (Fri)	0.562	1.186	0.914	0.06	0.06	0.01
4/18/2020 (Sat)	0.603	1.328	0.932	0.74	0.28	0.05
4/19/2020 (Sun)	0.581	1.325	0.935	0.01	0.01	0.01
4/20/2020 (Mon)	0.590	1.247	0.935	0.00	0.00	0.00
4/21/2020 (Tue)	0.598	1.279	0.929	0.54	0.36	0.08
4/22/2020 (Wed)	0.590	1.216	0.917	0.01	0.01	0.01
4/23/2020 (Thu)	0.548	1.184	0.889	0.00	0.00	0.00
4/24/2020 (Fri)	0.539	1.099	0.856	0.26	0.06	0.01
4/25/2020 (Sat)	0.468	1.198	0.849	0.00	0.00	0.00
4/26/2020 (Sun)	0.508	1.196	0.858	0.29	0.08	0.02
4/27/2020 (Mon)	0.555	1.152	0.868	0.55	0.05	0.01
4/28/2020 (Tue)	0.558	1.127	0.845	0.01	0.01	0.01
4/29/2020 (Wed)	0.535	1.163	0.825	0.00	0.00	0.00
4/30/2020 (Thu)	0.510	1.058	0.813	0.28	0.13	0.02
Total for period			20.016	4.94		
Min:			0.468			
Avg:			0.870			
Max:			1.328			

Summary Flow Report



Site:

Site 3

South Main Street R.O.W.

Uxbridge, MA

8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/8/2020 (Wed)	0.031	0.133	0.065	0.01	0.01	0.01
4/9/2020 (Thu)	0.020	0.141	0.086	0.64	0.24	0.05
4/10/2020 (Fri)	0.018	0.160	0.085	0.06	0.03	0.01
4/11/2020 (Sat)	0.019	0.137	0.084	0.00	0.00	0.00
4/12/2020 (Sun)	0.016	0.143	0.079	0.00	0.00	0.00
4/13/2020 (Mon)	0.018	0.126	0.076	1.47	0.27	0.06
4/14/2020 (Tue)	0.017	0.125	0.075	0.01	0.01	0.01
4/15/2020 (Wed)	0.018	0.109	0.070	0.00	0.00	0.00
4/16/2020 (Thu)	0.021	0.118	0.073	0.00	0.00	0.00
4/17/2020 (Fri)	0.018	0.122	0.076	0.06	0.06	0.01
4/18/2020 (Sat)	0.018	0.134	0.080	0.74	0.28	0.05
4/19/2020 (Sun)	0.019	0.131	0.084	0.01	0.01	0.01
4/20/2020 (Mon)	0.021	0.132	0.085	0.00	0.00	0.00
4/21/2020 (Tue)	0.027	0.125	0.080	0.54	0.36	0.08
4/22/2020 (Wed)	0.022	0.118	0.082	0.01	0.01	0.01
4/23/2020 (Thu)	0.023	0.122	0.077	0.00	0.00	0.00
4/24/2020 (Fri)	0.017	0.113	0.073	0.26	0.06	0.01
4/25/2020 (Sat)	0.019	0.117	0.072	0.00	0.00	0.00
4/26/2020 (Sun)	0.020	0.114	0.068	0.29	0.08	0.02
4/27/2020 (Mon)	0.027	0.110	0.069	0.55	0.05	0.01
4/28/2020 (Tue)	0.018	0.117	0.071	0.01	0.01	0.01
4/29/2020 (Wed)	0.035	0.109	0.072	0.00	0.00	0.00
4/30/2020 (Thu)	0.023	0.102	0.066	0.28	0.13	0.02
Total for period			1.745	4.94		
Min:			0.016			
Avg:			0.076			
Max:			0.160			

Summary Flow Report

Site:

Site 4

36 South Main Street

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.006	0.090	0.021			
4/7/2020 (Tue)	0.005	0.068	0.026			
4/8/2020 (Wed)	0.005	0.059	0.022	0.01	0.01	0.01
4/9/2020 (Thu)	0.005	0.078	0.022	0.64	0.24	0.05
4/10/2020 (Fri)	0.005	0.066	0.021	0.06	0.03	0.01
4/11/2020 (Sat)	0.003	0.055	0.022	0.00	0.00	0.00
4/12/2020 (Sun)	0.007	0.076	0.023	0.00	0.00	0.00
4/13/2020 (Mon)	0.006	0.115	0.026	1.47	0.27	0.06
4/14/2020 (Tue)	0.010	0.069	0.028	0.01	0.01	0.01
4/15/2020 (Wed)	0.010	0.077	0.028	0.00	0.00	0.00
4/16/2020 (Thu)	0.008	0.072	0.027	0.00	0.00	0.00
4/17/2020 (Fri)	0.006	0.075	0.025	0.06	0.06	0.01
4/18/2020 (Sat)	0.007	0.077	0.028	0.74	0.28	0.05
4/19/2020 (Sun)	0.005	0.083	0.029	0.01	0.01	0.01
4/20/2020 (Mon)	0.010	0.070	0.028	0.00	0.00	0.00
4/21/2020 (Tue)	0.008	0.084	0.026	0.54	0.36	0.08
4/22/2020 (Wed)	0.010	0.061	0.026	0.01	0.01	0.01
4/23/2020 (Thu)	0.008	0.065	0.025	0.00	0.00	0.00
4/24/2020 (Fri)	0.008	0.076	0.024	0.26	0.06	0.01
4/25/2020 (Sat)	0.009	0.082	0.025	0.00	0.00	0.00
4/26/2020 (Sun)	0.005	0.086	0.026	0.29	0.08	0.02
4/27/2020 (Mon)	0.010	0.061	0.026	0.55	0.05	0.01
4/28/2020 (Tue)	0.010	0.062	0.026	0.01	0.01	0.01
4/29/2020 (Wed)	0.010	0.079	0.026	0.00	0.00	0.00
4/30/2020 (Thu)	0.005	0.096	0.024	0.28	0.13	0.02
Total for period			0.629	4.94		
Min:			0.003			
Avg:			0.025			
Max:			0.115			

Summary Flow Report

Site:

Site 5

Douglas Street at Snowling Road

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.005	0.022	0.005			
4/7/2020 (Tue)	0.004	0.032	0.009			
4/8/2020 (Wed)	0.005	0.026	0.009	0.01	0.01	0.01
4/9/2020 (Thu)	0.004	0.029	0.011	0.64	0.24	0.05
4/10/2020 (Fri)	0.005	0.046	0.010	0.06	0.03	0.01
4/11/2020 (Sat)	0.004	0.025	0.009	0.00	0.00	0.00
4/12/2020 (Sun)	0.003	0.043	0.008	0.00	0.00	0.00
4/13/2020 (Mon)	0.005	0.023	0.012	1.47	0.27	0.06
4/14/2020 (Tue)	0.008	0.028	0.015	0.01	0.01	0.01
4/15/2020 (Wed)	0.008	0.050	0.015	0.00	0.00	0.00
4/16/2020 (Thu)	0.008	0.026	0.014	0.00	0.00	0.00
4/17/2020 (Fri)	0.006	0.027	0.012	0.06	0.06	0.01
4/18/2020 (Sat)	0.010	0.040	0.015	0.74	0.28	0.05
4/19/2020 (Sun)	0.008	0.040	0.015	0.01	0.01	0.01
4/20/2020 (Mon)	0.010	0.027	0.015	0.00	0.00	0.00
4/21/2020 (Tue)	0.007	0.029	0.014	0.54	0.36	0.08
4/22/2020 (Wed)	0.007	0.026	0.014	0.01	0.01	0.01
4/23/2020 (Thu)	0.006	0.021	0.012	0.00	0.00	0.00
4/24/2020 (Fri)	0.007	0.026	0.012	0.26	0.06	0.01
4/25/2020 (Sat)	0.006	0.028	0.011	0.00	0.00	0.00
4/26/2020 (Sun)	0.005	0.022	0.010	0.29	0.08	0.02
4/27/2020 (Mon)	0.007	0.031	0.012	0.55	0.05	0.01
4/28/2020 (Tue)	0.007	0.025	0.012	0.01	0.01	0.01
4/29/2020 (Wed)	0.005	0.018	0.009	0.00	0.00	0.00
4/30/2020 (Thu)	0.004	0.024	0.010	0.28	0.13	0.02
Total for period			0.289	4.94		
Min:			0.003			
Avg:			0.012			
Max:			0.050			

Summary Flow Report

Site:

Site 6

2 Snowling Road

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.066	0.152	0.051			
4/7/2020 (Tue)	0.056	0.151	0.112			
4/8/2020 (Wed)	0.058	0.154	0.117	0.01	0.01	0.01
4/9/2020 (Thu)	0.052	0.171	0.121	0.64	0.24	0.05
4/10/2020 (Fri)	0.061	0.165	0.120	0.06	0.03	0.01
4/11/2020 (Sat)	0.059	0.171	0.117	0.00	0.00	0.00
4/12/2020 (Sun)	0.058	0.143	0.101	0.00	0.00	0.00
4/13/2020 (Mon)	0.054	0.152	0.108	1.47	0.27	0.06
4/14/2020 (Tue)	0.072	0.162	0.125	0.01	0.01	0.01
4/15/2020 (Wed)	0.090	0.205	0.137	0.00	0.00	0.00
4/16/2020 (Thu)	0.088	0.235	0.152	0.00	0.00	0.00
4/17/2020 (Fri)	0.086	0.231	0.160	0.06	0.06	0.01
4/18/2020 (Sat)	0.103	0.200	0.154	0.74	0.28	0.05
4/19/2020 (Sun)	0.090	0.207	0.144	0.01	0.01	0.01
4/20/2020 (Mon)	0.095	0.177	0.138	0.00	0.00	0.00
4/21/2020 (Tue)	0.090	0.190	0.132	0.54	0.36	0.08
4/22/2020 (Wed)	0.091	0.147	0.114	0.01	0.01	0.01
4/23/2020 (Thu)	0.089	0.195	0.135	0.00	0.00	0.00
4/24/2020 (Fri)	0.088	0.138	0.116	0.26	0.06	0.01
4/25/2020 (Sat)	0.081	0.134	0.103	0.00	0.00	0.00
4/26/2020 (Sun)	0.075	0.135	0.100	0.29	0.08	0.02
4/27/2020 (Mon)	0.076	0.139	0.102	0.55	0.05	0.01
4/28/2020 (Tue)	0.074	0.117	0.094	0.01	0.01	0.01
4/29/2020 (Wed)	0.070	0.130	0.098	0.00	0.00	0.00
4/30/2020 (Thu)	0.066	0.129	0.100	0.28	0.13	0.02
Total for period			2.952	4.94		
Min:			0.052			
Avg:			0.118			
Max:			0.235			

Summary Flow Report

Site:

Site 7

105 Douglas Street

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.025	0.112	0.025			
4/7/2020 (Tue)	0.019	0.131	0.045			
4/8/2020 (Wed)	0.020	0.113	0.042	0.01	0.01	0.01
4/9/2020 (Thu)	0.018	0.104	0.043	0.64	0.24	0.05
4/10/2020 (Fri)	0.019	0.104	0.043	0.06	0.03	0.01
4/11/2020 (Sat)	0.019	0.083	0.040	0.00	0.00	0.00
4/12/2020 (Sun)	0.019	0.090	0.043	0.00	0.00	0.00
4/13/2020 (Mon)	0.014	0.155	0.043	1.47	0.27	0.06
4/14/2020 (Tue)	0.016	0.124	0.042	0.01	0.01	0.01
4/15/2020 (Wed)	0.015	0.109	0.043	0.00	0.00	0.00
4/16/2020 (Thu)	0.017	0.154	0.041	0.00	0.00	0.00
4/17/2020 (Fri)	0.014	0.124	0.041	0.06	0.06	0.01
4/18/2020 (Sat)	0.016	0.093	0.039	0.74	0.28	0.05
4/19/2020 (Sun)	0.018	0.141	0.042	0.01	0.01	0.01
4/20/2020 (Mon)	0.018	0.115	0.041	0.00	0.00	0.00
4/21/2020 (Tue)	0.017	0.133	0.044	0.54	0.36	0.08
4/22/2020 (Wed)	0.018	0.111	0.045	0.01	0.01	0.01
4/23/2020 (Thu)	0.019	0.096	0.042	0.00	0.00	0.00
4/24/2020 (Fri)	0.018	0.119	0.045	0.26	0.06	0.01
4/25/2020 (Sat)	0.016	0.100	0.043	0.00	0.00	0.00
4/26/2020 (Sun)	0.016	0.088	0.040	0.29	0.08	0.02
4/27/2020 (Mon)	0.014	0.101	0.047	0.55	0.05	0.01
4/28/2020 (Tue)	0.015	0.119	0.042	0.01	0.01	0.01
4/29/2020 (Wed)	0.017	0.123	0.047	0.00	0.00	0.00
4/30/2020 (Thu)	0.015	0.104	0.036	0.28	0.13	0.02
Total for period			1.044	4.94		
Min:			0.014			
Avg:			0.042			
Max:			0.155			

Summary Flow Report

Site:

Site 8

277 North Main Street

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.058	0.260	0.063			
4/8/2020 (Wed)	0.046	0.263	0.093	0.01	0.01	0.01
4/9/2020 (Thu)	0.044	0.264	0.102	0.64	0.24	0.05
4/10/2020 (Fri)	0.044	0.184	0.094	0.06	0.03	0.01
4/11/2020 (Sat)	0.051	0.226	0.099	0.00	0.00	0.00
4/12/2020 (Sun)	0.038	0.274	0.094	0.00	0.00	0.00
4/13/2020 (Mon)	0.041	0.309	0.107	1.47	0.27	0.06
4/14/2020 (Tue)	0.063	0.342	0.125	0.01	0.01	0.01
4/15/2020 (Wed)	0.055	0.265	0.110	0.00	0.00	0.00
4/16/2020 (Thu)	0.035	0.265	0.098	0.00	0.00	0.00
4/17/2020 (Fri)	0.036	0.252	0.090	0.06	0.06	0.01
4/18/2020 (Sat)	0.029	0.236	0.090	0.74	0.28	0.05
4/19/2020 (Sun)	0.021	0.214	0.094	0.01	0.01	0.01
4/20/2020 (Mon)	0.037	0.254	0.098	0.00	0.00	0.00
4/21/2020 (Tue)	0.025	0.264	0.104	0.54	0.36	0.08
4/22/2020 (Wed)	0.032	0.211	0.093	0.01	0.01	0.01
4/23/2020 (Thu)	0.034	0.269	0.091	0.00	0.00	0.00
4/24/2020 (Fri)	0.026	0.195	0.076	0.26	0.06	0.01
4/25/2020 (Sat)	0.019	0.222	0.083	0.00	0.00	0.00
4/26/2020 (Sun)	0.021	0.232	0.081	0.29	0.08	0.02
4/27/2020 (Mon)	0.024	0.255	0.089	0.55	0.05	0.01
4/28/2020 (Tue)	0.036	0.236	0.093	0.01	0.01	0.01
4/29/2020 (Wed)	0.032	0.257	0.100	0.00	0.00	0.00
4/30/2020 (Thu)	0.029	0.207	0.086	0.28	0.13	0.02
Total for period			2.254	4.94		
Min:			0.019			
Avg:			0.094			
Max:			0.342			

Summary Flow Report

Site:

Site 9

School Street R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.039	0.232	0.058			
4/8/2020 (Wed)	0.029	0.152	0.075	0.01	0.01	0.01
4/9/2020 (Thu)	0.028	0.206	0.106	0.64	0.24	0.05
4/10/2020 (Fri)	0.055	0.238	0.126	0.06	0.03	0.01
4/11/2020 (Sat)	0.041	0.248	0.122	0.00	0.00	0.00
4/12/2020 (Sun)	0.046	0.271	0.098	0.00	0.00	0.00
4/13/2020 (Mon)	0.055	0.302	0.126	1.47	0.27	0.06
4/14/2020 (Tue)	0.073	0.318	0.150	0.01	0.01	0.01
4/15/2020 (Wed)	0.056	0.220	0.122	0.00	0.00	0.00
4/16/2020 (Thu)	0.046	0.255	0.115	0.00	0.00	0.00
4/17/2020 (Fri)	0.042	0.255	0.096	0.06	0.06	0.01
4/18/2020 (Sat)	0.028	0.222	0.095	0.74	0.28	0.05
4/19/2020 (Sun)	0.036	0.268	0.108	0.01	0.01	0.01
4/20/2020 (Mon)	0.047	0.264	0.113	0.00	0.00	0.00
4/21/2020 (Tue)	0.045	0.250	0.117	0.54	0.36	0.08
4/22/2020 (Wed)	0.048	0.218	0.111	0.01	0.01	0.01
4/23/2020 (Thu)	0.050	0.246	0.112	0.00	0.00	0.00
4/24/2020 (Fri)	0.053	0.233	0.102	0.26	0.06	0.01
4/25/2020 (Sat)	0.042	0.244	0.103	0.00	0.00	0.00
4/26/2020 (Sun)	0.033	0.208	0.094	0.29	0.08	0.02
4/27/2020 (Mon)	0.037	0.205	0.105	0.55	0.05	0.01
4/28/2020 (Tue)	0.044	0.217	0.110	0.01	0.01	0.01
4/29/2020 (Wed)	0.044	0.239	0.112	0.00	0.00	0.00
4/30/2020 (Thu)	0.027	0.177	0.084	0.28	0.13	0.02
Total for period			2.561	4.94		
Min:			0.027			
Avg:			0.107			
Max:			0.318			

Summary Flow Report

Site:

Site 10

Crown and Eagle Road

Uxbridge, MA



10" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.041	0.165	0.027			
4/7/2020 (Tue)	0.019	0.134	0.078			
4/8/2020 (Wed)	0.035	0.135	0.075	0.01	0.01	0.01
4/9/2020 (Thu)	0.044	0.144	0.083	0.64	0.24	0.05
4/10/2020 (Fri)	0.040	0.139	0.081	0.06	0.03	0.01
4/11/2020 (Sat)	0.041	0.160	0.080	0.00	0.00	0.00
4/12/2020 (Sun)	0.036	0.123	0.073	0.00	0.00	0.00
4/13/2020 (Mon)	0.032	0.155	0.063	1.47	0.27	0.06
4/14/2020 (Tue)	0.043	0.129	0.082	0.01	0.01	0.01
4/15/2020 (Wed)	0.041	0.127	0.077	0.00	0.00	0.00
4/16/2020 (Thu)	0.044	0.149	0.075	0.00	0.00	0.00
4/17/2020 (Fri)	0.036	0.099	0.064	0.06	0.06	0.01
4/18/2020 (Sat)	0.039	0.133	0.080	0.74	0.28	0.05
4/19/2020 (Sun)	0.038	0.166	0.078	0.01	0.01	0.01
4/20/2020 (Mon)	0.043	0.111	0.074	0.00	0.00	0.00
4/21/2020 (Tue)	0.038	0.168	0.068	0.54	0.36	0.08
4/22/2020 (Wed)	0.042	0.157	0.070	0.01	0.01	0.01
4/23/2020 (Thu)	0.028	0.119	0.070	0.00	0.00	0.00
4/24/2020 (Fri)	0.030	0.106	0.074	0.26	0.06	0.01
4/25/2020 (Sat)	0.022	0.110	0.070	0.00	0.00	0.00
4/26/2020 (Sun)	0.016	0.129	0.072	0.29	0.08	0.02
4/27/2020 (Mon)	0.019	0.136	0.071	0.55	0.05	0.01
4/28/2020 (Tue)	0.042	0.113	0.072	0.01	0.01	0.01
4/29/2020 (Wed)	0.020	0.107	0.066	0.00	0.00	0.00
4/30/2020 (Thu)	0.033	0.112	0.069	0.28	0.13	0.02
Total for period			1.789	4.94		
Min:			0.016			
Avg:			0.072			
Max:			0.168			

Summary Flow Report

Site:

Site 11

16 Mendon Street R.O.W.

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.134	0.277	0.099			
4/8/2020 (Wed)	0.075	0.248	0.176	0.01	0.01	0.01
4/9/2020 (Thu)	0.086	0.276	0.183	0.64	0.24	0.05
4/10/2020 (Fri)	0.087	0.281	0.180	0.06	0.03	0.01
4/11/2020 (Sat)	0.083	0.300	0.182	0.00	0.00	0.00
4/12/2020 (Sun)	0.079	0.309	0.174	0.00	0.00	0.00
4/13/2020 (Mon)	0.077	0.274	0.178	1.47	0.27	0.06
4/14/2020 (Tue)	0.108	0.298	0.199	0.01	0.01	0.01
4/15/2020 (Wed)	0.089	0.271	0.179	0.00	0.00	0.00
4/16/2020 (Thu)	0.072	0.284	0.174	0.00	0.00	0.00
4/17/2020 (Fri)	0.083	0.249	0.161	0.06	0.06	0.01
4/18/2020 (Sat)	0.087	0.290	0.174	0.74	0.28	0.05
4/19/2020 (Sun)	0.073	0.280	0.168	0.01	0.01	0.01
4/20/2020 (Mon)	0.080	0.259	0.168	0.00	0.00	0.00
4/21/2020 (Tue)	0.080	0.283	0.170	0.54	0.36	0.08
4/22/2020 (Wed)	0.083	0.246	0.169	0.01	0.01	0.01
4/23/2020 (Thu)	0.085	0.267	0.174	0.00	0.00	0.00
4/24/2020 (Fri)	0.079	0.254	0.167	0.26	0.06	0.01
4/25/2020 (Sat)	0.084	0.265	0.172	0.00	0.00	0.00
4/26/2020 (Sun)	0.082	0.269	0.171	0.29	0.08	0.02
4/27/2020 (Mon)	0.078	0.278	0.179	0.55	0.05	0.01
4/28/2020 (Tue)	0.087	0.298	0.191	0.01	0.01	0.01
4/29/2020 (Wed)	0.099	0.295	0.194	0.00	0.00	0.00
4/30/2020 (Thu)	0.084	0.264	0.174	0.28	0.13	0.02
Total for period			4.157	4.94		
Min:			0.072			
Avg:			0.173			
Max:			0.309			

Summary Flow Report

Site:

Site 12

11 South Main Street

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/6/2020 (Mon)	0.427	0.728	0.361			
4/7/2020 (Tue)	0.314	0.707	0.520			
4/8/2020 (Wed)	0.328	0.699	0.518	0.01	0.01	0.01
4/9/2020 (Thu)	0.326	0.723	0.529	0.64	0.24	0.05
4/10/2020 (Fri)	0.326	0.729	0.531	0.06	0.03	0.01
4/11/2020 (Sat)	0.339	0.781	0.534	0.00	0.00	0.00
4/12/2020 (Sun)	0.310	0.757	0.540	0.00	0.00	0.00
4/13/2020 (Mon)	0.343	0.780	0.579	1.47	0.27	0.06
4/14/2020 (Tue)	0.430	0.833	0.636	0.01	0.01	0.01
4/15/2020 (Wed)	0.426	0.817	0.640	0.00	0.00	0.00
4/16/2020 (Thu)	0.339	0.823	0.626	0.00	0.00	0.00
4/17/2020 (Fri)	0.388	0.812	0.589	0.06	0.06	0.01
4/18/2020 (Sat)	0.389	0.840	0.597	0.74	0.28	0.05
4/19/2020 (Sun)	0.385	0.852	0.594	0.01	0.01	0.01
4/20/2020 (Mon)	0.400	0.789	0.587	0.00	0.00	0.00
4/21/2020 (Tue)	0.402	0.874	0.605	0.54	0.36	0.08
4/22/2020 (Wed)	0.396	0.756	0.588	0.01	0.01	0.01
4/23/2020 (Thu)	0.387	0.705	0.564	0.00	0.00	0.00
4/24/2020 (Fri)	0.348	0.728	0.540	0.26	0.06	0.01
4/25/2020 (Sat)	0.321	0.749	0.536	0.00	0.00	0.00
4/26/2020 (Sun)	0.319	0.736	0.537	0.29	0.08	0.02
4/27/2020 (Mon)	0.335	0.719	0.555	0.55	0.05	0.01
4/28/2020 (Tue)	0.376	0.708	0.560	0.01	0.01	0.01
4/29/2020 (Wed)	0.374	0.722	0.560	0.00	0.00	0.00
4/30/2020 (Thu)	0.344	0.715	0.541	0.28	0.13	0.02
Total for period			13.967	4.94		
Min:			0.310			
Avg:			0.559			
Max:			0.874			

Summary Flow Report

Site:

Site 13

DPW R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.015	0.041	0.011			
4/8/2020 (Wed)	0.010	0.048	0.023	0.01	0.01	0.01
4/9/2020 (Thu)	0.008	0.046	0.017	0.64	0.24	0.05
4/10/2020 (Fri)	0.006	0.030	0.017	0.06	0.03	0.01
4/11/2020 (Sat)	0.006	0.046	0.022	0.00	0.00	0.00
4/12/2020 (Sun)	0.007	0.059	0.025	0.00	0.00	0.00
4/13/2020 (Mon)	0.008	0.065	0.024	1.47	0.27	0.06
4/14/2020 (Tue)	0.007	0.054	0.023	0.01	0.01	0.01
4/15/2020 (Wed)	0.005	0.056	0.020	0.00	0.00	0.00
4/16/2020 (Thu)	0.006	0.043	0.017	0.00	0.00	0.00
4/17/2020 (Fri)	0.005	0.055	0.017	0.06	0.06	0.01
4/18/2020 (Sat)	0.008	0.050	0.019	0.74	0.28	0.05
4/19/2020 (Sun)	0.007	0.061	0.019	0.01	0.01	0.01
4/20/2020 (Mon)	0.004	0.040	0.017	0.00	0.00	0.00
4/21/2020 (Tue)	0.008	0.048	0.022	0.54	0.36	0.08
4/22/2020 (Wed)	0.010	0.042	0.021	0.01	0.01	0.01
4/23/2020 (Thu)	0.008	0.092	0.027	0.00	0.00	0.00
4/24/2020 (Fri)	0.005	0.051	0.025	0.26	0.06	0.01
4/25/2020 (Sat)	0.005	0.062	0.026	0.00	0.00	0.00
4/26/2020 (Sun)	0.005	0.066	0.027	0.29	0.08	0.02
4/27/2020 (Mon)	0.005	0.061	0.026	0.55	0.05	0.01
4/28/2020 (Tue)	0.004	0.052	0.026	0.01	0.01	0.01
4/29/2020 (Wed)	0.005	0.074	0.028	0.00	0.00	0.00
4/30/2020 (Thu)	0.012	0.079	0.035	0.28	0.13	0.02
Total for period			0.534	4.94		
Min:			0.004			
Avg:			0.022			
Max:			0.092			

Summary Flow Report

Site:

Site 14

145 Hecla Street

Uxbridge, MA



18" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.077	0.159	0.051			
4/8/2020 (Wed)	0.063	0.168	0.105	0.01	0.01	0.01
4/9/2020 (Thu)	0.055	0.146	0.100	0.64	0.24	0.05
4/10/2020 (Fri)	0.053	0.146	0.094	0.06	0.03	0.01
4/11/2020 (Sat)	0.052	0.159	0.097	0.00	0.00	0.00
4/12/2020 (Sun)	0.042	0.317	0.093	0.00	0.00	0.00
4/13/2020 (Mon)	0.047	0.138	0.092	1.47	0.27	0.06
4/14/2020 (Tue)	0.058	0.154	0.105	0.01	0.01	0.01
4/15/2020 (Wed)	0.059	0.151	0.111	0.00	0.00	0.00
4/16/2020 (Thu)	0.069	0.148	0.108	0.00	0.00	0.00
4/17/2020 (Fri)	0.060	0.156	0.102	0.06	0.06	0.01
4/18/2020 (Sat)	0.058	0.154	0.099	0.74	0.28	0.05
4/19/2020 (Sun)	0.052	0.150	0.097	0.01	0.01	0.01
4/20/2020 (Mon)	0.053	0.140	0.094	0.00	0.00	0.00
4/21/2020 (Tue)	0.053	0.144	0.096	0.54	0.36	0.08
4/22/2020 (Wed)	0.051	0.134	0.088	0.01	0.01	0.01
4/23/2020 (Thu)	0.045	0.134	0.088	0.00	0.00	0.00
4/24/2020 (Fri)	0.048	0.124	0.087	0.26	0.06	0.01
4/25/2020 (Sat)	0.053	0.159	0.090	0.00	0.00	0.00
4/26/2020 (Sun)	0.048	0.155	0.093	0.29	0.08	0.02
4/27/2020 (Mon)	0.052	0.133	0.089	0.55	0.05	0.01
4/28/2020 (Tue)	0.050	0.138	0.092	0.01	0.01	0.01
4/29/2020 (Wed)	0.050	0.127	0.089	0.00	0.00	0.00
4/30/2020 (Thu)	0.048	0.169	0.092	0.28	0.13	0.02
Total for period			2.251	4.94		
Min:			0.042			
Avg:			0.094			
Max:			0.317			

Summary Flow Report

Site:

Site 15

2 West River Road

Uxbridge, MA



6" Palmer-Bowlus flume in an 8" line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.008	0.058	0.018			
4/8/2020 (Wed)	0.005	0.128	0.023	0.01	0.01	0.01
4/9/2020 (Thu)	0.004	0.066	0.019	0.64	0.24	0.05
4/10/2020 (Fri)	0.003	0.033	0.014	0.06	0.03	0.01
4/11/2020 (Sat)	0.003	0.063	0.024	0.00	0.00	0.00
4/12/2020 (Sun)	0.004	0.055	0.022	0.00	0.00	0.00
4/13/2020 (Mon)	0.005	0.085	0.020	1.47	0.27	0.06
4/14/2020 (Tue)	0.003	0.095	0.023	0.01	0.01	0.01
4/15/2020 (Wed)	0.006	0.065	0.025	0.00	0.00	0.00
4/16/2020 (Thu)	0.005	0.059	0.025	0.00	0.00	0.00
4/17/2020 (Fri)	0.006	0.125	0.025	0.06	0.06	0.01
4/18/2020 (Sat)	0.005	0.076	0.025	0.74	0.28	0.05
4/19/2020 (Sun)	0.006	0.084	0.026	0.01	0.01	0.01
4/20/2020 (Mon)	0.006	0.072	0.024	0.00	0.00	0.00
4/21/2020 (Tue)	0.005	0.071	0.024	0.54	0.36	0.08
4/22/2020 (Wed)	0.005	0.075	0.025	0.01	0.01	0.01
4/23/2020 (Thu)	0.006	0.087	0.026	0.00	0.00	0.00
4/24/2020 (Fri)	0.005	0.103	0.022	0.26	0.06	0.01
4/25/2020 (Sat)	0.005	0.109	0.026	0.00	0.00	0.00
4/26/2020 (Sun)	0.005	0.079	0.026	0.29	0.08	0.02
4/27/2020 (Mon)	0.005	0.090	0.024	0.55	0.05	0.01
4/28/2020 (Tue)	0.005	0.081	0.025	0.01	0.01	0.01
4/29/2020 (Wed)	0.006	0.058	0.023	0.00	0.00	0.00
4/30/2020 (Thu)	0.005	0.134	0.024	0.28	0.13	0.02
Total for period			0.561	4.94		
Min:			0.003			
Avg:			0.023			
Max:			0.134			

Summary Flow Report

Site:

Site 15

2 West River Road

Uxbridge, MA



6" Palmer-Bowlus flume in an 8" line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
4/7/2020 (Tue)	0.008	0.058	0.018			
4/8/2020 (Wed)	0.005	0.128	0.023	0.01	0.01	0.01
4/9/2020 (Thu)	0.004	0.066	0.019	0.64	0.24	0.05
4/10/2020 (Fri)	0.003	0.033	0.014	0.06	0.03	0.01
4/11/2020 (Sat)	0.003	0.063	0.024	0.00	0.00	0.00
4/12/2020 (Sun)	0.004	0.055	0.022	0.00	0.00	0.00
4/13/2020 (Mon)	0.005	0.085	0.020	1.47	0.27	0.06
4/14/2020 (Tue)	0.003	0.095	0.023	0.01	0.01	0.01
4/15/2020 (Wed)	0.006	0.065	0.025	0.00	0.00	0.00
4/16/2020 (Thu)	0.005	0.059	0.025	0.00	0.00	0.00
4/17/2020 (Fri)	0.006	0.125	0.025	0.06	0.06	0.01
4/18/2020 (Sat)	0.005	0.076	0.025	0.74	0.28	0.05
4/19/2020 (Sun)	0.006	0.084	0.026	0.01	0.01	0.01
4/20/2020 (Mon)	0.006	0.072	0.024	0.00	0.00	0.00
4/21/2020 (Tue)	0.005	0.071	0.024	0.54	0.36	0.08
4/22/2020 (Wed)	0.005	0.075	0.025	0.01	0.01	0.01
4/23/2020 (Thu)	0.006	0.087	0.026	0.00	0.00	0.00
4/24/2020 (Fri)	0.005	0.103	0.022	0.26	0.06	0.01
4/25/2020 (Sat)	0.005	0.109	0.026	0.00	0.00	0.00
4/26/2020 (Sun)	0.005	0.079	0.026	0.29	0.08	0.02
4/27/2020 (Mon)	0.005	0.090	0.024	0.55	0.05	0.01
4/28/2020 (Tue)	0.005	0.081	0.025	0.01	0.01	0.01
4/29/2020 (Wed)	0.006	0.058	0.023	0.00	0.00	0.00
4/30/2020 (Thu)	0.005	0.134	0.024	0.28	0.13	0.02
Total for period			0.561	4.94		
Min:			0.003			
Avg:			0.023			
Max:			0.134			

Summary Flow Report



Site:

Site 2

South Main Street R.O.W.

Uxbridge, MA

30" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.539	2.164	0.890	0.88	0.21	0.03
5/2/2020 (Sat)	0.569	1.635	0.932	0.01	0.01	0.01
5/3/2020 (Sun)	0.559	1.807	0.922	0.00	0.00	0.00
5/4/2020 (Mon)	0.472	1.584	0.902	0.00	0.00	0.00
5/5/2020 (Tue)	0.531	1.212	0.866	0.00	0.00	0.00
5/6/2020 (Wed)	0.491	1.204	0.848	0.05	0.04	0.01
5/7/2020 (Thu)	0.520	1.130	0.834	0.01	0.01	0.01
5/8/2020 (Fri)	0.508	1.084	0.819	0.37	0.08	0.01
5/9/2020 (Sat)	0.488	1.172	0.815	0.11	0.06	0.01
5/10/2020 (Sun)	0.458	1.217	0.795	0.00	0.00	0.00
5/11/2020 (Mon)	0.459	1.067	0.764	0.17	0.12	0.03
5/12/2020 (Tue)	0.479	1.026	0.747	0.00	0.00	0.00
5/13/2020 (Wed)	0.464	0.983	0.741	0.00	0.00	0.00
5/14/2020 (Thu)	0.429	1.188	0.730	0.00	0.00	0.00
5/15/2020 (Fri)	0.431	1.026	0.720	1.17	0.65	0.15
5/16/2020 (Sat)	0.468	1.102	0.768	0.07	0.05	0.01
5/17/2020 (Sun)	0.461	1.112	0.770	0.00	0.00	0.00
5/18/2020 (Mon)	0.469	1.043	0.764	0.00	0.00	0.00
5/19/2020 (Tue)	0.444	1.258	0.741	0.00	0.00	0.00
5/20/2020 (Wed)	0.359	1.085	0.736	0.00	0.00	0.00
5/21/2020 (Thu)	0.347	1.091	0.723	0.00	0.00	0.00
5/22/2020 (Fri)	0.352	1.113	0.708	0.00	0.00	0.00
5/23/2020 (Sat)	0.359	1.182	0.714	0.01	0.01	0.01
5/24/2020 (Sun)	0.359	1.112	0.700	0.00	0.00	0.00
5/25/2020 (Mon)	0.343	1.111	0.697	0.01	0.01	0.01
5/26/2020 (Tue)	0.331	1.035	0.695	0.00	0.00	0.00
5/27/2020 (Wed)	0.337	1.039	0.694	0.00	0.00	0.00
5/28/2020 (Thu)	0.367	1.089	0.714	0.01	0.01	0.01
5/29/2020 (Fri)	0.375	1.061	0.722	0.00	0.00	0.00
5/30/2020 (Sat)	0.378	1.159	0.730	0.10	0.09	0.03
5/31/2020 (Sun)	0.359	1.173	0.717	0.00	0.00	0.00
Total for period			23.916	2.97		
Min:			0.331			
Avg:			0.771			
Max:			2.164			

Summary Flow Report

Site:

Site 3

South Main Street R.O.W.

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.040	0.129	0.080	0.88	0.21	0.03
5/2/2020 (Sat)	0.026	0.133	0.081	0.01	0.01	0.01
5/3/2020 (Sun)	0.035	0.136	0.082	0.00	0.00	0.00
5/4/2020 (Mon)	0.029	0.135	0.073	0.00	0.00	0.00
5/5/2020 (Tue)	0.030	0.111	0.070	0.00	0.00	0.00
5/6/2020 (Wed)	0.028	0.117	0.076	0.05	0.04	0.01
5/7/2020 (Thu)	0.027	0.118	0.078	0.01	0.01	0.01
5/8/2020 (Fri)	0.021	0.121	0.077	0.37	0.08	0.01
5/9/2020 (Sat)	0.022	0.132	0.076	0.11	0.06	0.01
5/10/2020 (Sun)	0.015	0.127	0.067	0.00	0.00	0.00
5/11/2020 (Mon)	0.016	0.108	0.055	0.17	0.12	0.03
5/12/2020 (Tue)	0.017	0.114	0.071	0.00	0.00	0.00
5/13/2020 (Wed)	0.015	0.107	0.066	0.00	0.00	0.00
5/14/2020 (Thu)	0.015	0.110	0.067	0.00	0.00	0.00
5/15/2020 (Fri)	0.014	0.118	0.068	1.17	0.65	0.15
5/16/2020 (Sat)	0.015	0.121	0.070	0.07	0.05	0.01
5/17/2020 (Sun)	0.013	0.126	0.066	0.00	0.00	0.00
5/18/2020 (Mon)	0.015	0.118	0.067	0.00	0.00	0.00
5/19/2020 (Tue)	0.014	0.116	0.071	0.00	0.00	0.00
5/20/2020 (Wed)	0.024	0.122	0.076	0.00	0.00	0.00
5/21/2020 (Thu)	0.014	0.105	0.066	0.00	0.00	0.00
5/22/2020 (Fri)	0.015	0.111	0.068	0.00	0.00	0.00
5/23/2020 (Sat)	0.014	0.118	0.065	0.01	0.01	0.01
5/24/2020 (Sun)	0.012	0.117	0.068	0.00	0.00	0.00
5/25/2020 (Mon)	0.012	0.137	0.066	0.01	0.01	0.01
5/26/2020 (Tue)	0.012	0.119	0.066	0.00	0.00	0.00
5/27/2020 (Wed)	0.013	0.122	0.067	0.00	0.00	0.00
5/28/2020 (Thu)	0.011	0.121	0.065	0.01	0.01	0.01
5/29/2020 (Fri)	0.011	0.113	0.068	0.00	0.00	0.00
5/30/2020 (Sat)	0.012	0.113	0.067	0.10	0.09	0.03
5/31/2020 (Sun)	0.012	0.106	0.060	0.00	0.00	0.00
Total for period			2.163	2.97		
Min:			0.011			
Avg:			0.070			
Max:			0.137			

Summary Flow Report

Site:

Site 4

36 South Main Street

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.007	0.081	0.028	0.88	0.21	0.03
5/2/2020 (Sat)	0.009	0.088	0.031	0.01	0.01	0.01
5/3/2020 (Sun)	0.010	0.081	0.029	0.00	0.00	0.00
5/4/2020 (Mon)	0.010	0.074	0.027	0.00	0.00	0.00
5/5/2020 (Tue)	0.009	0.064	0.025	0.00	0.00	0.00
5/6/2020 (Wed)	0.009	0.070	0.023	0.05	0.04	0.01
5/7/2020 (Thu)	0.008	0.101	0.023	0.01	0.01	0.01
5/8/2020 (Fri)	0.006	0.058	0.022	0.37	0.08	0.01
5/9/2020 (Sat)	0.008	0.071	0.023	0.11	0.06	0.01
5/10/2020 (Sun)	0.005	0.068	0.021	0.00	0.00	0.00
5/11/2020 (Mon)	0.005	0.081	0.021	0.17	0.12	0.03
5/12/2020 (Tue)	0.005	0.054	0.019	0.00	0.00	0.00
5/13/2020 (Wed)	0.004	0.059	0.015	0.00	0.00	0.00
5/14/2020 (Thu)	0.003	0.046	0.014	0.00	0.00	0.00
5/15/2020 (Fri)	0.003	0.049	0.013	1.17	0.65	0.15
5/16/2020 (Sat)	0.002	0.056	0.015	0.07	0.05	0.01
5/17/2020 (Sun)	0.001	0.055	0.015	0.00	0.00	0.00
5/18/2020 (Mon)	0.001	0.054	0.014	0.00	0.00	0.00
5/19/2020 (Tue)	0.002	0.060	0.014	0.00	0.00	0.00
5/20/2020 (Wed)	0.002	0.043	0.013	0.00	0.00	0.00
5/21/2020 (Thu)	0.002	0.045	0.014	0.00	0.00	0.00
5/22/2020 (Fri)	0.006	0.043	0.016	0.00	0.00	0.00
5/23/2020 (Sat)	0.004	0.053	0.015	0.01	0.01	0.01
5/24/2020 (Sun)	0.002	0.045	0.014	0.00	0.00	0.00
5/25/2020 (Mon)	0.004	0.057	0.015	0.01	0.01	0.01
5/26/2020 (Tue)	0.002	0.036	0.012	0.00	0.00	0.00
5/27/2020 (Wed)	0.001	0.050	0.013	0.00	0.00	0.00
5/28/2020 (Thu)	0.003	0.053	0.014	0.01	0.01	0.01
5/29/2020 (Fri)	0.004	0.060	0.014	0.00	0.00	0.00
5/30/2020 (Sat)	0.003	0.044	0.013	0.10	0.09	0.03
5/31/2020 (Sun)	0.002	0.050	0.014	0.00	0.00	0.00
Total for period			0.561	2.97		
Min:			0.001			
Avg:			0.018			
Max:			0.101			

Summary Flow Report

Site:

Site 5

Douglas Street at Snowling Road

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.008	0.026	0.017	0.88	0.21	0.03
5/2/2020 (Sat)	0.011	0.028	0.016	0.01	0.01	0.01
5/3/2020 (Sun)	0.008	0.019	0.012	0.00	0.00	0.00
5/4/2020 (Mon)	0.007	0.016	0.010	0.00	0.00	0.00
5/5/2020 (Tue)	0.007	0.024	0.011	0.00	0.00	0.00
5/6/2020 (Wed)	0.006	0.018	0.008	0.05	0.04	0.01
5/7/2020 (Thu)	0.005	0.023	0.009	0.01	0.01	0.01
5/8/2020 (Fri)	0.004	0.024	0.008	0.37	0.08	0.01
5/9/2020 (Sat)	0.005	0.023	0.009	0.11	0.06	0.01
5/10/2020 (Sun)	0.004	0.013	0.007	0.00	0.00	0.00
5/11/2020 (Mon)	0.004	0.010	0.007	0.17	0.12	0.03
5/12/2020 (Tue)	0.005	0.013	0.007	0.00	0.00	0.00
5/13/2020 (Wed)	0.003	0.020	0.007	0.00	0.00	0.00
5/14/2020 (Thu)	0.003	0.024	0.007	0.00	0.00	0.00
5/15/2020 (Fri)	0.003	0.021	0.008	1.17	0.65	0.15
5/16/2020 (Sat)	0.006	0.024	0.011	0.07	0.05	0.01
5/17/2020 (Sun)	0.005	0.025	0.009	0.00	0.00	0.00
5/18/2020 (Mon)	0.004	0.017	0.008	0.00	0.00	0.00
5/19/2020 (Tue)	0.003	0.026	0.008	0.00	0.00	0.00
5/20/2020 (Wed)	0.002	0.016	0.007	0.00	0.00	0.00
5/21/2020 (Thu)	0.002	0.020	0.007	0.00	0.00	0.00
5/22/2020 (Fri)	0.001	0.020	0.005	0.00	0.00	0.00
5/23/2020 (Sat)	0.001	0.015	0.005	0.01	0.01	0.01
5/24/2020 (Sun)	0.002	0.014	0.005	0.00	0.00	0.00
5/25/2020 (Mon)	0.002	0.020	0.006	0.01	0.01	0.01
5/26/2020 (Tue)	0.002	0.022	0.006	0.00	0.00	0.00
5/27/2020 (Wed)	0.002	0.018	0.005	0.00	0.00	0.00
5/28/2020 (Thu)	0.002	0.019	0.005	0.01	0.01	0.01
5/29/2020 (Fri)	0.001	0.019	0.005	0.00	0.00	0.00
5/30/2020 (Sat)	0.001	0.020	0.005	0.10	0.09	0.03
5/31/2020 (Sun)	0.001	0.017	0.005	0.00	0.00	0.00
Total for period			0.244	2.97		
Min:			0.001			
Avg:			0.008			
Max:			0.028			

Summary Flow Report

Site:

Site 6

2 Snowling Road

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.080	0.169	0.111	0.88	0.21	0.03
5/2/2020 (Sat)	0.091	0.174	0.119	0.01	0.01	0.01
5/3/2020 (Sun)	0.094	0.158	0.121	0.00	0.00	0.00
5/4/2020 (Mon)	0.097	0.153	0.123	0.00	0.00	0.00
5/5/2020 (Tue)	0.101	0.154	0.125	0.00	0.00	0.00
5/6/2020 (Wed)	0.092	0.156	0.115	0.05	0.04	0.01
5/7/2020 (Thu)	0.086	0.158	0.112	0.01	0.01	0.01
5/8/2020 (Fri)	0.080	0.138	0.114	0.37	0.08	0.01
5/9/2020 (Sat)	0.087	0.156	0.113	0.11	0.06	0.01
5/10/2020 (Sun)	0.084	0.140	0.106	0.00	0.00	0.00
5/11/2020 (Mon)	0.077	0.133	0.102	0.17	0.12	0.03
5/12/2020 (Tue)	0.076	0.138	0.101	0.00	0.00	0.00
5/13/2020 (Wed)	0.075	0.125	0.097	0.00	0.00	0.00
5/14/2020 (Thu)	0.074	0.120	0.096	0.00	0.00	0.00
5/15/2020 (Fri)	0.072	0.141	0.105	1.17	0.65	0.15
5/16/2020 (Sat)	0.079	0.146	0.112	0.07	0.05	0.01
5/17/2020 (Sun)	0.071	0.185	0.139	0.00	0.00	0.00
5/18/2020 (Mon)	0.081	0.169	0.129	0.00	0.00	0.00
5/19/2020 (Tue)	0.082	0.150	0.109	0.00	0.00	0.00
5/20/2020 (Wed)	0.075	0.135	0.106	0.00	0.00	0.00
5/21/2020 (Thu)	0.072	0.141	0.106	0.00	0.00	0.00
5/22/2020 (Fri)	0.072	0.138	0.104	0.00	0.00	0.00
5/23/2020 (Sat)	0.072	0.134	0.106	0.01	0.01	0.01
5/24/2020 (Sun)	0.076	0.151	0.111	0.00	0.00	0.00
5/25/2020 (Mon)	0.074	0.143	0.104	0.01	0.01	0.01
5/26/2020 (Tue)	0.075	0.154	0.110	0.00	0.00	0.00
5/27/2020 (Wed)	0.072	0.169	0.110	0.00	0.00	0.00
5/28/2020 (Thu)	0.079	0.200	0.126	0.01	0.01	0.01
5/29/2020 (Fri)	0.071	0.190	0.103	0.00	0.00	0.00
5/30/2020 (Sat)	0.068	0.140	0.102	0.10	0.09	0.03
5/31/2020 (Sun)	0.068	0.148	0.105	0.00	0.00	0.00
Total for period			3.442	2.97		
Min:			0.068			
Avg:			0.111			
Max:			0.200			

Summary Flow Report

Site:

Site 7

105 Douglas Street

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.023	0.144	0.052	0.88	0.21	0.03
5/2/2020 (Sat)	0.021	0.136	0.051	0.01	0.01	0.01
5/3/2020 (Sun)	0.019	0.119	0.049	0.00	0.00	0.00
5/4/2020 (Mon)	0.018	0.109	0.044	0.00	0.00	0.00
5/5/2020 (Tue)	0.016	0.131	0.044	0.00	0.00	0.00
5/6/2020 (Wed)	0.025	0.121	0.047	0.05	0.04	0.01
5/7/2020 (Thu)	0.021	0.127	0.045	0.01	0.01	0.01
5/8/2020 (Fri)	0.020	0.139	0.045	0.37	0.08	0.01
5/9/2020 (Sat)	0.020	0.107	0.045	0.11	0.06	0.01
5/10/2020 (Sun)	0.019	0.107	0.044	0.00	0.00	0.00
5/11/2020 (Mon)	0.018	0.118	0.043	0.17	0.12	0.03
5/12/2020 (Tue)	0.019	0.129	0.044	0.00	0.00	0.00
5/13/2020 (Wed)	0.015	0.113	0.041	0.00	0.00	0.00
5/14/2020 (Thu)	0.018	0.125	0.041	0.00	0.00	0.00
5/15/2020 (Fri)	0.014	0.126	0.046	1.17	0.65	0.15
5/16/2020 (Sat)	0.017	0.116	0.042	0.07	0.05	0.01
5/17/2020 (Sun)	0.017	0.141	0.043	0.00	0.00	0.00
5/18/2020 (Mon)	0.013	0.100	0.041	0.00	0.00	0.00
5/19/2020 (Tue)	0.015	0.140	0.041	0.00	0.00	0.00
5/20/2020 (Wed)	0.012	0.131	0.041	0.00	0.00	0.00
5/21/2020 (Thu)	0.015	0.109	0.039	0.00	0.00	0.00
5/22/2020 (Fri)	0.014	0.121	0.038	0.00	0.00	0.00
5/23/2020 (Sat)	0.015	0.092	0.037	0.01	0.01	0.01
5/24/2020 (Sun)	0.014	0.158	0.037	0.00	0.00	0.00
5/25/2020 (Mon)	0.014	0.082	0.038	0.01	0.01	0.01
5/26/2020 (Tue)	0.013	0.117	0.038	0.00	0.00	0.00
5/27/2020 (Wed)	0.014	0.106	0.036	0.00	0.00	0.00
5/28/2020 (Thu)	0.014	0.107	0.037	0.01	0.01	0.01
5/29/2020 (Fri)	0.014	0.118	0.037	0.00	0.00	0.00
5/30/2020 (Sat)	0.014	0.114	0.038	0.10	0.09	0.03
5/31/2020 (Sun)	0.012	0.118	0.035	0.00	0.00	0.00
Total for period			1.299	2.97		
Min:			0.012			
Avg:			0.042			
Max:			0.158			

Summary Flow Report

Site:

Site 8

277 North Main Street

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.033	0.233	0.095	0.88	0.21	0.03
5/2/2020 (Sat)	0.048	0.249	0.106	0.01	0.01	0.01
5/3/2020 (Sun)	0.042	0.240	0.097	0.00	0.00	0.00
5/4/2020 (Mon)	0.034	0.278	0.092	0.00	0.00	0.00
5/5/2020 (Tue)	0.022	0.227	0.091	0.00	0.00	0.00
5/6/2020 (Wed)	0.022	0.216	0.083	0.05	0.04	0.01
5/7/2020 (Thu)	0.031	0.285	0.085	0.01	0.01	0.01
5/8/2020 (Fri)	0.020	0.216	0.079	0.37	0.08	0.01
5/9/2020 (Sat)	0.027	0.222	0.085	0.11	0.06	0.01
5/10/2020 (Sun)	0.019	0.226	0.080	0.00	0.00	0.00
5/11/2020 (Mon)	0.017	0.243	0.083	0.17	0.12	0.03
5/12/2020 (Tue)	0.018	0.270	0.081	0.00	0.00	0.00
5/13/2020 (Wed)	0.022	0.219	0.078	0.00	0.00	0.00
5/14/2020 (Thu)	0.017	0.214	0.083	0.00	0.00	0.00
5/15/2020 (Fri)	0.019	0.182	0.078	1.17	0.65	0.15
5/16/2020 (Sat)	0.024	0.214	0.077	0.07	0.05	0.01
5/17/2020 (Sun)	0.017	0.222	0.080	0.00	0.00	0.00
5/18/2020 (Mon)	0.020	0.230	0.086	0.00	0.00	0.00
5/19/2020 (Tue)	0.014	0.200	0.078	0.00	0.00	0.00
5/20/2020 (Wed)	0.014	0.239	0.077	0.00	0.00	0.00
5/21/2020 (Thu)	0.021	0.227	0.081	0.00	0.00	0.00
5/22/2020 (Fri)	0.016	0.189	0.072	0.00	0.00	0.00
5/23/2020 (Sat)	0.015	0.185	0.068	0.01	0.01	0.01
5/24/2020 (Sun)	0.014	0.186	0.070	0.00	0.00	0.00
5/25/2020 (Mon)	0.009	0.218	0.074	0.01	0.01	0.01
5/26/2020 (Tue)	0.011	0.247	0.080	0.00	0.00	0.00
5/27/2020 (Wed)	0.014	0.201	0.078	0.00	0.00	0.00
5/28/2020 (Thu)	0.016	0.260	0.083	0.01	0.01	0.01
5/29/2020 (Fri)	0.017	0.236	0.074	0.00	0.00	0.00
5/30/2020 (Sat)	0.013	0.187	0.069	0.10	0.09	0.03
5/31/2020 (Sun)	0.010	0.207	0.068	0.00	0.00	0.00
Total for period			2.510	2.97		
Min:			0.009			
Avg:			0.081			
Max:			0.285			

Summary Flow Report

Site:

Site 9

School Street R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.036	0.181	0.099	0.88	0.21	0.03
5/2/2020 (Sat)	0.052	0.220	0.105	0.01	0.01	0.01
5/3/2020 (Sun)	0.045	0.228	0.100	0.00	0.00	0.00
5/4/2020 (Mon)	0.052	0.204	0.110	0.00	0.00	0.00
5/5/2020 (Tue)	0.042	0.263	0.109	0.00	0.00	0.00
5/6/2020 (Wed)	0.036	0.264	0.091	0.05	0.04	0.01
5/7/2020 (Thu)	0.029	0.210	0.071	0.01	0.01	0.01
5/8/2020 (Fri)	0.025	0.200	0.079	0.37	0.08	0.01
5/9/2020 (Sat)	0.053	0.205	0.103	0.11	0.06	0.01
5/10/2020 (Sun)	0.033	0.174	0.084	0.00	0.00	0.00
5/11/2020 (Mon)	0.026	0.206	0.093	0.17	0.12	0.03
5/12/2020 (Tue)	0.029	0.240	0.102	0.00	0.00	0.00
5/13/2020 (Wed)	0.036	0.219	0.103	0.00	0.00	0.00
5/14/2020 (Thu)	0.032	0.209	0.101	0.00	0.00	0.00
5/15/2020 (Fri)	0.042	0.198	0.099	1.17	0.65	0.15
5/16/2020 (Sat)	0.032	0.172	0.082	0.07	0.05	0.01
5/17/2020 (Sun)	0.027	0.229	0.096	0.00	0.00	0.00
5/18/2020 (Mon)	0.035	0.307	0.115	0.00	0.00	0.00
5/19/2020 (Tue)	0.037	0.220	0.096	0.00	0.00	0.00
5/20/2020 (Wed)	0.029	0.229	0.095	0.00	0.00	0.00
5/21/2020 (Thu)	0.040	0.244	0.115	0.00	0.00	0.00
5/22/2020 (Fri)	0.039	0.198	0.094	0.00	0.00	0.00
5/23/2020 (Sat)	0.039	0.202	0.088	0.01	0.01	0.01
5/24/2020 (Sun)	0.041	0.204	0.097	0.00	0.00	0.00
5/25/2020 (Mon)	0.031	0.286	0.107	0.01	0.01	0.01
5/26/2020 (Tue)	0.037	0.220	0.108	0.00	0.00	0.00
5/27/2020 (Wed)	0.030	0.209	0.104	0.00	0.00	0.00
5/28/2020 (Thu)	0.037	0.270	0.119	0.01	0.01	0.01
5/29/2020 (Fri)	0.032	0.253	0.099	0.00	0.00	0.00
5/30/2020 (Sat)	0.028	0.187	0.088	0.10	0.09	0.03
5/31/2020 (Sun)	0.029	0.282	0.090	0.00	0.00	0.00
Total for period			3.042	2.97		
Min:			0.025			
Avg:			0.098			
Max:			0.307			

Summary Flow Report

Site:

Site 10

Crown and Eagle Road

Uxbridge, MA



10" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.032	0.145	0.076	0.88	0.21	0.03
5/2/2020 (Sat)	0.036	0.166	0.077	0.01	0.01	0.01
5/3/2020 (Sun)	0.041	0.135	0.078	0.00	0.00	0.00
5/4/2020 (Mon)	0.040	0.148	0.072	0.00	0.00	0.00
5/5/2020 (Tue)	0.039	0.114	0.070	0.00	0.00	0.00
5/6/2020 (Wed)	0.032	0.131	0.065	0.05	0.04	0.01
5/7/2020 (Thu)	0.021	0.095	0.064	0.01	0.01	0.01
5/8/2020 (Fri)	0.029	0.124	0.060	0.37	0.08	0.01
5/9/2020 (Sat)	0.024	0.095	0.060	0.11	0.06	0.01
5/10/2020 (Sun)	0.020	0.127	0.059	0.00	0.00	0.00
5/11/2020 (Mon)	0.021	0.096	0.056	0.17	0.12	0.03
5/12/2020 (Tue)	0.019	0.112	0.059	0.00	0.00	0.00
5/13/2020 (Wed)	0.019	0.103	0.054	0.00	0.00	0.00
5/14/2020 (Thu)	0.019	0.118	0.055	0.00	0.00	0.00
5/15/2020 (Fri)	0.019	0.122	0.057	1.17	0.65	0.15
5/16/2020 (Sat)	0.023	0.099	0.056	0.07	0.05	0.01
5/17/2020 (Sun)	0.018	0.094	0.050	0.00	0.00	0.00
5/18/2020 (Mon)	0.019	0.099	0.053	0.00	0.00	0.00
5/19/2020 (Tue)	0.019	0.090	0.052	0.00	0.00	0.00
5/20/2020 (Wed)	0.018	0.134	0.053	0.00	0.00	0.00
5/21/2020 (Thu)	0.021	0.081	0.048	0.00	0.00	0.00
5/22/2020 (Fri)	0.015	0.131	0.050	0.00	0.00	0.00
5/23/2020 (Sat)	0.019	0.132	0.052	0.01	0.01	0.01
5/24/2020 (Sun)	0.017	0.094	0.049	0.00	0.00	0.00
5/25/2020 (Mon)	0.015	0.094	0.048	0.01	0.01	0.01
5/26/2020 (Tue)	0.015	0.125	0.051	0.00	0.00	0.00
5/27/2020 (Wed)	0.016	0.102	0.054	0.00	0.00	0.00
5/28/2020 (Thu)	0.013	0.119	0.046	0.01	0.01	0.01
5/29/2020 (Fri)	0.014	0.114	0.045	0.00	0.00	0.00
5/30/2020 (Sat)	0.016	0.095	0.049	0.10	0.09	0.03
5/31/2020 (Sun)	0.015	0.101	0.046	0.00	0.00	0.00
Total for period			1.766	2.97		
Min:			0.013			
Avg:			0.057			
Max:			0.166			

Summary Flow Report

Site:

Site 11

16 Mendon Street R.O.W.

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.097	0.282	0.195	0.88	0.21	0.03
5/2/2020 (Sat)	0.102	0.326	0.203	0.01	0.01	0.01
5/3/2020 (Sun)	0.103	0.320	0.197	0.00	0.00	0.00
5/4/2020 (Mon)	0.090	0.269	0.181	0.00	0.00	0.00
5/5/2020 (Tue)	0.087	0.254	0.180	0.00	0.00	0.00
5/6/2020 (Wed)	0.086	0.267	0.176	0.05	0.04	0.01
5/7/2020 (Thu)	0.084	0.265	0.172	0.01	0.01	0.01
5/8/2020 (Fri)	0.074	0.256	0.166	0.37	0.08	0.01
5/9/2020 (Sat)	0.089	0.267	0.174	0.11	0.06	0.01
5/10/2020 (Sun)	0.075	0.273	0.164	0.00	0.00	0.00
5/11/2020 (Mon)	0.068	0.244	0.166	0.17	0.12	0.03
5/12/2020 (Tue)	0.070	0.238	0.161	0.00	0.00	0.00
5/13/2020 (Wed)	0.061	0.245	0.161	0.00	0.00	0.00
5/14/2020 (Thu)	0.058	0.255	0.156	0.00	0.00	0.00
5/15/2020 (Fri)	0.069	0.247	0.152	1.17	0.65	0.15
5/16/2020 (Sat)	0.068	0.253	0.162	0.07	0.05	0.01
5/17/2020 (Sun)	0.062	0.283	0.161	0.00	0.00	0.00
5/18/2020 (Mon)	0.065	0.247	0.161	0.00	0.00	0.00
5/19/2020 (Tue)	0.065	0.234	0.152	0.00	0.00	0.00
5/20/2020 (Wed)	0.059	0.249	0.152	0.00	0.00	0.00
5/21/2020 (Thu)	0.072	0.237	0.153	0.00	0.00	0.00
5/22/2020 (Fri)	0.059	0.209	0.128	0.00	0.00	0.00
5/23/2020 (Sat)	0.050	0.206	0.126	0.01	0.01	0.01
5/24/2020 (Sun)	0.040	0.221	0.121	0.00	0.00	0.00
5/25/2020 (Mon)	0.035	0.214	0.115	0.01	0.01	0.01
5/26/2020 (Tue)	0.037	0.217	0.123	0.00	0.00	0.00
5/27/2020 (Wed)	0.046	0.194	0.134	0.00	0.00	0.00
5/28/2020 (Thu)	0.049	0.222	0.132	0.01	0.01	0.01
5/29/2020 (Fri)	0.044	0.220	0.129	0.00	0.00	0.00
5/30/2020 (Sat)	0.052	0.220	0.129	0.10	0.09	0.03
5/31/2020 (Sun)	0.046	0.247	0.132	0.00	0.00	0.00
Total for period			4.817	2.97		
Min:			0.035			
Avg:			0.155			
Max:			0.326			

Summary Flow Report

Site:

Site 12

11 South Main Street

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.393	0.771	0.604	0.88	0.21	0.03
5/2/2020 (Sat)	0.430	0.832	0.617	0.01	0.01	0.01
5/3/2020 (Sun)	0.410	0.822	0.613	0.00	0.00	0.00
5/4/2020 (Mon)	0.403	0.756	0.590	0.00	0.00	0.00
5/5/2020 (Tue)	0.386	0.788	0.574	0.00	0.00	0.00
5/6/2020 (Wed)	0.370	0.724	0.554	0.05	0.04	0.01
5/7/2020 (Thu)	0.364	0.705	0.544	0.01	0.01	0.01
5/8/2020 (Fri)	0.338	0.706	0.533	0.37	0.08	0.01
5/9/2020 (Sat)	0.361	0.745	0.542	0.11	0.06	0.01
5/10/2020 (Sun)	0.335	0.741	0.513	0.00	0.00	0.00
5/11/2020 (Mon)	0.322	0.691	0.506	0.17	0.12	0.03
5/12/2020 (Tue)	0.319	0.695	0.501	0.00	0.00	0.00
5/13/2020 (Wed)	0.309	0.645	0.484	0.00	0.00	0.00
5/14/2020 (Thu)	0.293	0.666	0.481	0.00	0.00	0.00
5/15/2020 (Fri)	0.293	0.661	0.477	1.17	0.65	0.15
5/16/2020 (Sat)	0.306	0.704	0.499	0.07	0.05	0.01
5/17/2020 (Sun)	0.298	0.739	0.502	0.00	0.00	0.00
5/18/2020 (Mon)	0.304	0.660	0.487	0.00	0.00	0.00
5/19/2020 (Tue)	0.285	0.627	0.472	0.00	0.00	0.00
5/20/2020 (Wed)	0.286	0.645	0.475	0.00	0.00	0.00
5/21/2020 (Thu)	0.291	0.646	0.471	0.00	0.00	0.00
5/22/2020 (Fri)	0.272	0.654	0.455	0.00	0.00	0.00
5/23/2020 (Sat)	0.279	0.624	0.455	0.01	0.01	0.01
5/24/2020 (Sun)	0.262	0.685	0.449	0.00	0.00	0.00
5/25/2020 (Mon)	0.253	0.679	0.453	0.01	0.01	0.01
5/26/2020 (Tue)	0.262	0.618	0.465	0.00	0.00	0.00
5/27/2020 (Wed)	0.263	0.605	0.458	0.00	0.00	0.00
5/28/2020 (Thu)	0.263	0.645	0.469	0.01	0.01	0.01
5/29/2020 (Fri)	0.263	0.615	0.466	0.00	0.00	0.00
5/30/2020 (Sat)	0.277	0.678	0.460	0.10	0.09	0.03
5/31/2020 (Sun)	0.236	0.618	0.434	0.00	0.00	0.00
Total for period			15.602	2.97		
Min:			0.236			
Avg:			0.503			
Max:			0.832			

Summary Flow Report

Site:

Site 13

DPW R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.012	1.159	0.046	0.88	0.21	0.03
5/2/2020 (Sat)	0.014	0.064	0.030	0.01	0.01	0.01
5/3/2020 (Sun)	0.012	0.263	0.036	0.00	0.00	0.00
5/4/2020 (Mon)	0.014	0.101	0.033	0.00	0.00	0.00
5/5/2020 (Tue)	0.013	0.072	0.033	0.00	0.00	0.00
5/6/2020 (Wed)	0.011	0.067	0.031	0.05	0.04	0.01
5/7/2020 (Thu)	0.012	0.075	0.033	0.01	0.01	0.01
5/8/2020 (Fri)	0.011	0.093	0.025	0.37	0.08	0.01
5/9/2020 (Sat)	0.006	0.043	0.022	0.11	0.06	0.01
5/10/2020 (Sun)	0.004	0.040	0.019	0.00	0.00	0.00
5/11/2020 (Mon)	0.004	0.049	0.021	0.17	0.12	0.03
5/12/2020 (Tue)	0.005	0.045	0.021	0.00	0.00	0.00
5/13/2020 (Wed)	0.004	0.058	0.030	0.00	0.00	0.00
5/14/2020 (Thu)	0.006	0.050	0.023	0.00	0.00	0.00
5/15/2020 (Fri)	0.006	0.050	0.021	1.17	0.65	0.15
5/16/2020 (Sat)	0.009	0.063	0.023	0.07	0.05	0.01
5/17/2020 (Sun)	0.008	0.043	0.021	0.00	0.00	0.00
5/18/2020 (Mon)	0.008	0.040	0.018	0.00	0.00	0.00
5/19/2020 (Tue)	0.006	0.040	0.018	0.00	0.00	0.00
5/20/2020 (Wed)	0.005	0.039	0.016	0.00	0.00	0.00
5/21/2020 (Thu)	0.005	0.081	0.023	0.00	0.00	0.00
5/22/2020 (Fri)	0.005	0.073	0.017	0.00	0.00	0.00
5/23/2020 (Sat)	0.005	0.043	0.017	0.01	0.01	0.01
5/24/2020 (Sun)	0.009	0.037	0.018	0.00	0.00	0.00
5/25/2020 (Mon)	0.006	0.031	0.015	0.01	0.01	0.01
5/26/2020 (Tue)	0.005	0.045	0.017	0.00	0.00	0.00
5/27/2020 (Wed)	0.006	0.036	0.017	0.00	0.00	0.00
5/28/2020 (Thu)	0.006	0.079	0.025	0.01	0.01	0.01
5/29/2020 (Fri)	0.009	0.039	0.018	0.00	0.00	0.00
5/30/2020 (Sat)	0.006	0.048	0.018	0.10	0.09	0.03
5/31/2020 (Sun)	0.006	0.040	0.017	0.00	0.00	0.00
Total for period			0.722	2.97		
Min:			0.004			
Avg:			0.023			
Max:			1.159			

Summary Flow Report

Site:

Site 14

145 Hecla Street

Uxbridge, MA



18" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.000	0.858	0.078	0.88	0.21	0.03
5/2/2020 (Sat)	0.058	0.183	0.101	0.01	0.01	0.01
5/3/2020 (Sun)	0.000	0.410	0.106	0.00	0.00	0.00
5/4/2020 (Mon)	0.061	0.207	0.101	0.00	0.00	0.00
5/5/2020 (Tue)	0.061	0.150	0.104	0.00	0.00	0.00
5/6/2020 (Wed)	0.063	0.148	0.106	0.05	0.04	0.01
5/7/2020 (Thu)	0.065	0.136	0.102	0.01	0.01	0.01
5/8/2020 (Fri)	0.057	0.136	0.097	0.37	0.08	0.01
5/9/2020 (Sat)	0.057	0.155	0.100	0.11	0.06	0.01
5/10/2020 (Sun)	0.057	0.160	0.099	0.00	0.00	0.00
5/11/2020 (Mon)	0.053	0.141	0.094	0.17	0.12	0.03
5/12/2020 (Tue)	0.042	0.140	0.097	0.00	0.00	0.00
5/13/2020 (Wed)	0.064	0.154	0.100	0.00	0.00	0.00
5/14/2020 (Thu)	0.054	0.161	0.099	0.00	0.00	0.00
5/15/2020 (Fri)	0.056	0.141	0.099	1.17	0.65	0.15
5/16/2020 (Sat)	0.058	0.155	0.103	0.07	0.05	0.01
5/17/2020 (Sun)	0.057	0.153	0.103	0.00	0.00	0.00
5/18/2020 (Mon)	0.055	0.149	0.098	0.00	0.00	0.00
5/19/2020 (Tue)	0.045	0.150	0.094	0.00	0.00	0.00
5/20/2020 (Wed)	0.063	0.145	0.099	0.00	0.00	0.00
5/21/2020 (Thu)	0.056	0.136	0.095	0.00	0.00	0.00
5/22/2020 (Fri)	0.054	0.130	0.092	0.00	0.00	0.00
5/23/2020 (Sat)	0.045	0.137	0.085	0.01	0.01	0.01
5/24/2020 (Sun)	0.044	0.136	0.087	0.00	0.00	0.00
5/25/2020 (Mon)	0.045	0.144	0.093	0.01	0.01	0.01
5/26/2020 (Tue)	0.051	0.145	0.095	0.00	0.00	0.00
5/27/2020 (Wed)	0.048	0.154	0.096	0.00	0.00	0.00
5/28/2020 (Thu)	0.056	0.345	0.098	0.01	0.01	0.01
5/29/2020 (Fri)	0.048	0.122	0.084	0.00	0.00	0.00
5/30/2020 (Sat)	0.047	0.147	0.090	0.10	0.09	0.03
5/31/2020 (Sun)	0.047	0.151	0.092	0.00	0.00	0.00
Total for period			2.986	2.97		
Min:			0.000			
Avg:			0.096			
Max:			0.858			

Summary Flow Report

Site:

Site 15

2 West River Road

Uxbridge, MA



6" Palmer-Bowlus flume in an 8" line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2020 (Fri)	0.008	0.088	0.024	0.88	0.21	0.03
5/2/2020 (Sat)	0.005	0.110	0.025	0.01	0.01	0.01
5/3/2020 (Sun)	0.006	0.131	0.027	0.00	0.00	0.00
5/4/2020 (Mon)	0.006	0.073	0.024	0.00	0.00	0.00
5/5/2020 (Tue)	0.006	0.080	0.024	0.00	0.00	0.00
5/6/2020 (Wed)	0.006	0.063	0.024	0.05	0.04	0.01
5/7/2020 (Thu)	0.006	0.061	0.024	0.01	0.01	0.01
5/8/2020 (Fri)	0.005	0.082	0.020	0.37	0.08	0.01
5/9/2020 (Sat)	0.015	0.054	0.008	0.11	0.06	0.01
5/10/2020 (Sun)	0.005	0.084	0.026	0.00	0.00	0.00
5/11/2020 (Mon)	0.006	0.053	0.022	0.17	0.12	0.03
5/12/2020 (Tue)	0.004	0.050	0.022	0.00	0.00	0.00
5/13/2020 (Wed)	0.006	0.068	0.024	0.00	0.00	0.00
5/14/2020 (Thu)	0.006	0.074	0.024	0.00	0.00	0.00
5/15/2020 (Fri)	0.006	0.057	0.024	1.17	0.65	0.15
5/16/2020 (Sat)	0.005	0.069	0.024	0.07	0.05	0.01
5/17/2020 (Sun)	0.005	0.095	0.025	0.00	0.00	0.00
5/18/2020 (Mon)	0.005	0.049	0.024	0.00	0.00	0.00
5/19/2020 (Tue)	0.006	0.095	0.024	0.00	0.00	0.00
5/20/2020 (Wed)	0.006	0.079	0.023	0.00	0.00	0.00
5/21/2020 (Thu)	0.004	0.077	0.023	0.00	0.00	0.00
5/22/2020 (Fri)	0.004	0.058	0.023	0.00	0.00	0.00
5/23/2020 (Sat)	0.005	0.068	0.023	0.01	0.01	0.01
5/24/2020 (Sun)	0.005	0.065	0.024	0.00	0.00	0.00
5/25/2020 (Mon)	0.005	0.065	0.025	0.01	0.01	0.01
5/26/2020 (Tue)	0.005	0.058	0.025	0.00	0.00	0.00
5/27/2020 (Wed)	0.006	0.059	0.022	0.00	0.00	0.00
5/28/2020 (Thu)	0.010	0.056	0.024	0.01	0.01	0.01
5/29/2020 (Fri)	0.004	0.048	0.022	0.00	0.00	0.00
5/30/2020 (Sat)	0.004	0.061	0.025	0.10	0.09	0.03
5/31/2020 (Sun)	0.005	0.067	0.025	0.00	0.00	0.00
Total for period			0.725	2.97		
Min:			0.004			
Avg:			0.023			
Max:			0.131			

Summary Flow Report

Site:

Site 1

WWTP R.O.W.

Uxbridge, MA



30" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.389	1.082	0.755	0.00	0.00	0.00
6/2/2020 (Tue)	0.392	1.009	0.735	0.00	0.00	0.00
6/3/2020 (Wed)	0.352	1.155	0.736	0.00	0.00	0.00
6/4/2020 (Thu)	0.384	1.003	0.723	0.00	0.00	0.00
6/5/2020 (Fri)	0.375	0.975	0.727	0.02	0.01	0.01
6/6/2020 (Sat)	0.297	1.103	0.732	1.02	1.02	0.66
6/7/2020 (Sun)	0.361	1.060	0.746	0.00	0.00	0.00
6/8/2020 (Mon)	0.373	0.966	0.728	0.00	0.00	0.00
6/9/2020 (Tue)	0.366	0.970	0.714	0.00	0.00	0.00
6/10/2020 (Wed)	0.360	0.985	0.722	0.00	0.00	0.00
6/11/2020 (Thu)	0.340	0.950	0.709	0.69	0.34	0.11
6/12/2020 (Fri)	0.344	0.962	0.693	0.00	0.00	0.00
6/13/2020 (Sat)	0.308	1.001	0.687	0.00	0.00	0.00
6/14/2020 (Sun)	0.324	1.009	0.696	0.00	0.00	0.00
6/15/2020 (Mon)	0.338	0.904	0.683	0.00	0.00	0.00
6/16/2020 (Tue)	0.301	0.958	0.673	0.00	0.00	0.00
6/17/2020 (Wed)	0.287	0.911	0.666	0.00	0.00	0.00
6/18/2020 (Thu)	0.325	0.879	0.297	0.00	0.00	0.00
Total for period			12.422	1.73		
Min:			0.287			
Avg:			0.690			
Max:			1.155			

Summary Flow Report

Site:

Site 2

South Main Street R.O.W.

Uxbridge, MA



30" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.350	1.016	0.688	0.00	0.00	0.00
6/2/2020 (Tue)	0.354	1.063	0.664	0.00	0.00	0.00
6/3/2020 (Wed)	0.346	1.026	0.622	0.00	0.00	0.00
6/4/2020 (Thu)	0.256	0.958	0.583	0.00	0.00	0.00
6/5/2020 (Fri)	0.283	0.951	0.582	0.02	0.01	0.01
6/6/2020 (Sat)	0.241	1.005	0.594	1.02	1.02	0.66
6/7/2020 (Sun)	0.263	1.068	0.613	0.00	0.00	0.00
6/8/2020 (Mon)	0.246	0.966	0.604	0.00	0.00	0.00
6/9/2020 (Tue)	0.252	1.028	0.607	0.00	0.00	0.00
6/10/2020 (Wed)	0.299	1.027	0.630	0.00	0.00	0.00
6/11/2020 (Thu)	0.301	0.991	0.614	0.69	0.34	0.11
6/12/2020 (Fri)	0.271	0.936	0.581	0.00	0.00	0.00
6/13/2020 (Sat)	0.252	1.083	0.614	0.00	0.00	0.00
6/14/2020 (Sun)	0.277	1.069	0.640	0.00	0.00	0.00
6/15/2020 (Mon)	0.279	0.975	0.614	0.00	0.00	0.00
6/16/2020 (Tue)	0.259	1.004	0.601	0.00	0.00	0.00
6/17/2020 (Wed)	0.249	1.016	0.583	0.00	0.00	0.00
6/18/2020 (Thu)	0.226	0.943	0.245	0.00	0.00	0.00
Total for period			10.679	1.73		
Min:			0.226			
Avg:			0.593			
Max:			1.083			

Summary Flow Report

Site:

Site 3

South Main Street R.O.W.

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.012	0.103	0.060	0.00	0.00	0.00
6/2/2020 (Tue)	0.012	0.133	0.059	0.00	0.00	0.00
6/3/2020 (Wed)	0.010	0.117	0.061	0.00	0.00	0.00
6/4/2020 (Thu)	0.013	0.119	0.065	0.00	0.00	0.00
6/5/2020 (Fri)	0.007	0.099	0.056	0.02	0.01	0.01
6/6/2020 (Sat)	0.009	0.103	0.053	1.02	1.02	0.66
6/7/2020 (Sun)	0.008	0.098	0.054	0.00	0.00	0.00
6/8/2020 (Mon)	0.007	0.091	0.053	0.00	0.00	0.00
6/9/2020 (Tue)	0.007	0.097	0.048	0.00	0.00	0.00
6/10/2020 (Wed)	0.006	0.088	0.050	0.00	0.00	0.00
6/11/2020 (Thu)	0.008	0.088	0.048	0.69	0.34	0.11
6/12/2020 (Fri)	0.007	0.097	0.049	0.00	0.00	0.00
6/13/2020 (Sat)	0.010	0.098	0.048	0.00	0.00	0.00
6/14/2020 (Sun)	0.009	0.095	0.049	0.00	0.00	0.00
6/15/2020 (Mon)	0.010	0.091	0.050	0.00	0.00	0.00
6/16/2020 (Tue)	0.015	0.084	0.050	0.00	0.00	0.00
6/17/2020 (Wed)	0.020	0.082	0.051	0.00	0.00	0.00
6/18/2020 (Thu)	0.014	0.086	0.021	0.00	0.00	0.00
Total for period			0.923	1.73		
Min:			0.006			
Avg:			0.051			
Max:			0.133			

Summary Flow Report

Site:

Site 4

36 South Main Street

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.002	0.060	0.013	0.00	0.00	0.00
6/2/2020 (Tue)	0.003	0.034	0.012	0.00	0.00	0.00
6/3/2020 (Wed)	0.001	0.068	0.011	0.00	0.00	0.00
6/4/2020 (Thu)	0.000	0.049	0.010	0.00	0.00	0.00
6/5/2020 (Fri)	0.001	0.040	0.010	0.02	0.01	0.01
6/6/2020 (Sat)	0.000	0.048	0.011	1.02	1.02	0.66
6/7/2020 (Sun)	0.000	0.039	0.011	0.00	0.00	0.00
6/8/2020 (Mon)	0.000	0.042	0.010	0.00	0.00	0.00
6/9/2020 (Tue)	0.000	0.061	0.011	0.00	0.00	0.00
6/10/2020 (Wed)	0.001	0.048	0.011	0.00	0.00	0.00
6/11/2020 (Thu)	0.001	0.060	0.010	0.69	0.34	0.11
6/12/2020 (Fri)	0.001	0.035	0.010	0.00	0.00	0.00
6/13/2020 (Sat)	0.000	0.038	0.009	0.00	0.00	0.00
6/14/2020 (Sun)	0.001	0.057	0.011	0.00	0.00	0.00
6/15/2020 (Mon)	0.001	0.061	0.011	0.00	0.00	0.00
6/16/2020 (Tue)	0.001	0.046	0.011	0.00	0.00	0.00
6/17/2020 (Wed)	0.001	0.047	0.011	0.00	0.00	0.00
6/18/2020 (Thu)	0.001	0.018	0.003	0.00	0.00	0.00
Total for period			0.188	1.73		
Min:			0.000			
Avg:			0.010			
Max:			0.068			

Summary Flow Report

Site:

Site 5

Douglas Street at Snowling Road

Uxbridge, MA



8" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.002	0.017	0.005	0.00	0.00	0.00
6/2/2020 (Tue)	0.002	0.015	0.006	0.00	0.00	0.00
6/3/2020 (Wed)	0.002	0.021	0.006	0.00	0.00	0.00
6/4/2020 (Thu)	0.001	0.022	0.005	0.00	0.00	0.00
6/5/2020 (Fri)	0.001	0.016	0.006	0.02	0.01	0.01
6/6/2020 (Sat)	0.002	0.023	0.006	1.02	1.02	0.66
6/7/2020 (Sun)	0.002	0.026	0.008	0.00	0.00	0.00
6/8/2020 (Mon)	0.002	0.025	0.008	0.00	0.00	0.00
6/9/2020 (Tue)	0.002	0.029	0.008	0.00	0.00	0.00
6/10/2020 (Wed)	0.002	0.037	0.007	0.00	0.00	0.00
6/11/2020 (Thu)	0.002	0.021	0.006	0.69	0.34	0.11
6/12/2020 (Fri)	0.002	0.029	0.006	0.00	0.00	0.00
6/13/2020 (Sat)	0.002	0.036	0.006	0.00	0.00	0.00
6/14/2020 (Sun)	0.002	0.017	0.008	0.00	0.00	0.00
6/15/2020 (Mon)	0.003	0.021	0.008	0.00	0.00	0.00
6/16/2020 (Tue)	0.002	0.029	0.007	0.00	0.00	0.00
6/17/2020 (Wed)	0.001	0.014	0.006	0.00	0.00	0.00
6/18/2020 (Thu)	0.001	0.036	0.003	0.00	0.00	0.00
Total for period			0.114	1.73		
Min:			0.001			
Avg:			0.006			
Max:			0.037			

Summary Flow Report

Site:

Site 6

2 Snowling Road

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.072	0.144	0.106	0.00	0.00	0.00
6/2/2020 (Tue)	0.064	0.151	0.096	0.00	0.00	0.00
6/3/2020 (Wed)	0.066	0.239	0.149	0.00	0.00	0.00
6/4/2020 (Thu)	0.087	0.165	0.133	0.00	0.00	0.00
6/5/2020 (Fri)	0.055	0.154	0.126	0.02	0.01	0.01
6/6/2020 (Sat)	0.052	0.177	0.125	1.02	1.02	0.66
6/7/2020 (Sun)	0.056	0.172	0.122	0.00	0.00	0.00
6/8/2020 (Mon)	0.050	0.154	0.112	0.00	0.00	0.00
6/9/2020 (Tue)	0.045	0.144	0.108	0.00	0.00	0.00
6/10/2020 (Wed)	0.047	0.149	0.109	0.00	0.00	0.00
6/11/2020 (Thu)	0.051	0.154	0.115	0.69	0.34	0.11
6/12/2020 (Fri)	0.044	0.148	0.106	0.00	0.00	0.00
6/13/2020 (Sat)	0.042	0.149	0.100	0.00	0.00	0.00
6/14/2020 (Sun)	0.046	0.140	0.098	0.00	0.00	0.00
6/15/2020 (Mon)	0.046	0.144	0.095	0.00	0.00	0.00
6/16/2020 (Tue)	0.039	0.125	0.087	0.00	0.00	0.00
6/17/2020 (Wed)	0.036	0.126	0.084	0.00	0.00	0.00
6/18/2020 (Thu)	0.036	0.107	0.026	0.00	0.00	0.00
Total for period			1.897	1.73		
Min:			0.036			
Avg:			0.105			
Max:			0.239			

Summary Flow Report

Site:

Site 7

105 Douglas Street

Uxbridge, MA



12" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.013	0.114	0.036	0.00	0.00	0.00
6/2/2020 (Tue)	0.013	0.127	0.035	0.00	0.00	0.00
6/3/2020 (Wed)	0.009	0.109	0.036	0.00	0.00	0.00
6/4/2020 (Thu)	0.013	0.095	0.035	0.00	0.00	0.00
6/5/2020 (Fri)	0.012	0.114	0.041	0.02	0.01	0.01
6/6/2020 (Sat)	0.013	0.553	0.040	1.02	1.02	0.66
6/7/2020 (Sun)	0.011	0.100	0.040	0.00	0.00	0.00
6/8/2020 (Mon)	0.010	0.112	0.037	0.00	0.00	0.00
6/9/2020 (Tue)	0.011	0.118	0.034	0.00	0.00	0.00
6/10/2020 (Wed)	0.011	0.112	0.037	0.00	0.00	0.00
6/11/2020 (Thu)	0.011	0.107	0.037	0.69	0.34	0.11
6/12/2020 (Fri)	0.013	0.131	0.035	0.00	0.00	0.00
6/13/2020 (Sat)	0.009	0.072	0.034	0.00	0.00	0.00
6/14/2020 (Sun)	0.011	0.099	0.034	0.00	0.00	0.00
6/15/2020 (Mon)	0.011	0.106	0.036	0.00	0.00	0.00
6/16/2020 (Tue)	0.011	0.116	0.036	0.00	0.00	0.00
6/17/2020 (Wed)	0.013	0.117	0.034	0.00	0.00	0.00
6/18/2020 (Thu)	0.012	0.060	0.010	0.00	0.00	0.00
Total for period			0.627	1.73		
Min:			0.009			
Avg:			0.035			
Max:			0.553			

Summary Flow Report

Site:

Site 8

277 North Main Street

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.018	0.283	0.073	0.00	0.00	0.00
6/2/2020 (Tue)	0.015	0.218	0.071	0.00	0.00	0.00
6/3/2020 (Wed)	0.017	0.215	0.074	0.00	0.00	0.00
6/4/2020 (Thu)	0.013	0.206	0.072	0.00	0.00	0.00
6/5/2020 (Fri)	0.018	0.168	0.068	0.02	0.01	0.01
6/6/2020 (Sat)	0.009	0.227	0.070	1.02	1.02	0.66
6/7/2020 (Sun)	0.015	0.188	0.070	0.00	0.00	0.00
6/8/2020 (Mon)	0.010	0.225	0.076	0.00	0.00	0.00
6/9/2020 (Tue)	0.017	0.215	0.074	0.00	0.00	0.00
6/10/2020 (Wed)	0.012	0.282	0.076	0.00	0.00	0.00
6/11/2020 (Thu)	0.008	0.213	0.068	0.69	0.34	0.11
6/12/2020 (Fri)	0.019	0.149	0.056	0.00	0.00	0.00
6/13/2020 (Sat)	0.017	0.144	0.052	0.00	0.00	0.00
6/14/2020 (Sun)	0.016	0.164	0.054	0.00	0.00	0.00
6/15/2020 (Mon)	0.017	0.173	0.057	0.00	0.00	0.00
6/16/2020 (Tue)	0.015	0.187	0.057	0.00	0.00	0.00
6/17/2020 (Wed)	0.018	0.206	0.059	0.00	0.00	0.00
6/18/2020 (Thu)	0.016	0.229	0.029	0.00	0.00	0.00
Total for period			1.157	1.73		
Min:			0.008			
Avg:			0.064			
Max:			0.283			

Summary Flow Report

Site:

Site 9

School Street R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.028	0.270	0.081	0.00	0.00	0.00
6/2/2020 (Tue)	0.037	0.176	0.081	0.00	0.00	0.00
6/3/2020 (Wed)	0.030	0.245	0.097	0.00	0.00	0.00
6/4/2020 (Thu)	0.036	0.179	0.085	0.00	0.00	0.00
6/5/2020 (Fri)	0.036	0.145	0.066	0.02	0.01	0.01
6/6/2020 (Sat)	0.042	0.271	0.079	1.02	1.02	0.66
6/7/2020 (Sun)	0.031	0.137	0.070	0.00	0.00	0.00
6/8/2020 (Mon)	0.032	0.256	0.073	0.00	0.00	0.00
6/9/2020 (Tue)	0.026	0.202	0.072	0.00	0.00	0.00
6/10/2020 (Wed)	0.026	0.210	0.084	0.00	0.00	0.00
6/11/2020 (Thu)	0.023	0.177	0.072	0.69	0.34	0.11
6/12/2020 (Fri)	0.024	0.144	0.072	0.00	0.00	0.00
6/13/2020 (Sat)	0.024	0.168	0.072	0.00	0.00	0.00
6/14/2020 (Sun)	0.020	0.178	0.075	0.00	0.00	0.00
6/15/2020 (Mon)	0.030	0.193	0.082	0.00	0.00	0.00
6/16/2020 (Tue)	0.022	0.172	0.063	0.00	0.00	0.00
6/17/2020 (Wed)	0.021	0.142	0.069	0.00	0.00	0.00
6/18/2020 (Thu)	0.023	0.158	0.031	0.00	0.00	0.00
Total for period			1.326	1.73		
Min:			0.020			
Avg:			0.074			
Max:			0.271			

Summary Flow Report

Site:

Site 10

Crown and Eagle Road

Uxbridge, MA



10" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.014	0.130	0.066	0.00	0.00	0.00
6/2/2020 (Tue)	0.022	0.121	0.054	0.00	0.00	0.00
6/3/2020 (Wed)	0.020	0.080	0.050	0.00	0.00	0.00
6/4/2020 (Thu)	0.014	0.118	0.053	0.00	0.00	0.00
6/5/2020 (Fri)	0.016	0.109	0.051	0.02	0.01	0.01
6/6/2020 (Sat)	0.016	0.163	0.052	1.02	1.02	0.66
6/7/2020 (Sun)	0.018	0.111	0.054	0.00	0.00	0.00
6/8/2020 (Mon)	0.016	0.109	0.058	0.00	0.00	0.00
6/9/2020 (Tue)	0.019	0.154	0.069	0.00	0.00	0.00
6/10/2020 (Wed)	0.020	0.115	0.052	0.00	0.00	0.00
6/11/2020 (Thu)	0.014	0.080	0.042	0.69	0.34	0.11
6/12/2020 (Fri)	0.019	0.076	0.044	0.00	0.00	0.00
6/13/2020 (Sat)	0.016	0.104	0.048	0.00	0.00	0.00
6/14/2020 (Sun)	0.022	0.083	0.044	0.00	0.00	0.00
6/15/2020 (Mon)	0.018	0.097	0.042	0.00	0.00	0.00
6/16/2020 (Tue)	0.017	0.074	0.043	0.00	0.00	0.00
6/17/2020 (Wed)	0.018	0.077	0.041	0.00	0.00	0.00
6/18/2020 (Thu)	0.017	0.084	0.019	0.00	0.00	0.00
Total for period			0.882	1.73		
Min:			0.014			
Avg:			0.049			
Max:			0.163			

Summary Flow Report

Site:

Site 11

16 Mendon Street R.O.W.

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.043	0.204	0.129	0.00	0.00	0.00
6/2/2020 (Tue)	0.043	0.192	0.128	0.00	0.00	0.00
6/3/2020 (Wed)	0.044	0.204	0.132	0.00	0.00	0.00
6/4/2020 (Thu)	0.051	0.215	0.127	0.00	0.00	0.00
6/5/2020 (Fri)	0.051	0.202	0.130	0.02	0.01	0.01
6/6/2020 (Sat)	0.043	0.254	0.137	1.02	1.02	0.66
6/7/2020 (Sun)	0.049	0.232	0.136	0.00	0.00	0.00
6/8/2020 (Mon)	0.048	0.204	0.129	0.00	0.00	0.00
6/9/2020 (Tue)	0.046	0.193	0.124	0.00	0.00	0.00
6/10/2020 (Wed)	0.044	0.190	0.125	0.00	0.00	0.00
6/11/2020 (Thu)	0.042	0.203	0.125	0.69	0.34	0.11
6/12/2020 (Fri)	0.044	0.193	0.126	0.00	0.00	0.00
6/13/2020 (Sat)	0.045	0.205	0.125	0.00	0.00	0.00
6/14/2020 (Sun)	0.042	0.207	0.129	0.00	0.00	0.00
6/15/2020 (Mon)	0.050	0.208	0.135	0.00	0.00	0.00
6/16/2020 (Tue)	0.050	0.214	0.141	0.00	0.00	0.00
6/17/2020 (Wed)	0.049	0.240	0.148	0.00	0.00	0.00
6/18/2020 (Thu)	0.057	0.228	0.058	0.00	0.00	0.00
Total for period			2.283	1.73		
Min:			0.042			
Avg:			0.127			
Max:			0.254			

Summary Flow Report

Site:

Site 12

11 South Main Street

Uxbridge, MA



24" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.234	0.594	0.420	0.00	0.00	0.00
6/2/2020 (Tue)	0.225	0.576	0.408	0.00	0.00	0.00
6/3/2020 (Wed)	0.211	0.563	0.416	0.00	0.00	0.00
6/4/2020 (Thu)	0.235	0.602	0.413	0.00	0.00	0.00
6/5/2020 (Fri)	0.244	0.599	0.415	0.02	0.01	0.01
6/6/2020 (Sat)	0.218	0.693	0.414	1.02	1.02	0.66
6/7/2020 (Sun)	0.244	0.650	0.445	0.00	0.00	0.00
6/8/2020 (Mon)	0.253	0.636	0.463	0.00	0.00	0.00
6/9/2020 (Tue)	0.272	0.646	0.456	0.00	0.00	0.00
6/10/2020 (Wed)	0.258	0.606	0.428	0.00	0.00	0.00
6/11/2020 (Thu)	0.207	0.575	0.407	0.69	0.34	0.11
6/12/2020 (Fri)	0.179	0.577	0.409	0.00	0.00	0.00
6/13/2020 (Sat)	0.202	0.592	0.398	0.00	0.00	0.00
6/14/2020 (Sun)	0.186	0.596	0.395	0.00	0.00	0.00
6/15/2020 (Mon)	0.205	0.557	0.404	0.00	0.00	0.00
6/16/2020 (Tue)	0.204	0.559	0.393	0.00	0.00	0.00
6/17/2020 (Wed)	0.202	0.546	0.386	0.00	0.00	0.00
6/18/2020 (Thu)	0.196	0.527	0.105	0.00	0.00	0.00
Total for period			7.174	1.73		
Min:			0.179			
Avg:			0.399			
Max:			0.693			

Summary Flow Report

Site:

Site 13

DPW R.O.W.

Uxbridge, MA



16" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.006	0.042	0.016	0.00	0.00	0.00
6/2/2020 (Tue)	0.006	0.043	0.016	0.00	0.00	0.00
6/3/2020 (Wed)	0.006	0.058	0.024	0.00	0.00	0.00
6/4/2020 (Thu)	0.005	0.069	0.024	0.00	0.00	0.00
6/5/2020 (Fri)	0.006	0.076	0.025	0.02	0.01	0.01
6/6/2020 (Sat)	0.005	0.060	0.025	1.02	1.02	0.66
6/7/2020 (Sun)	0.005	0.057	0.023	0.00	0.00	0.00
6/8/2020 (Mon)	0.005	0.050	0.022	0.00	0.00	0.00
6/9/2020 (Tue)	0.007	0.055	0.024	0.00	0.00	0.00
6/10/2020 (Wed)	0.004	0.060	0.023	0.00	0.00	0.00
6/11/2020 (Thu)	0.006	0.058	0.022	0.69	0.34	0.11
6/12/2020 (Fri)	0.005	0.049	0.021	0.00	0.00	0.00
6/13/2020 (Sat)	0.006	0.062	0.019	0.00	0.00	0.00
6/14/2020 (Sun)	0.006	0.046	0.021	0.00	0.00	0.00
6/15/2020 (Mon)	0.006	0.047	0.021	0.00	0.00	0.00
6/16/2020 (Tue)	0.006	0.057	0.022	0.00	0.00	0.00
6/17/2020 (Wed)	0.006	0.114	0.023	0.00	0.00	0.00
6/18/2020 (Thu)	0.006	0.055	0.011	0.00	0.00	0.00
Total for period			0.382	1.73		
Min:			0.004			
Avg:			0.021			
Max:			0.114			

Summary Flow Report

Site:

Site 14

145 Hecla Street

Uxbridge, MA



18" Circular line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.048	0.134	0.086	0.00	0.00	0.00
6/2/2020 (Tue)	0.045	0.128	0.085	0.00	0.00	0.00
6/3/2020 (Wed)	0.046	0.130	0.087	0.00	0.00	0.00
6/4/2020 (Thu)	0.045	0.131	0.084	0.00	0.00	0.00
6/5/2020 (Fri)	0.042	0.122	0.083	0.02	0.01	0.01
6/6/2020 (Sat)	0.041	0.151	0.087	1.02	1.02	0.66
6/7/2020 (Sun)	0.044	0.157	0.087	0.00	0.00	0.00
6/8/2020 (Mon)	0.044	0.136	0.082	0.00	0.00	0.00
6/9/2020 (Tue)	0.040	0.142	0.081	0.00	0.00	0.00
6/10/2020 (Wed)	0.041	0.118	0.081	0.00	0.00	0.00
6/11/2020 (Thu)	0.038	0.124	0.080	0.69	0.34	0.11
6/12/2020 (Fri)	0.031	0.111	0.078	0.00	0.00	0.00
6/13/2020 (Sat)	0.043	0.136	0.082	0.00	0.00	0.00
6/14/2020 (Sun)	0.038	0.153	0.086	0.00	0.00	0.00
6/15/2020 (Mon)	0.042	0.119	0.083	0.00	0.00	0.00
6/16/2020 (Tue)	0.040	0.128	0.083	0.00	0.00	0.00
6/17/2020 (Wed)	0.044	0.126	0.081	0.00	0.00	0.00
6/18/2020 (Thu)	0.042	0.130	0.041	0.00	0.00	0.00
Total for period			1.457	1.73		
Min:			0.031			
Avg:			0.081			
Max:			0.157			

Summary Flow Report

Site:

Site 15

2 West River Road

Uxbridge, MA

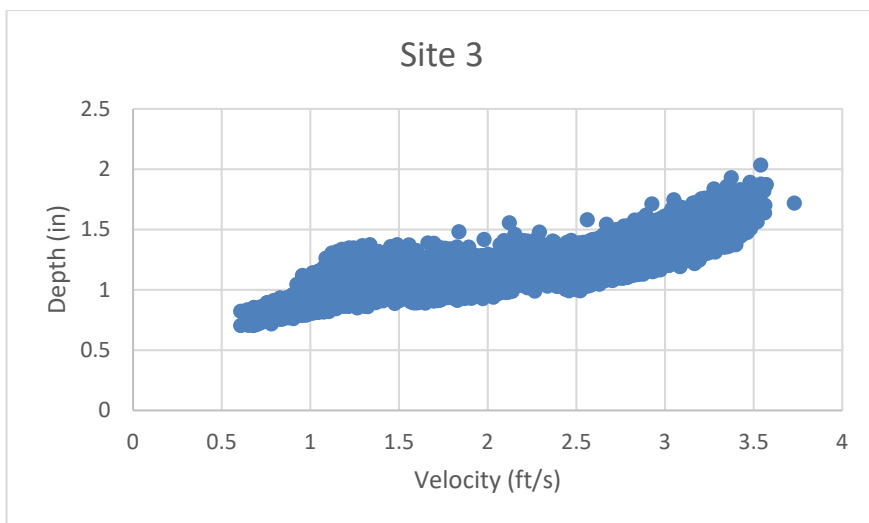
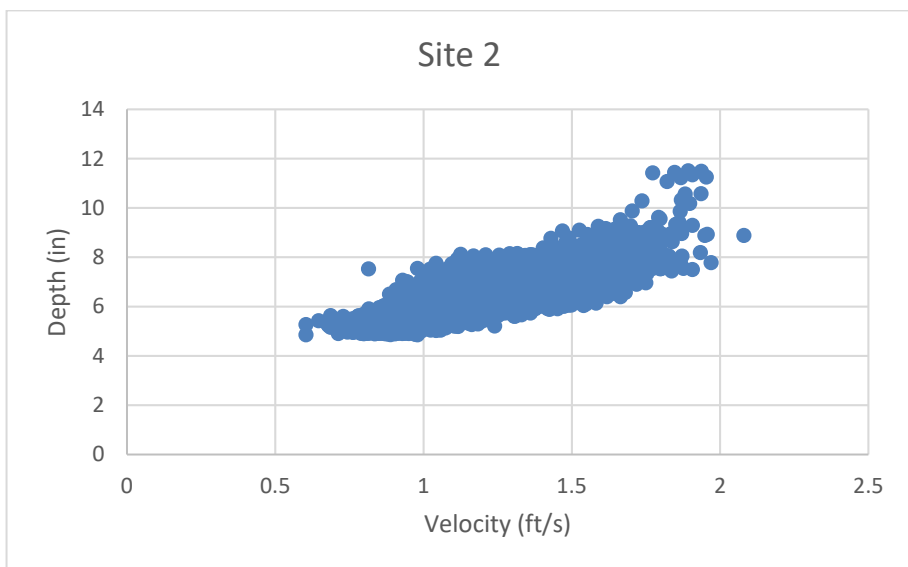
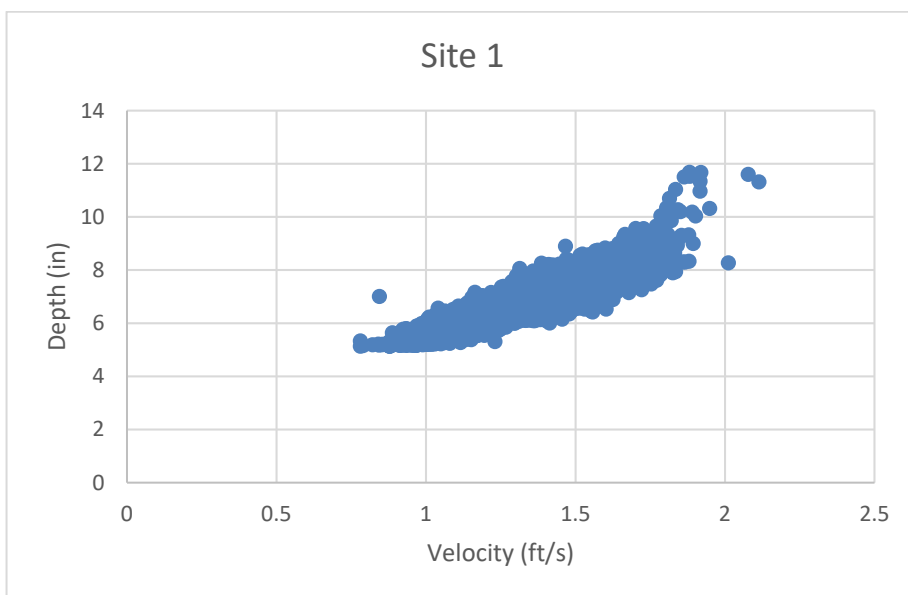


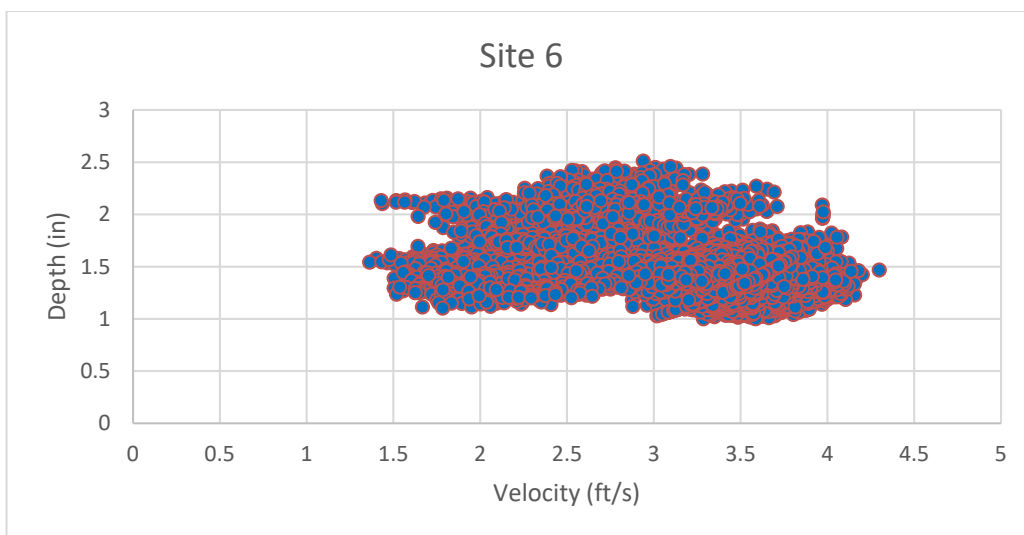
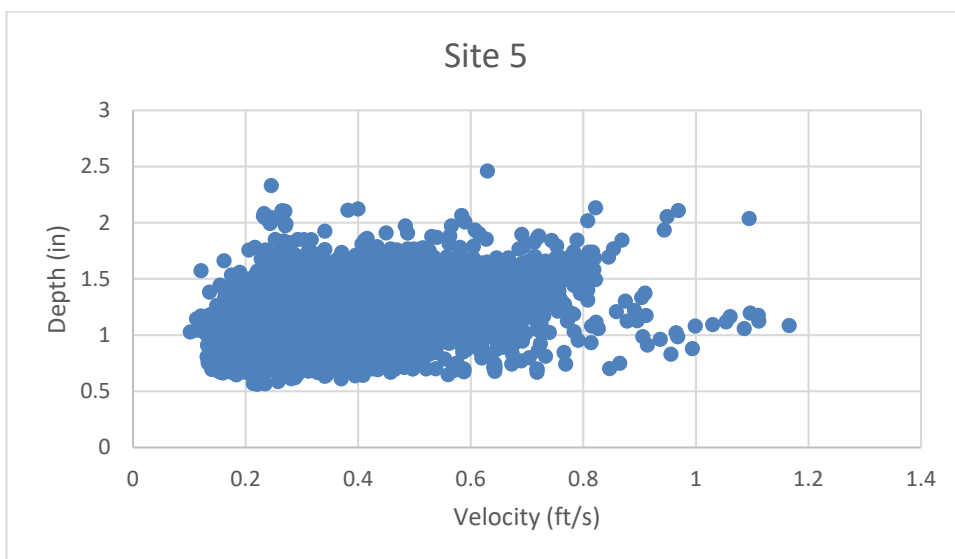
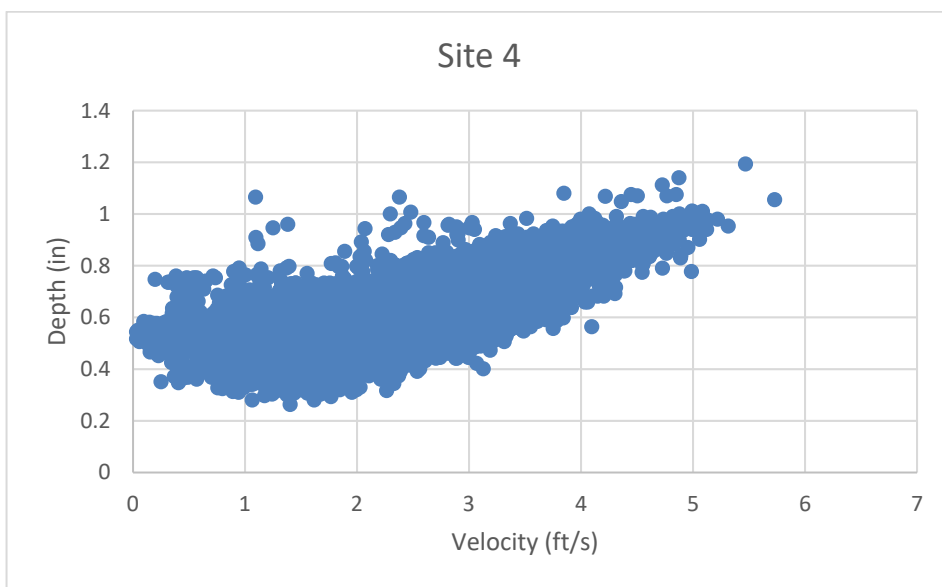
6" Palmer-Bowlus flume in an 8" line

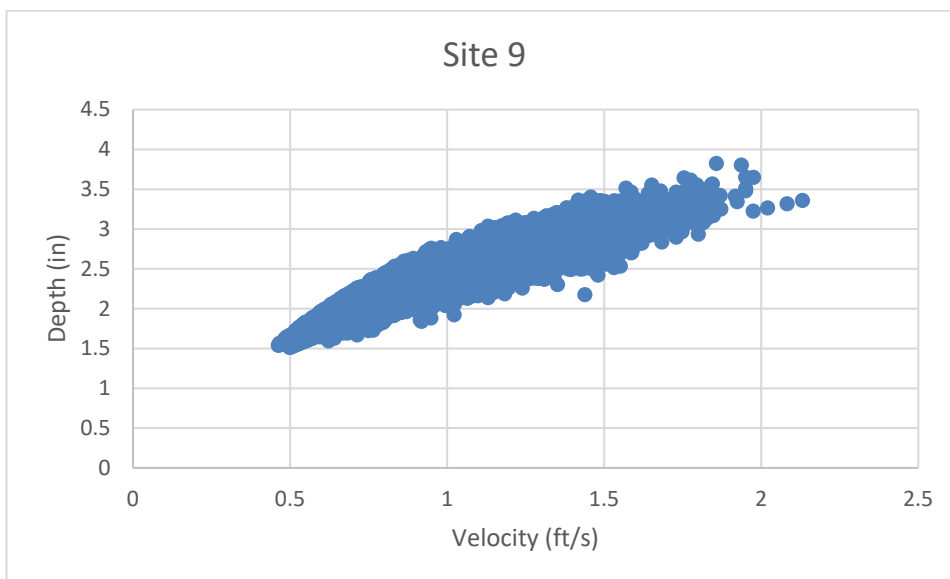
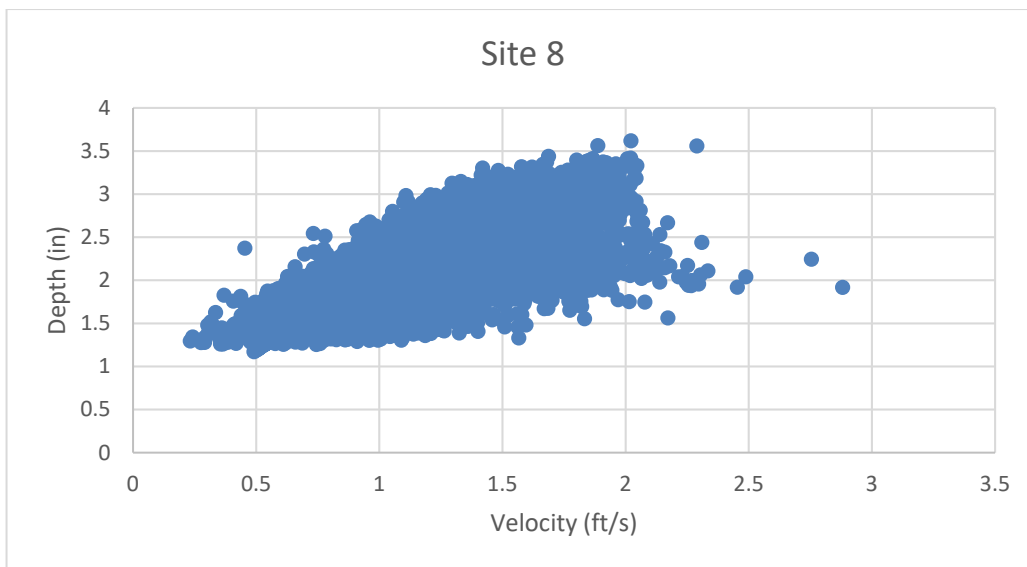
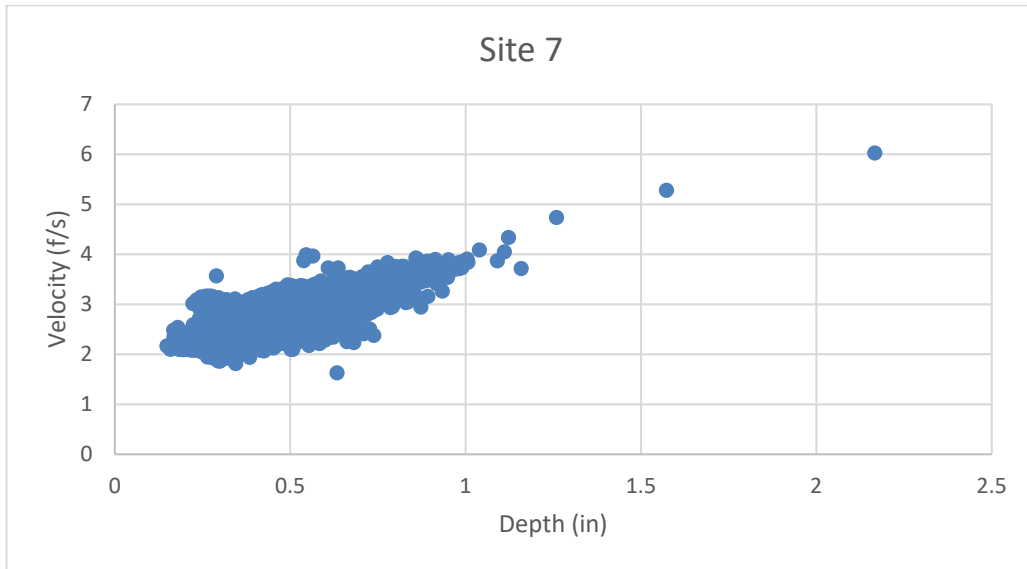
Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2020 (Mon)	0.005	0.061	0.023	0.00	0.00	0.00
6/2/2020 (Tue)	0.005	0.069	0.023	0.00	0.00	0.00
6/3/2020 (Wed)	0.005	0.053	0.022	0.00	0.00	0.00
6/4/2020 (Thu)	0.005	0.063	0.022	0.00	0.00	0.00
6/5/2020 (Fri)	0.004	0.059	0.025	0.02	0.01	0.01
6/6/2020 (Sat)	0.006	0.057	0.025	1.02	1.02	0.66
6/7/2020 (Sun)	0.004	0.084	0.025	0.00	0.00	0.00
6/8/2020 (Mon)	0.005	0.058	0.022	0.00	0.00	0.00
6/9/2020 (Tue)	0.004	0.074	0.023	0.00	0.00	0.00
6/10/2020 (Wed)	0.005	0.064	0.023	0.00	0.00	0.00
6/11/2020 (Thu)	0.004	0.074	0.025	0.69	0.34	0.11
6/12/2020 (Fri)	0.007	0.056	0.024	0.00	0.00	0.00
6/13/2020 (Sat)	0.005	0.054	0.024	0.00	0.00	0.00
6/14/2020 (Sun)	0.004	0.075	0.025	0.00	0.00	0.00
6/15/2020 (Mon)	0.005	0.050	0.024	0.00	0.00	0.00
6/16/2020 (Tue)	0.004	0.078	0.024	0.00	0.00	0.00
6/17/2020 (Wed)	0.004	0.053	0.022	0.00	0.00	0.00
6/18/2020 (Thu)	0.005	0.054	0.007	0.00	0.00	0.00
Total for period			0.408	1.73		
Min:			0.004			
Avg:			0.023			
Max:			0.084			

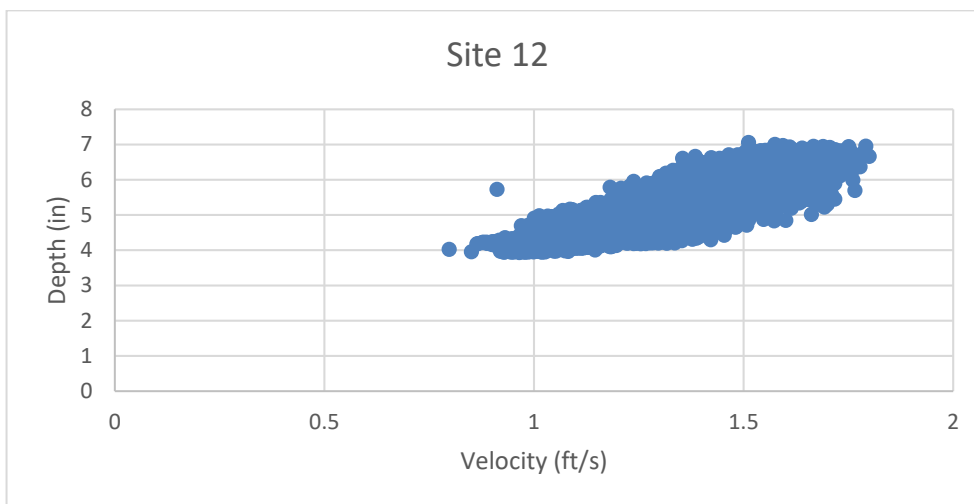
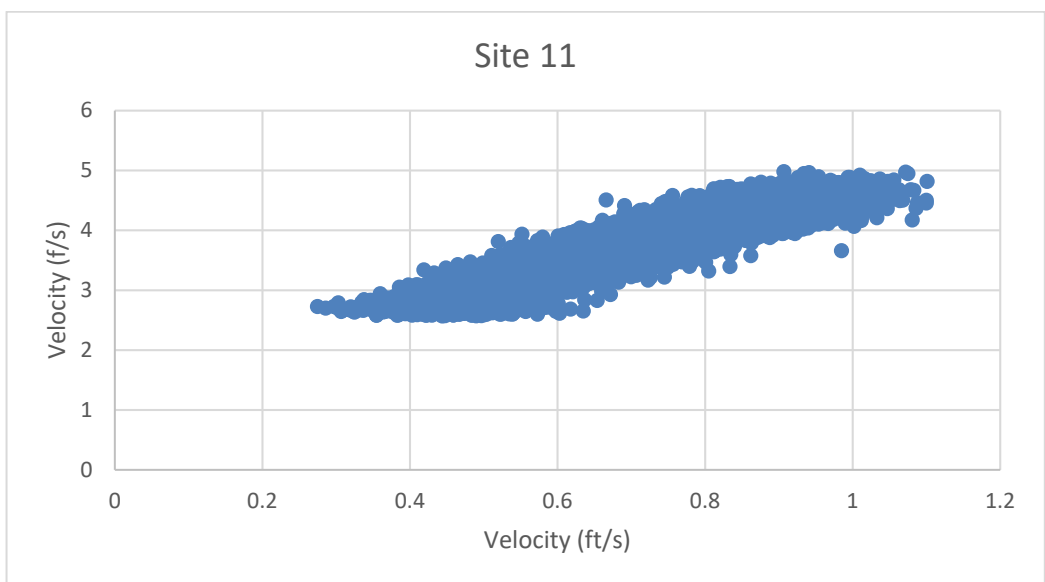
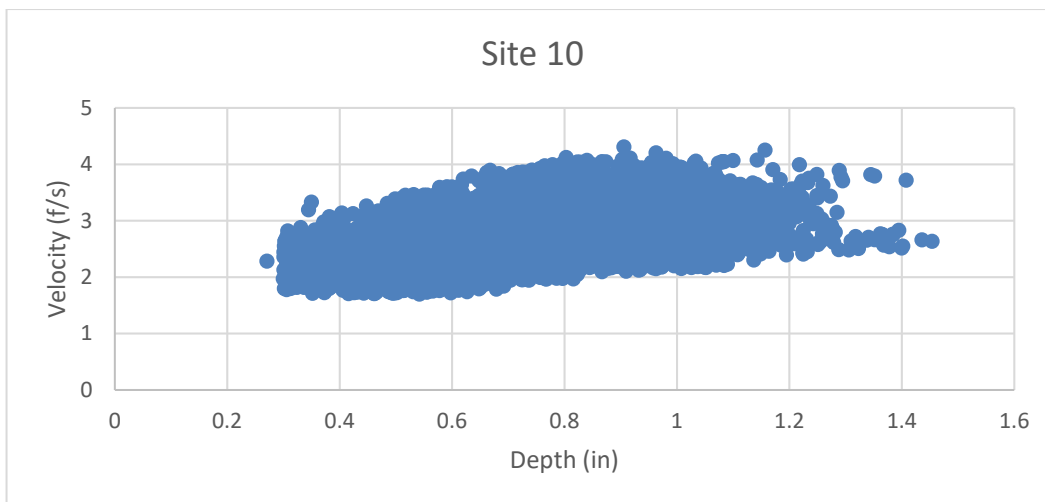
Appendix G

Flowmeter Scattergraphs

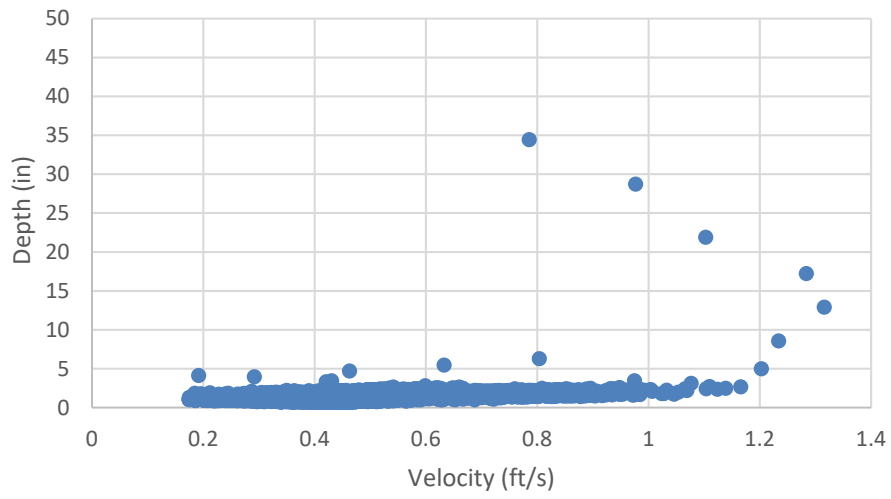




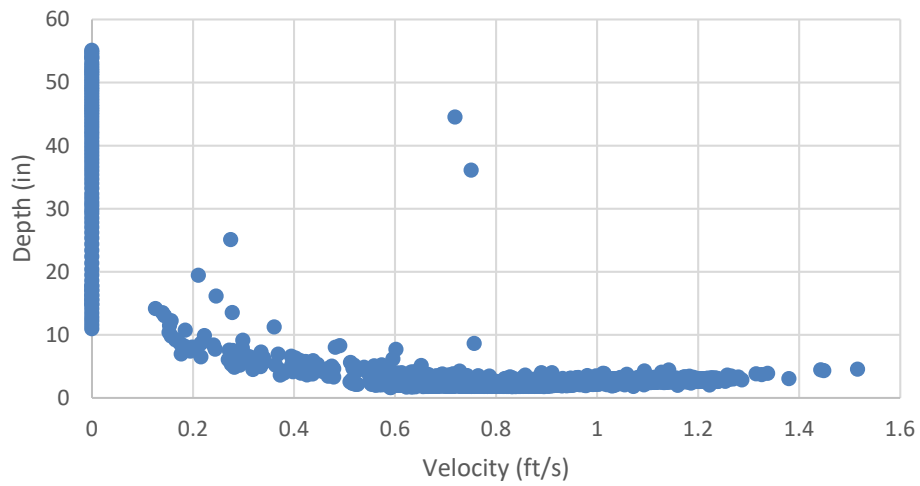




Site 13



Site 14



Appendix H

Groundwater Gauge Readings



UXBRIDGE, MA
GROUNDWATER GAUGE READINGS

Site 1 – Installed 41” above invert

DATE	4/8/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	52	67.3	59.5	59.3	60.8	49.5	44.1	<52	<41	<41	<41

Site 2 – installed 37” above invert

DATE	4/8/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37

Site 3 – installed 7” above invert

DATE	4/8/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7

Site 4– installed 7.5” above invert

DATE	4/8/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5

Site 5 – installed 1” above invert

DATE	4/6/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	31	32.6	N/A	31.9	32	31.2	30.3	27	26	25	24

Site 6 – installed 14” above invert

DATE	4/6/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14

Site 7 – installed 10” above invert

DATE	4/6/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	21	22.3	N/A	21.5	21.5	21	20	17.8	16	16	13.5

Site 8 – installed 24” above invert

DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	69.2	73	71.4	72	71.4	68.9	66.6	63.7	60.2	63.8	55.75

Site 9 – installed 17” above invert

DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	62	66	64	64.5	64.5	60.7	59.4	57	54	52.8	49.5

Site 10 – installed 13.4” above invert

DATE	4/6/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	65.2	72	72.4	72.45	70.4	67.3	66.1	62.2	61.7	74.2	74.75

Site 11 – installed 13.4” above invert

DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	85.8	92.6	N/A	88.4	87.9	84.3	82.2	77.3	72.3	71.8	65.3

Site 12 – installed 27.5” above invert

DATE	4/6/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5	<27.5

Site 13 – installed 21” above invert

DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	57	78.5	60.3	30.6	59.2	51.4	48.5	46.5	42.5	41.3	35

Site 14 – installed 24” above invert

DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	78	81.3	N/A	80.4	82.5	76.1	73.25	68	65	62.5	59.5

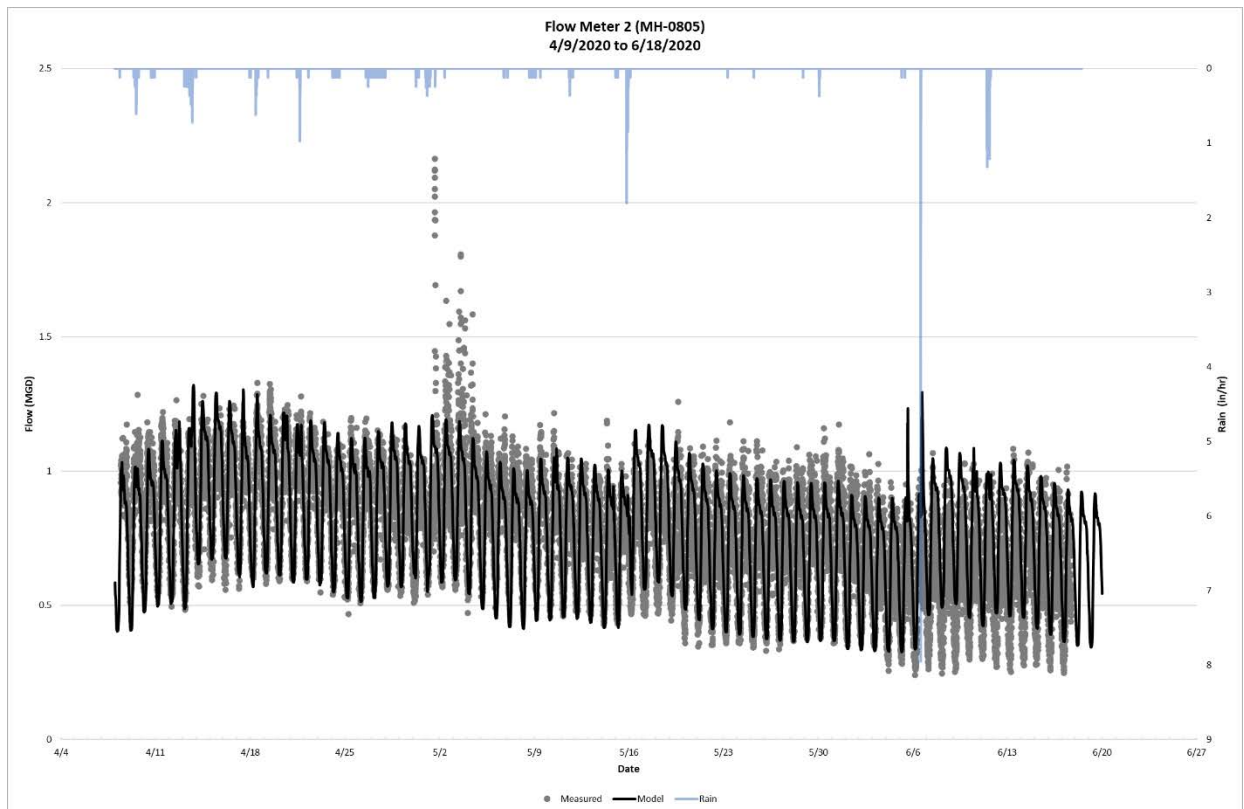
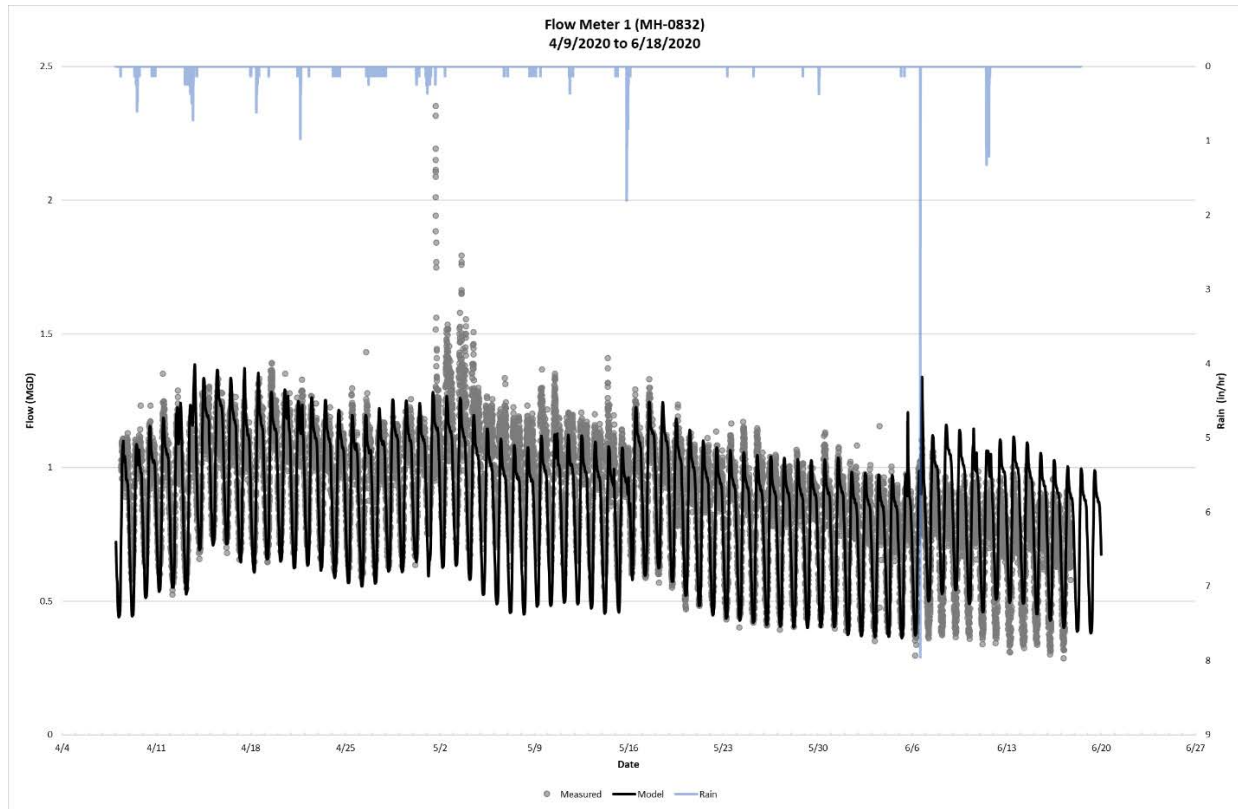
Site 15 – installed 10” above invert

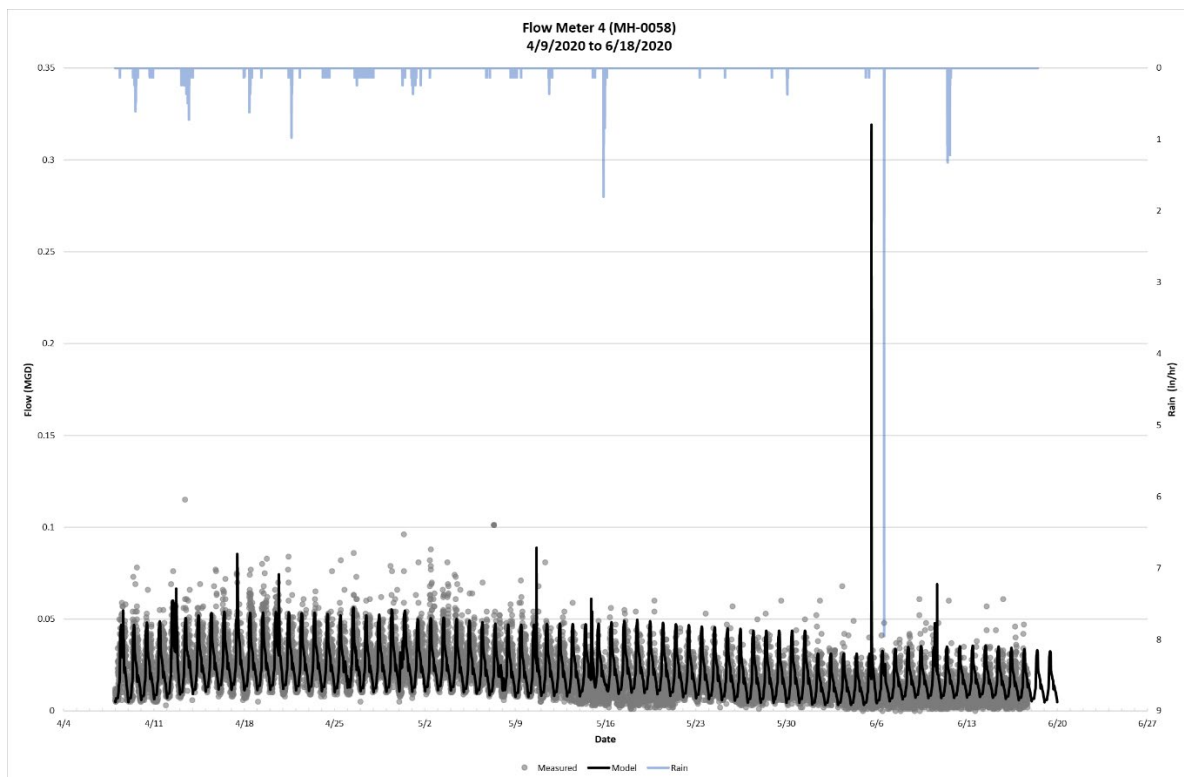
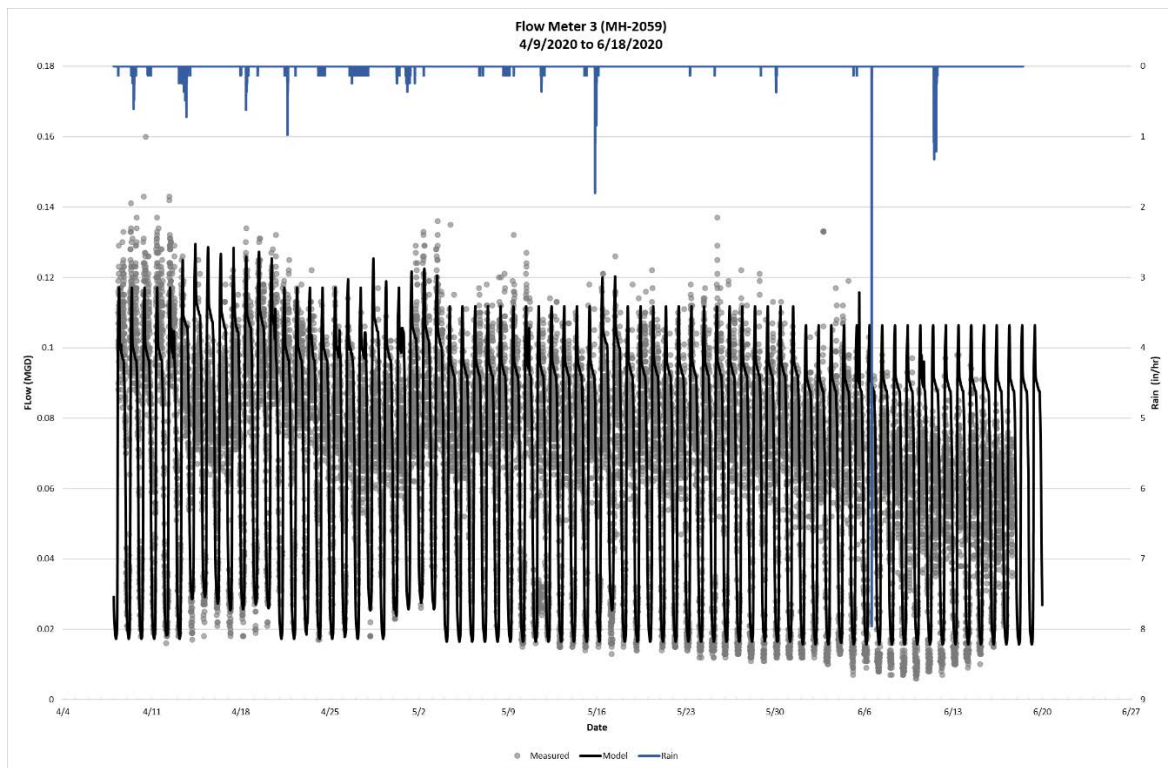
DATE	4/7/20	4/14/20	4/23/20	4/29/20	5/5/20	5/13/20	5/21/20	5/28/20	6/3/20	6/10/20	6/18/20
INCHES ABOVE INVERT	28.4	29.4	28.4	27.6	31.4	23.8	21.5	20.4	17.4	17.2	13.5

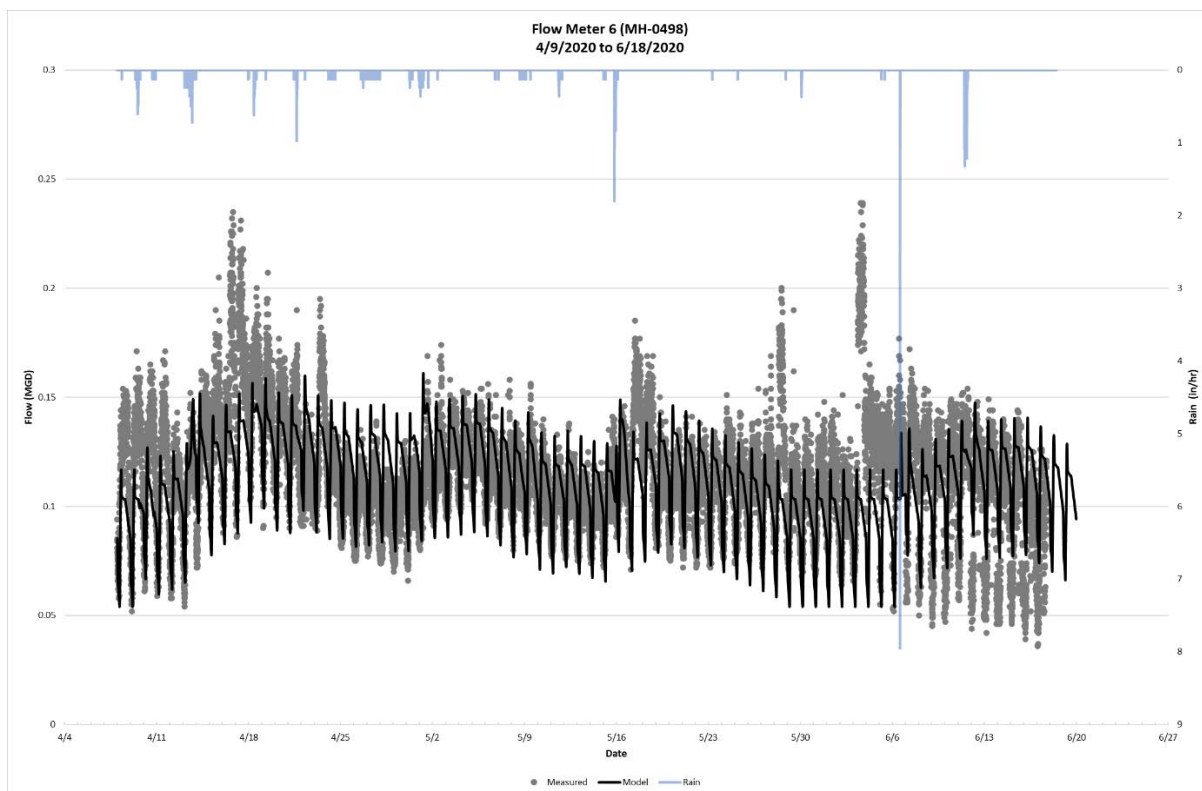
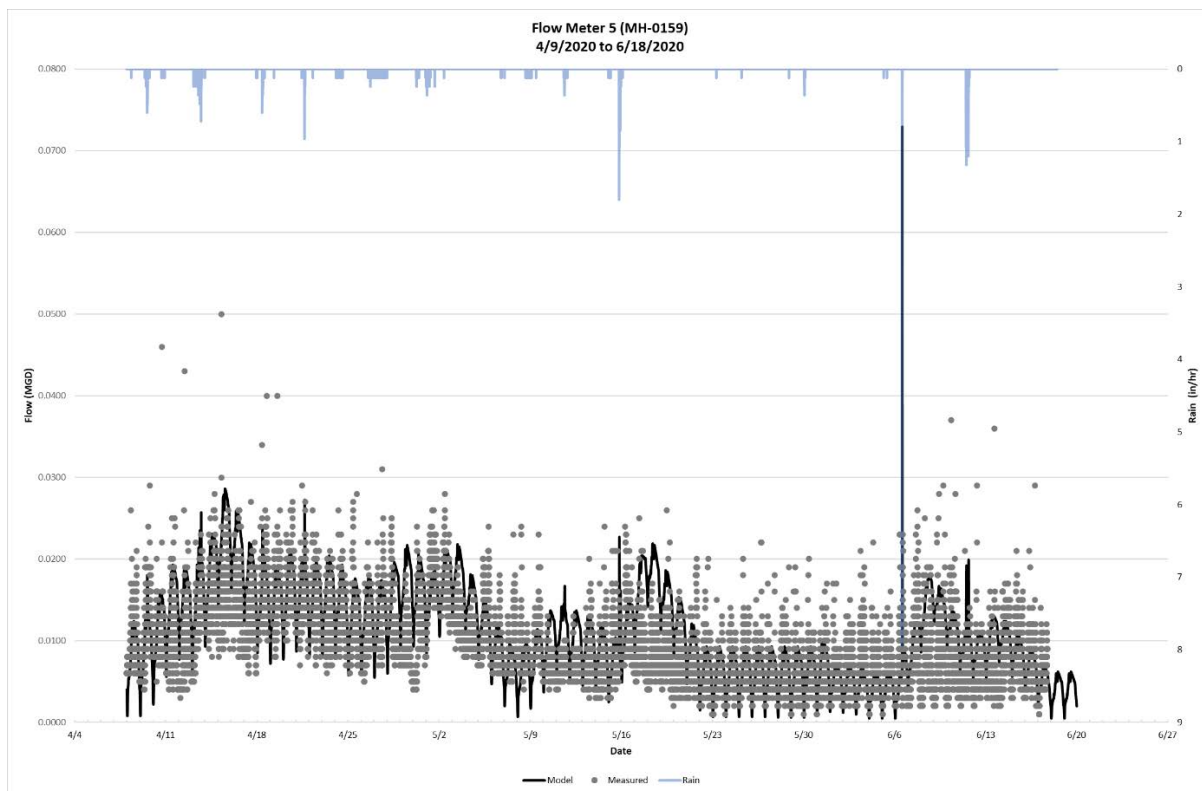
Appendix I

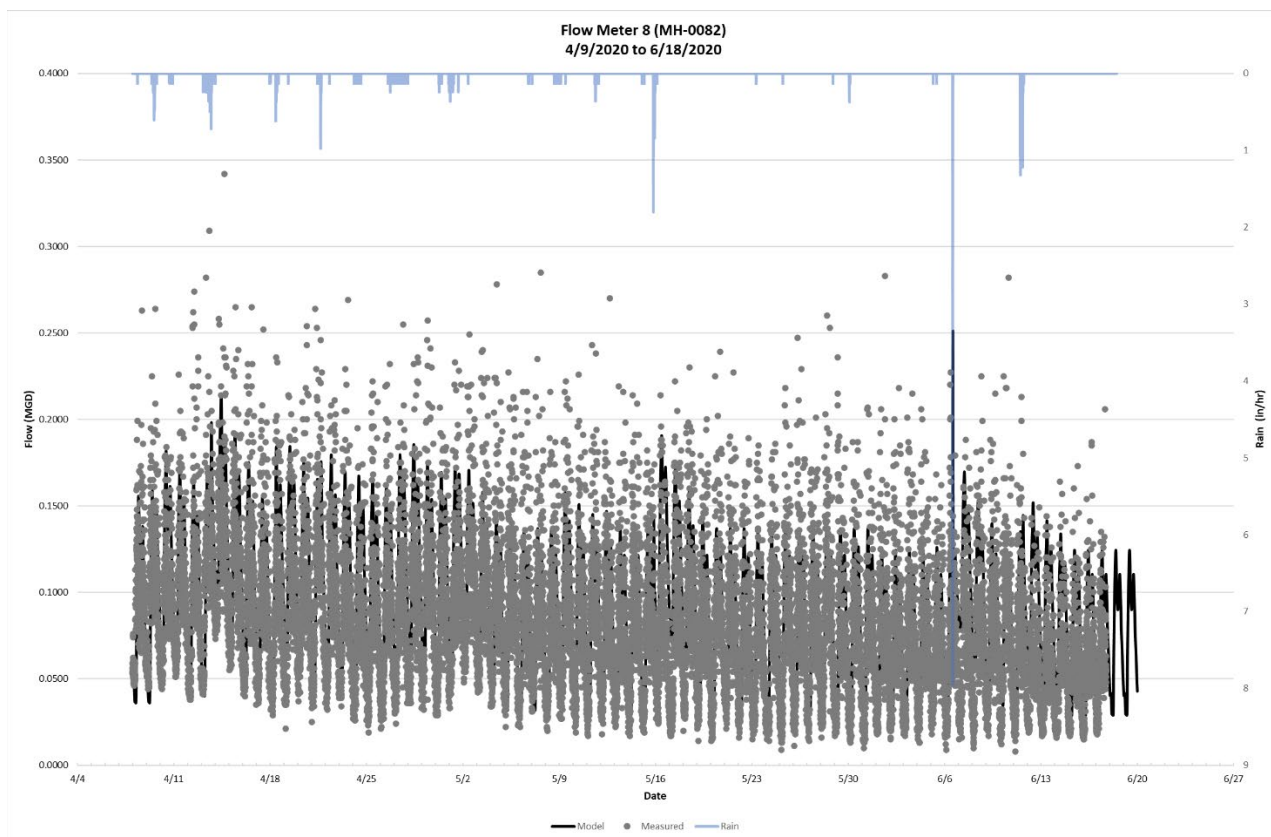
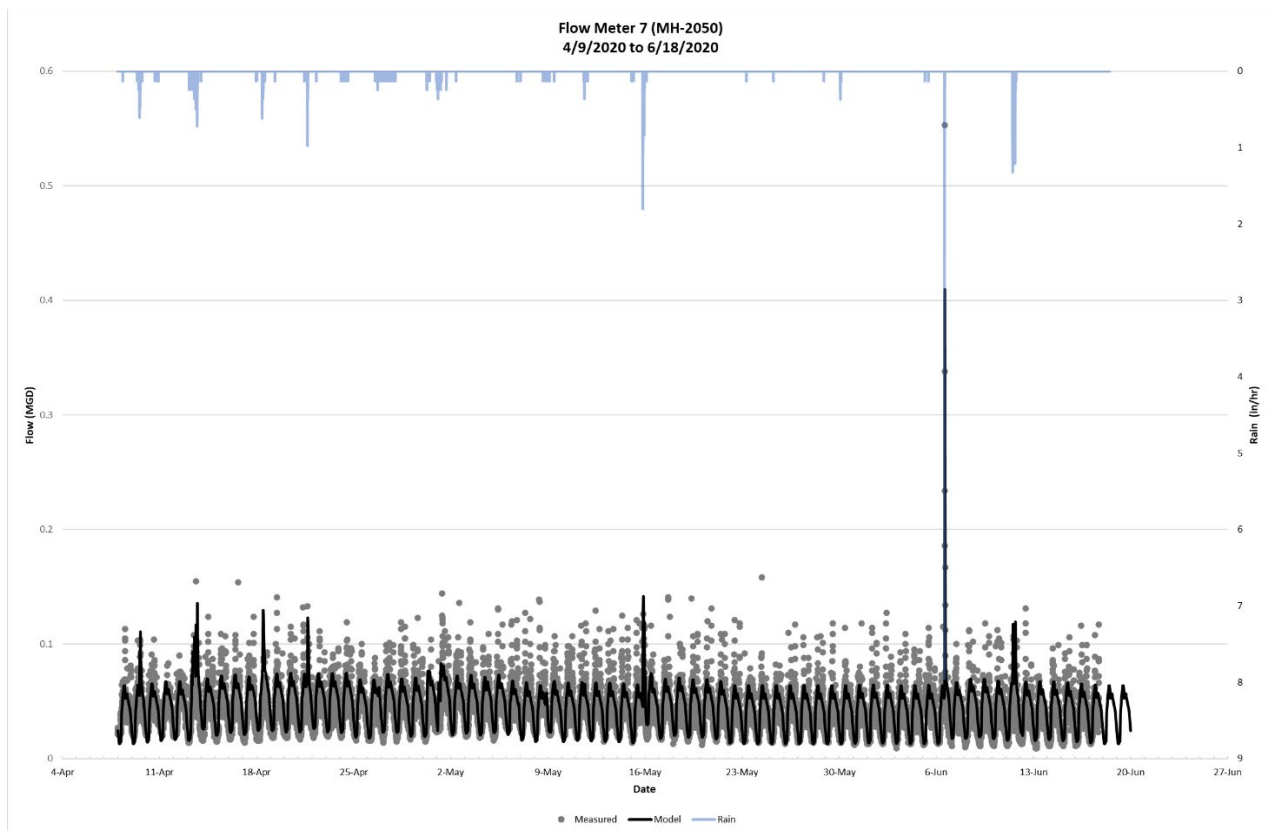
Model Calibration Results

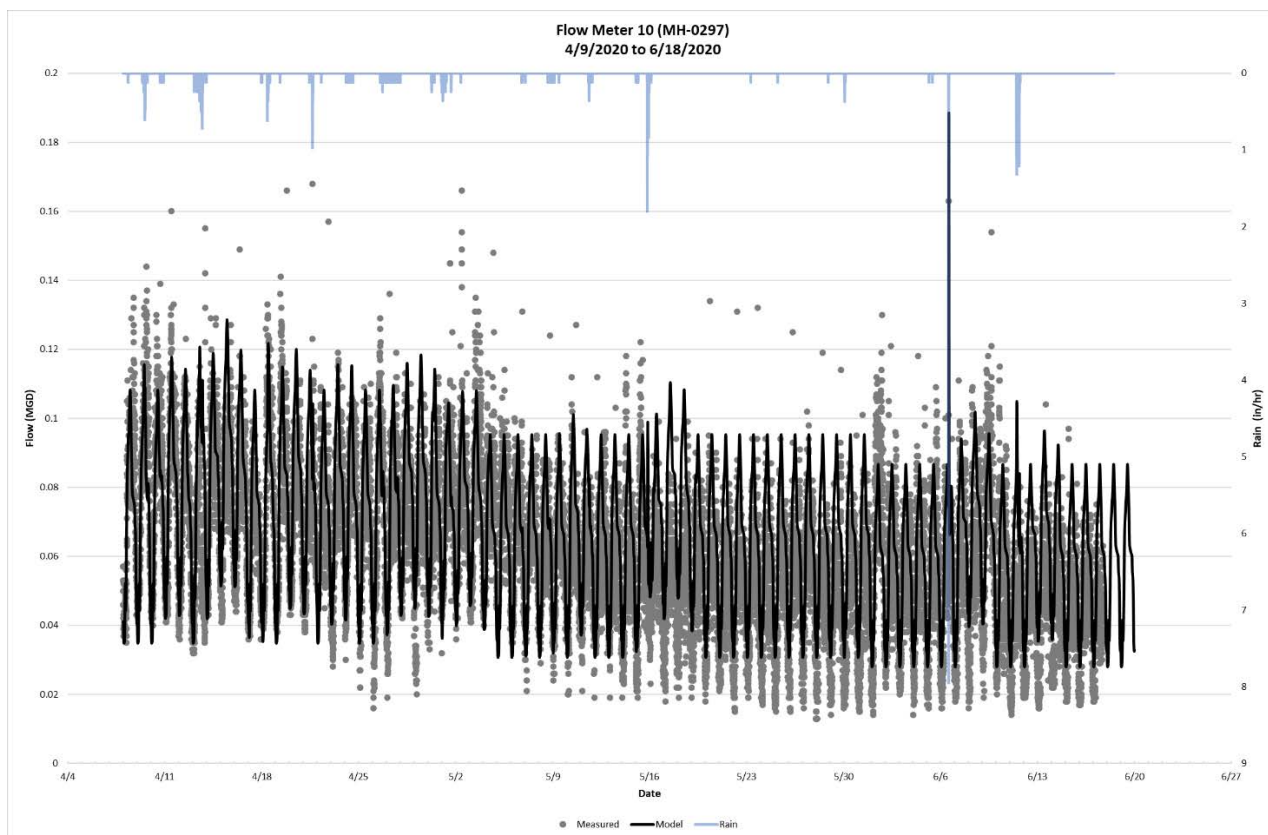
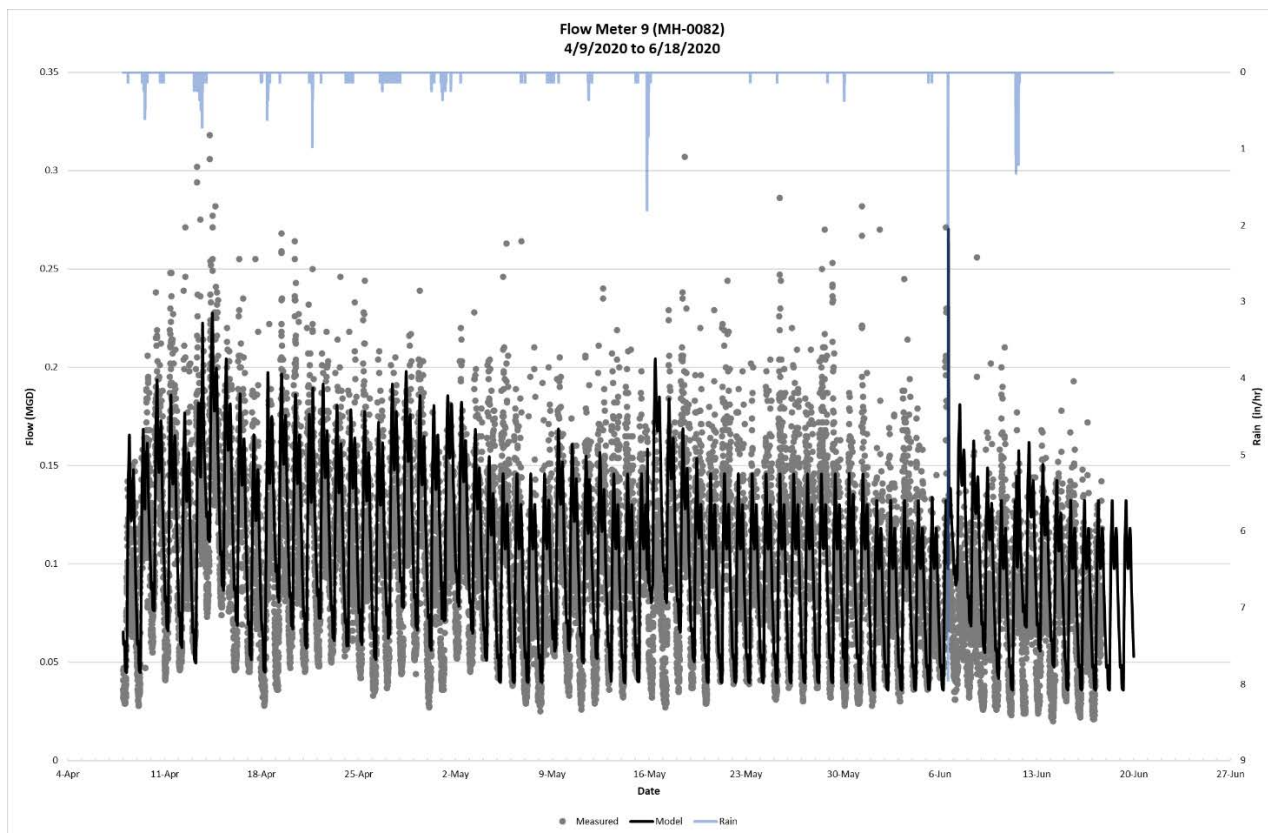
Full Model Data

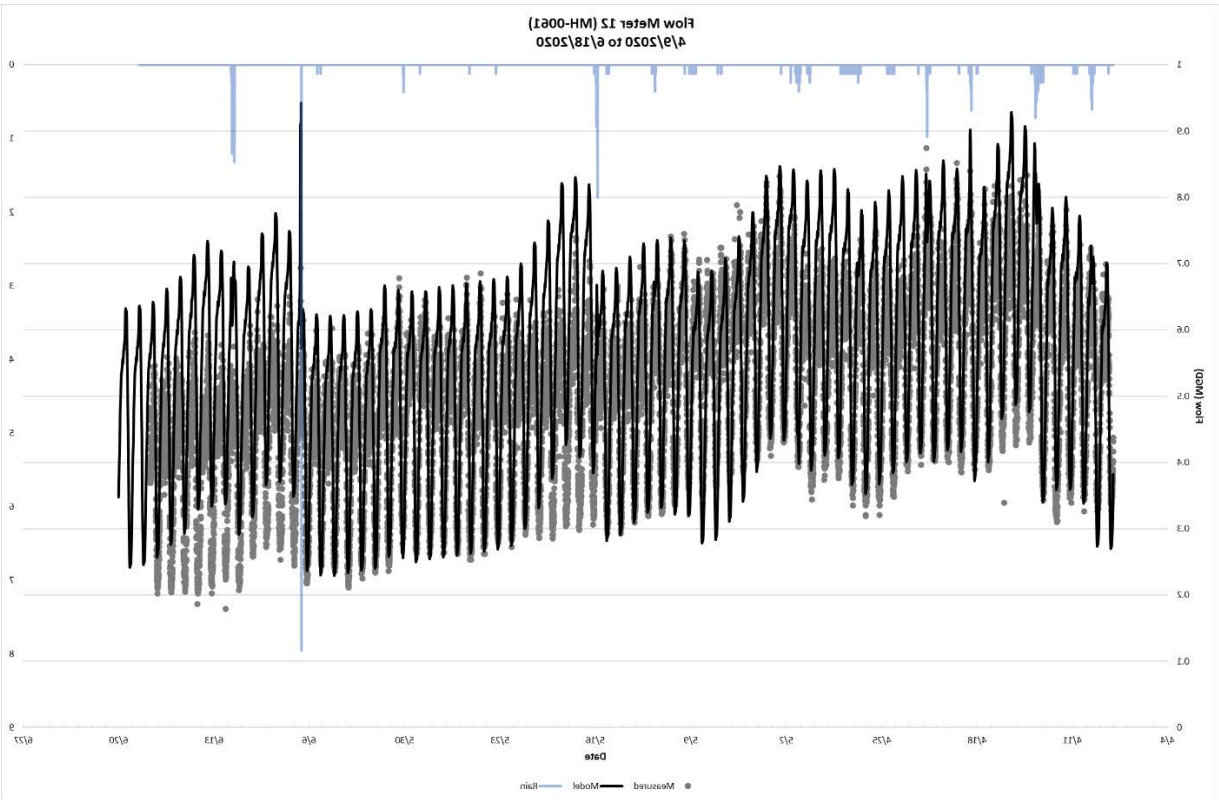
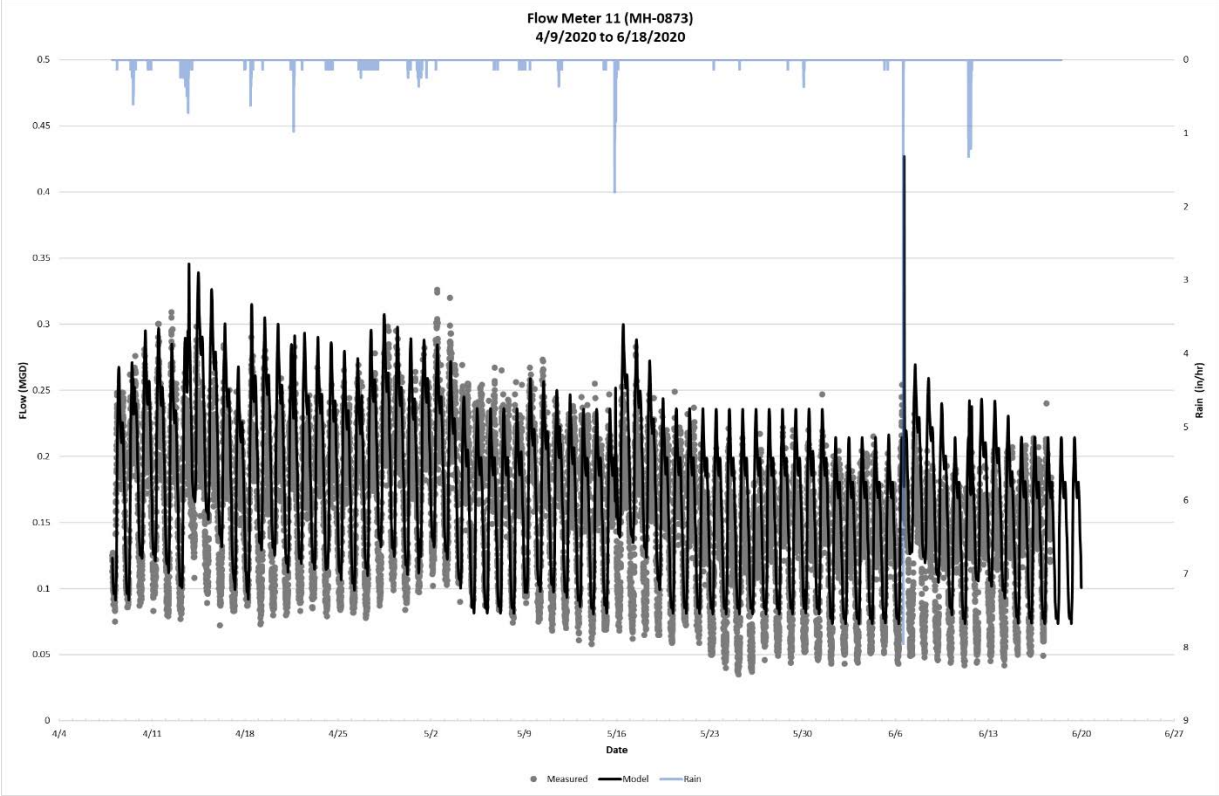


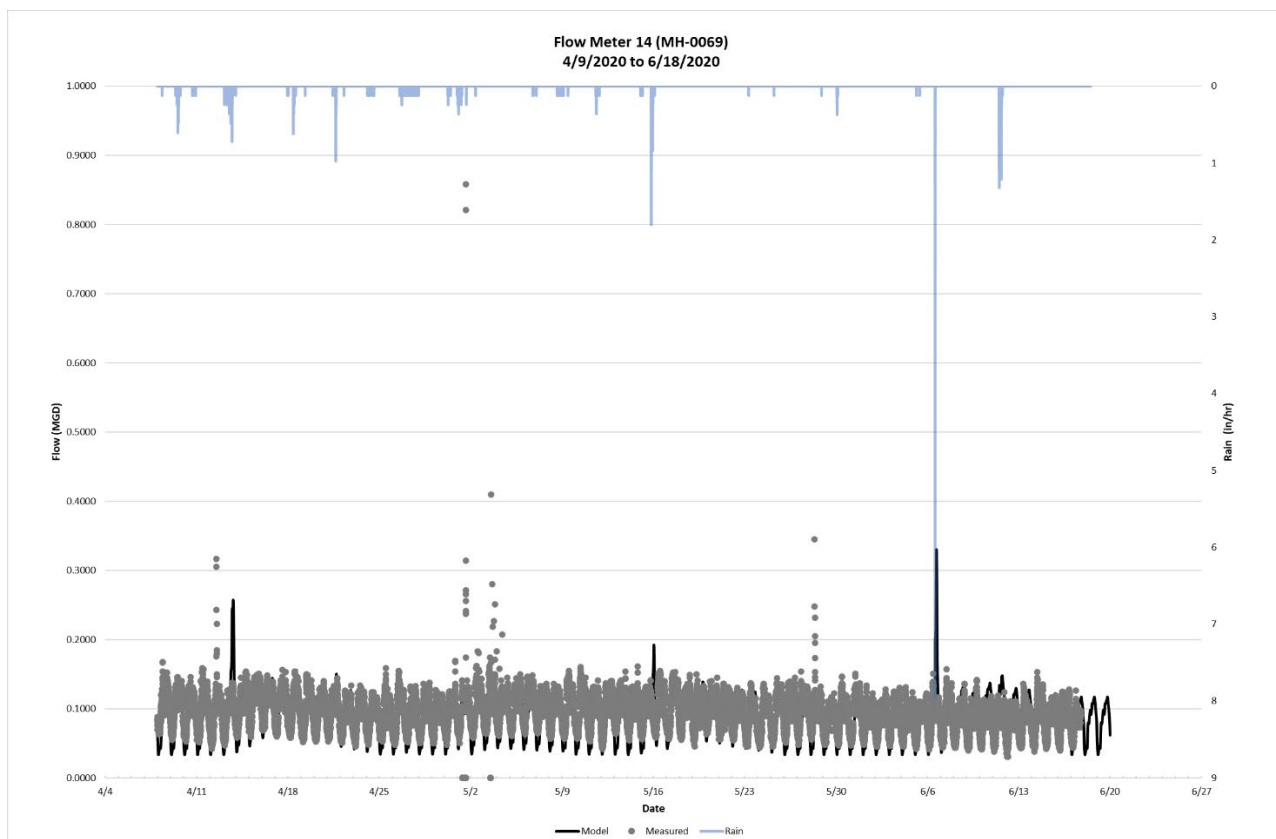
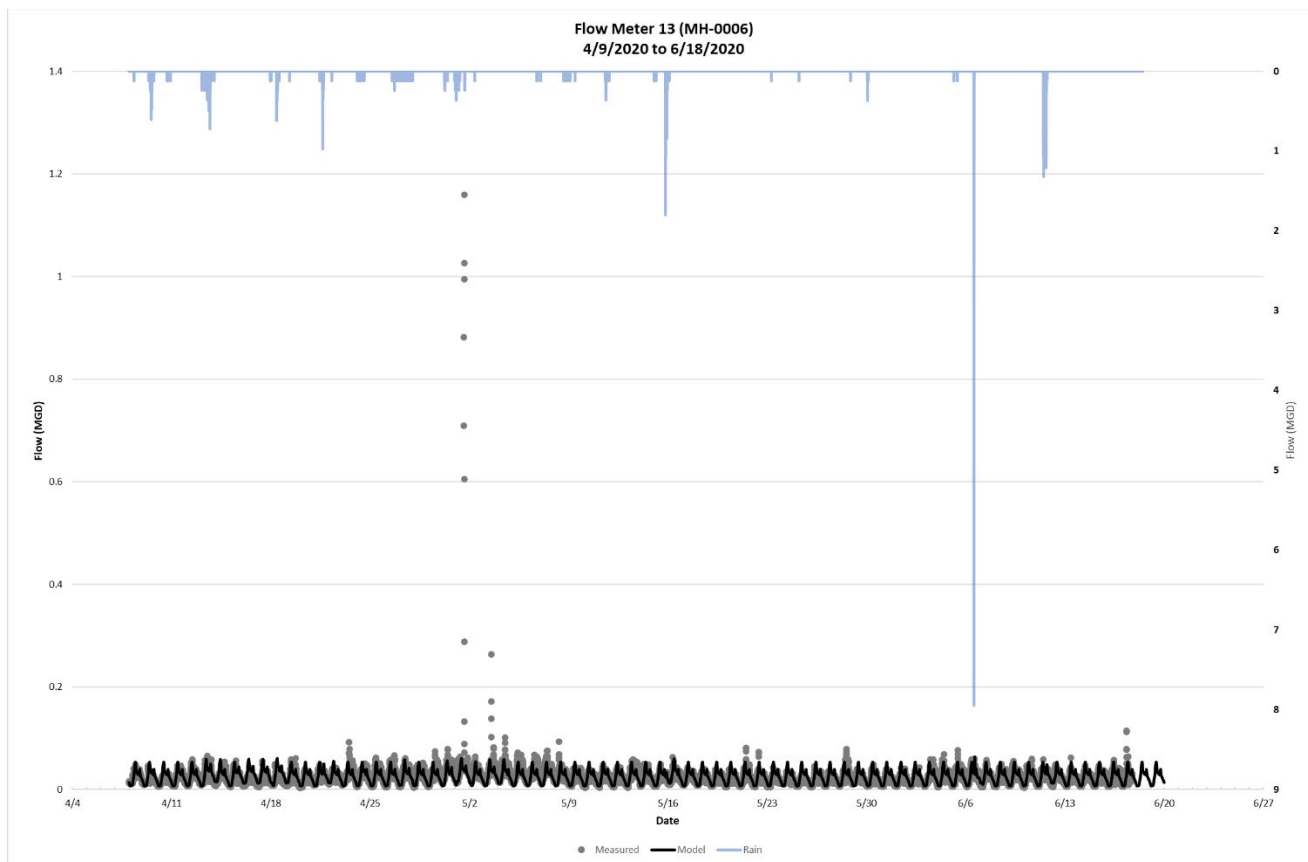


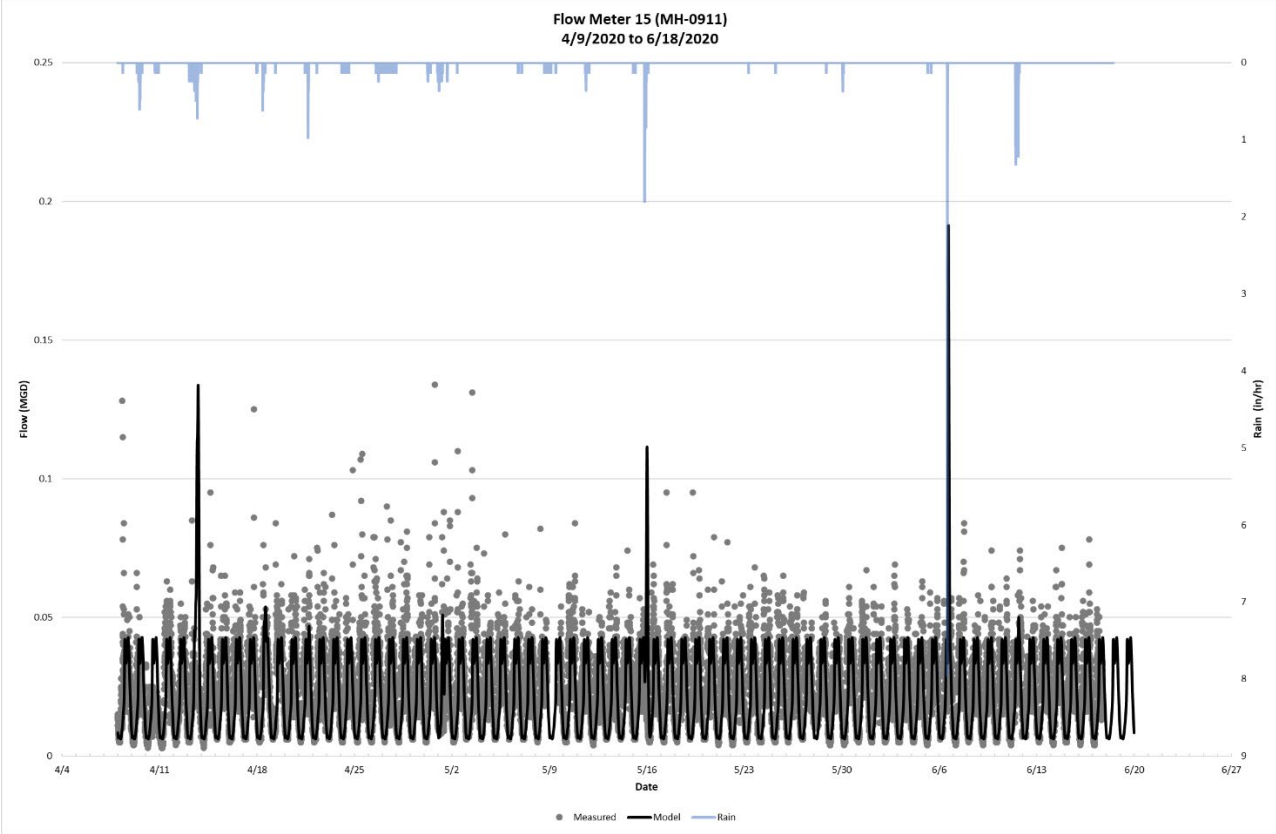








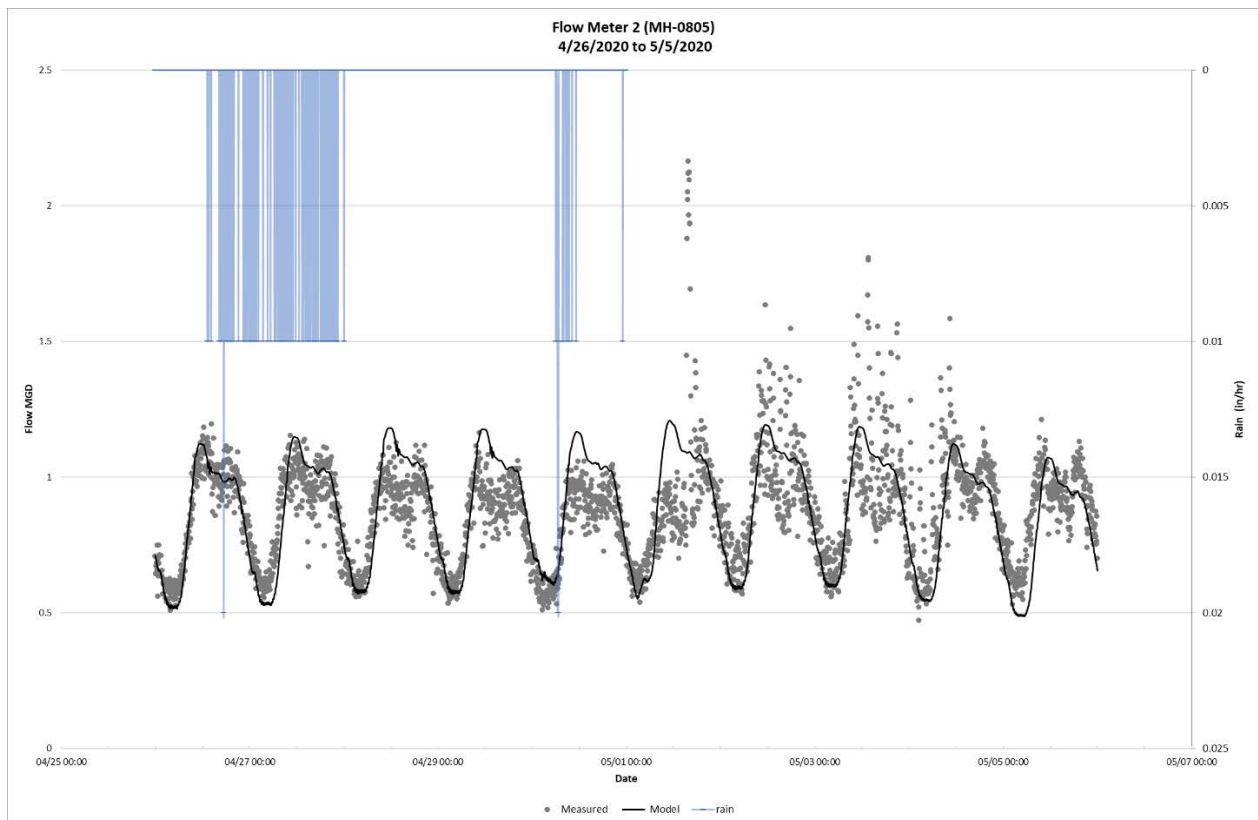
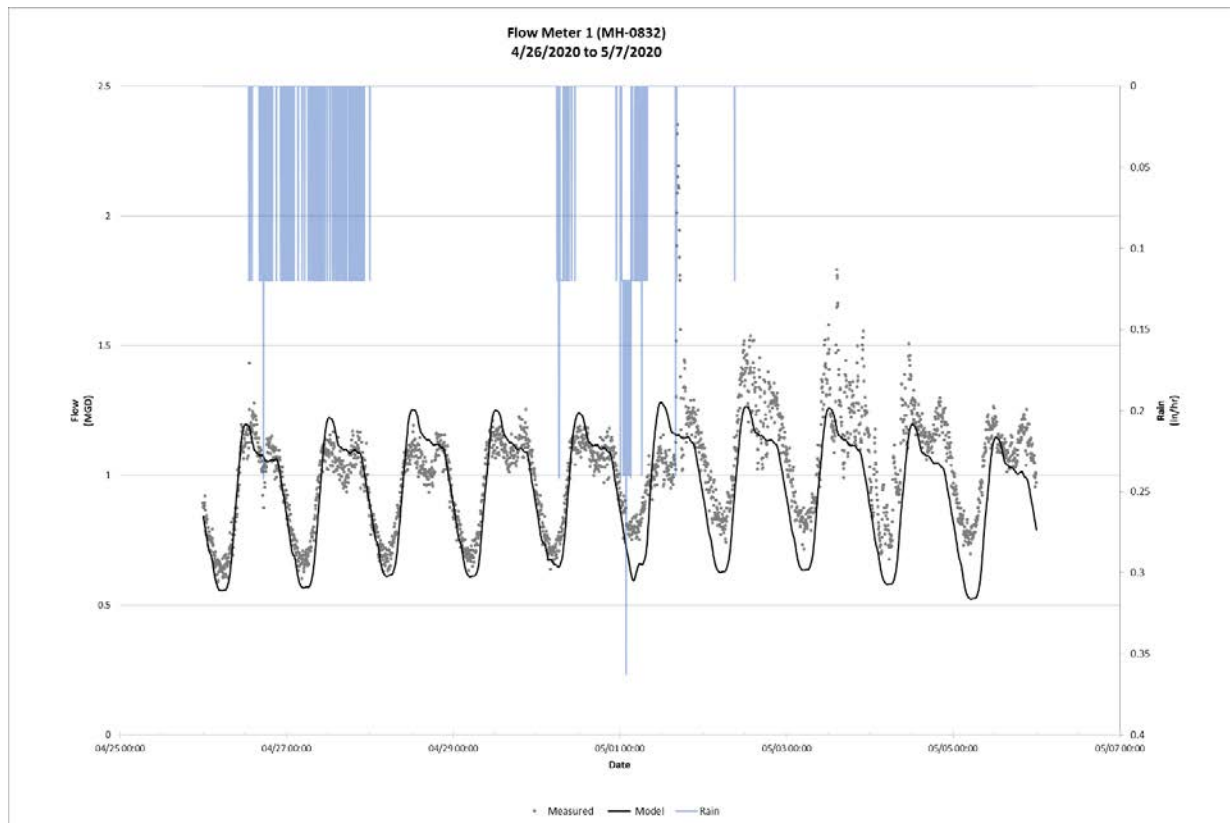


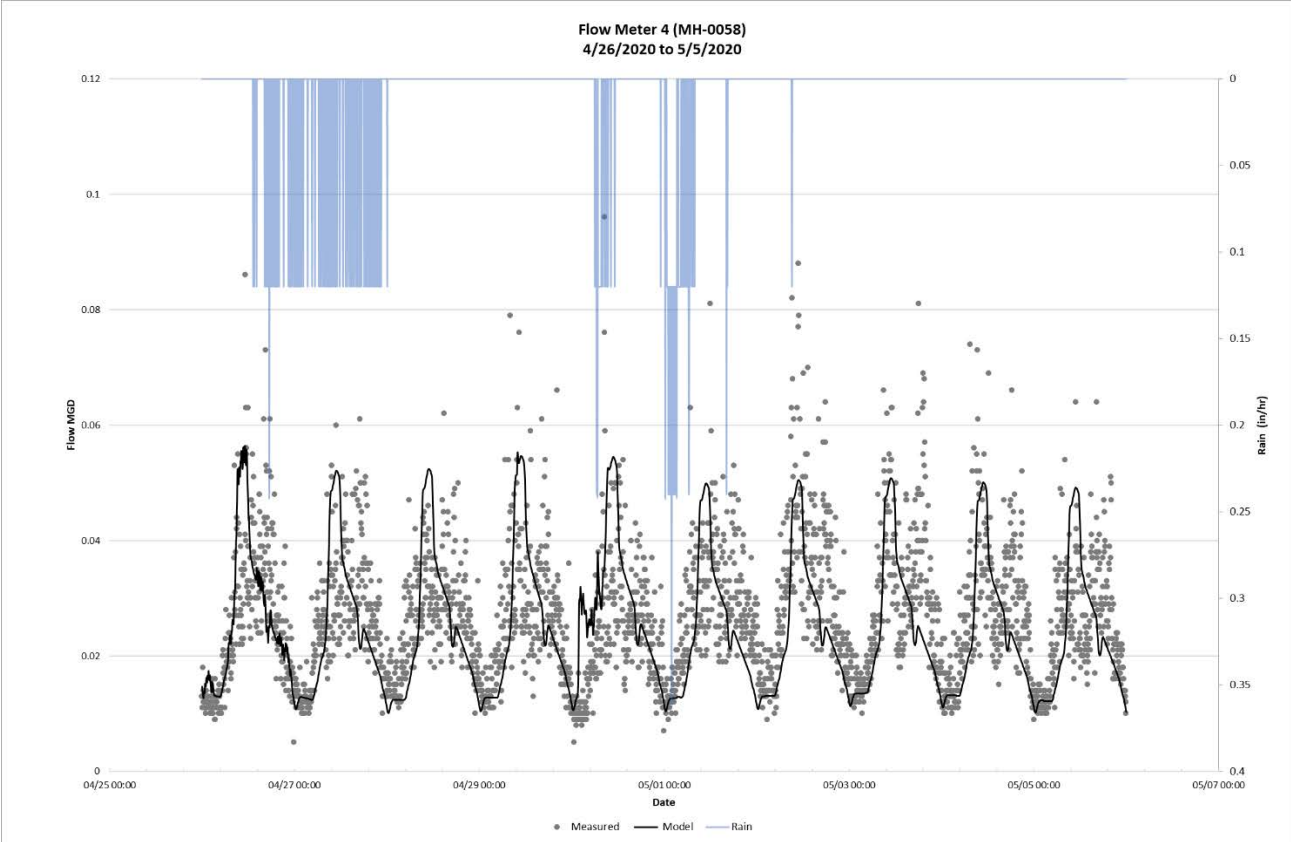
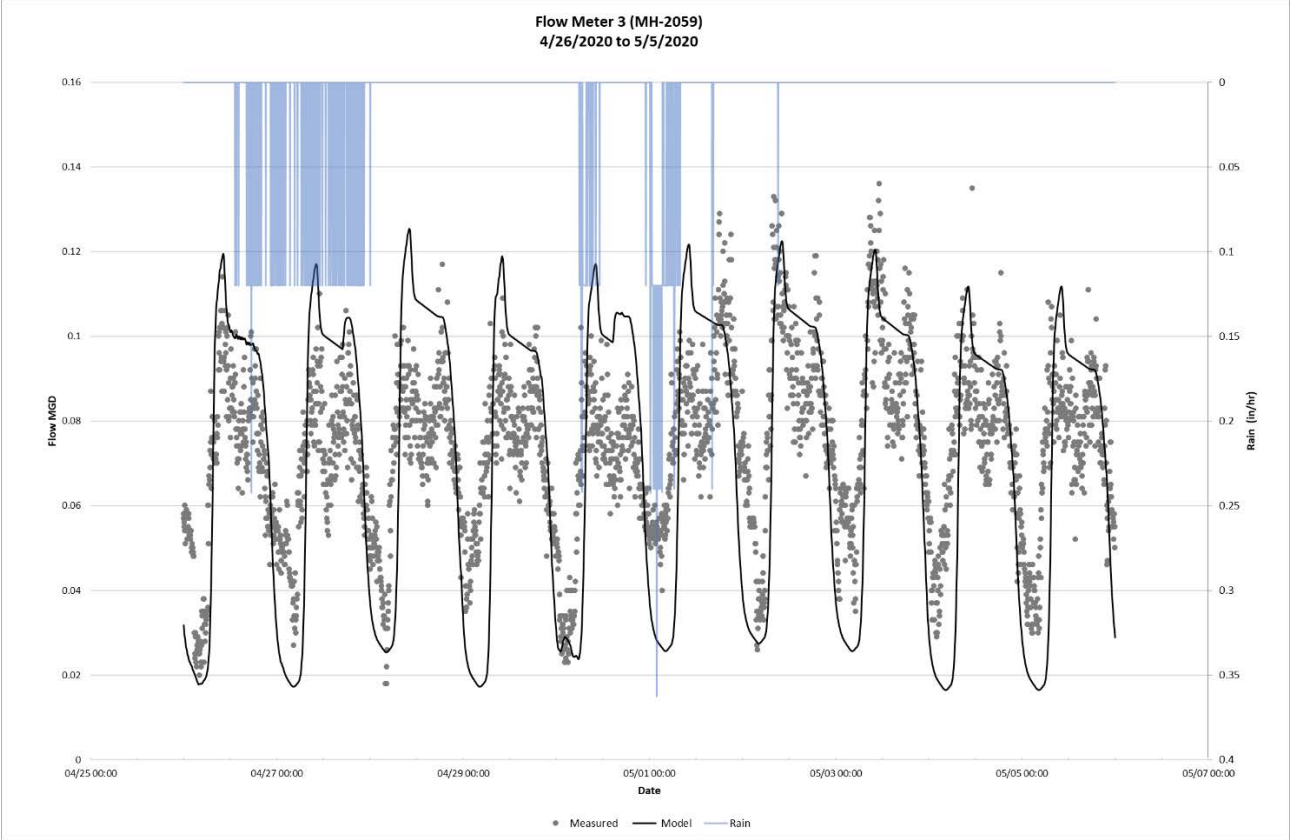


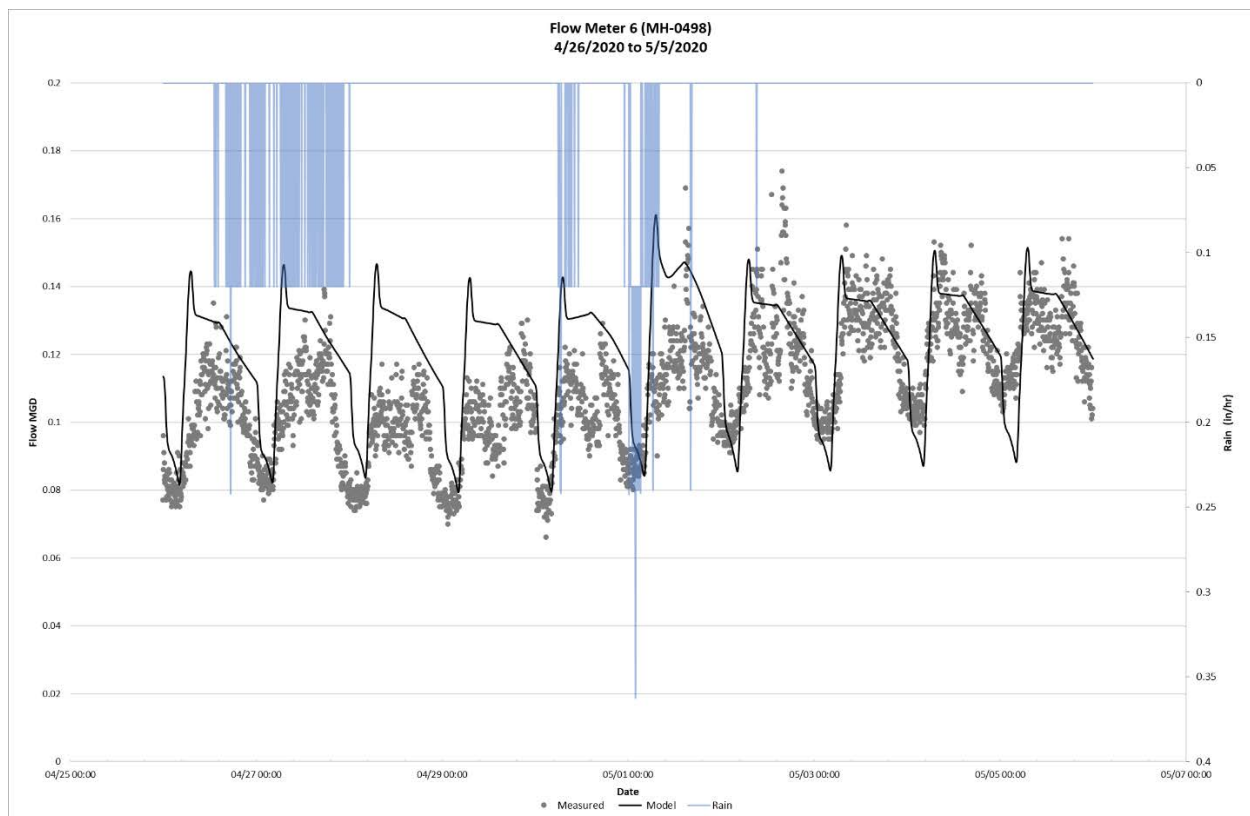
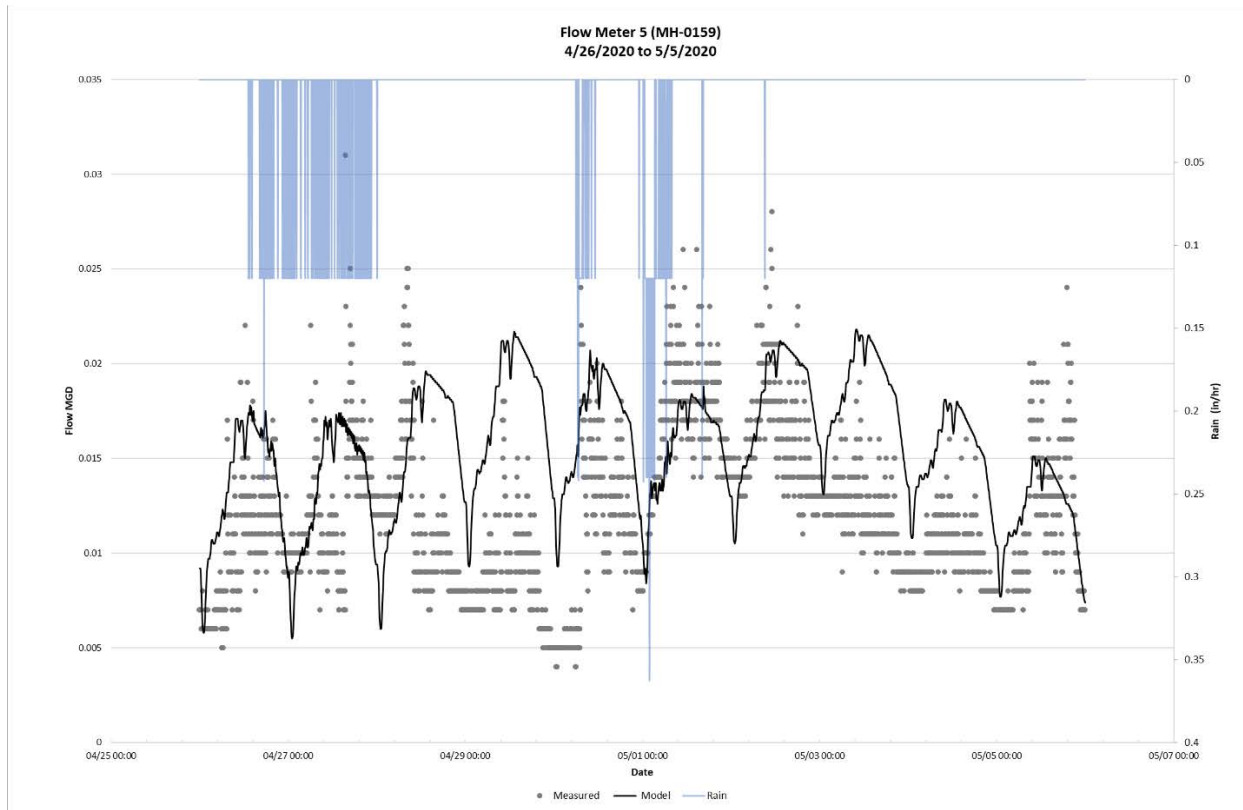
Appendix J

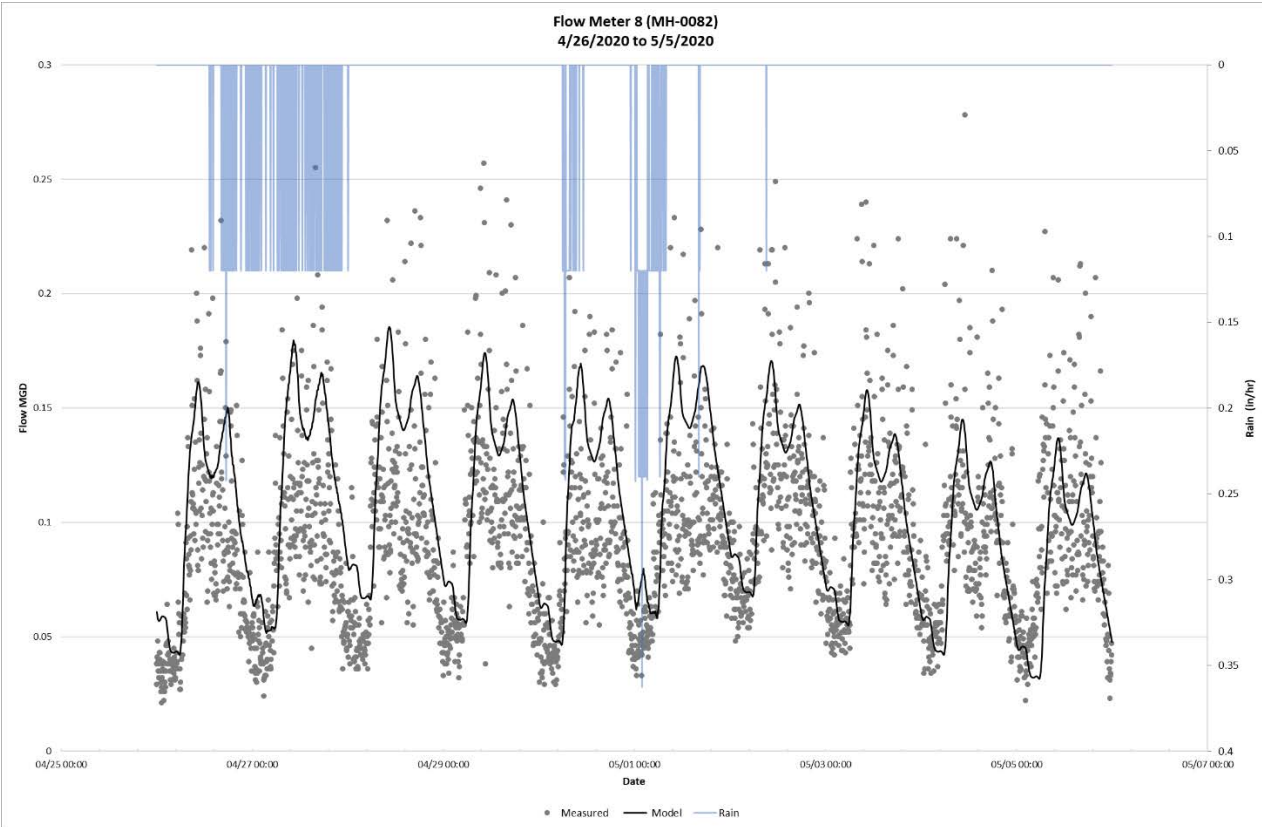
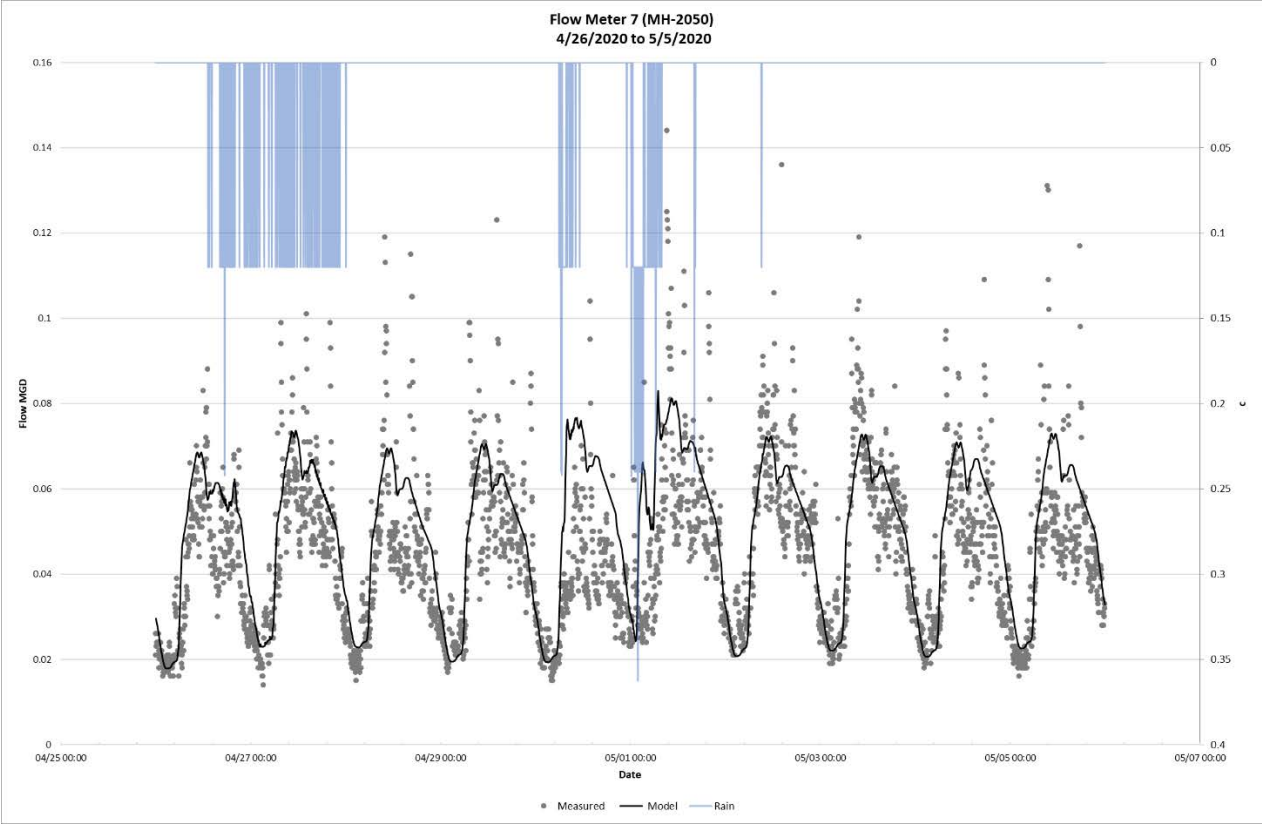
Full Model Hydrographs

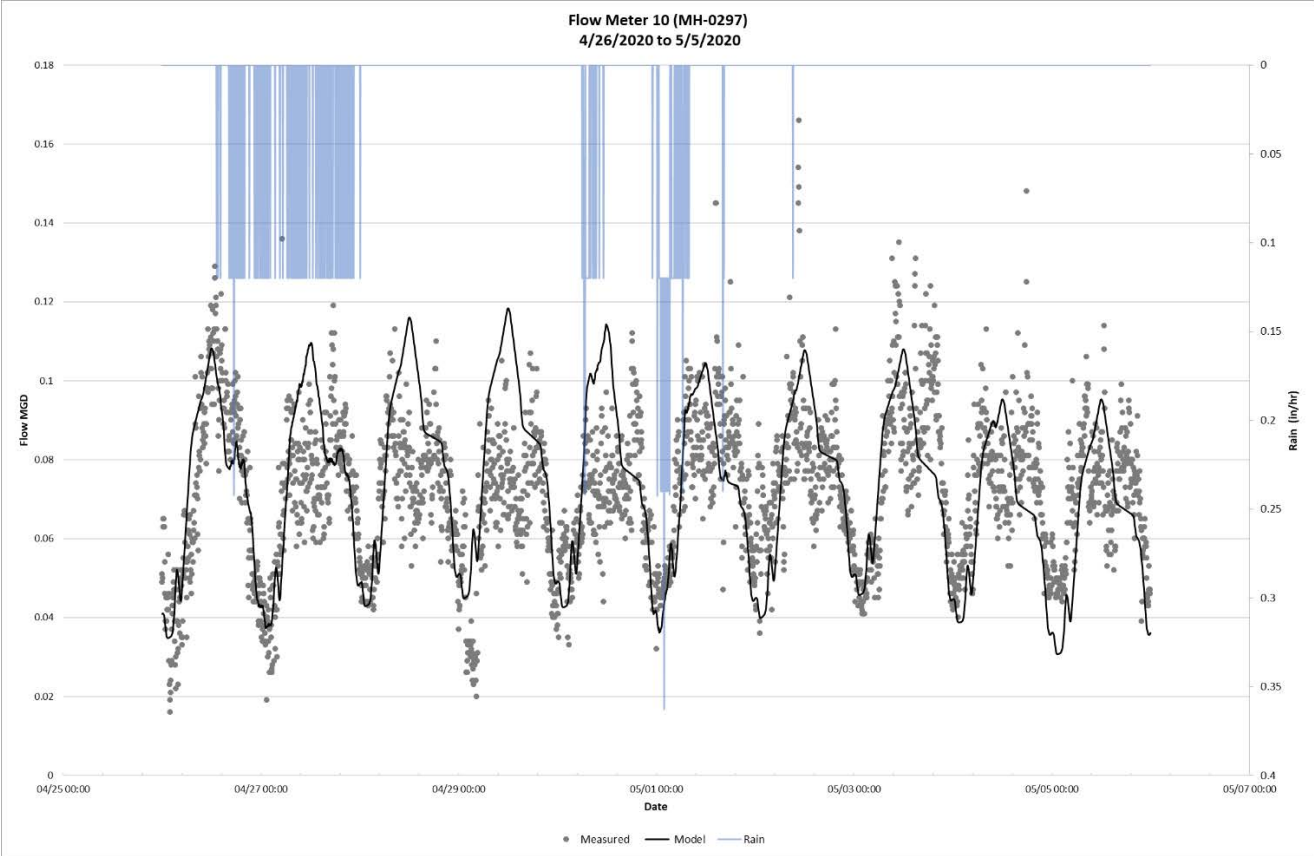
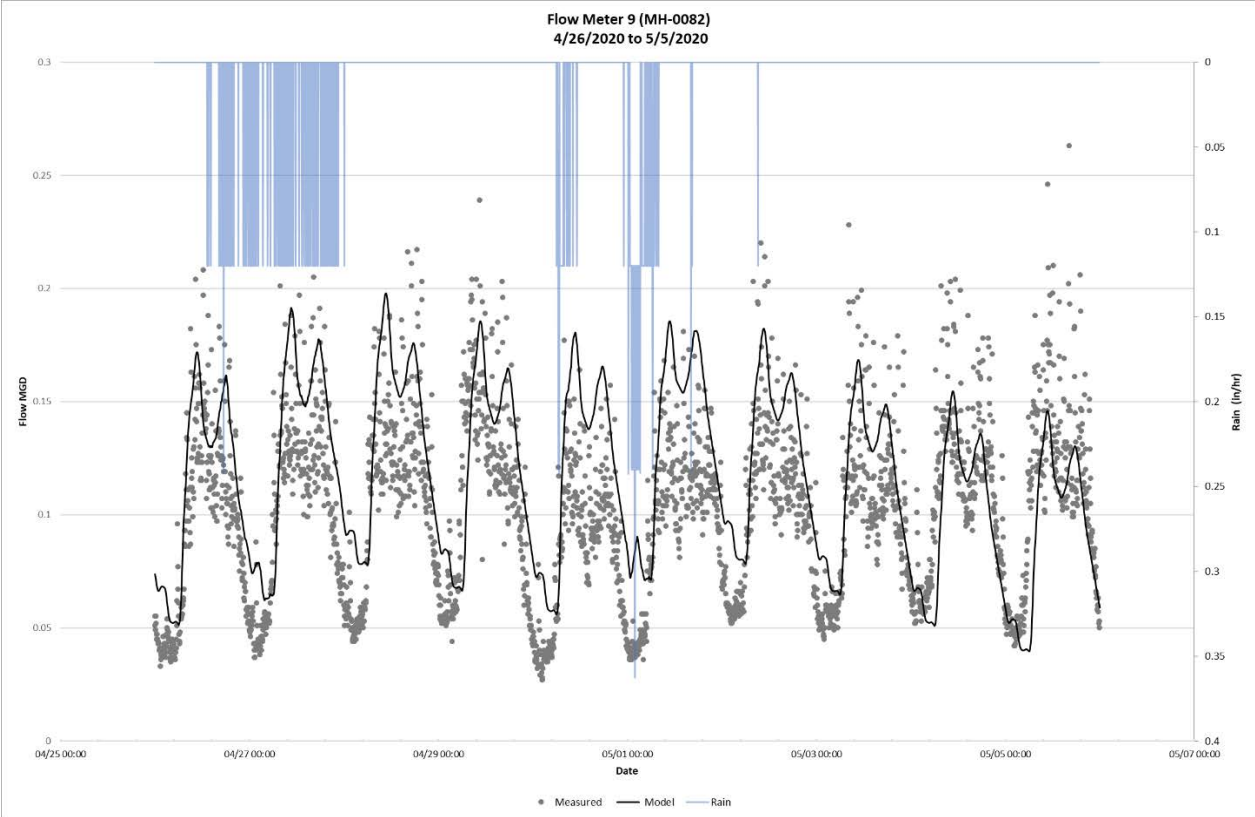
April Wet Weather Model 4/26/20-5/7/20

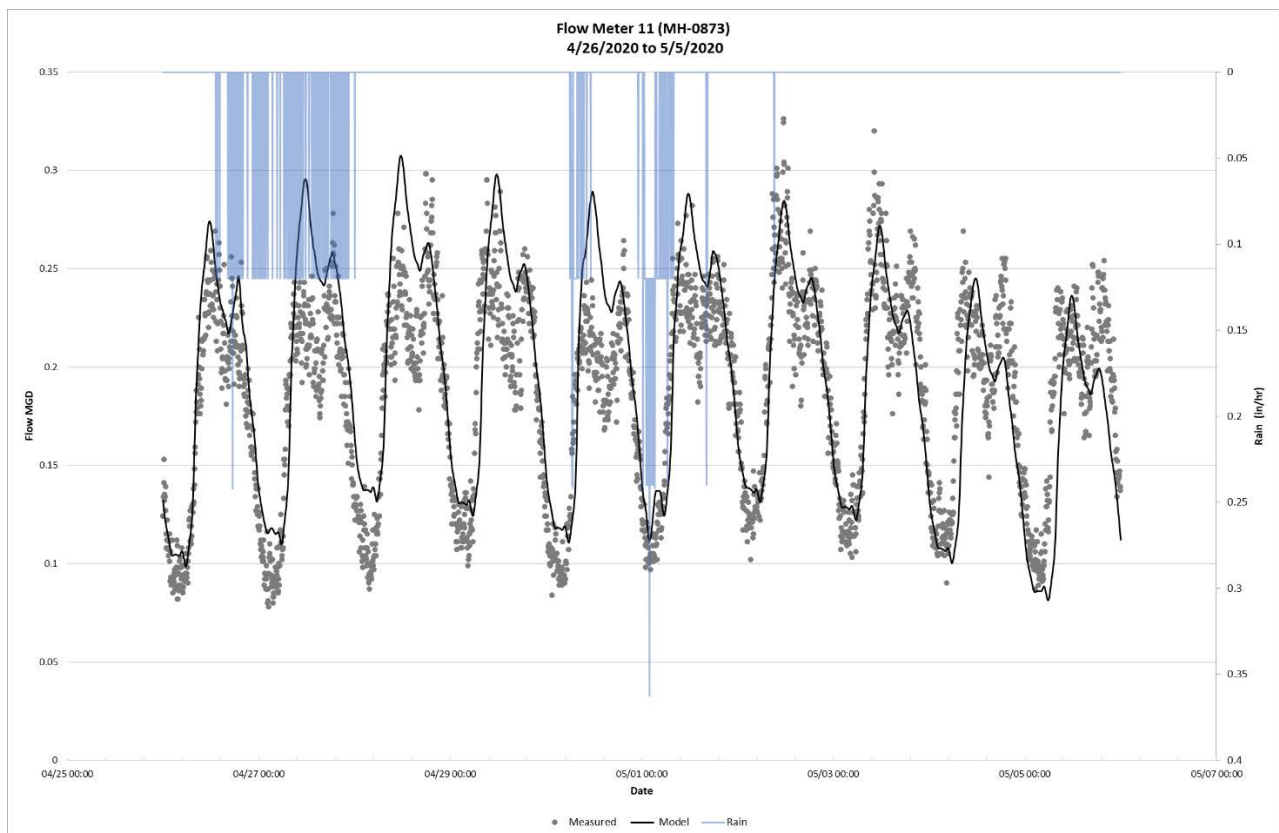
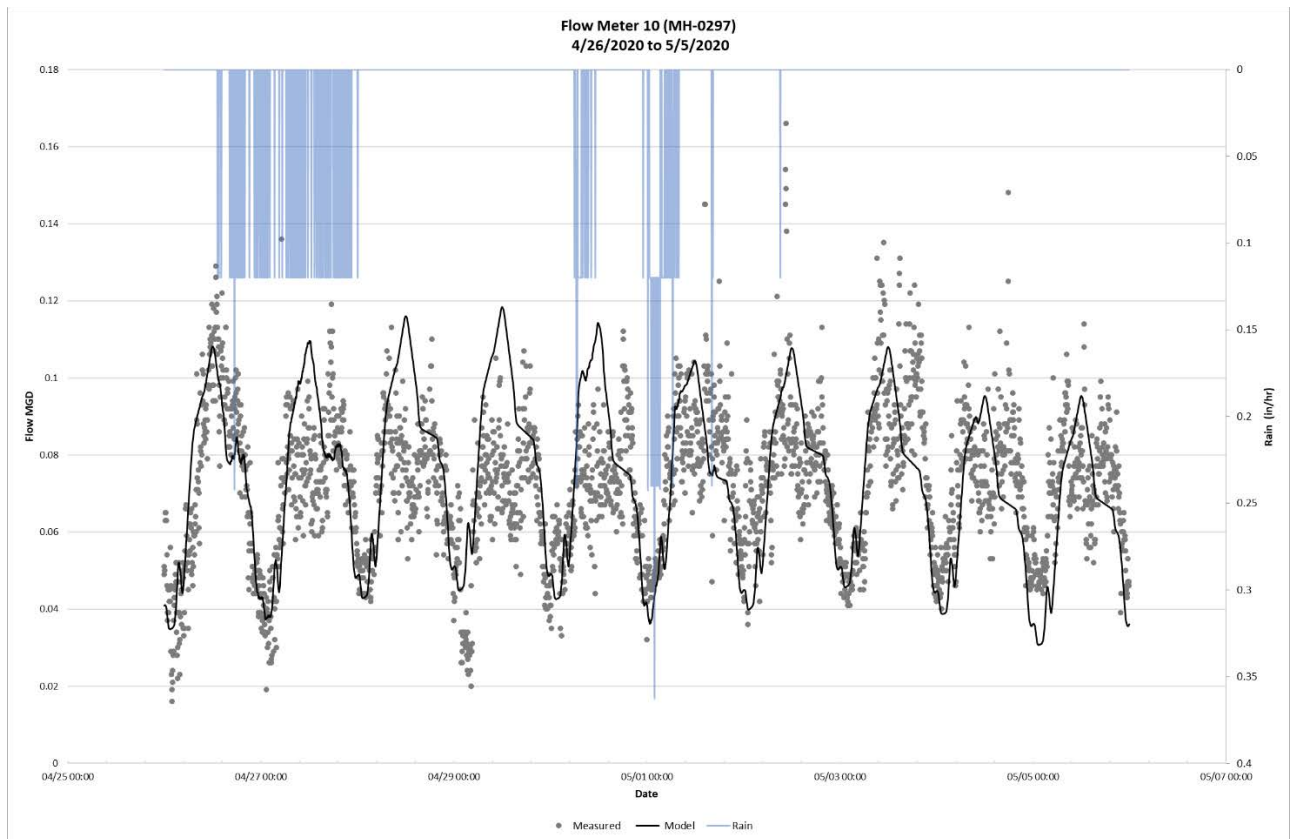


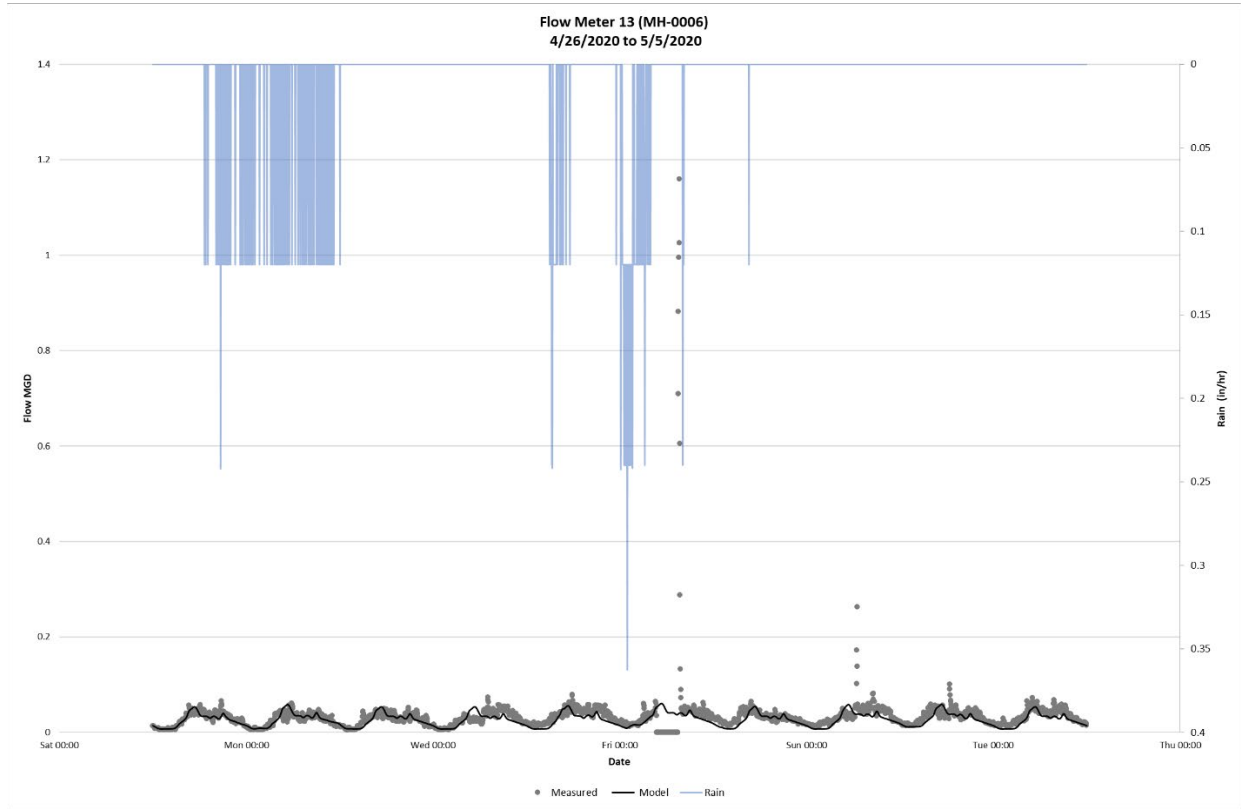
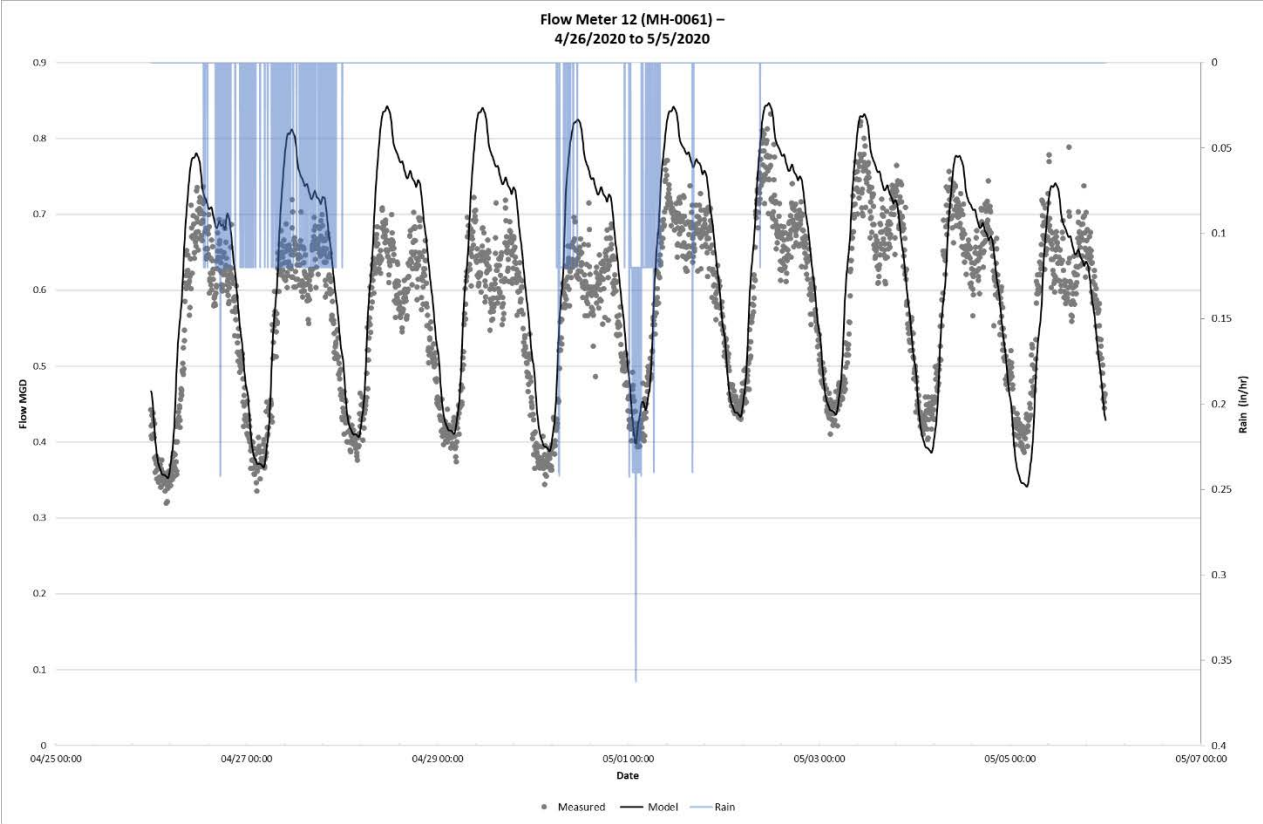


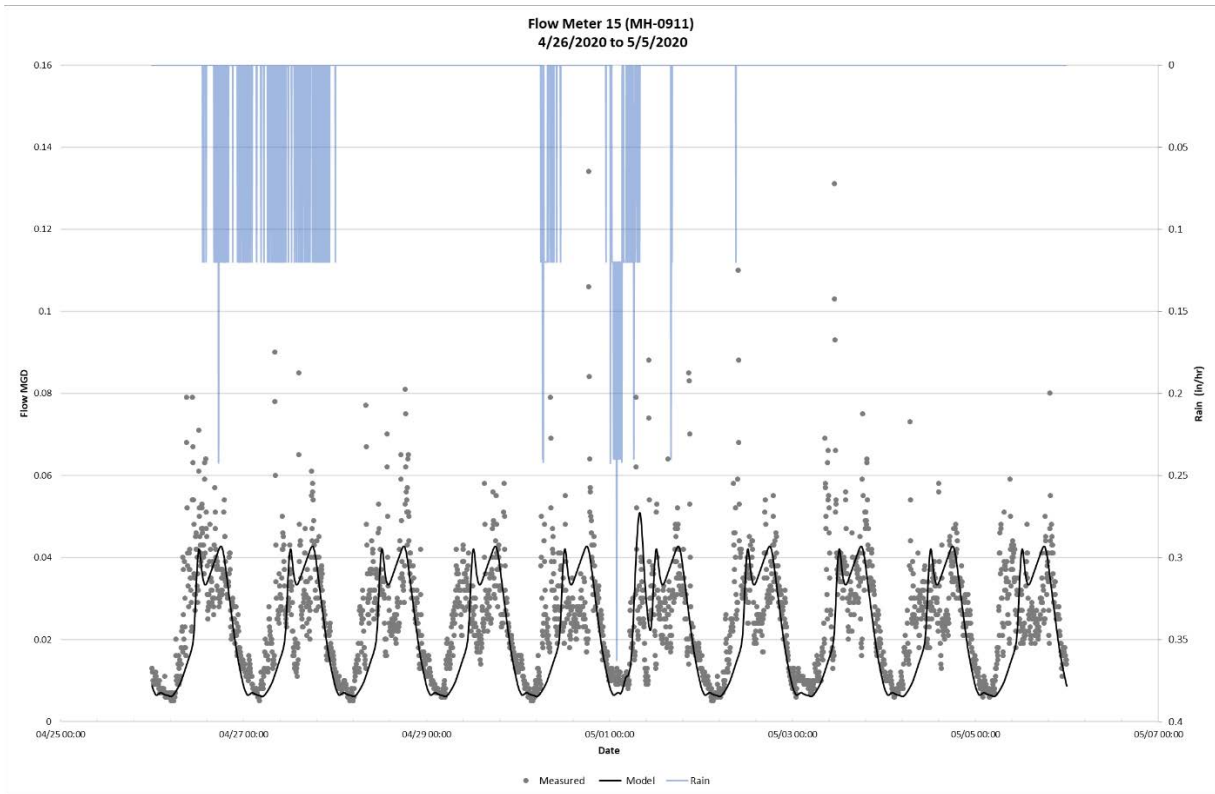
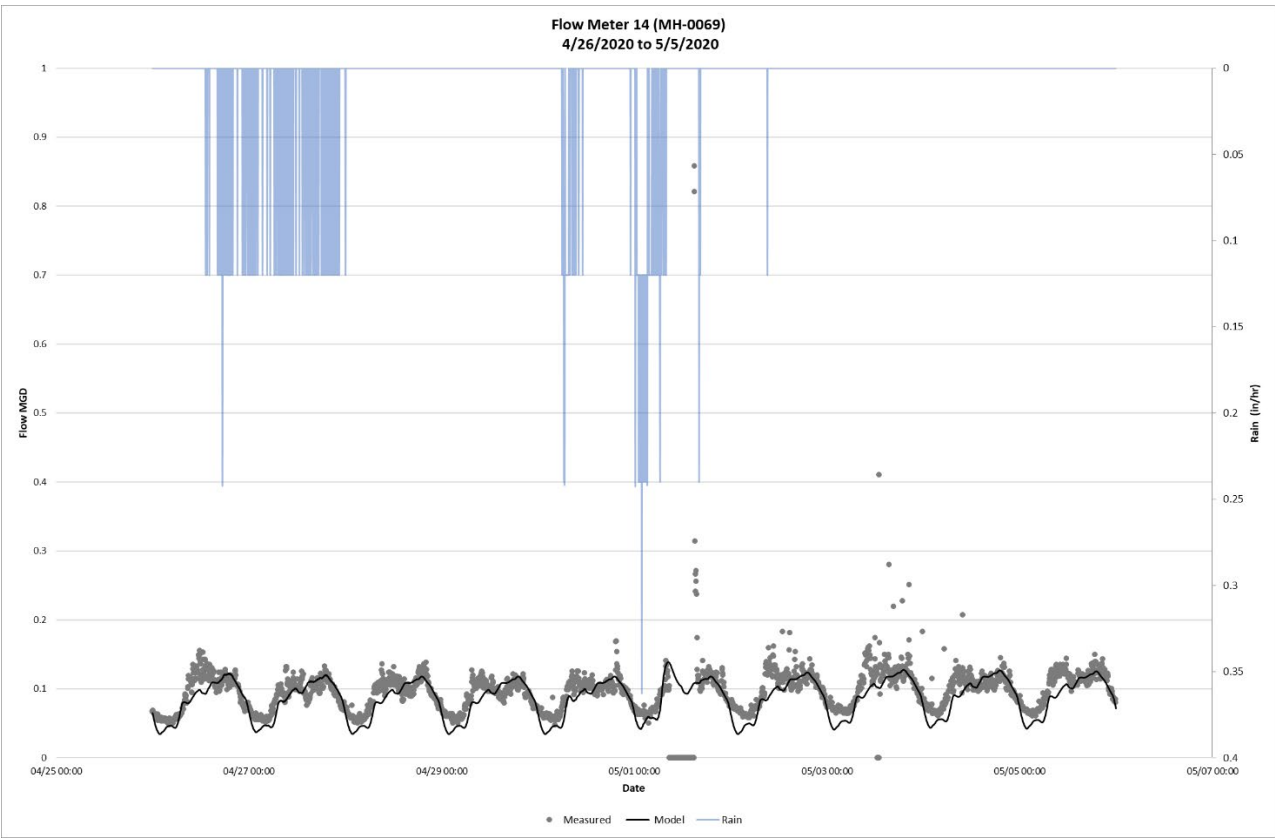




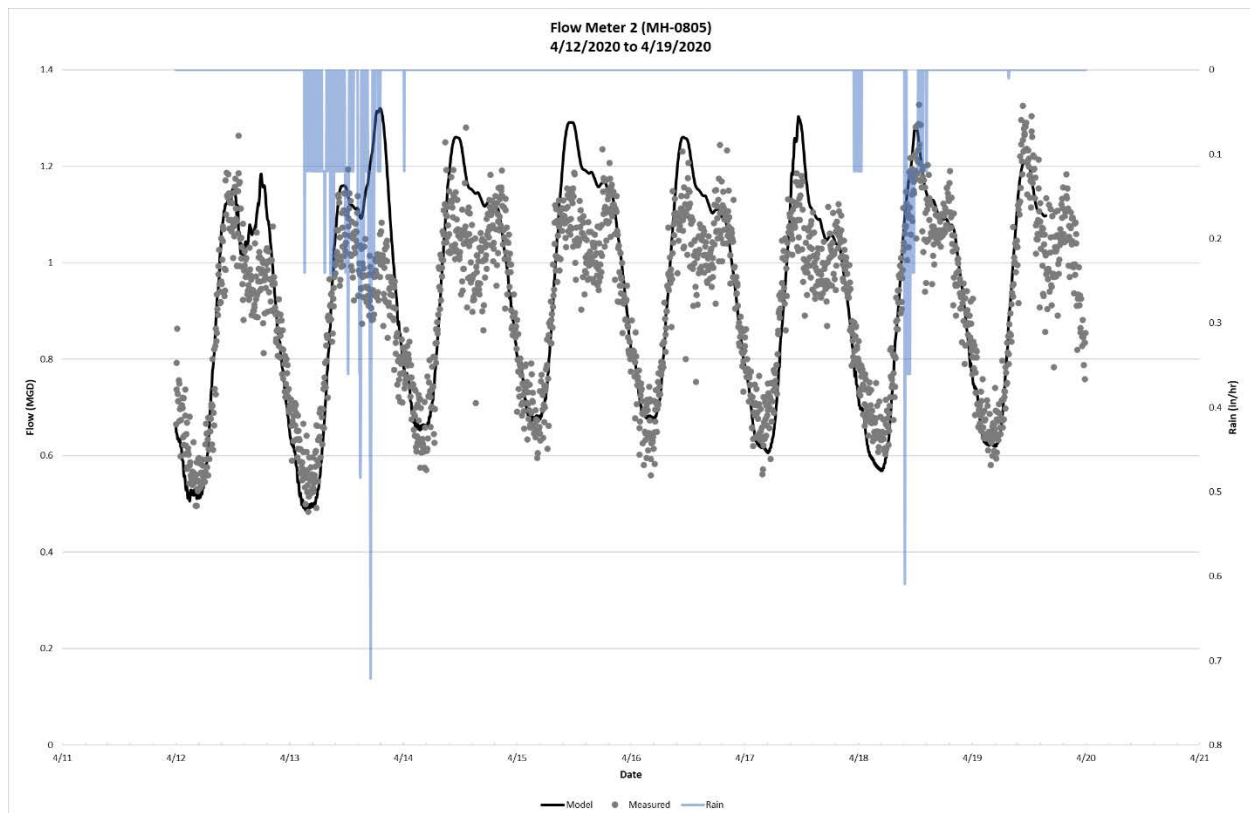
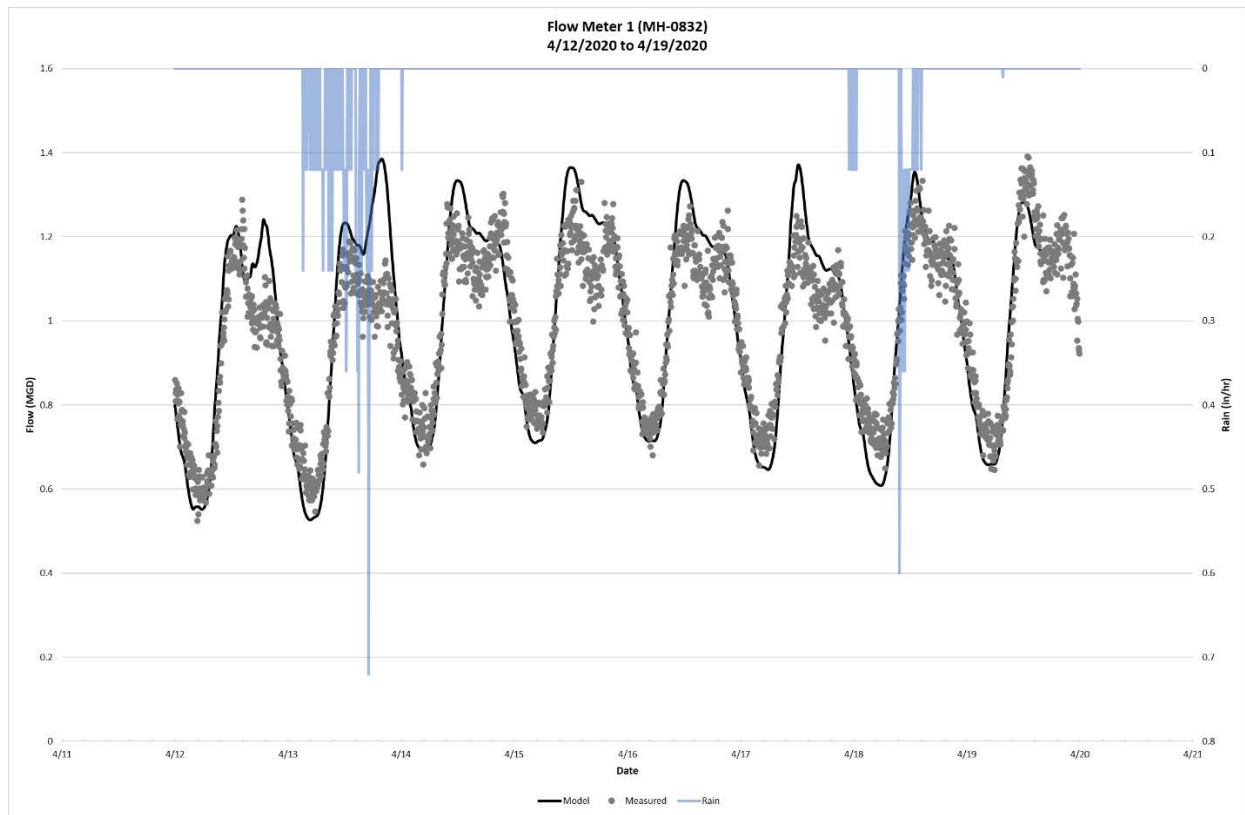


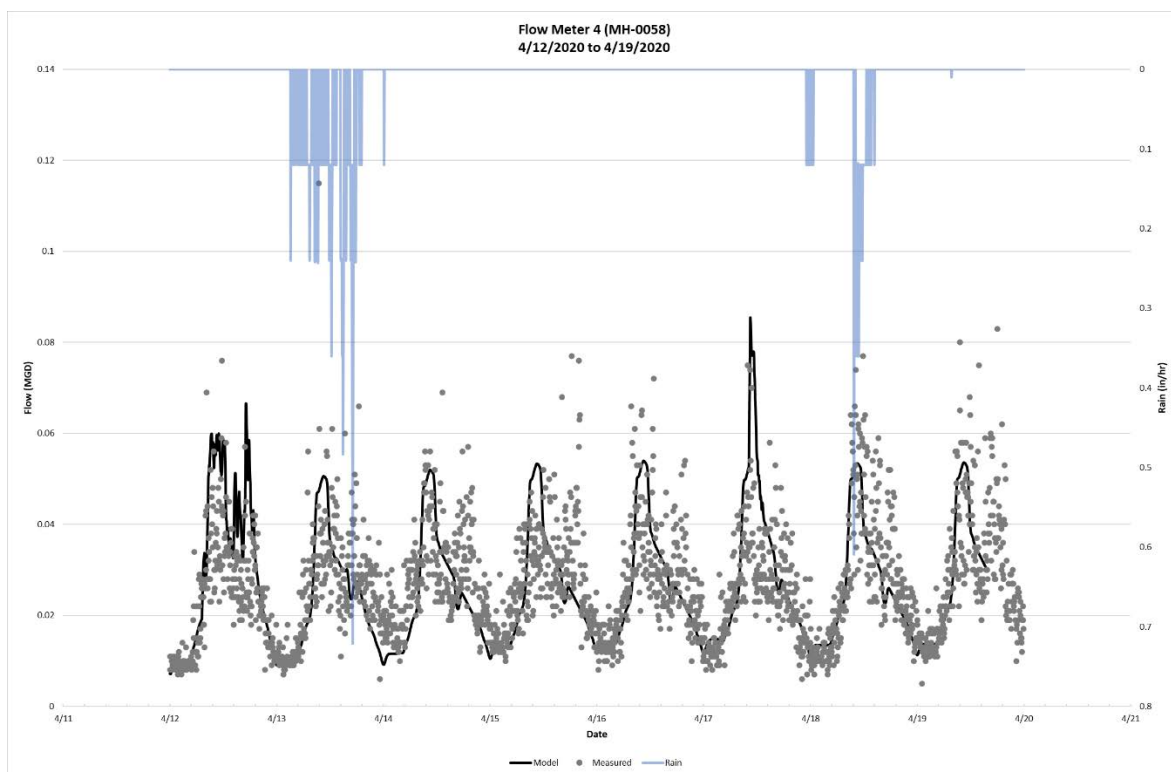
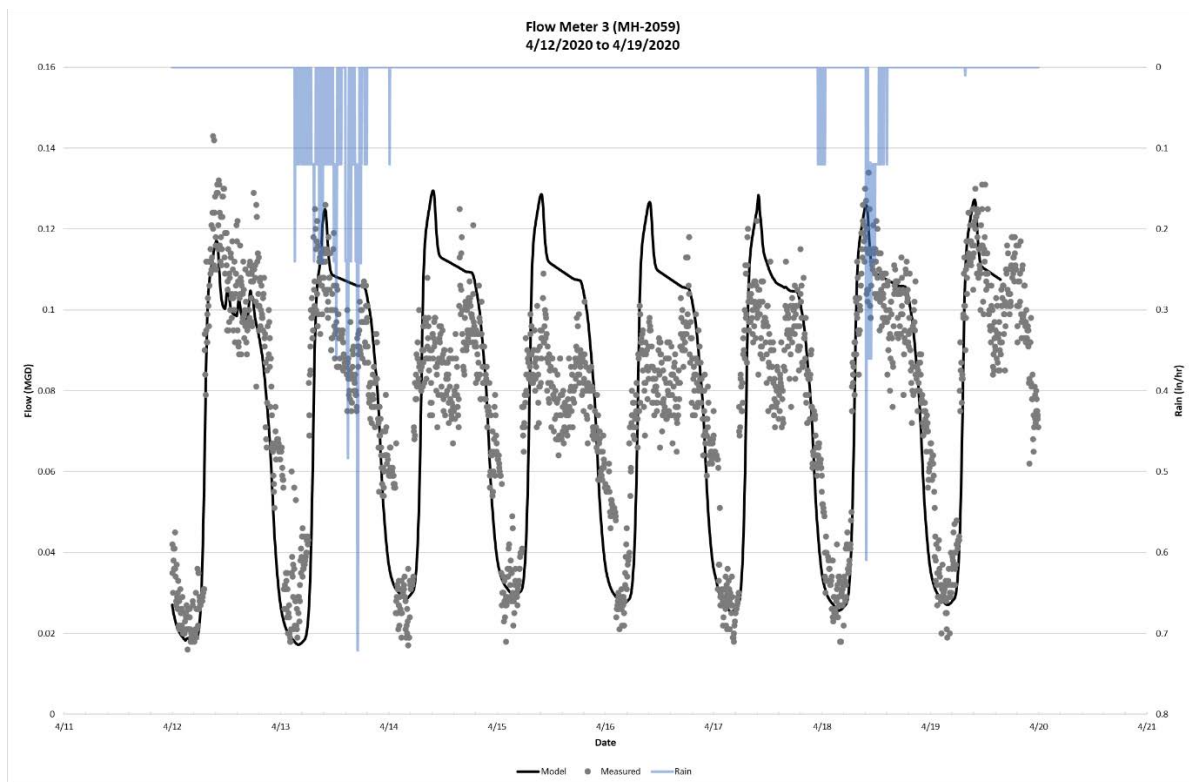


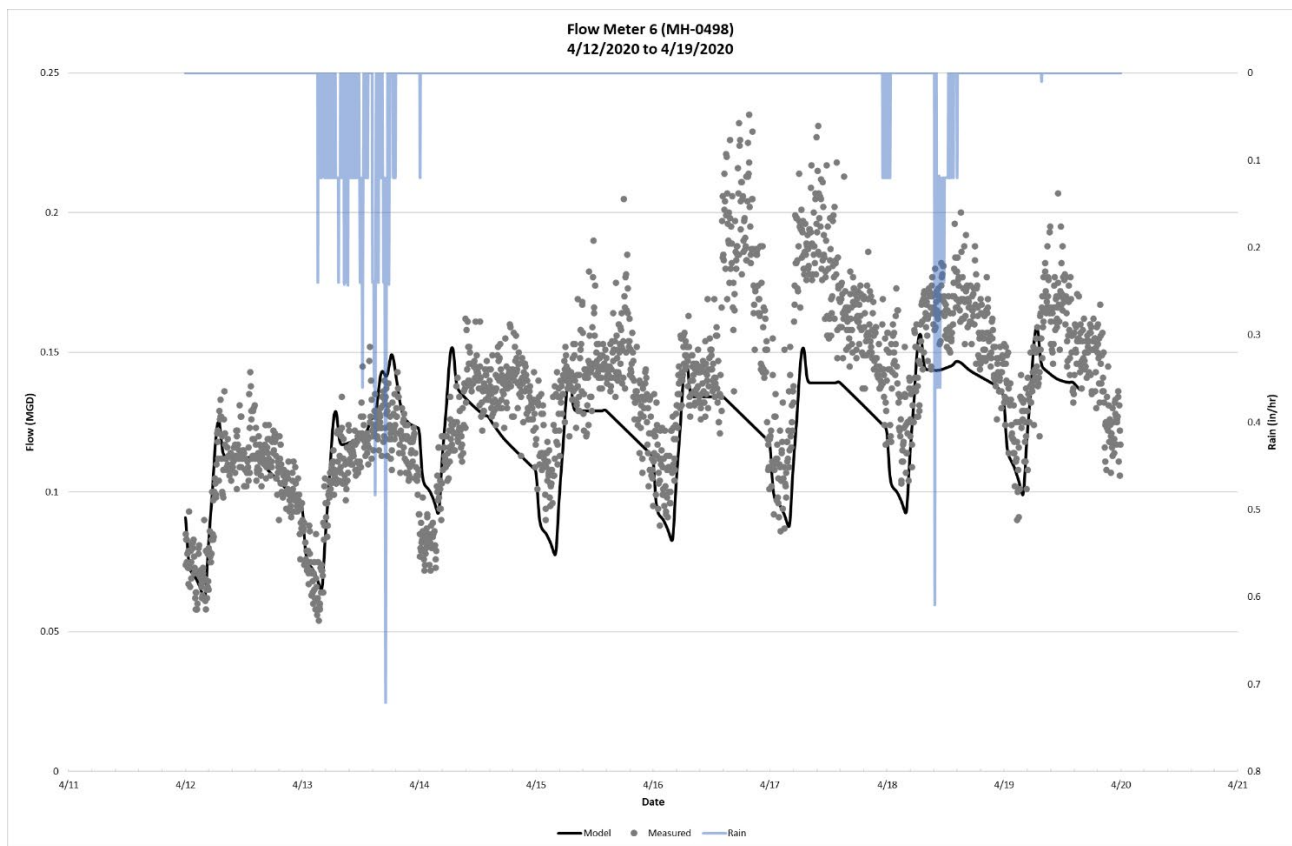
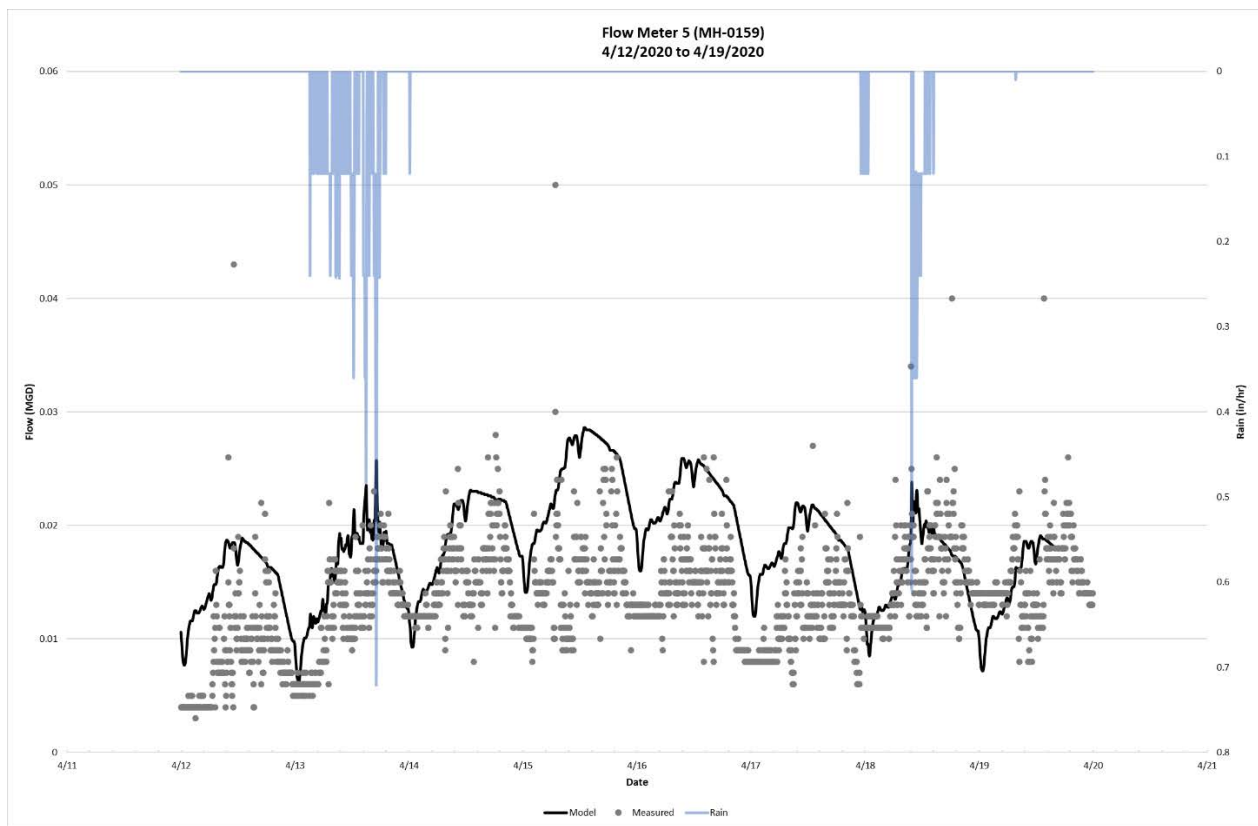


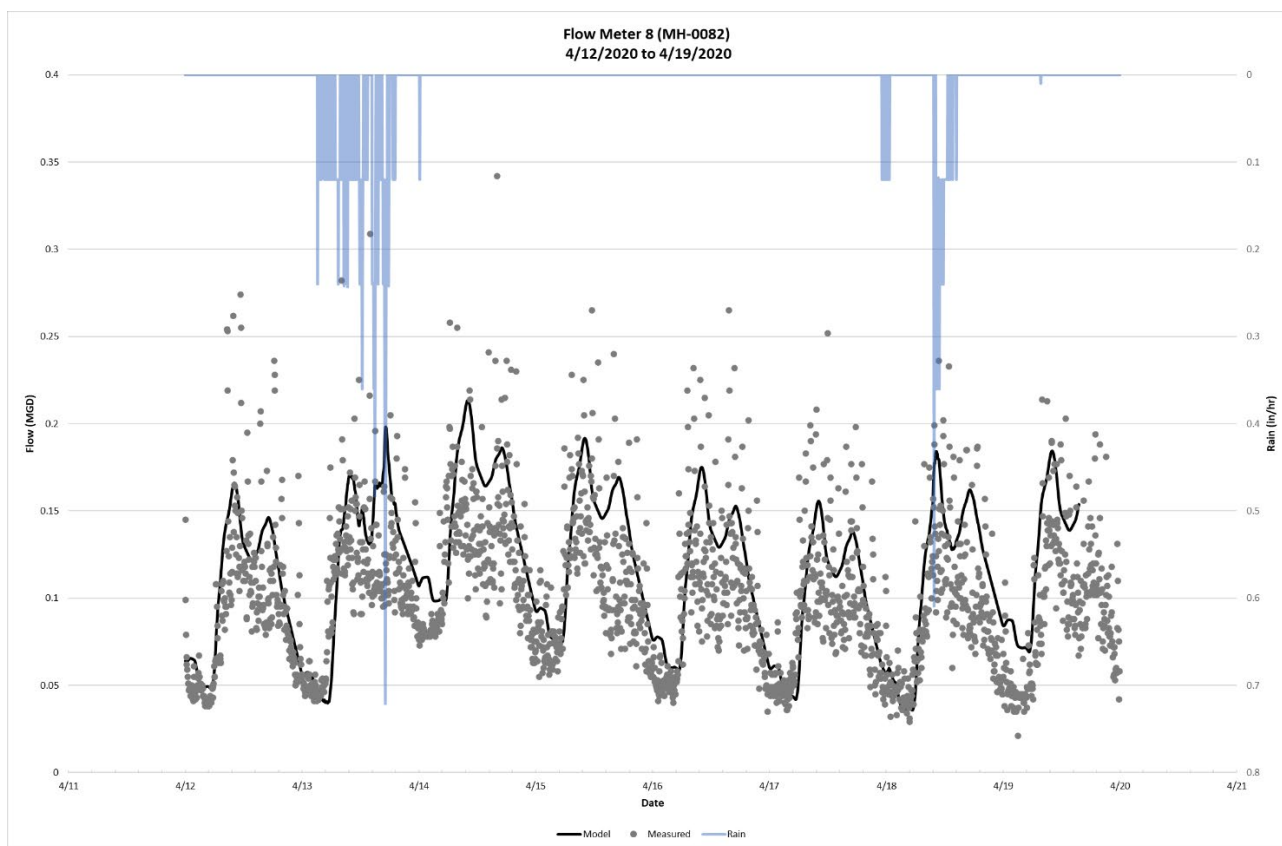
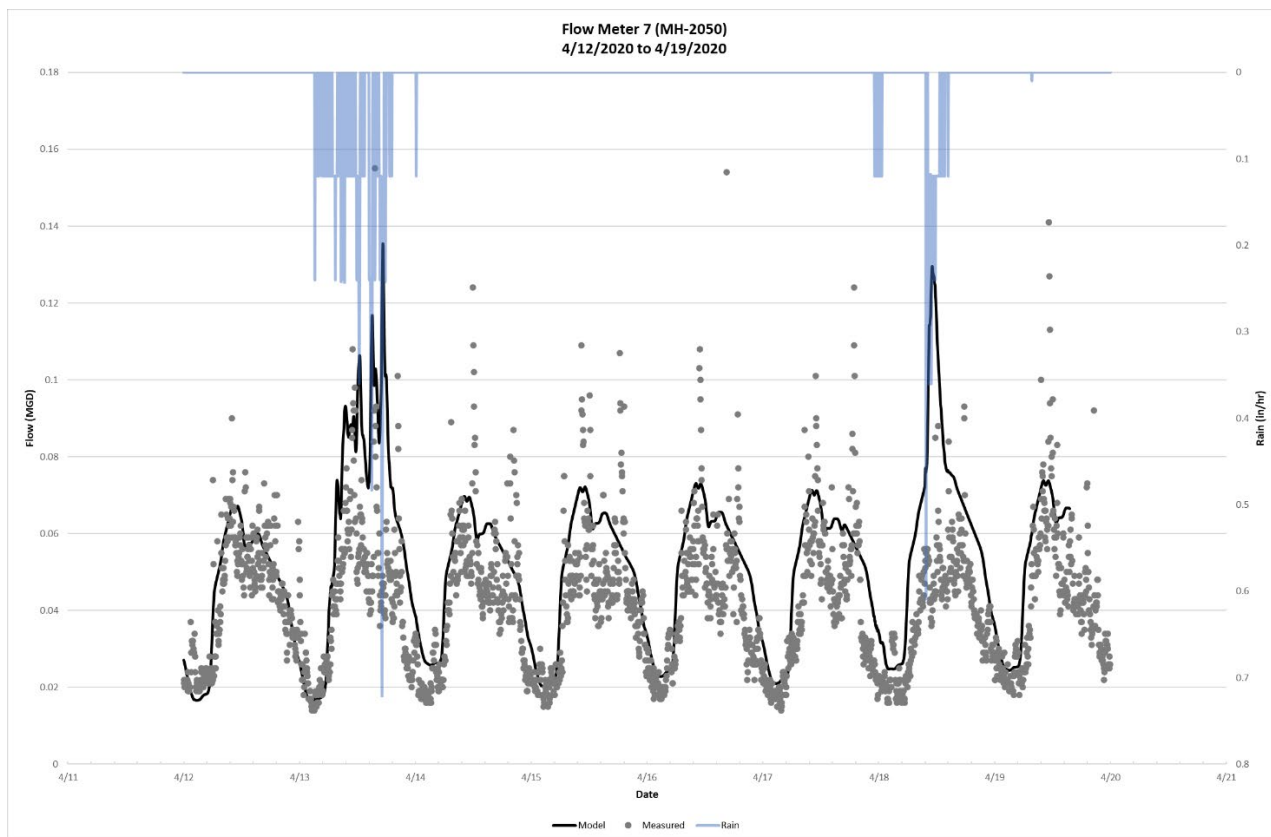


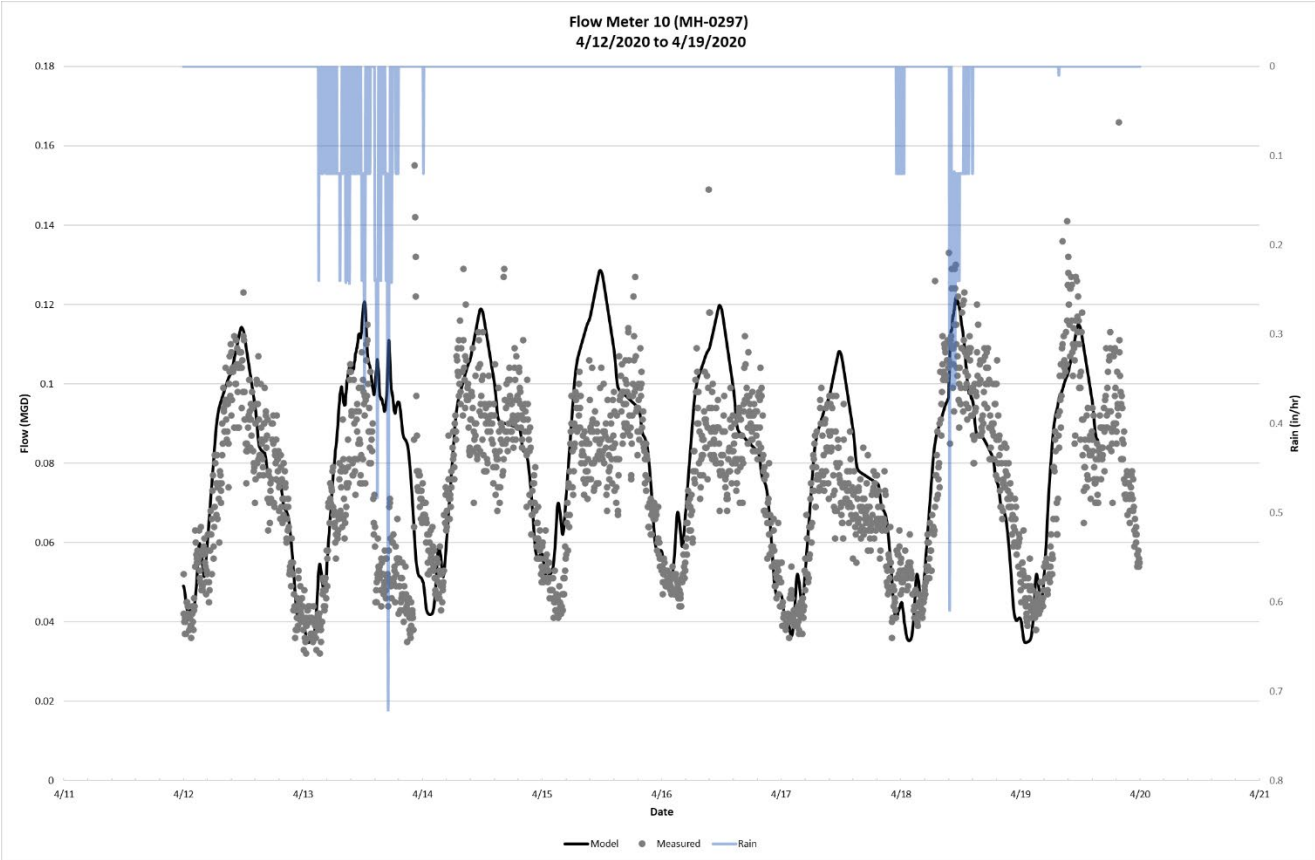
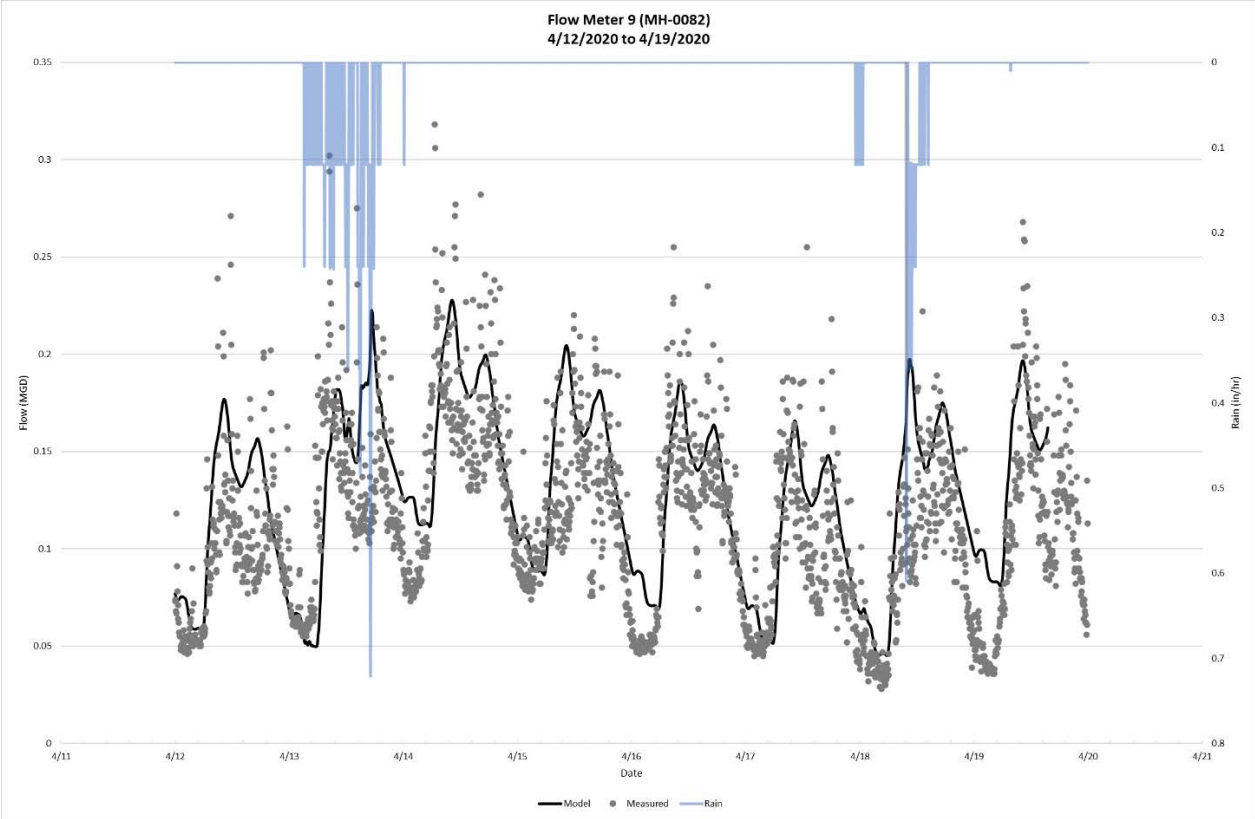
April Dry Weather 4/12/30 to 4/19/20

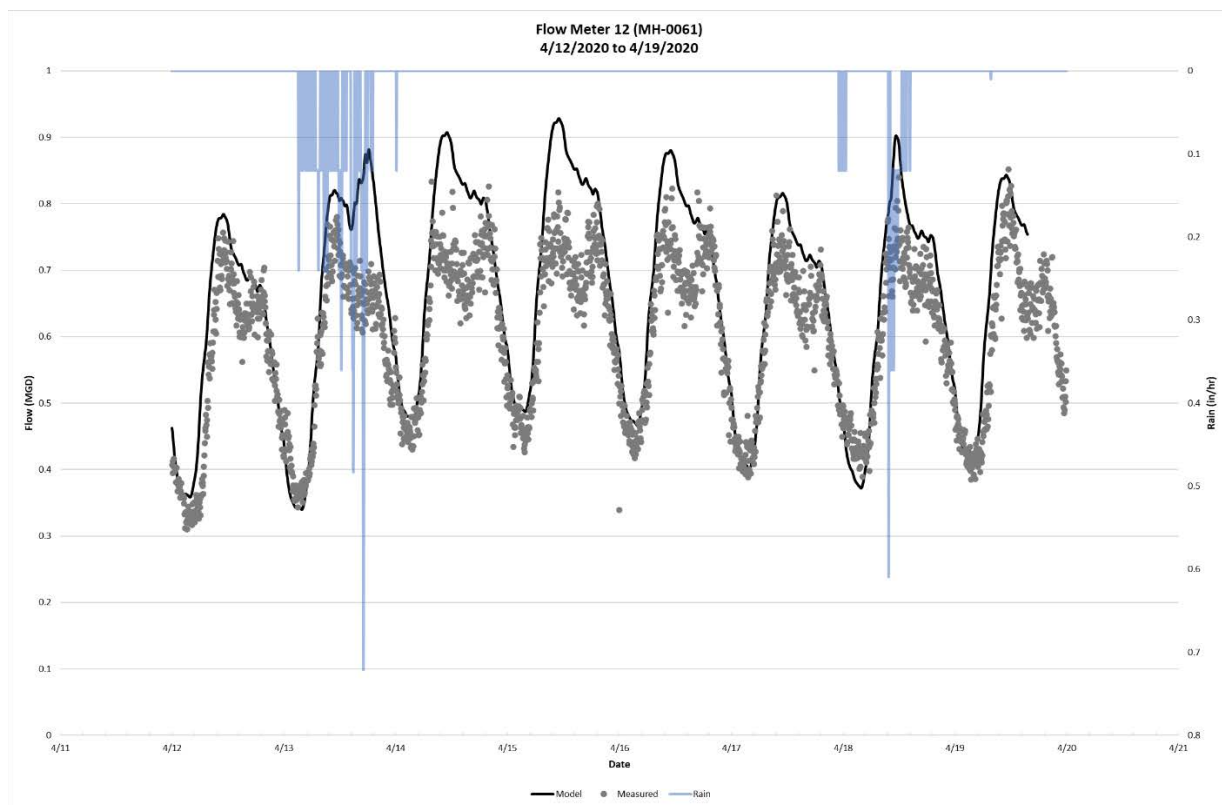
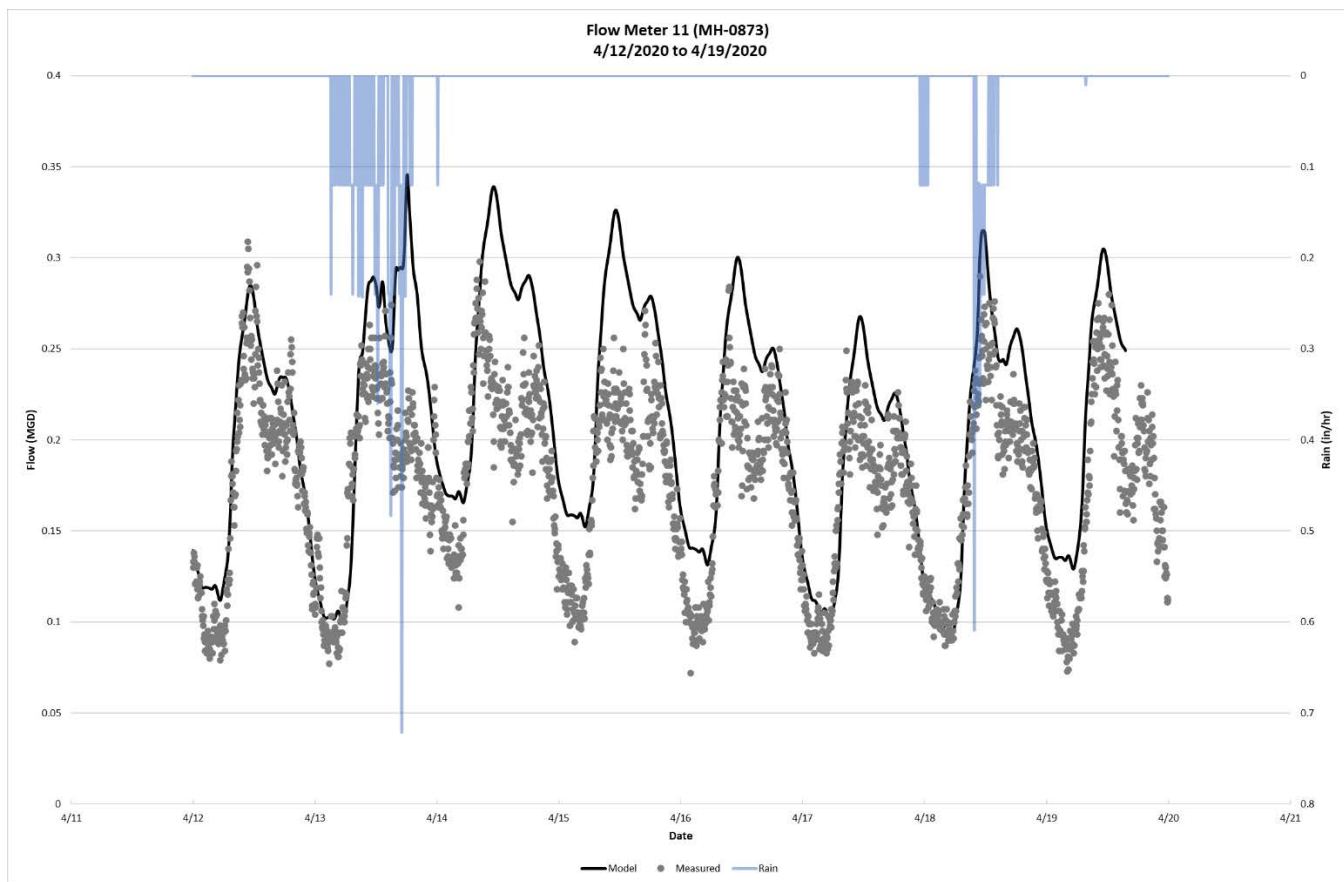


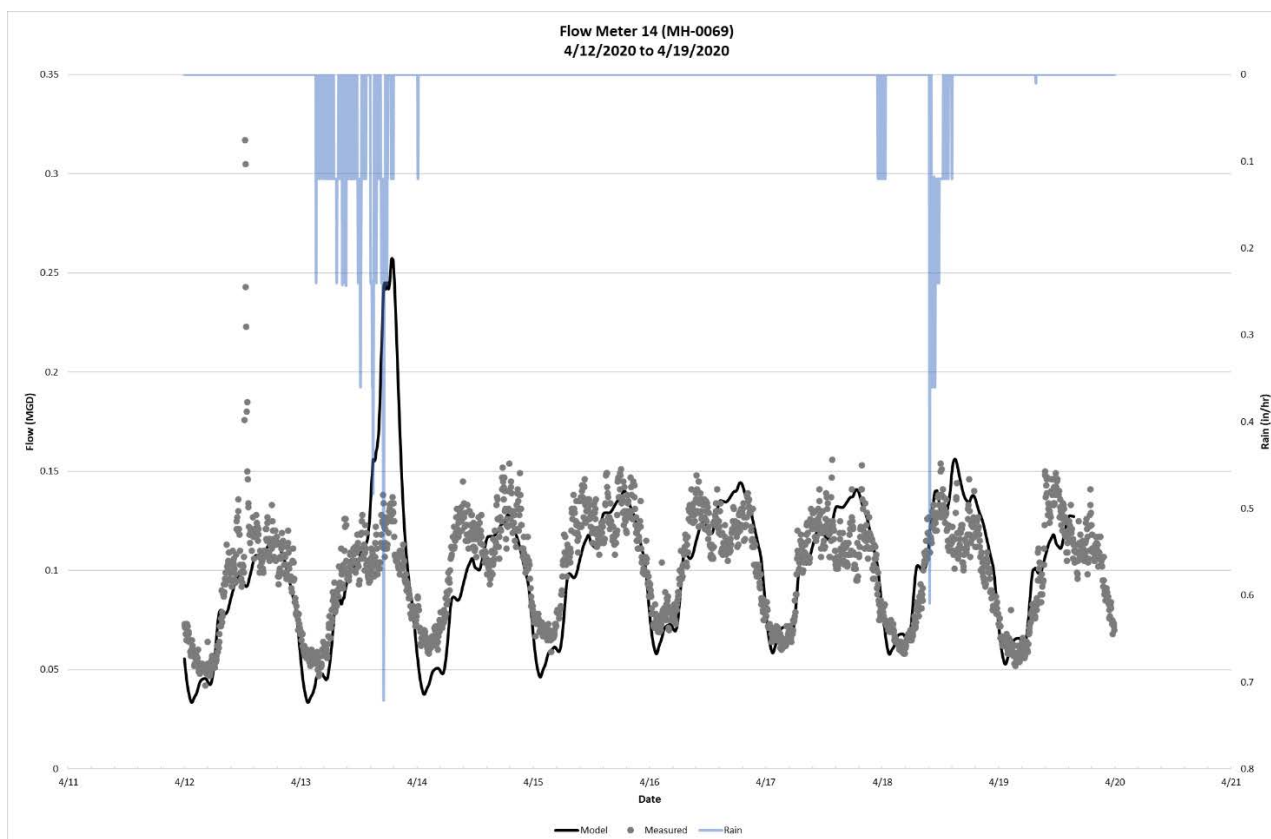
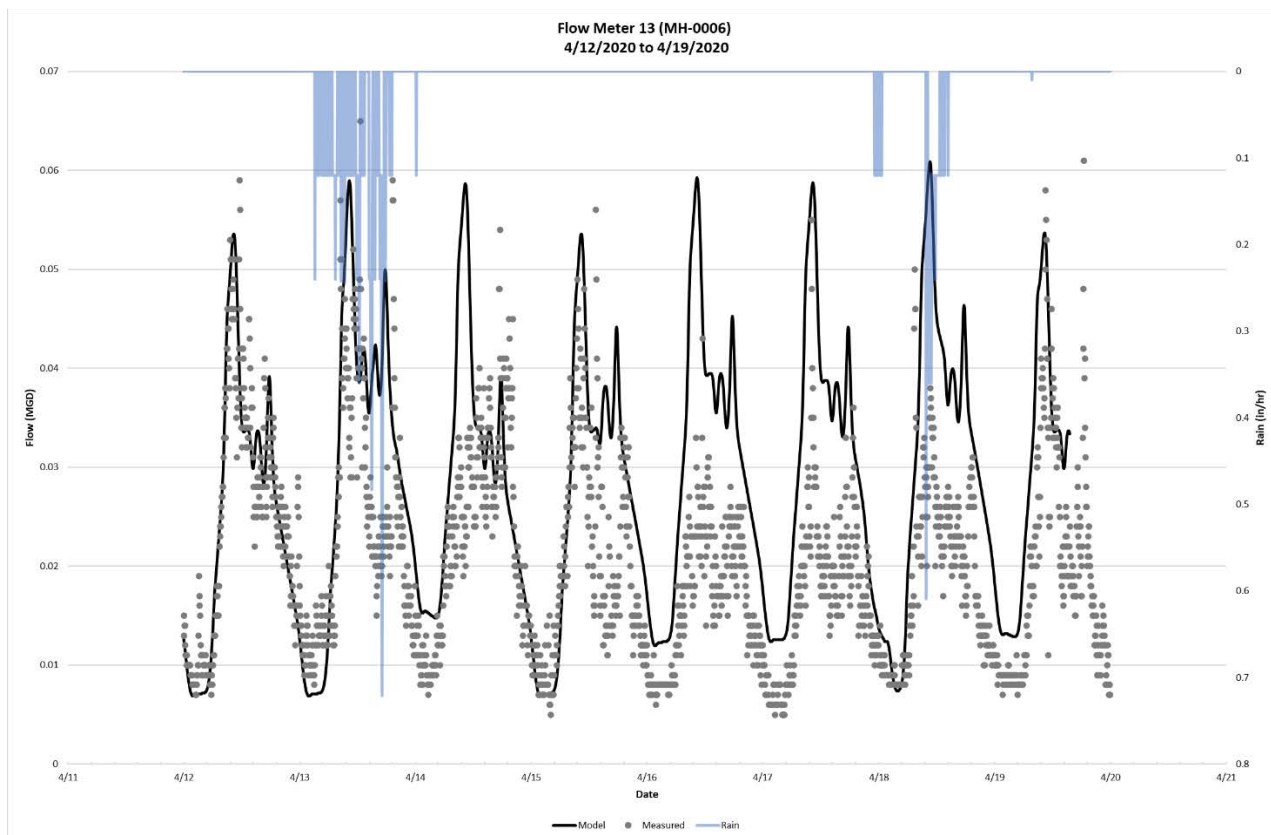


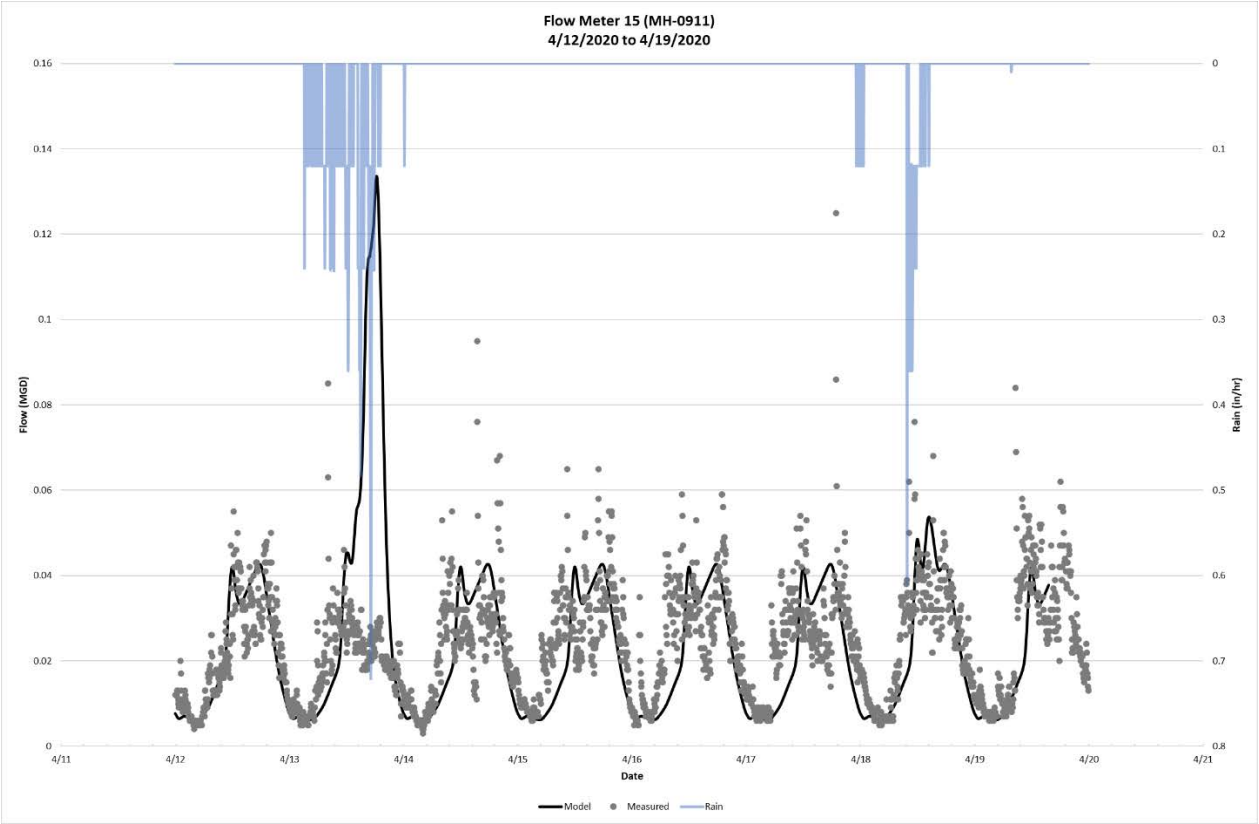




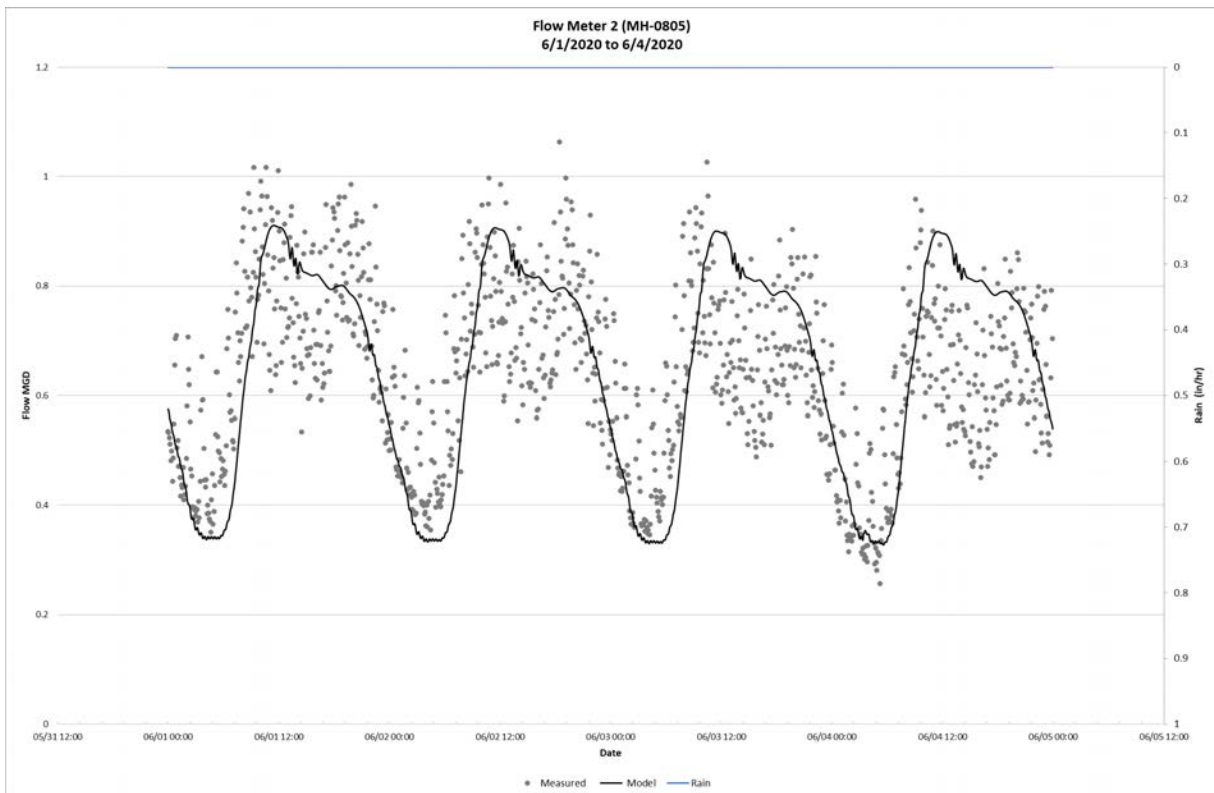
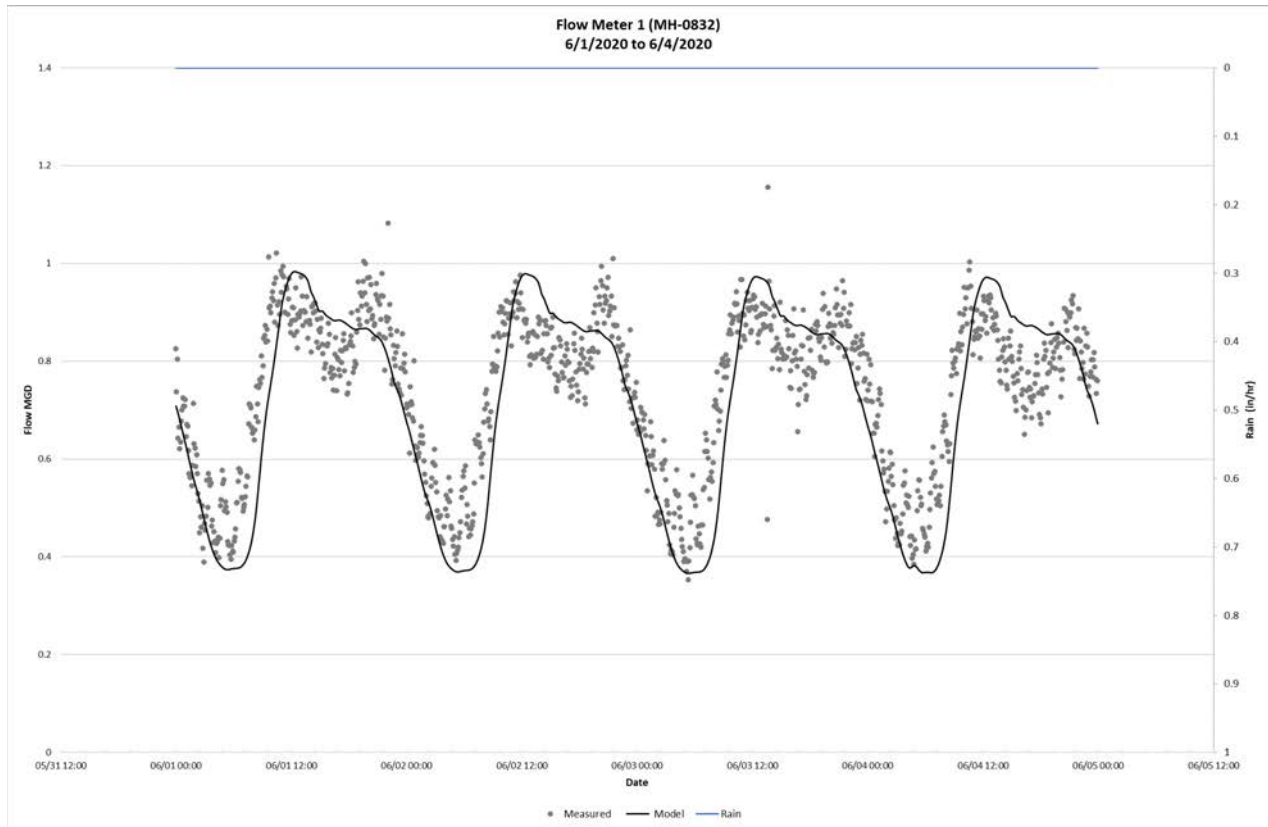


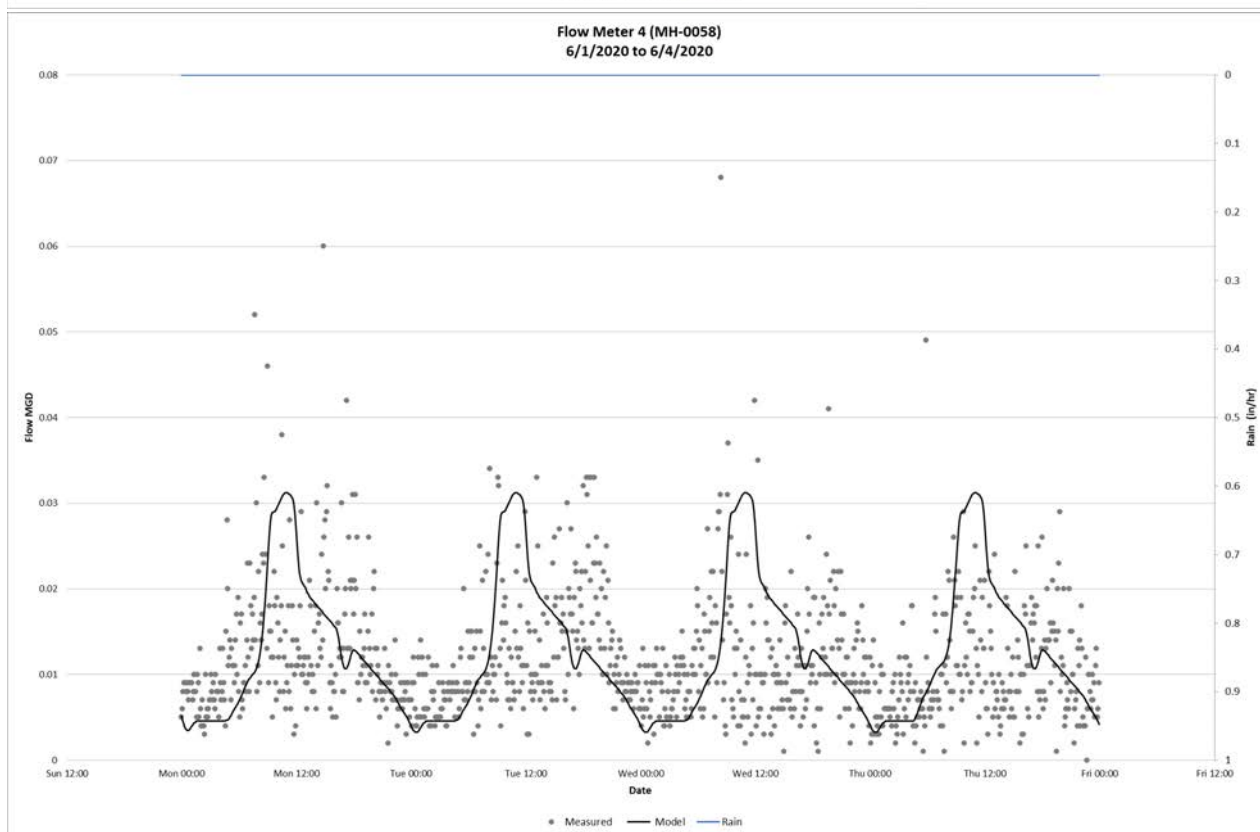
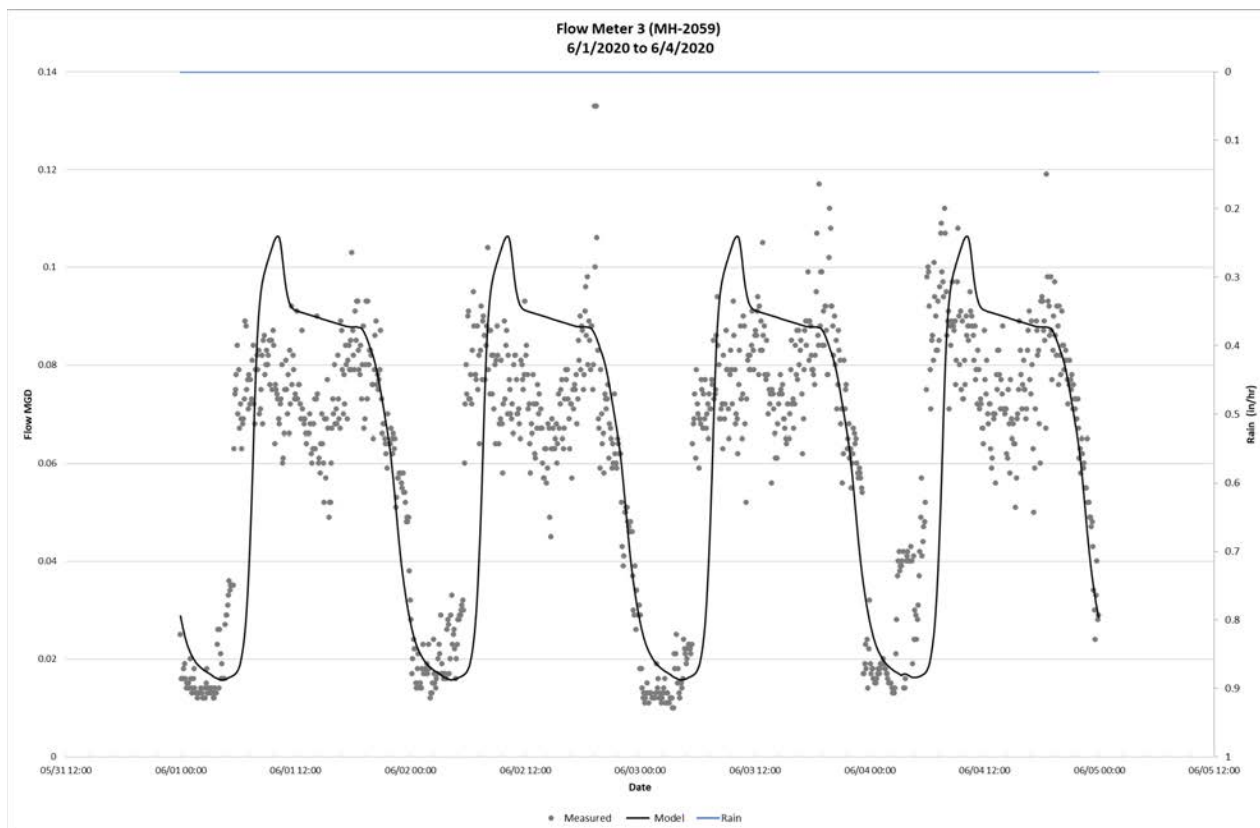


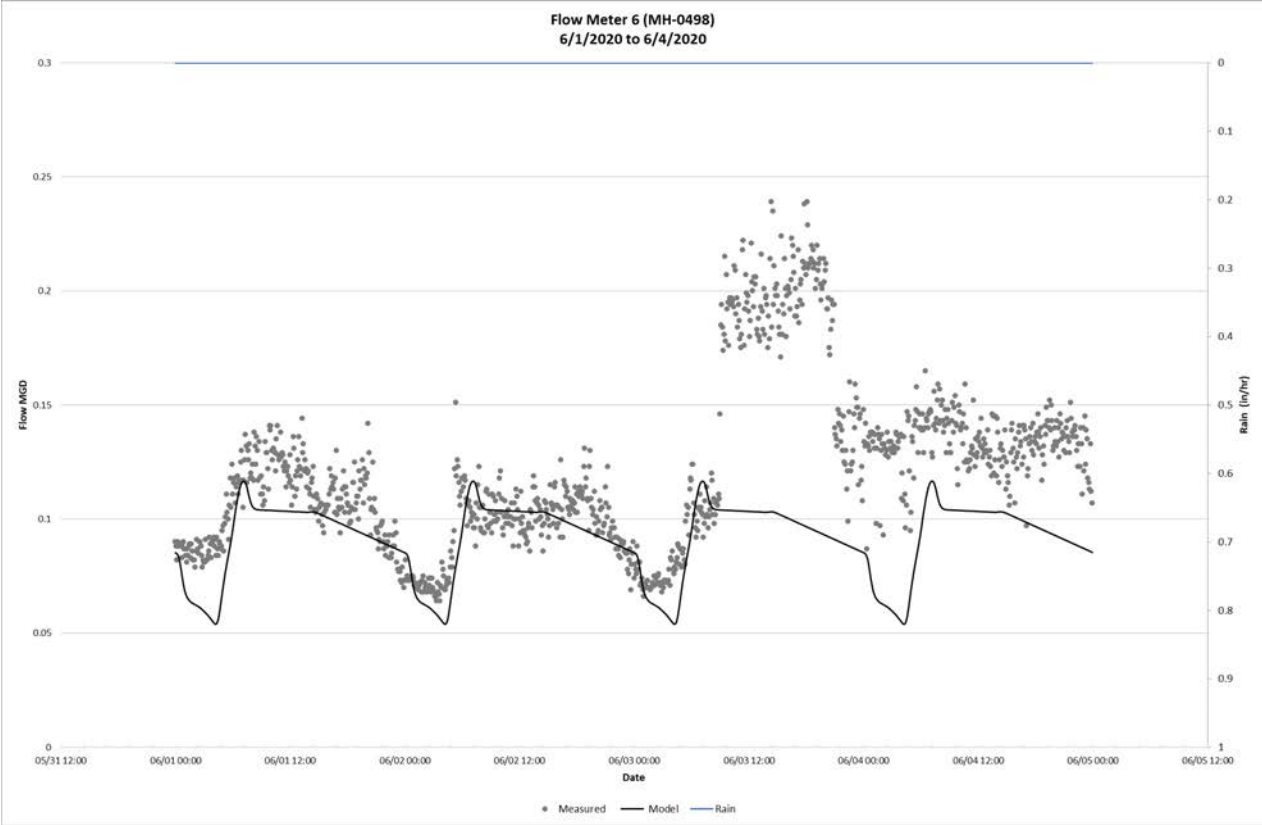
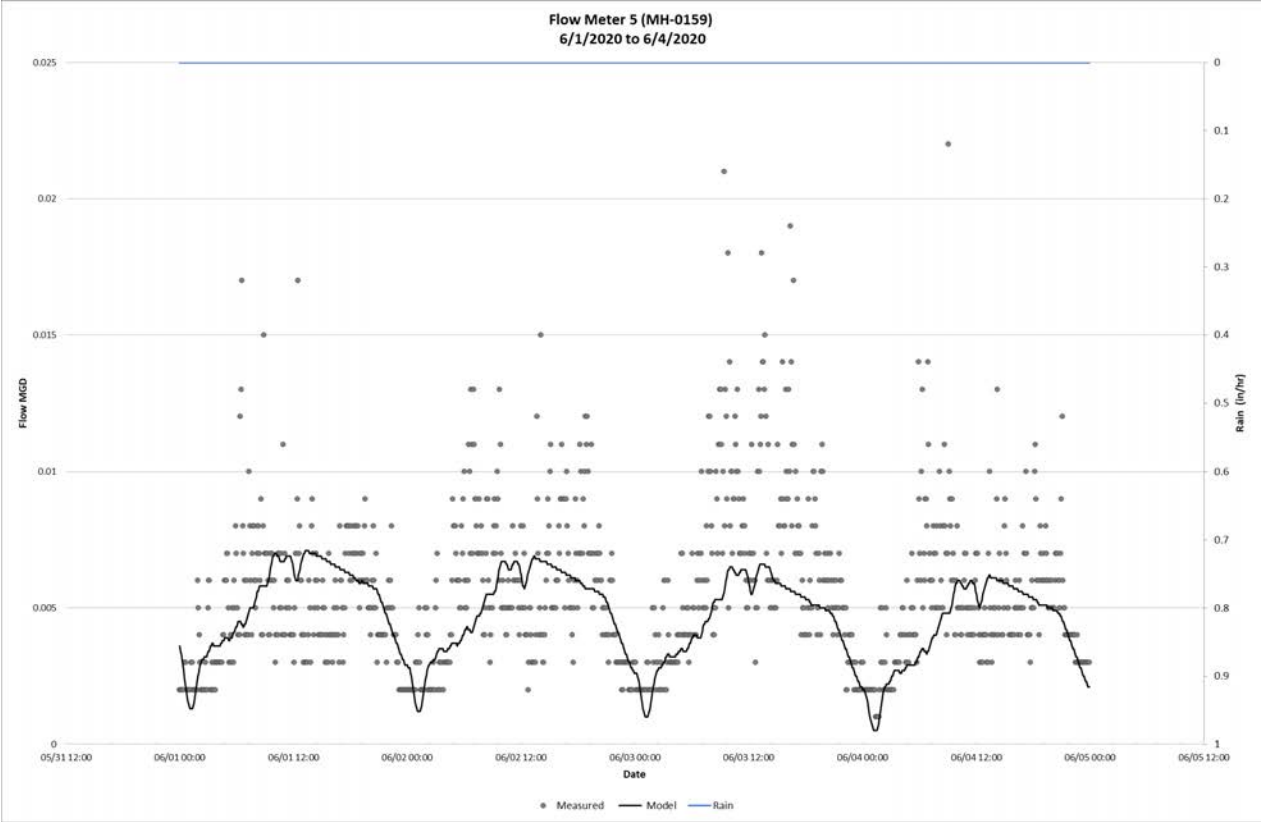


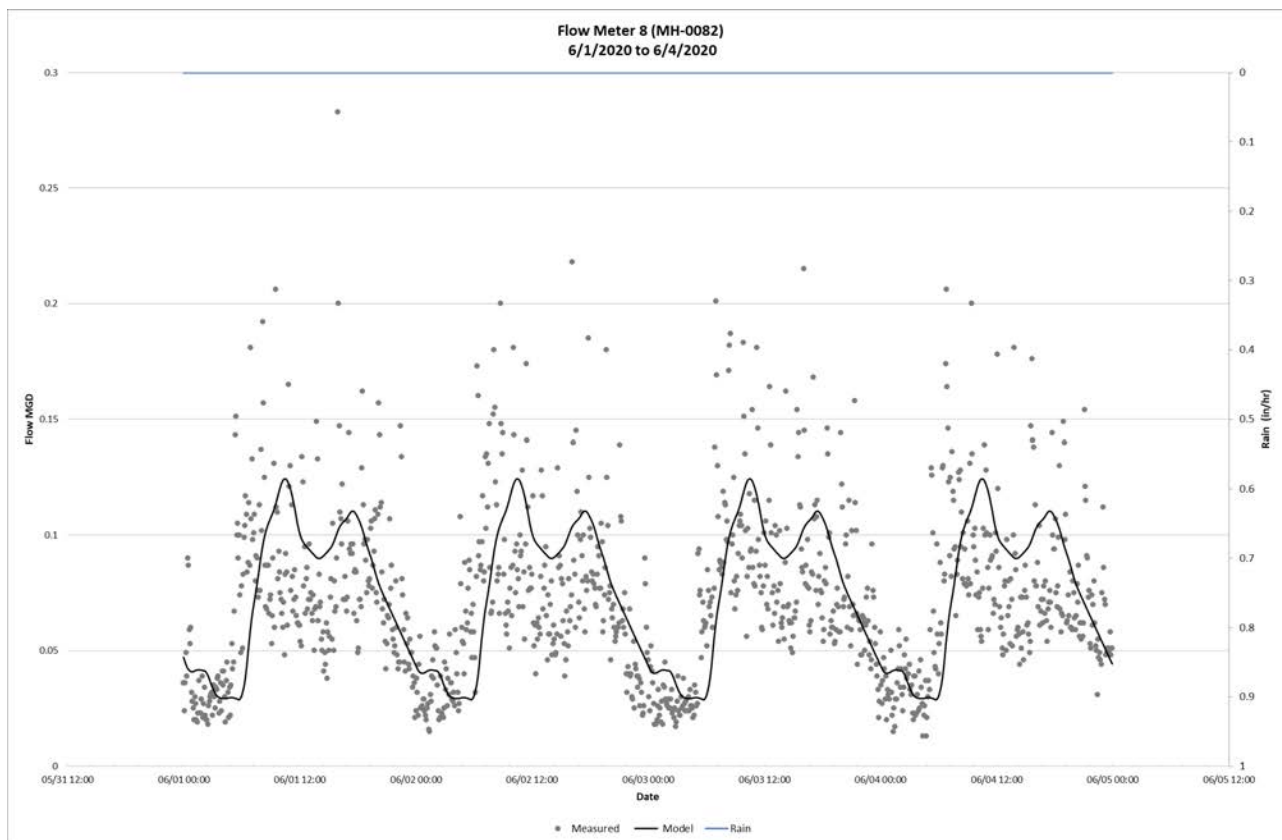
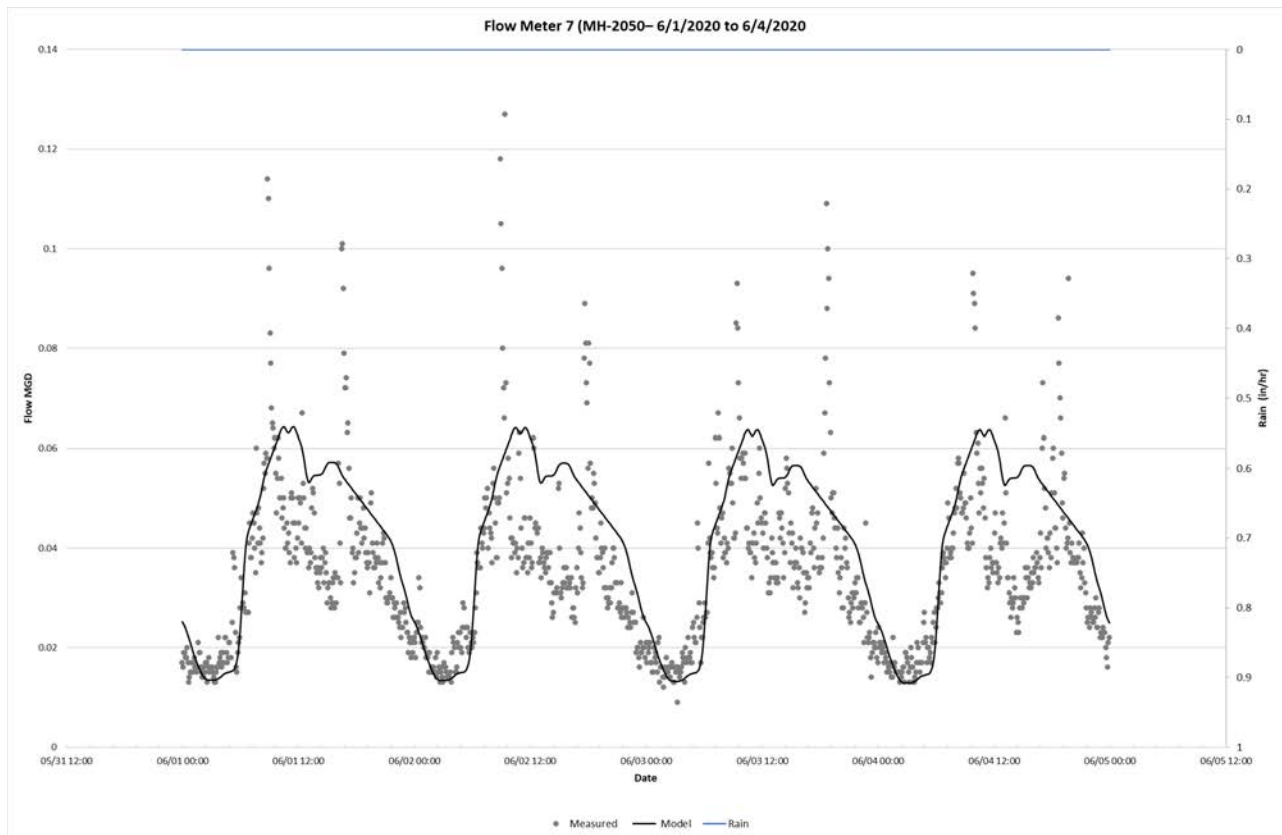


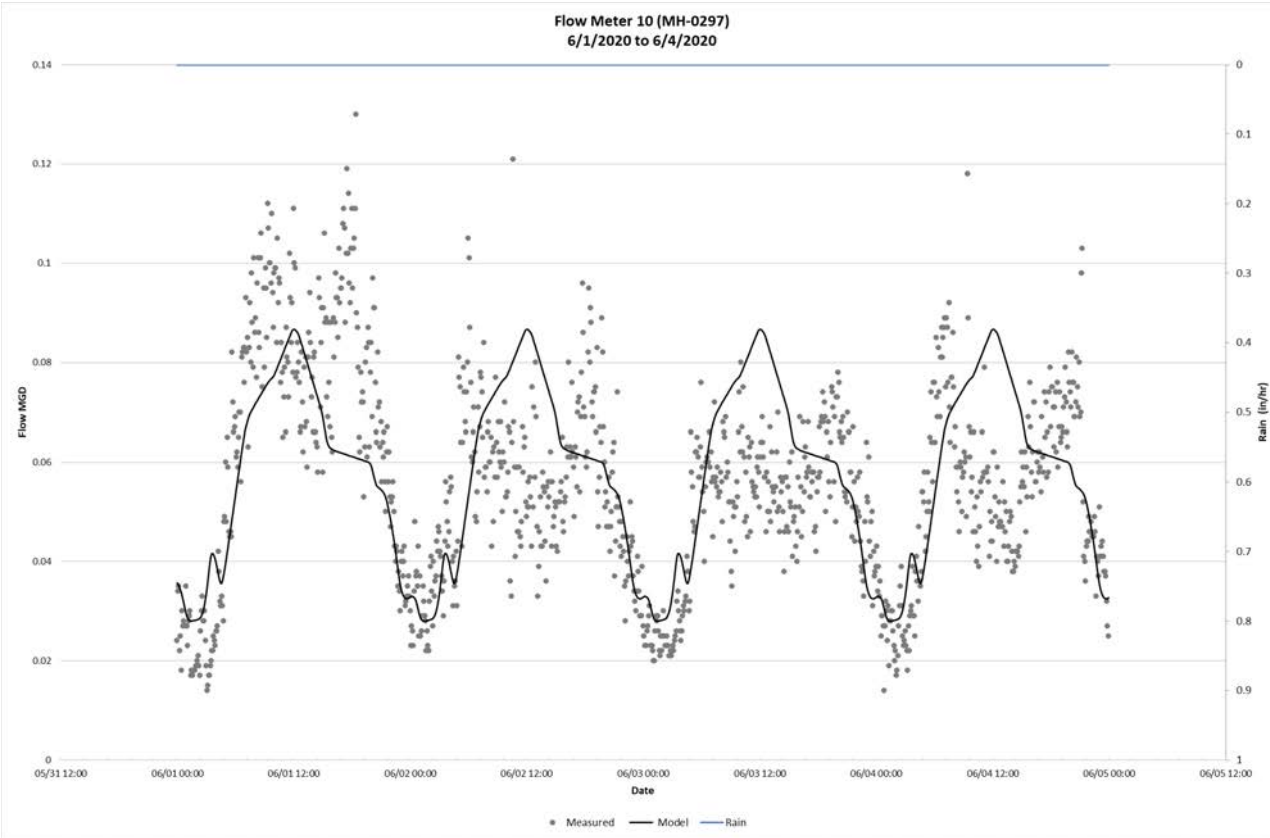
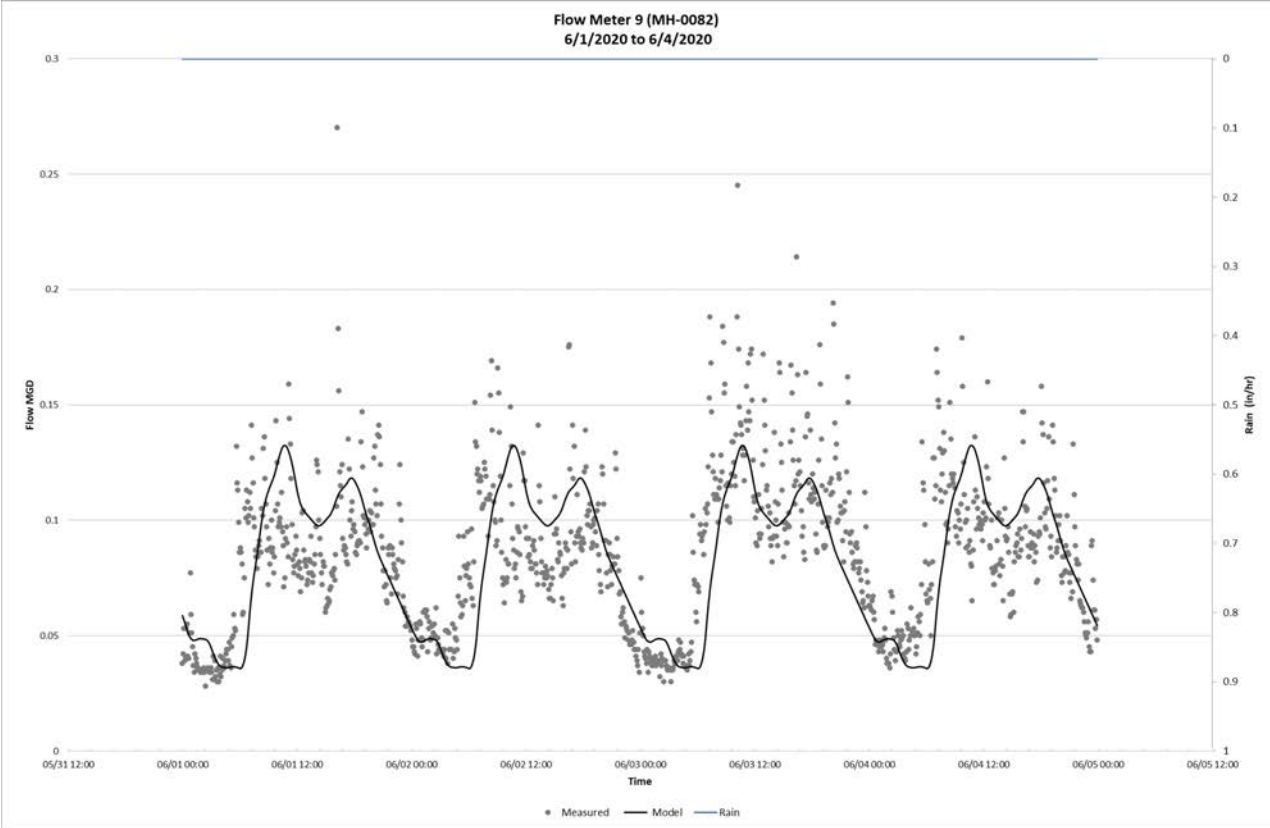
June Dry Weather Model 6/1/20-6/4/20

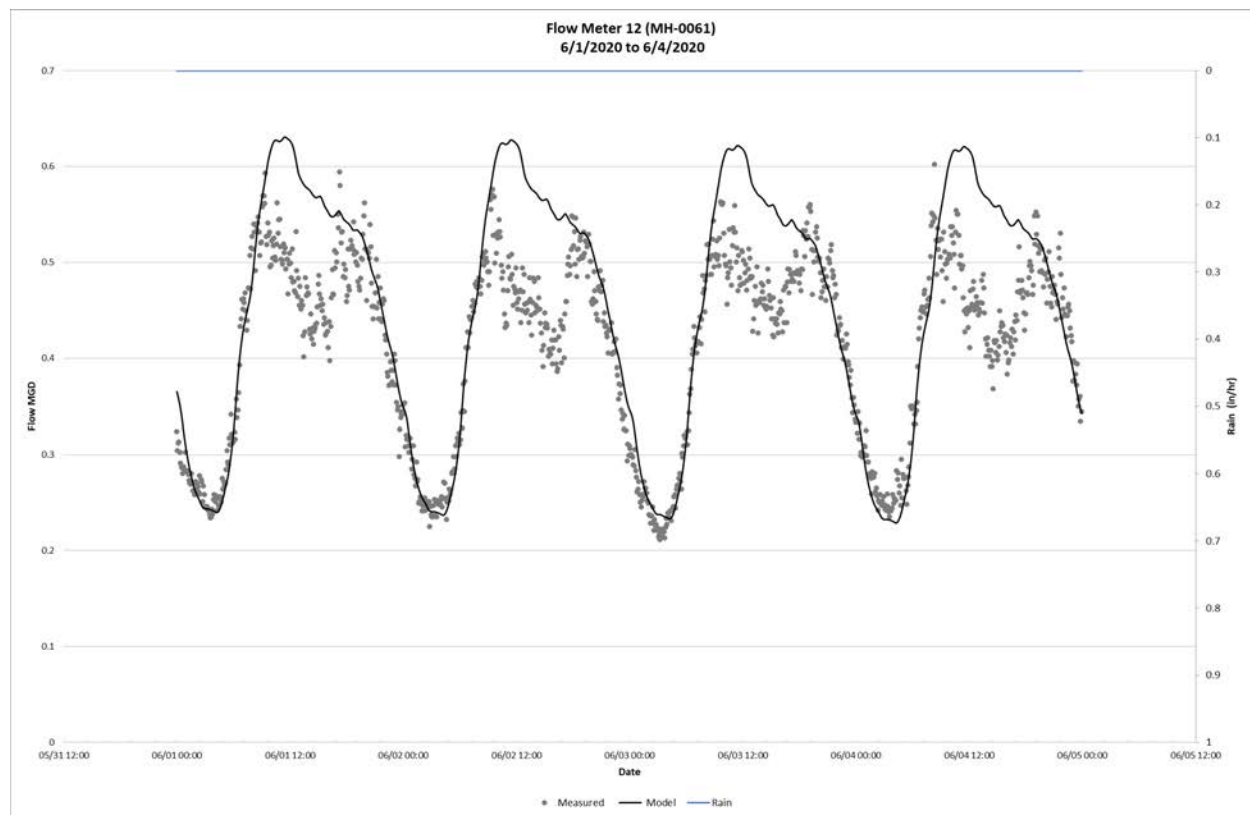
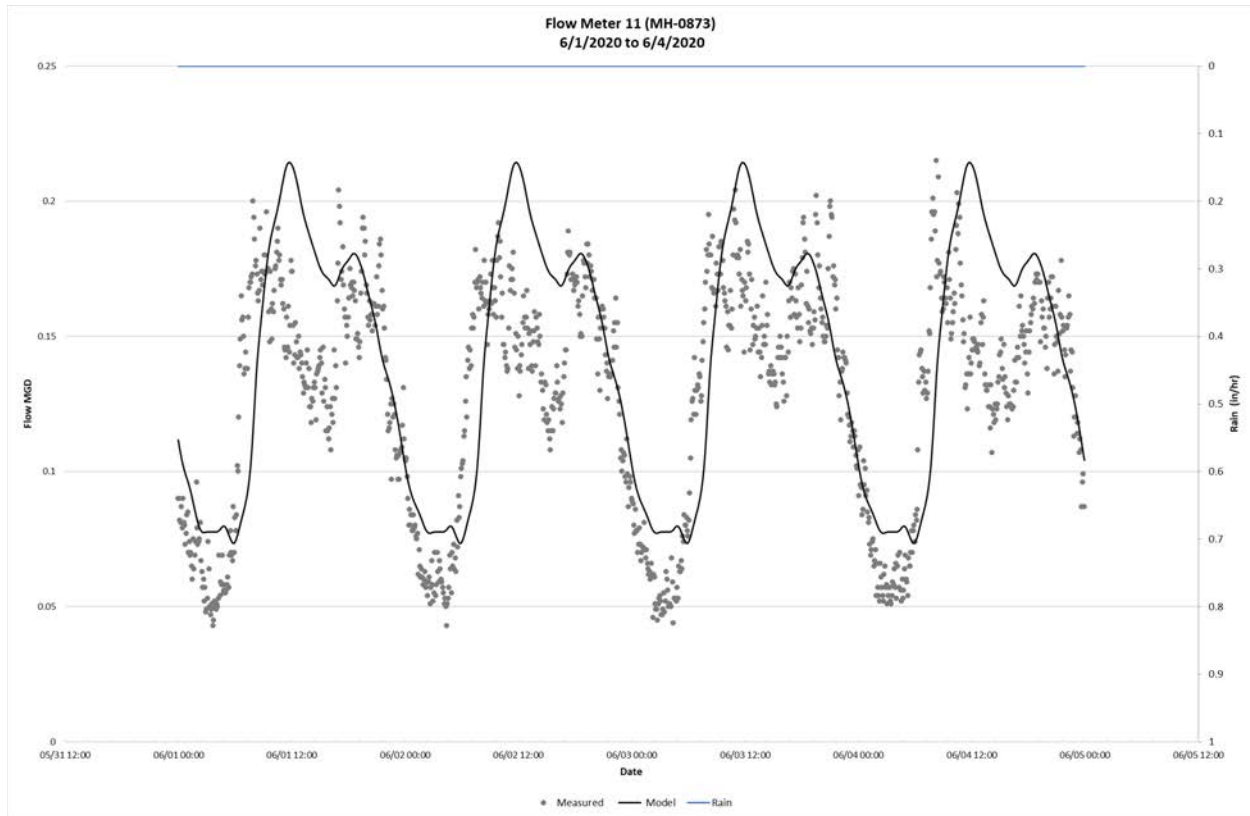


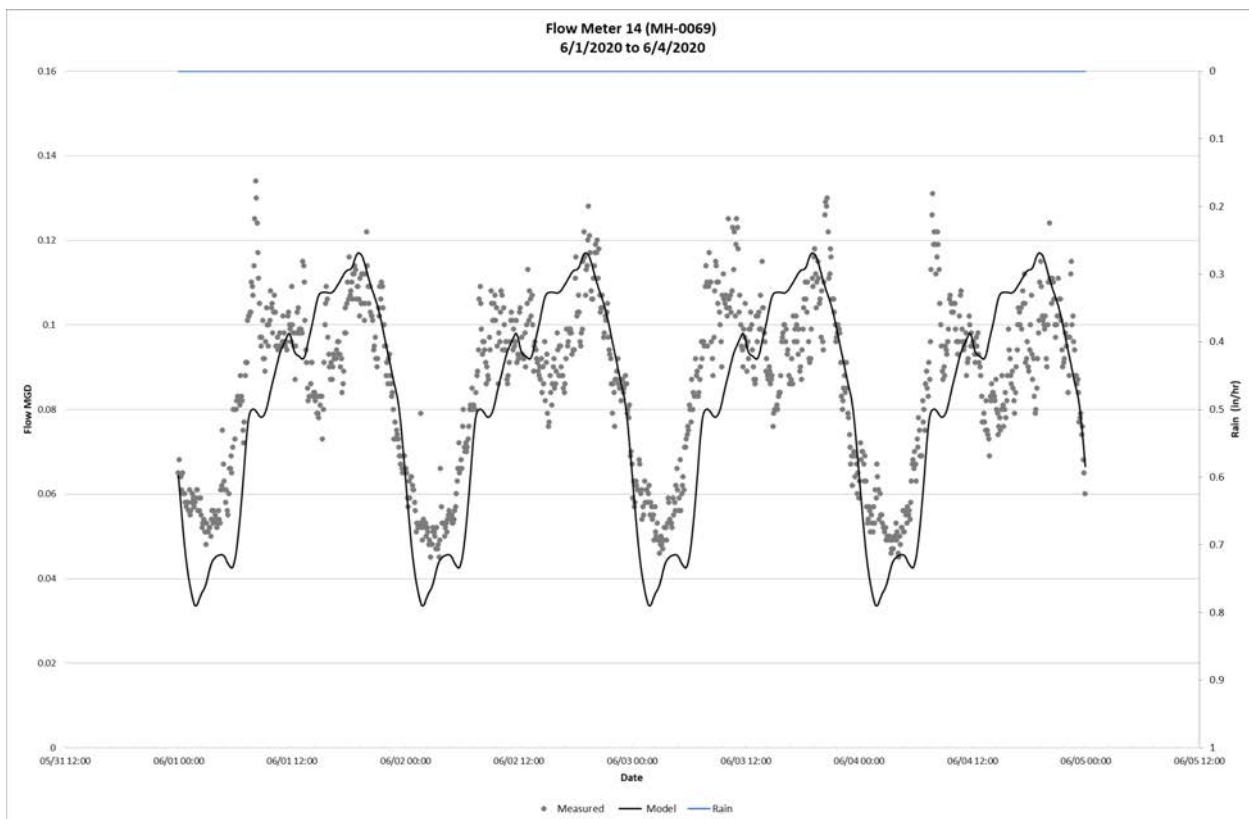
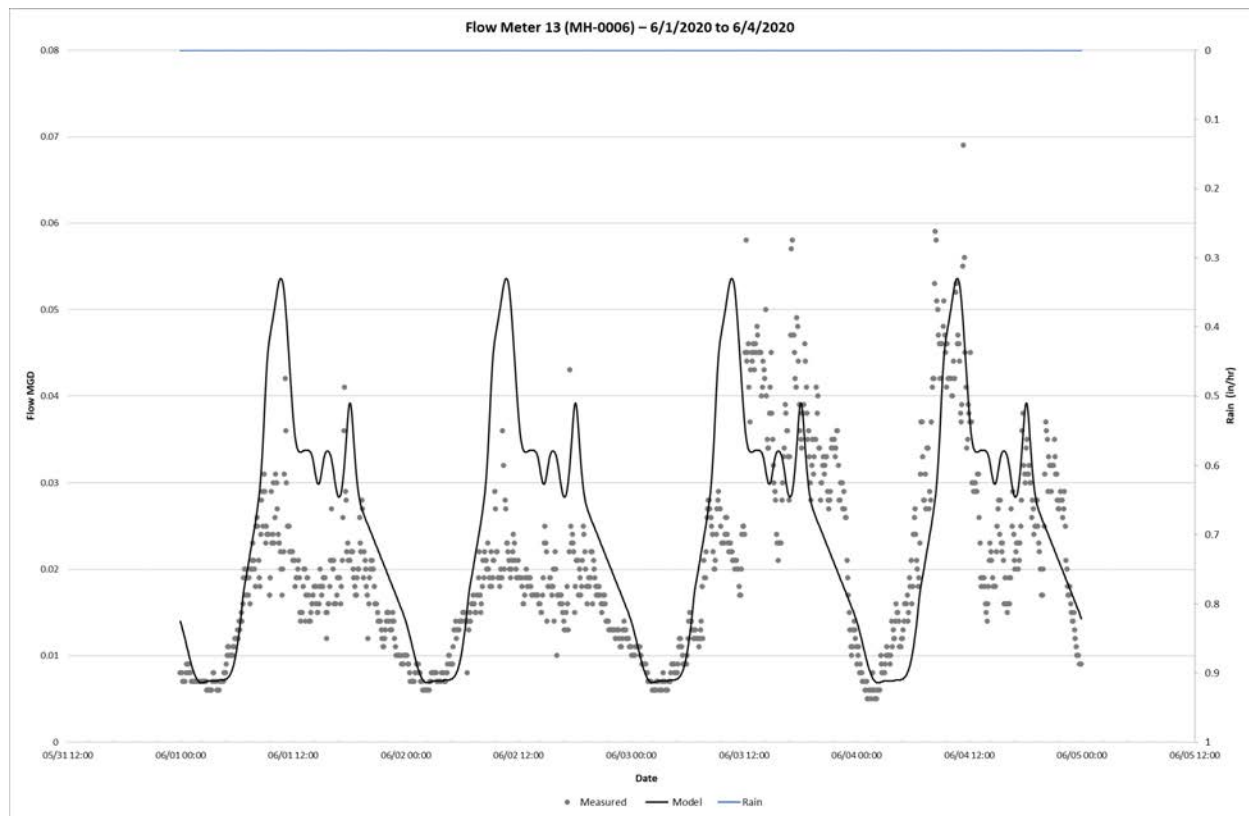




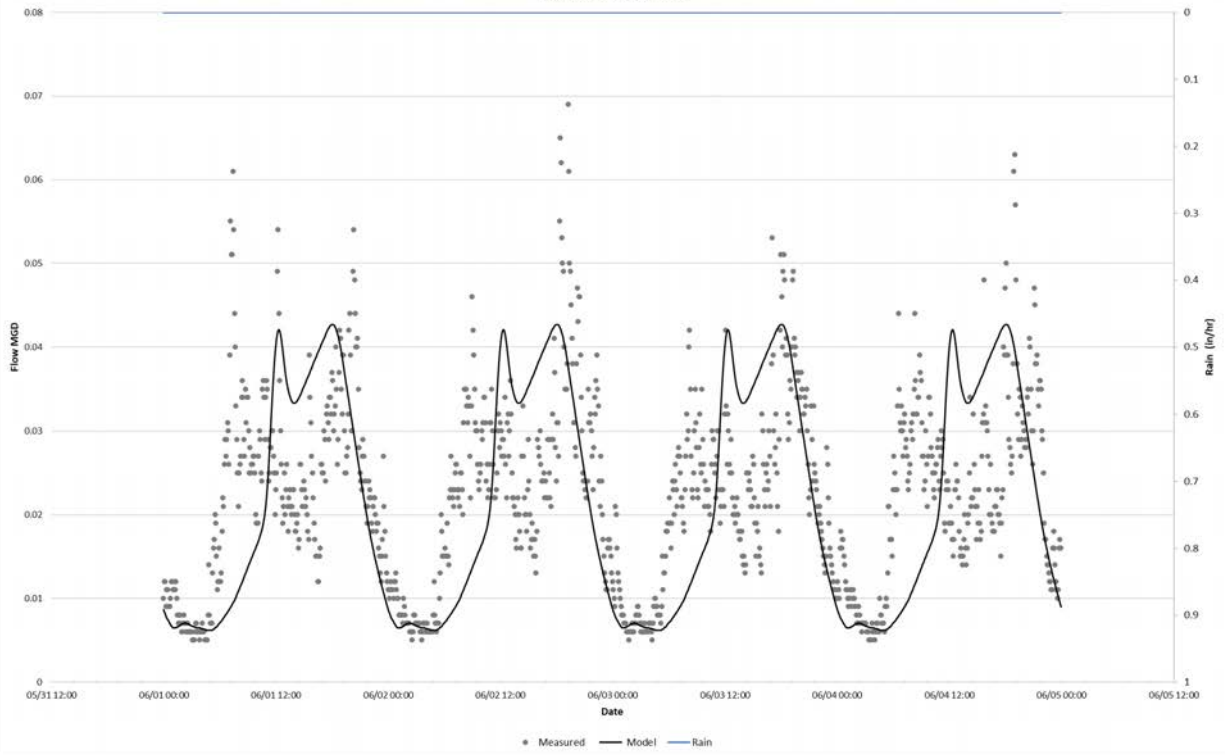








Flow Meter 15 (MH-0911)
6/1/2020 to 6/4/2020



June Wet Weather Model 6/1/20-6/4/20

