CITY OF PORTLAND
Executive Department
Jon P. Jennings, City Manager

January 31st, 2020

Mr. Alex Rosenburg
Office of Environmental Stewardship
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Re: CMOM Program Implementation Annual Report
City of Portland Reporting Period: 1/1/2019 – 12/31/2019
Administrative Order Docket No CWA-R1-AO-12-009

Dear Mr. Rosenburg:

Please find the City of Portland's CMOM Program Implementation Annual Report enclosed. The report reflects the period between January 1st, 2019, to December 31st, 2019; according to the requirements of the Administrative Order Implementation Schedule. The attached report was organized in collaboration with members of my staff and prepared by Benjamin Pearson, P.E., Water Resources Division Compliance Section Coordinator. I am pleased to report that we have completed significant efforts to resolve deficiencies identified in the CMOM Corrective Action Plan and that we are in the process of executing additional contracts for other corrective action plan work as described in the attached report.

The report complies with the CMOM Corrective Action Plan and provides information required for the annual report and checklist. Topics include; corrective action plan related work, reports on sanitary sewer overflows (SSO's), activities to measure efforts to comply with the EPA Order, collections system mapping, sewer budgets, measures to reduce Inflow and Infiltration, easement maintenance program, status of work related to the Administrative Order schedule, and projected measures going forward. Associated documentation including invoices, pay requisitions, contracts, SSO reports, budget documents, reports, and additional information are included in the appendices.

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The City of Portland is committed to promote, implement and maintain our infrastructure to meet Clean Water Act regulations and requirements. To that end, the City is currently implementing an Integrated Plan for Water Resources and we look forward to sharing this with you in the coming year. Additionally, to ensure the City's capacity to carry out our commitments, Chapter 8 of the CMOM regarding staffing is being updated. The draft report will be delivered for your review separately in early 2020.

Should you have any questions or need further information, do not hesitate to contact Nancy Gallinaro, Water Resources Manager, at 207-874-8801.

Sincerely,

Jon. P. Jennings
City Manager

CC: Christopher Branch, City of Portland, Director of Public Works
Nancy Gallinaro, City of Portland, Water Resources Manager
Danielle West Chuhta, City of Portland, Corporation Counsel
Benjamin Pearson, City of Portland, Compliance Section Coordinator
Stuart Rose, MaineDEP WQM-Southern Region
Michael Wagner, Senior Enforcement Counsel, USEPA

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CITY OF PORTLAND
Department of Public Works
Christopher C. Branch, P.E., Director

Via Electronic Mail

January 31st, 2020

Mr. Alex Rosenberg
Office of Environmental Stewardship
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Re: CMOM Program Implementation 2019 Annual Report, City of Portland Maine
Reporting Period: 01/01/2019 – 12/31/2019
Administrative Order Docket No CWA-R1-AO-12-009

Dear Ms. Rosenberg,

As required in the Administrative Order Docket No CWA-R1-AO-12-009, hereinafter referred to as the "Order", the City of Portland (City) is hereby submitting this CMOM Program Implementation Annual Report. This is the City's seventh Annual Report, which includes CMOM Program Implementation activities completed during the reporting period beginning January 1, 2019, and extending through December 31, 2019.

Administrative Order Compliance

The City of Portland prepared a CMOM Assessment and Corrective Action Plan (CAP) to address the requirements of the Order and to provide a detailed long-term Corrective Action Plan for wastewater system management. The CMOM Assessment and Corrective Action Plan was completed on November 12, 2013, and submitted to EPA. Subsequently, the City prepared and submitted the CMOM Corrective Action Plan Implementation Schedule, dated November 22, 2014, which was approved by the EPA.

With the intent to summarize the compliance activity information requested in Section IV of the Order for the period ending December 31, 2019, we have organized this Annual Report to be consistent with the sections of the Order, as outlined below:

Table 1: Compliance Activities

Administrative Order Ref.	Description	Status	Page Number
IV.2.	Corrective Action Plan Related Contracted Work	Addressed	2
IV.2.a.	Summary Listing of all SSOs	Addressed	7
IV.2.b.	Activities to Measure Effects to Comply with AO § V.	Addressed	9
IV.2.c.	Collection System Mapping	Addressed	10
IV.2.d.	Copies of Collection System O&M Budgets	Addressed	10

IV.2.e.	Measures Taken to Reduce Extraneous Flows	Addressed	10
IV.2.f.	Description of Easement Maintenance Programs	Addressed	11
IV.2.g.	Current Status of Administrative Order Schedule Work	Addressed	12
IV.2.h.	Projection of Current Year Work to Comply with AO § V.	Addressed	16
Appendix A	Contracts and Invoices		19
Appendix B	Sanitary Sewer Overflow Reports		378
Appendix C	Municipal Budget Documents		421
Appendix D	Inflow and Infiltration Program Documents		477
Appendix E	Pump Station Plan, Risk Analysis Map, and Rehabilitation Priorities		661

Order Section IV.2. – Corrective Action Plan Related Contracted Work

Throughout 2019, multiple efforts were undertaken related to the Corrective Action Plan. The following section describes this work:

The Franklin Street and Curtis Road Pump Station projects identified in the CMOM CAP report were awarded as design-build projects to Woodard and Curran. The projects were completed as described below and in *Order Section IV.2.H – Current Status of AO Schedule Work*. The project descriptions are as follows:

Curtis Road Pump Station Comprehensive Upgrade – All components of the pump station except the wet well was replaced and upgraded based on the Design-Basis Report prepared by Woodard and Curran. A Guaranteed Maximum Price of $706,000 was agreed upon and construction was completed by T. Buck Corporation in early June. Invoices for this work are included in Appendix A. The following work was completed:

- A Gorman-Rupp package pump station with two 20 horsepower pumps with 420 gallon per minute pumping rate capacity was installed.
- An eight inch bypass connection adjacent to the wet well in a new bypass manhole was constructed. It will also function as a pig launching station for future force main cleaning.
- An inline electromagnetic flow meter was installed and has been incorporated into the City's SCADA system.
- An external Caterpillar standby generator with an automatic transfer switch was installed
- An 8 x 12 fiberglass structure encases the pump station equipment.

Franklin Street Pump Station Upgrade – A Guaranteed Maximum Price of $3,097,000 was agreed upon and substantial completion of the project was accepted in early November. Invoices for this work are included in Appendix A. The following work will be completed.

- The cooling water system has been upgraded and consists of three main items including new supply piping and valves to the sewage pumps from the circulator pump, new return piping and valves, and modifications to the existing tank. In completing these items, all piping and valves consist of uniform materials and the cooling water system is now automated to ensure proper cooling water conditions including level within the tank and temperature. A temperature display was installed on the tank and the data is available in the SCADA system.*

- An Allen-Bradley IntelliCenter Motor Control Center was installed.*
- A Caterpillar standby generator with an automatic transfer switch was installed along with an upgraded electrical system in coordination with Central Maine Power.
- Environmental remediation of hazardous material including asbestos PCB, and lead paint was completed. New coatings on all walls were applied except in the wet portion of the wet well.
- The roof membrane and windows were replaced. Also, all metal grating and guiderails were replaced.
- A new channel grinder was installed in the existing grinder bypass channel and electrically actuated slides were installed upstream. New control panels were included.
- A new stainless steel isolation gate was installed to replace an existing non-operational gate.
- Suction isolation valves were replaced and now have electric actuators. Additionally, existing suction pipe will be modified to allow for new plug valves, uncoated ductile iron pipe was coated to prevent corrosion, and existing flange hardware on the suction piping was replaced with stainless steel hardware.
- A 24" gate valve stuck in the open position was replaced to allow for internal bypass removing the need to above ground piping during bypass pumping. Additional 24" ductile piping was installed internally to improve bypass pumping.
- An air release valve was installed on the discharge force main header to expel air trapped in the line.
- A Teledyne-Isco ADFM hot-tap flow meter was installed in the existing vertical force main within the drywell. Flow meter data is available within the SCADA system.
- All HVAC components were replaced allowing for greater airflow throughout the dry well and wet well.
- The pump discharge knife gate valves air supply piping replaced and control panels relocated for easier access.
- The SCADA and pump station control panel were replaced with a new panel which updated electronic components. The new SCADA panel has been integrated into the existing city SCADA system.

*The cooling water system upgrade and motor control center replacement are two of the three items scheduled to be completed as part of the Administrative Order. The third item, upgrade of pump 3, was already completed.

As part of the CMOM Corrective Action Plan Implementation Schedule, the contract with the Ted Berry Company Inc. included in the annual report submitted for 2015 was extended for part of the year and an on-call contract was executed as well in order to ensure that the City met its obligation of inspecting six percent of the collection system. In 2019, the total amount of sewer inspections completed and logged in the City's database were 118,667 linear feet or 9.7 percent of the collection system. City staff inspected 32,112 linear feet of sewer pipe inspections. Ted Berry Company completed 86,595 linear feet of sewer pipe inspections. 938 manholes were inspected as part of the Inflow and

Infiltration Program which is described in *Order Section IV.2.H – Measures Taken to Reduce Extraneous Flows*. Additional CCTV inspections were completed in 2019 as part of the Inflow and Infiltration Program were not included in the total footage above because the video had not been submitted to the City and logged in the City's database at this time. All pipe inspections and manhole inspections are NAASCO rated with PACP and MACP and are managed through ITpipes software.

Arcadis was under contract for the Inflow and Infiltration Program. More information regarding these efforts can be found in Order Section IV.2.E – Infiltration and Inflow Reduction Measures.

In 2019, Woodard and Curran was under contract to provide SCADA services under the SCADA Serve and TRM contracts.

Easement survey work was completed through two different contracts. This survey work included stake-outs to allow for Water Resources Operation and Maintenance staff to begin clearing these easements. The work is briefly described here:

> Jones Associate was awarded a contract for $39,685 to survey and stake the Presumpscot North Interceptor south of Riverside Industrial Parkway.
>
> SGC Inc. was awarded a contract for $44,500 to survey and stake the West Side Interceptor from Warren Avenue along Evergreen Cemetery to Brighton Avenue.

Multiple sewer separation projects were completed or began construction during this period and included sanitary sewer replacement. The most recent or final payment requisition documents for each project are included in Appendix A. Project documents are several hundred pages and can be sent upon request and include the original contract, the proposal, and all bond and insurance information. The projects which had sanitary sewer replacement work are briefly described here:

> Bedford Street Sewer Separation Project – In year two of this project, 526 linear feet of 10" sewer pipe and 218 linear feet of sewer laterals were installed in addition to 2,000 linear feet of 8" sanitary sewer pipe and 240 linear feet of lateral piping previously reported last year. $5,213,891.12 of the $5,142,353.70 total project cost has been paid to Shaw Brothers to date. The total project cost includes all sanitary sewer, storm sewer, sidewalk and road reconstruction costs.
>
> Preble Street Sewer Separation Project – As part of a sewer separation project, 374 linear feet of 30", 264 linear feet of 24", 82 linear feet of 48" and 143 linear feet of sanitary sewer pipe was installed in Preble Street and Somerset Street. This project installed 33 catch basins to the newly separated system. Remaining project work in Kennebec Street that will be completed in 2020. Sargent Corporation was awarded the contact and as of the sixth pay requisition, $2,660,744.02 has been awarded.
>
> Diamond Street Tide Flex – To repair a constant inflow of seawater into the sewer system on Marginal Way, a new tide flex is being installed. As part of this project, 15 feet of 18" pipe was installed along with a sewer manhole. The project includes additional storm drain piping and basins, concrete vaults, and a catch basin. This project also eliminated a cross connection that was discovered during the design of the Back Cove South Combine Sewer Storage Tank. The work is one of the final steps to allow for the closure of Combined Sewer Overflow outlet 19. R.E. Coleman was awarded the contract which totaled $600,983.

The City is currently under contract with Flow Assessment Services to provide flow monitoring services for sanitary sewer flows. The data gathered within this contract has been utilized as part of many sanitary and sewer separation projects. Flow Assessment Services is also the subcontractor for the Inflow and Infiltration Program under Arcadis. The contract was previously provided and has not been included in the appendix.

The City currently has three contractors on-call for sewer rehabilitation work utilizing ultra-violet curing. The contractors include the Ted Berry Company, Precision Industrial Maintenance, and National Water Main. These contracts were utilized to encumber funds to complete the following rehabilitation projects:

> Precision Industrial Maintenance was awarded $216,280.20 to rehabilitate 16 pipes totaling 1,550 linear feet of 12" and 15" vitrified clay pipe which are in poor shape in Elm Street. This work was completed in November.
>
> Ted Berry Company was awarded $121,800 to rehabilitate roughly 750 linear feet of vitrified clay pipe ranging in size between 8" and 12" in Murray Street and 740 linear feet of vitrified clay pipe ranging in size between 8" and 12" in Kenwood Street. These pipes were identified previously due to blockages/sanitary sewer overflows.

Copies of the readily available contracts, invoices, or pay requisitions related to this work are attached as Appendix A. Some contracts have been reduced in length but additional documents can be provided upon request.

Order Section IV.2.A – Sanitary Sewer Overflows

What follows is a listing of all documented sanitary sewer overflow (SSO) as described in the Order, which have occurred and reported since January 1st, 2019 through December 31st, 2019. A SSO is defined for purposes of the Order as overflow, spill, or other release from the Collection System, including building/private property backups, wet weather events, and dry-weather CSO outfall discharges.

During this period, there were ten documented SSO events, five of which were dry-weather events. The remaining five events were due to short duration high intensity rain events. All corrective actions were completed after the overflow was observed. Table 2 provides the listing of these events in chronological order, with the additional information as required in Section IV. Request for Information. Copies of the Maine DEP Non-Compliance Discharge Incident Reports, as prepared by the City are attached in Appendix B.

Table 2: SSO Detail *

Date / Time	Location	Notification Source	Cause	Volume Released and Method to Estimate	Potential MS4 Impact	Potential Surface Water Impact	Volume Released to MS4 or Surface Water and Method to Estimate	Corrective Measures	DEP Reporting Date	Last Event – Same Location
01/18/2019 Unknown start time	#2 and #10 Exchange Street	Property Management Company	Collapsed inaccessible and unknown 8" drain line	No estimate	None	Casco Bay	None recorded	The collapsed drain line was repaired and a cleanout rises was installed.	Verbal 1/18/2019 Written 1/29/2019	None known
2/6/2019 Unknown start time, approximately 6 hour duration	#19 Concord Street	Property Owner	Damaged and partially collapsed sewer main	No estimate	None	Capisic Brook	None recorded	The line was cleared utilizing a vactor and a Smart Cover was installed to alert City staff of any future issues. A contractor has been contacted for dig and replace.	Verbal 2/7/2019 Written 2/14/2019	None known
4/5/2019 Start 03:00, end 06:00	Intersection of Alice Road And Clapboard Road	SCADA System	Hose coupling of bypass pump became disconnected. Intermittent release over the duration onto the lawn and grounds of the project area.	200 – 250 gallons	None	Presumpscot River	None recorded	The contractor secured the coupling and reinforced connection such that disconnection would not reoccur. SCADA access was granted to the contractor such that all alarms flow directly to them for the duration of the project. Contractor maintained 24 hour on-site inspection until VPN access was secured 4/8/19.	Verbal 4/5/2019 Written 4/11/2019	None known
7/6/2019 15:00 15 minute duration	Maple Street at Commercial Street And York Street at High Street	Field Crews and Smart Covers	Short duration and high intensity rain event	No estimate	Short duration and high intensity rain event, but no signs of wastewater orientated debris. Overflow ended up in catch basins at Commercial Street and High Street. Closest down gradient basins vary but distance is less 100 feet away.	Casco Bay	None recorded	The covers were reset and the sensors were repaired. The City is investigating projects to reduce stormwater flows to the combined system from the West End since pipe capacity appears to be insufficient to carry runoff from short duration, high intensity rain events.	Verbal 7/7/2019 Written 6/12/2019	9/6/2018
8/21/2019 15:00 30 minute duration	Maple Street at Commercial Street, High Street at York Street And York Street at High Street	Field Crews and Smart Covers	Short duration and high intensity rain event	No estimate	Short duration and high intensity rain event, but no signs of wastewater orientated debris. Overflow ended up in catch basins at Commercial Street and High Street. Closest down gradient basins vary but distance is less 100 feet away.	Casco Bay	None recorded	The covers were reset and the sensors were repaired. Pipes were inspected and no restrictions were found. The City is investigating projects to reduce stormwater flows to the combined system from the West End since pipe capacity appears to be insufficient to carry runoff from short duration, high intensity rain events.	Verbal 8/22/2019 Written 8/29/2019	7/6/2019
8/21/2019 15:00 30 minute duration	Franklin Street near Marginal Way	Field Crews	Short duration and high intensity rain event. System capacity may have been reduced due to temporary bypass pumping at Franklin Street Pump Station during station rehabilitation	No estimate	Overflowed into Combined Sewer Overflow #17	Back Cove	None Recorded	Cover was replaced and pipe was inspected. No restrictions were found. Bypass pumping at Franklin Street Pump Station to be completed by the end of October.	Verbal 8/22/2019 Written 8/29/2019	None known

Date / Time	Location	Notification Source	Cause	Volume Released and Method to Estimate	Potential MS4 Impact	Potential Surface Water Impact	Volume Released to MS4 or Surface Water and Method to Estimate	Corrective Measures	DEP Reporting Date	Last Event – Same Location
8/21/2019 15:00 30 minute duration	#33 Allen Avenue	Property Owner	Short duration and high intensity rain event. Existing sewer system transitions from 15" to a 10" pipe and has several catch basins tied in	No estimate	None	Back Cove	None Recorded	Cover was replaced and this area will be investigated for infrastructure replacement and separation.	Verbal 8/22/2019 Written 8/29/2019	None known
10/29/2019 Slow drainage for previous 24 hours	#19 Pembroke Street	Property Owner	Root ball	No estimate	None	Back Cove	None Recorded	Hydraulic root cutter was used to remove root ball from the sewer and follow up inspection was completed to ensure restrictions were removed. Manhole to be installed and sewer lined.	Verbal 10/29/2019 Written 11/5/2019	None known
11/12/2019 Unknown duration	#55 Kenwood Street	Property Owner	Root ball	No estimate	None	Back Cove	None Recorded	Hydraulic root cutter was used to remove root ball from the sewer and follow up inspection was completed to ensure restrictions were removed. The sewer is scheduled to be lined in early 2020.	Verbal 11/13/2019 Written 11/22/2019	None known
12/14/2019 Unknown duration	#16 Mayer Road	Property Owner	Occurred due to pipe reduction and root intrusion during a 3+" rain event.	No estimate	None	Capisic Brook	None recorded	Hydraulic root cutter was used to remove roots from the sewer and follow up inspection was completed to ensure restrictions were removed. The 8" sewer reducing capacity in the system will be replaced in the future.	Verbal 12/19/2019 Written 12/24/2019	None known, though property owner indicated past occurrence

*Copy of the MaineDEP Non-Compliance Discharge Incident Reports, as prepared by the City are attached in Appendix B. A map of SSOs locations is available upon request.

Order Section IV.2.B – Activities to measure effects to comply

The City has worked diligently during 2019 to comply with the Order through the Asset Management Program and in cooperation with other City Departments.

The City continues to expand its use of Cityworks for Water Resources field staff.Cityworks is being used both in the field on iPads and in the office for managing and tracking work orders and inspections for most sewer and stormwater field work. In 2019, the Asset Management Team fully implemented Cityworks Operational Insights. This application within Cityworks required the addition of consequence of failure, likelihood of failure and risk attributes along with last inspection date and the NASSCO condition scores. As new inspection data comes in, the GIS is updated and the risk calculation tools in Operational Insights are run. This allows the Asset Management Team to continually update our risk and criticality scores on a continual basis rather than once per year. The COF/LOF and Risk information can then be added to web maps, applications and dashboards in order to help facilitate the decision making process as to where the City may want to consider repair, rehabilitation or replacement projects going forward. Previously, the City relied on a spreadsheet based system that did not update in real-time as inspection data was added. This data will be used in conjunction with the Phase 3 Wastewater Collection System Analysis and Action Plan recommendations from the Inflow and Infiltration Program to ensure that the City is prioritizing asset rehabilitation and replacement. A map of this data and additional information can be found in Appendix E.

While incorporated into the Rules and Regulations for Use of the Sewer System in the summer of 2015, the Fats, Oils, and Grease (FOG) program began full implementation July 2016. In 2019, 335 Fats, Oils, and Grease inspections were completed by the Health Department. When a health inspection that indicates a non-compliant establishment is submitted to Water Resources, follow up is done to inform and correct the non-compliance. Much of the follow-up work, if required, is conducted by Water Resources staff and generally involves providing maintenance information or technical support for equipment upgrades. Since the program was fully implemented, over 1300 inspections have been completed. From an administrative perspective, the FOG program continues to be integrated into the building permit and business licensing processes for any new food service establishments, establishments renewing their license, and existing establishments that are changing ownership. By being incorporated into the permitting and licensing process, FOG program requirements are enforced and equipment installed prior to final approval for construction or business license approval. As previously reported, the City is following a tiered system to ensure establishments are compliant with the program. Tier II, which covers establishments that lack records and whose business licenses renew yearly on a set date, will continue to be reviewed. Tier III, which covers establishments that lack records and whose business licenses do not renew on a set date but throughout the year due to liquor licenses, will also continue to be reviewed. As follow up inspections are completed at both Tier II and Tier III establishments, non-compliance results in the business licensing office putting a hold on the license renewal until compliance is regained. Two notices of violation had to be issued for non-compliance. The establishment regained compliance shortly thereafter and were able to renew their license.

The City has continued to use Smart Covers to alert Operations staff when the flow at the manholes begins to rise to a pre-determined height, indicative of a sewer back-up downstream. 14 Smart Covers are currently deployed in several areas.

Order Section IV.2.C – Collection system mapping

In order to improve the collection system mapping, the Asset Management team is constantly updating the GIS system. Whether it is due to the installation of new infrastructure, the abandonment of old infrastructure or field verification of unknowns, the collection system data is regularly revised. To help understand and improve how this process of updating and revising is completed, the following was completed in 2019:

The collection system map has been updated with improvements to the data based on field observations, project as-built plans, and inspections. The Asset Management Team has begun using ArcGIS Data Reviewer which allows the GIS to be quality checked according to a list of rules for the data. This will help to ensure that our data continues to be updated and managed to ensure accuracy. The City is also using tools such as ArcGIS Operations Dashboard to be able to view our GIS data as well as Cityworks data to show progress and work being done.

In 2019, Cityworks recognized the Water Resources team with the Departmental Excellence award at the annual conference in Salt Lake City, UT.

Map updates are ongoing and are available to all staff through online acess to ArcGIS Online. We would be pleased to provide a GIS copy of the most current system map upon request.

Order Section IV.2.D – Collection System Budgets

Attached in Appendix C is a copy of the FY20 Sewer Enterprise Fund Operations & Maintenance Budget and Capital Budget from the City's operating "Sewer Fund" budgets, for the period beginning July 1, 2019, through June 30, 2020. The City's Sewer Enterprise Fund generates revenue from all users of the system who pay monthly or quarterly fees, based on water volume. Capital projects including repair and replacement of sanitary sewer infrastructure are funded through this Sewer Enterprise Fund as well with financing using the State Revolving Loan Fund and City bonds. Combined Sewer Overflow abatement is funded using the same sources of funding. Collection System operations and maintenance budget is specifically described in the Enterprise Fund Budget as Sewer Districting (31-12); further breakdown of that budget is attached in Appendix C as Sewer Utility Districting General Fund/Operating Budget.

Additionally, attached in Appendix C is the City of Portland Capital Improvement Plan Project to Date report, limited to those pages including sewer-related projects.

Order Section IV.2.E – Infiltration and Inflow Reduction Measures

Arcadis was chosen and awarded a contract to complete the multiple year and phase Inflow and Infiltration Program beginning in May of 2017. All funding has been allocated for the Program.The final contract, which includes the scope of work for the program, was previously submitted.

The three phases of the program are:

1. Investigation and quantification of Inflow and Infiltration flows
2. Identification of major Inflow and Infiltration sources
3. Schedule of target opportunities for cost-effective mitigation

The Inflow and Infiltration program is currently wrapping up Phase 2 and Phase 3 recommendations are being prepared. A previous request to move the deadline for Phase 3 of the Inflow and Infiltration Program and the January 1, 2020 deadline for a long-term collection system renewal plan to July 1, 2020 was granted.

Phase 2 investigations include flow isolation, CCTV inspections, and manhole inspections. A total of 120,377 linear feet of flow isolation, 199,244 linear feet of smoke testing, and 467 manhole inspections are recommended based on the 2019 flow monitoring data. As of the end of 2019, Ted Berry Company and Flow Assessment Services have already completed most Phase 2 investigations recommended in the 2018 and 2019 flow monitoring reports including:

Flow isolation in 2019 = 120,377 linear feet
Total flow isolation = 315,087 linear feet
CCTV inspections in 2019 = 96,516 linear feet
Total CCTV inspection = 103,411 linear feet
Total manhole inspections = 938
Total smoke testing = 119,244 linear feet

Future Phase 2 investigations include additional CCTV inspections, building inspections, and dye testing. After completing Phase 2, Phase 3 of the program will result in a Wastewater Collection System Analysis and Action Plan. This plan will determine strategies to reduce inflow and infiltration, a cost estimate for those strategies, prioritized rehabilitation, repair, and replacement work, and a 10-year capital plan with short-term and long-term objectives. Finally, a comprehensive Inflow and Infiltration Study Report that incorporates the findings of all reports prepared in phase 1, 2, and 3 will be submitted by July 1, 2020.

Arcadis has broken down the program into six tasks, some of which will be part of each phase. The proposal, final scope of work, and cost estimates were previously provided and are not included in this report. All invoices from 2019 are included in Appendix A. Reports submitted in 2019 can be found in Appendix D and include a program status report, the Phase 2 Identification of Major Inflow and Infiltration Sources Report, and the 2019 Flow Monitoring Report. Additional documents are available upon request.

Order Section IV.2.F – Easement maintenance program

The City's Easement Maintenance Program is designed to protect public health and the environment by focusing on locating lost or buried manholes; the City periodically clears easements of trees and re-growth to prevent tree root penetration into sewer lines. The goal of the program is for line segments to be cleared on a regular interval, dependent upon site conditions. As easements are maintained, the sewer system within them are inspected to determine if rehabilitation is necessary. The City utilizes Public Works Survey staff to flag the easements prior to initiating clearing activities. The maintenance program includes mowing, selective vegetation removal, and tree cutting, and as required, use of EPA-approved spot herbicide applications. Additional equipment has been budgeted and purchased to maintain easements throughout the City.

In 2019, the City maintained two sewer easements throughout the City for a total of 2,950 linear feet. These are the same easements that were cleared in 2018. The easements maintained are:

Virginia Carter between Maine Avenue and Marlborough Street – 1,960 feet

Presumpscot North between Riverside Industrial Parkway and the Maine Turnpike – 990 feet

Additional equipment was purchased for easement clearing including two different grapplers, one for logs and the other for woody debris.

Public Works survey staff continue to assist in easement maintenance by providing research of property deeds and ownership along with flagging of the right of ways. Additionally, contracts awarded to Jones Associate to complete a survey of the Presumpscot North Interceptor south of Riverside Industrial Parkway and SGC Inc. to survey and stake the West Side Interceptor from Warren Avenue along Evergreen Cemetery to Brighton Avenue were completed to allow for these interceptors to be cleared in 2020.

Order Section IV.2.H – Current Status of Administrative Order Schedule Work

As part of the Administrative Order, a Capacity Management Operation and Maintenance Corrective Action Plan Implementation Schedule (CMOM CAP) was approved by the Environmental Protection Agency on November 22, 2014. The CMOM CAP includes program, staffing, and projects with associated deadlines and are italicized below. The current status is reported below each item.

Operations and Maintenance Recommendations

1. *Beginning July 1, 2014, perform annual CCTV assessment of at least 6% of the collection system and manholes;*
    a. *PACP and MACP data from the assessment shall be integrated into the City's CMMS within 30 days of collection.*

This has been completed annually each year on time through the combination of City sewer inspections and sewer assessment contracts with Ted Berry Company. In 2019, the total amount of sewer inspections completed were 118,667 linear feet or 9.7 percent of the collection system. 938 manholes were inspected which represents 17.1 % of total manholes.

2. *By July 1, 2016, City's collection system CCTV and other inspection data collected since July 1, 2010, shall be assigned PACP and MACP scores and uploaded to the CMMS database.*

Data collected previously that did not have this rating was converted through a contract with Ted Berry and reported in the 2016 annual CMOM report and all data has been assigned PACP and MACP prior to the deadline.

3. *By July 1, 2016, the City shall assign unique individual asset identifiers for collection system structures (manholes, diversion structures, outfalls, hydro brakes, etc.) in the CMMS program to track maintenance activities and operational performance.*

This was completed on time through a contract with ESRI and reported in the 2016 annual CMOM report.

4. *Between January 1, 2015, and January 1, 2019, the City shall complete Phase I of an I/I program as described in Section 6.3.2 of the City's CMOM Correction Action Plan. A Phase I report that includes flow metering results and identified all sub-catchment areas that have I/I flows in excess of*

4,000 GPD per inch diameter/mile of sewer shall be submitted to EPA no later than January 1, 2019.

Arcadis has been contracted to complete the Inflow and Infiltration Program. The Phase 1 Investigation of Flows Report for 2019 Monitoring report was submitted on December 24, 2019 and has been included in Appendix D. Currently, Arcadis is has wrapping up Phase 2 of the program.

5. *By July 1, 2019 the City shall submit Phase II of the I/I program as described in Section 6.3.3 of the City's CMOM Correction Action Plan that identifies all major source of I/I based on a methodology of assessment whose inputs are, at a minimum, the I/I program's Phase I results.*

This report was submitted on June 28th, 2019 and has been included in Appendix D.

During that time frame the following items will be developed and worked on by the City:

- *The City and the PWD currently own 41 CSO flow monitors, In addition, the City also owns 24 additional flow monitors utilized to monitor and model sub-catchment areas for the development of its CSO projects. Metering and modeling data will be collected from past and future projects and consolidated into SWMM 5.0. A Gap Analysis will then be performed to determine what parts of the system remain to be modeled and move forward with that task. InfoSWMM will help us to determine deficiencies within the collection system allowing us to focus on critical infrastructure first. To complement this effort, gaps in our GIS data will be identified and corrected for the highest level of accuracy in the model.*

GIS and Hydraulic models gap analysis reports have been submitted in order to identify data gaps as part of Phase 1 of the Inflow and Infiltration Program. The City has purchased a survey-grade GPS unit for data collection to improve level and invert data required for a model. Funding to improve the model based on the recommendations from the gap analysis was requested in the Fiscal Year 2020 budget.

- *In addition to investing in modeling technology, the Department of Public Services will be seeking funds in FY16 to add a new truck and software for in-house CCTV as well as certifying additional staff on NASSCO PACP, MACP, and LACP to give us the best possible, consistent, objective data when prioritizing rehabilitation and replacement needs.*

This was completed through the purchase of the new CCTV truck as previously reported.

- *A full and complete inventory of our assets and their condition and a plan to address I&I can be established and prioritized the results of an integrated plan.*

While this will be part of the I/I program, the City has retained Kleinfelder to prepare an Integrated Plan for Water Resources. The process is in year two and will help inform future decisions in how to address water quality issues. The final report should be available in 2020.

- *Determine the best possible benchmark for measuring success in our efforts. We anticipate this measurement will be a reduction in base flows from Pump Stations to the East End Wastewater Treatment Plant.*

This may be part of the Inflow and Infiltration Program and Integrated Plan.

- *By July 1, 2016, the City shall finalize the CMMS program implementation for both the collection system and pump station assets in order to track all service requests, work orders, including predictive maintenance practices.*

This has been completed for collection system assets and pump station assets.

Additionally, the Operations and Maintenance staff use iPads to complete work orders and inspections so that all of the information is digital and entered into the CMMS.

6. *By December 1, 2019, the City shall submit a schedule for the completion of Phase III as described in the City's CMOM CAP Section 6.3.4 and 6.3.5 that will be incorporated into the Administrative Order Docket number 12-009 unless EPA issues an order with an alternative schedule. Said alternative schedule shall be reviewed and jointly agreed to by the City of Portland Region 1 EPA office.*

A request was granted to extend this deadline to July 1, 2020. The extension will allow us to capture high groundwater data in the spring if necessary and incorporate the results from the Inflow and Infiltration Program into the long-term collection system renewal plan. The data presented in the Appendix E Risk Table will be utilized in conjunction with the Phase 3 Wastewater Collection System Analysis and Action Plan recommendations from the Inflow and Infiltration Program to ensure that the City is prioritizing asset rehabilitation and replacement.

Collection System and Pump Station Renewal Recommendations

1. *By January 1, 2020, the City shall submit to EPA and MEDEP for approval a plan for long-term collection system renewal based on CCTV assessments, SSES studies and asset management performed up to that date.*

A request was granted to extend this deadline to July 1, 2020.

2. *By July 1, 2020, the City shall plan and execute short-term collection system renewal projects for all 'high priority renewal' projects identified in the CMOM Plan.*

The City has reviewed the projects identified in the CMOM plan and will continue to plan and execute the projects which are still considered to be priorities. Since the CMOM report was prepared with a small amount of data compared to what the City currently has collected with sewer assessments, not all of the projects identified in the report will be completed as other projects have taken higher priority.

3. *By July 1, 2020, the City shall plan to execute short-term pump station renewal projects identified in the CMOM Plan based on the following schedule:*

    a. *By July 1, 2016, upgrade the standby power connection at the Castine Pump Station*

This had previously been reported as completed but only the standby generator was upgraded and not the power source. The Central Maine Power line for Castine Avenue must be upgraded to a three phase 480

volt line. Due to the cost of this work, the purchased generator's motor will be rewound for single phase power. In the meantime, a portable generator will be used when necessary.

b. By December 31, 2017, the City shall eliminate the Franklin Street Pump Station, or implement as follows:

i. Upgrade the cooling water system, and Pump 3 by July 1, 2016

ii. Upgrade the MCC by July 1, 2017

A comprehensive rehabilitation of this pump station including the above was completed in 2019. Detailed information regarding this can be found in Order Section IV.2. – Corrective Action Plan Related Contracted Work.

c. At the Riverside Pump Station:

i. Upgrade the MCC system by July 1, 2016

ii. Upgrade Pumps 1 and 2 by July 1, 2017

This has been completed.

d. By July 1, 2018, eliminate the Curtis Pump Station and implement the recommended upgrades at the Hope Street Pump Station, or plan and implement one of the other two alternatives described in the CMOM Plan by July 1, 2017.

This pump station was completely replaced and considered substantially complete in June 2019. Detailed information regarding this can be found in Order Section IV.2. – Corrective Action Plan Related Contracted Work.

e. Upgrade the PLC and instruments at the Ashmont pump station by July 1, 2019.

The PLC was replaced in 2013 and continues to function. The current equipment had been updated to sync with the existing SCADA system as part of the Woodard and Curran TRM contract. This station will be reviewed in the next 5 years to determine if replacement is necessary.

f. Replace the Riverton Pump Station with a submersible pump station by July 1, 2019.

The project is currently being reviewed by planning board staff and is anticipated to go out to bid early 2020. The current station was constructed by the developer for the Riverton Housing Complex for the Portland Housing Authority in 1972. The station consists of a Smith and Loveless surface pump station which has a wet well (to remain) and dry well. The present station's dry well is difficult to enter for maintenance of the pumps and control work. The proposed pump station will abandon the existing dry well filling it with flowable concrete fill. The new Riverton Pump station will utilize submersible pumps with an above grade control building. The proposed building will be concrete block and brick construction housing all the controls inside the building. In conformance with Clean Water Act requirements a generator is included in the project. A flow meter is also included in the design.

g. By January 31, 2020, the City shall submit plans for long-term pump station renewal projects to be completed during the next five year period from July 1, 2020, through July 1, 2025.

A long-term pump station renewal project plan is included in Appendix E.

Wastewater Program and Ordinance Recommendation

1. *By January 31, 2015, the City shall 1) develop a Fats, Oils, and Grease (FOG) program that reduces grease accumulations so as to not impact Collection System capacity and contributing to Sanitary Sewer Overflows (SSO's) and 2) submit a written description of that program to EPA and MEDEP. The City shall implement the FOG program by July 1, 2016.*

This was completed on time. More detailed information can be found in Section IV.2.B – Activities to measure effects to comply.

2. *Beginning July 1, 2016, and annually thereafter, update the City's asset risk analysis and renewal planning priorities, to be submitted to EPA and MEDEP as part of the CMOM Program Implementation Annual Report.*

The risk analysis map and data is provided in Appendix E. The data will be used in conjunction with the Phase 3 Wastewater Collection System Analysis and Action Plan recommendations from the Inflow and Infiltration Program to ensure that the City is prioritizing asset rehabilitation and replacement.

Staffing and Organizational Recommendations

1. *By July 30, 2015, complete the implementation of the organizational framework recommendations within the CMOM Plan including the establishment of a new division of Water Resources Management, the hiring of a full-time manager for this division, and the hiring of a full-time asset manager.*

This was completed on time.

Order Section IV.2.H – Projected measures

In addition to the ongoing work described in this Annual Report and as outlined in the approved CMOM Corrective Action Plan Implementation Schedule, the following activities plan to be completed by December 31st, 2020:

Sewer rehabilitation projects through the use of trenchless technologies and sewer replacement will be completed. Sewer rehabilitation projects will likely include a combination of Cured In Place Plastic Piping, pipe bursting, and sewer replacement. $1,100,000 is budgeted for each fiscal year. With additional sewer investigation as part of the Inflow and Infiltration Program, it is anticipated that many pipes and manholes will require rehabilitation. Pipe rehabilitation will be based on priority areas, condition assessments, in segments identified in the SSO reports found in Appendix B and based on risk assessment which can be found in Appendix E. The reporting period for 2020 will likely have projects utilizing multiple years of capital improvement plan funding.

The Riverton Pump Station will be put out to bid in early 2020 with the project starting in summer 2020.

Multiple sewer separation projects are anticipated to be placed out for bid and, if awarded, begin construction during 2020. As part of the project, sanitary sewer pipes will be replaced. The planned projects include the following:

Preble Street Sewer Separation Project – Roughly 800 linear feet of sanitary sewer pipe will be installed by Sargent Corporation in the final section of this sewer separation project in Kennebec Street and Somerset Street.

Brighton Avenue Sewer Separation Project – Roughly 300 linear feet of sanitary sewer pipe and 400 linear feet of sewer lateral will be replaced as part of a sewer separation project located in Brighton Avenue. The project went out to bid but only had one bid which was over the existing budget. Additional money has been requested for this project and will put back out to bid in 2020.

Mackworth-Ocean-Walton Sewer Separation Project – Roughly 4,600 linear feet of sanitary sewer pipe will be replaced as part of a sewer separation project located on Mackworth Street, Ocean Avenue, Walton Street and smaller side streets within the area. The project is out to bid. If awarded, work is anticipated to start in spring or early summer.

Warren – Hicks Storm Drain Project – As part of a sewer separation project to remove several catch basins from the sewer system, 1000 linear feet of sewer will be replaced. This project will go out to bid in 2020.

Motley Street Sewer Replacement – Roughly 423 linear feet of 8" pvc sewer was installed in Motley Street to replace the structurally deficient vitrified clay pipe. 235 linear feet of 4" – 6" lateral pipe was replaced within the City right-of-way. The total sewer replacement cost for this project accounted for $75,056.09 of the $369,000 total project cost awarded to Gorham Sand and Gravel. Construction is slated to begin in the spring.

The City will continue to enforce the FOG Program as part of the business license renewal process, which is the main trigger, along with building permits, in ensuring grease control equipment is installed and maintained. It is anticipated that over 350 restaurant inspections will be completed by the Health Department in 2020.

Easements staked through the reported contracts will begin to be cleared as conditions permit.

SUMMARY

We appreciate the opportunity to have submitted this CMOM Program Implementation Annual Report for the period ending December 31, 2019.

Should you have any questions, comments or need any additional information, please do not hesitate to contact Nancy Gallinaro, Water Resources Manager, at 207-874-8817.

Sincerely,

CITY OF PORTLAND

Benjamin Pearson

STATE OF MAINE
BENJAMIN NOAH PEARSON
No. 14088
LICENSED
PROFESSIONAL ENGINEER

Benjamin Pearson, P.E.
Compliance Section Coordinator
Department of Public Works

Water Resources Division
Attachments

Appendix A – Contracts and Invoices
Appendix B – Sanitary Sewer Overflow Reports
Appendix C – Municipal Budgets
Appendix D – Inflow and Infiltration Program Reports
Appendix E – Pump Station Plan, Risk Analysis Map, and Rehabilitation Priorities

BNP

cc: Jon Jennings, City of Portland, City Manager
Christopher Branch, City of Portland, Director of Public Works
Nancy Gallinaro, City of Portland, Water Resources Manager
Danielle West-Chuhta, City of Portland, Corporation Counsel
Brad Roland, City of Portland, Senior Project Engineer
John Emerson, City of Portland, Utility Coordinator
Stuart Rose, MaineDEP WQM-Southern Region
Michael Wagner, Senior Enforcement Counsel, USEPA

Appendix A – Contracts and Invoices

WOODARD & CURRAN

COMMITMENT & INTEGRITY
DRIVE RESULTS

Remit to:
PO Box 55008
Boston, MA 02205-5008

T 800.426.4262
T 207.774.2112
F 207.774.6635

INVOICE

TD BANK
Electronic Transfer:
⑆211274450⑆ 2427662596⑈

Ben Pearson, PE
Compliance Section Coordinator
City of Portland
Portland City Hall RM 104
389 Congress Street
Portland, ME 04101

July 17, 2019
Project No: 0231265.01
Invoice No: 165184

Project 0231265.01 CITY OF PORTLAND-CURTIS PUMP STATION DESIGN BUILD - PHASE II

During this period, Woodard & Curran and its Contractors/Vendors completed the commissioning, check-out, start-up, and testing of the new Gorman Rupp pump station and Caterpillar generator. Project substantial completion was finalized on June 12, 2019.

Contract Amount: $706,000.00

Completed to Date: $706,000.00

Previous Fee: $674,450.83

Current Fee: $31,549.17
Contract Balance: $0.00

Professional Services for the period ending June 28, 2019

Phase 001 GENERAL REQUIREMENTS

Reimbursable

Meals	149.81	
Field Supplies	78.64	
Field Equipment	90.00	
Reimbursable Total	**318.45**	**318.45**
Total this Phase		**$318.45**

Phase 006 MECHANICAL

Consultant

TBuck Construction	15,417.55	
Consultant Total	**15,417.55**	**15,417.55**
Total this Phase		**$15,417.55**

Phase 007 ELECTRICAL

Consultant

Electrical Installations	11,470.00	
Consultant Total	**11,470.00**	**11,470.00**
Total this Phase		**$11,470.00**

We appreciate your prompt attention to this invoice and ask that you send your check to PO BOX 55008 Boston, MA 02205-5008 OR Electronic Transfer at TD Bank: 211274450:2427662596.

Project	0231265.01	CITY OF PORTLAND-CURTIS PUMP STATION DES	Invoice	165184

Phase 012 PROCESS GAS AND LIQUID HANDLING, PURIFICATION

Reimbursable

Gorman-Rupp – Project Credit	-1,131.35	
Reimbursable Total	**-1,131.35**	**-1,131.35**
	Total this Phase	**-$1,131.35**

Phase 014 ENG. SERVICES DURING CONSTRUCTION

Professional Personnel

	Hours	**Amount**	
Designer 3	7.50		
Project Assistant	1.00		
Project Engineer 2	18.00		
Senior Project Manager	6.50		
Totals	33.00		
Labor Total			**5,347.00**

Reimbursable

Vehicle Expenses	17.40	
Reimbursable Total	**17.40**	**17.40**
	Total this Phase	**$5,364.40**

Phase 017 DESIGN-BUILDER FEE - 10%

Fee Total	51,430.21			
		Total Earned	51,430.21	
		Previous Fee Billing	51,320.09	
		Current Fee Billing	110.12	
		Fee Total		**110.12**
			Total this Phase	**$110.12**
			Total this Invoice	**$31,549.17**

	Current Fee	**Previous Fee**	**Total**
Project Summary	**31,549.17**	**674,450.83**	**706,000.00**

Approved by: _____

John Brockington, CPE, LEED AP BD&C
Vice President
Woodard & Curran

We appreciate your prompt attention to this invoice and ask that you send your check to PO BOX 55008 Boston, MA 02205-5008 OR Electronic Transfer at TD Bank: 211274450:2427662596.

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702

PAGE ONE OF PAGES

TO OWNER Woodard & Curran for City of Portland

PROJECT: Curtis Rd PS Replacement & Improvement

APPLICATION NO: 5

Distribution to:

- [ ] OWNER/AGENCY
- [ ] ARCHITECT/ENGINEER
- [ ] CONTRACTOR
- [ ] BUREAU OF GENERAL SERV
- [ ] OTHER

FROM CONTRACTOR: T. Buck Construction Inc

VIA ARCHITECT/ENGINEER: Woodard & Curran

PERIOD TO: 7/16/2019

PROJECT NOS:

CONTRACT FOR: Curtis Road PS Replacement & Improvements

CONTRACT DATE: 11/27/18

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM		$ 207,337.00
2. Net change by Change Orders		$ $9,814.00
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$ 217,151.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$ 217,151.00
5. RETAINAGE:		
a. 0% % of Completed Work (Column D + E on G703)	$ -	
b. 0% % of Stored Material (Column F on G703)	$ $0.00	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$ -
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)		$ 217,151.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$ $201,733.45
8. CURRENT PAYMENT DUE		$ 15,417.55
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)		$ -

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$9,814.00	
Total approved this Month	$0.00	
TOTALS	$9,814.00	$0.00
NET CHANGES by Change Order	$9,814.00	

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: [signature] Date: 7/16/19

State of: Maine County of: Androscoggin

Subscribed and sworn to before me this 16th day of July, 2019

Notary Public: Maureen L Meredith

My Commission expires: 10/18/2025

ARCHITECT/ENGINEER'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the ARCHITECT/ENGINEER certifies to the Owner that to the best of the ARCHITECT/Engineer's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED . . . . . $ _____

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT/ENGINEER:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

State of New Hampshire

By: _____ Date: _____

By: _____ Date: _____

CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 5
APPLICATION DATE: 7/16/2019
PERIOD TO: 7/16/2019
Owner's PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	Gen'l Conditions (mobe, ins, projet mgmt/supervisio	$49,850.00	$49,850.00	$0.00	$0.00	$49,850.00	100.00%	$0.00	$0.00
	Performance & Payment Bonds	$7,337.00	$7,337.00	$0.00	$0.00	$7,337.00	100.00%	$0.00	$0.00
	Temporary Sewer Bypass	$41,123.00	$40,123.00	$1,000.00	$0.00	$41,123.00	100.00%	$0.00	$0.00
	Earthwork	$53,100.00	$52,100.00	$1,000.00	$0.00	$53,100.00	100.00%	$0.00	$0.00
	Landscape (including Loam & Seed Allow)	$4,100.00	$2,000.00	$2,100.00	$0.00	$4,100.00	100.00%	$0.00	$0.00
	Sanitary Sewer Piping	$1,027.00	$1,027.00	$0.00	$0.00	$1,027.00	100.00%	$0.00	$0.00
	Manholes	$2,000.00	$2,000.00	$0.00	$0.00	$2,000.00	100.00%	$0.00	$0.00
	Process Pipe	$17,900.00	$17,900.00	$0.00	$0.00	$17,900.00	100.00%	$0.00	$0.00
	Propane Pad & Building Extension	$7,200.00	$7,200.00	$0.00	$0.00	$7,200.00	100.00%	$0.00	$0.00
	Demolition	$14,400.00	$14,400.00	$0.00	$0.00	$14,400.00	100.00%	$0.00	$0.00
	Remove & Replace Hatch	$2,200.00	$2,200.00	$0.00	$0.00	$2,200.00	100.00%	$0.00	$0.00
	Pump Station (Delivery & Setting)	$3,900.00	$3,900.00	$0.00	$0.00	$3,900.00	100.00%	$0.00	$0.00
	Flow Meter (Purchase & Start-up)	$3,200.00	$2,500.00	$700.00	$0.00	$3,200.00	100.00%	$0.00	$0.00
	Change Order No. 1 (PO #11318 C/O 1)	$9,814.00	$9,814.00	$0.00	$0.00	$9,814.00	100.00%	$0.00	$0.00
	GRAND TOTALS	$217,151.00	$212,351.00	$4,800.00	$0.00	$217,151.00	100.00%	$0.00	$0.00

Contractor's Application: 1899-05

From:	Electrical Installations, Inc. 397 Whittier Highway Moultonboro, NH 03254	**Project:**	Portland, ME - Curtis Road Pump Station Replacement & Improvements	**Application Date:**	June 18, 2019
		Contract/PO:	0231265-01/50817 - BP-02 Electrical Work	**Period From:**	June 1, 2019
Customer:	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Engineer:**	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Period To:**	June 30, 2019

APPLICATION FOR PAYMENT

Approved Change Order Summary

Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		$0.00

1. ORIGINAL CONTRACT PRICE	$	136,400.00
2. Net change by Change Orders		$0.00
3. Current Contract Price (Line 1 +/- Line 2)	$	136,400.00
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)	$	136,400.00
5. RETAINAGE:		
a. x 10% of the first 50% of Contract	$	-
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)	$	136,400.00
7. LESS PREVIOUS BILLINGS (Line 6 from prior Application)	$	124,930.00
8. AMOUNT DUE THIS APPLICATION	**$**	**11,470.00**
9. BALANCE TO FINISH PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)	$	-
10. % of Contract Value Completed		100%

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous payments received from owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to the Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptabe to the Owner indemnifying Owner against any such Liens, security interest or encumbrances); (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: [signature] Date: 6/18/19

$ _____
Payment amount (typically Line 8)

_____ Recommended by (Engineer) Date

$ _____
Payment amount

_____ Approved by/Funding Agency Date

Open Balance Summary:	
Billed to Date:	$ 136,400.00
Paid to Date:	$ 5,715.00
Current Outstanding:	$ 130,685.00

Remit to: Electrical Installations, Inc.
397 Whittier Highway
Moultonboro, NH 03254
(603) 253-4525

Progress Estimate

Contractor's Application 1899-05

From:	Electrical Installations, Inc. 397 Whittier Highway Moultonboro, NH 03254	**Project:**	Portland, ME Curtis Rd Pump Station Replacement & Improv.	**Application Date:**	June 18, 2019
		Contract/PO:	0231265-01/50817	**Period From:**	June 1, 2019
				Period To:	June 30, 2019
Customer:	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Engineer:**	Woodard & Curran 41 Hutchins Drive Portland, ME 04103		

A	B	C	D	E	F	G		H
			Work Completed					
Item Number	Description of Work	Scheduled Value	From Previous Application (D+E)	This Period	Materials Presently Stored (not in D or E)	Total Completed and Stored to Date (D+E+F)	% Complete (G/C)	Balance to Finish (C-G)
1								
2	26 05 00 Common Work	$ 9,500.00	$ 8,850.00	$ 650.00	$ -	$ 9,500.00	100%	$ -
3	26 05 19 Low Voltage Electrical Power Conductors and Cable	$ 9,000.00	$ 5,000.00	$ 4,000.00	$ -	$ 9,000.00	100%	$ -
4	26 05 26 Grounding and Bonding	$ 3,500.00	$ 3,500.00	$ -	$ -	$ 3,500.00	100%	$ -
5	26 05 33 Raceways and Boxes	$ 15,000.00	$ 15,000.00	$ -	$ -	$ 15,000.00	100%	$ -
6	26 05 43 Underground Ducts and Raceways	$ 8,500.00	$ 8,500.00	$ -	$ -	$ 8,500.00	100%	$ -
7	26 21 00 Low-Voltage Electrical Service Entrance	$ 10,500.00	$ 10,500.00	$ -	$ -	$ 10,500.00	100%	$ -
8	26 24 16 Panelboards	$ 3,000.00	$ 3,000.00	$ -	$ -	$ 3,000.00	100%	$ -
9	26 27 26 Wiring Devices	$ 3,500.00	$ 3,500.00	$ -	$ -	$ 3,500.00	100%	$ -
10	26 28 16 Enclosed Switches & Circuit Breakers	$ 3,000.00	$ 3,000.00	$ -	$ -	$ 3,000.00	100%	$ -
11	26 29 13 Enclosed Controllers	$ 2,000.00	$ 2,000.00	$ -	$ -	$ 2,000.00	100%	$ -
12	26 29 23 Variable Frequency Motor Controllers (Process)	$ 65,900.00	$ 65,900.00	$ -	$ -	$ 65,900.00	100%	$ -
13	26 43 00 Surge Protective Devices	$ 3,000.00	$ 3,000.00	$ -	$ -	$ 3,000.00	100%	$ -
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30	**Totals:**	**$ 136,400.00**	**$ 131,750.00**	**$ 4,650.00**	**$ -**	**$ 136,400.00**	**100%**	**$ -**

Certified By: Ashley Hike Date: 6/18/19

Approved By: _____ Date: _____

Remit To: **Electrical Installations, Inc.**
397 Whittier Highway
Moultonboro, NH 03254
(p) 603-253-4525 (f) 603-253-6284

COMMITMENT & INTEGRITY
DRIVE RESULTS

Remit to:
PO Box 55008
Boston, MA 02205-5008

T 800.426.4262
T 207.774.2112
F 207.774.6635

INVOICE

TD BANK
Electronic Transfer:
⑆211274450⑆ 2427662596⑈

Ben Pearson, PE
Compliance Section Coordinator
City of Portland
Portland City Hall RM 104
389 Congress Street
Portland, ME 04101

November 15, 2019
Project No: 0231265.02
Invoice No: 169775

Project 0231265.02 CITY OF PORTLAND-FRANKLIN PUMP STATION DESIGN BUILD – PHASE II
PO #51851

During this period, Woodard & Curran and its trade contractors, completed generator and pump station start-up, testing, commissioning and controls; removed temporary bypass pumping system; mechanical work on HV system; punch list work; site supervision; and project management, field engineering, site safety, and housekeeping.

Contract Amount: $3,097,000.00

Completed to Date: $3,076,729.17

Previous Fee: $2,879,729.17

Current Fee: $197,000.00
Contract Balance: $20,270.83

Professional Services for the period ending October 25, 2019

Phase 001 GENERAL REQUIREMENTS

Professional Personnel

	Hours	Amount	
Designer 3	13.00		
Project Assistant	16.50		
Construction Manager	212.00		
Senior Cost Estimator	1.00		
Totals	242.50		
Labor Total			**50,361.08**
Reimbursable			
Vehicle Expenses		522.00	
Travel Expenses		615.85	
Meals		674.90	
Per Diem		740.00	
Reimbursable Total		**2,552.75**	**2,552.75**
Consultant			
Misc. General Conditions Expenses		1,701.17	
Consultant Total		**1,701.17**	**1,701.17**
		Total this Phase	**$54,615.00**

We appreciate your prompt attention to this invoice and ask that you send your check to PO BOX 55008 Boston, MA 02205-5008 OR Electronic Transfer at TD Bank: 211274450:2427662596.

Project	0231265.02	CITY OF PORTLAND-FRANKLIN PUMP STATION D	Invoice	169775

Phase	002	EXISTING SITE CONDITIONS		
Consultant				
Ted Berry Company			800.00	
	Consultant Total		**800.00**	**800.00**
			Total this Phase	**$800.00**

Phase	008	MECHANICAL		
Consultant				
Johnson & Jordan			62,890.95	
	Consultant Total		**62,890.95**	**62,890.95**
			Total this Phase	**$62,890.95**

Phase	011	ELECTRICAL		
Consultant				
Electrical Installations			38,728.41	
	Consultant Total		**38,728.41**	**38,728.41**
			Total this Phase	**$38,728.41**

Phase	012	CONTROLS		
Professional Personnel				
		Hours	**Amount**	
Project Engineer		.50		
Technical Manager I		1.00		
	Totals	1.50		
	Labor Total			**201.69**
Reimbursable				
Postage/Shipping			122.27	
Field Supplies			171.26	
	Reimbursable Total		**293.53**	**293.53**
Consultant				
Neponset Controls			6,847.90	
	Consultant Total		**6,847.90**	**6,847.90**
			Total this Phase	**$7,343.12**

We appreciate your prompt attention to this invoice and ask that you send your check to PO BOX 55008 Boston, MA 02205-5008 OR Electronic Transfer at TD Bank: 211274450:2427662596.

Project	0231265.02	CITY OF PORTLAND-FRANKLIN PUMP STATION D	Invoice	169775

Phase 014 ESDC

Professional Personnel

	Hours	Amount	
Engineer 2	68.50		
Project Engineer 2	56.00		
Project Manager 2	.50		
Project Technical Specialist 2	3.00		
Senior Project Manager	3.00		
Technical Service Specialist 2	47.50		
Technical Manager II	1.25		
Totals	179.75		
Labor Total			**25,637.25**

Consultant

Credere Associates – Payment Credit	-4,137.34	
Consultant Total	**-4,137.34**	**-4,137.34**
	Total this Phase	**$21,499.91**

Phase 017 DESIGN-BUILDER FEE - 10%

Fee Total	217,424.10			
		Total Earned	217,424.10	
		Previous Fee Billing	206,301.49	
		Current Fee Billing	11,122.61	
		Fee Total		**11,122.61**
			Total this Phase	**$11,122.61**
			Total this Invoice	**$197,000.00**

	Current Fee	Previous Fee	Total
Project Summary	**197,000.00**	**2,879,729.17**	**3,076,729.17**

Approved by: _____

John Brockington, CPE, LEED AP BD&C
Vice President
Woodard & Curran

We appreciate your prompt attention to this invoice and ask that you send your check to PO BOX 55008 Boston, MA 02205-5008 OR Electronic Transfer at TD Bank: 211274450:2427662596.

TO (OWNER): Woodard & Curran, Inc.
41 Hutchins Drive
Portland, ME 04102

PROJECT: Franklin Street PS Upgrades
235 Marginal Way
Portland, ME 04101

APPLICATION NO: 190145-07
INVOICE NO: 2837
PERIOD TO: 10/31/2019

DISTRIBUTION TO:
_ OWNER
_ ARCHITECT
_ CONTRACTOR
_ SUBCONTRACTOR

FROM (SUBCONTRACTOR): Johnson & Jordan, Inc.
18 Mussey Road
Scarborough, ME 04074

VIA (ARCHITECT):

ARCHITECT'S PROJECT NO:

CONTRACT FOR: PO 11432

CONTRACT DATE: 3/27/2019

SUBCONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for Payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Type Document is attached.

1. **ORIGINAL CONTRACT SUM** . . . . . $ 272,451.00
2. **Net Change by Change Orders** . . . . . $ 149,831.00
3. **CONTRACT SUM TO DATE** (Line 1 + 2). . . . . $ 422,282.00
4. **TOTAL COMPLETED AND STORED TO DATE** . . . . . $ 422,281.00
5. **RETAINAGE:**
   a. 5.00 % of Completed Work $ 21,114.05
   b. 0.00 % of Stored Material $ 0.00
   Total retainage (Line 5a + 5b) . . . . . $ 21,114.05
6. **TOTAL EARNED LESS RETAINAGE** . . . . . $ 401,166.95
   (Line 4 less Line 5 Total)
7. **LESS PREVIOUS CERTIFICATES FOR PAYMENT**
   (Line 6 from prior Certificate) . . . . . $ 338,276.00
8. **CURRENT PAYMENT DUE** . . . . . $ 62,890.95
9. **BALANCE TO FINISH, INCLUDING RETAINAGE**
   (Line 3 less Line 6) $ 21,115.05

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner or Contractor	149,831.00	0.00
Total approved this Month	0.00	0.00
TOTALS	149,831.00	0.00
NET CHANGES by Change Order	149,831.00	

The Undersigned Subcontractor certifies that to the best of the Subcontractor's knowledge, information and belief the work covered by this application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Subcontractor for Work for which previous Certificates for Payment were issued and payments received from the owner or contractor, and that current payment shown herein is now due.

SUBCONTRACTOR: Johnson & Jordan, Inc.
18 Mussey Road Scarborough, ME 04074

By: CHRISTOPHER JORDAN **Date:** 10-24-19

Christopher Jordan / President

State of: ME

County of: Cumberland

Subscribed and Sworn to before me this 24TH Day of October 2019

Notary Public: L.S.

My Commission Expires : 1-7-21

CRAIG C. SMITH
NOTARY PUBLIC - MAINE
MY COMMISSION EXPIRES
JANUARY 07, 2021

ARCHITECT'S CERTIFICATE FOR PAYMENT

In Accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect certifies to owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the work is in accordance with the Contract Documents, and the Subcontractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED. . . . . $ _____

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform to the amount certified.)

ARCHITECT:
By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Subcontractor named herein. Issuance, Payment and acceptance of payment are without prejudice to any rights of the Owner, Contractor or Subcontractor under this Contract.

AIA Type Document
Application and Certification for Payment

TO (OWNER): Woodard & Curran, Inc.
41 Hutchins Drive
Portland, ME 04102

PROJECT: Franklin Street PS Upgrades
235 Marginal Way
Portland, ME 04101

APPLICATION NO: 190145-07
PERIOD TO: 10/31/2019

DISTRIBUTION TO:
_ OWNER
_ ARCHITECT
_ CONTRACTOR
_ SUBCONTRACTOR

FROM (SUBCONTRACTOR): Johnson & Jordan, Inc.
18 Mussey Road
Scarborough, ME 04074

VIA (ARCHITECT):

ARCHITECT'S PROJECT NO:

CONTRACT FOR: PO 11432

CONTRACT DATE: 3/27/2019

ITEM	DESCRIPTION	SCHEDULE VALUE	PREVIOUS APPLICATIONS	COMPLETED THIS PERIOD	STORED MATERIAL	COMPLETED STORED	%	BALANCE	RETAINAGE
1	Wet Channel Work	36,830.00	36,830.00	0.00	0.00	36,830.00	100.00	0.00	1,841.50
2	18" Plug Valves	7,952.00	7,952.00	0.00	0.00	7,952.00	100.00	0.00	397.60
3	Domestic Water Work	35,946.00	35,946.00	0.00	0.00	35,946.00	100.00	0.00	1,797.30
4	Plumbing Demo	8,727.00	8,727.00	0.00	0.00	8,727.00	100.00	0.00	436.35
5	Air Piping	5,934.00	5,934.00	0.00	0.00	5,934.00	100.00	0.00	296.70
6	Concrete Work	8,045.00	8,045.00	0.00	0.00	8,045.00	100.00	0.00	402.25
7	LP Gas Piping	5,248.00	5,248.00	0.00	0.00	5,248.00	100.00	0.00	262.40
8	HVAC Equipment	20,689.00	20,689.00	0.00	0.00	20,689.00	100.00	0.00	1,034.45
9	HVAC Equipment Labor	2,200.00	2,200.00	0.00	0.00	2,200.00	100.00	0.00	110.00
10	HVAC Demo	1,970.00	1,970.00	0.00	0.00	1,970.00	100.00	0.00	98.50
11	Coring	4,176.00	4,176.00	0.00	0.00	4,176.00	100.00	0.00	208.80
12	Labels	1,880.00	1,880.00	0.00	0.00	1,880.00	100.00	0.00	94.00
13	Project Management	8,661.00	8,000.00	660.00	0.00	8,660.00	99.99	1.00	433.00
14	Ductwork	62,725.00	62,725.00	0.00	0.00	62,725.00	100.00	0.00	3,136.25
15	Insulation	6,990.00	0.00	6,990.00	0.00	6,990.00	100.00	0.00	349.50
16	Controls	4,933.00	4,933.00	0.00	0.00	4,933.00	100.00	0.00	246.65
17	Balancing	1,105.00	0.00	1,105.00	0.00	1,105.00	100.00	0.00	55.25
18	Pump Refurbishing	37,450.00	37,450.00	0.00	0.00	37,450.00	100.00	0.00	1,872.50
19	Start Up	1,250.00	0.00	1,250.00	0.00	1,250.00	100.00	0.00	62.50
20	Warranty Work	2,250.00	0.00	2,250.00	0.00	2,250.00	100.00	0.00	112.50
21	Rental Equipment	4,250.00	4,250.00	0.00	0.00	4,250.00	100.00	0.00	212.50

AIA Type Document

Application and Certification for Payment

TO (OWNER): Woodard & Curran, Inc.
41 Hutchins Drive
Portland, ME 04102

PROJECT: Franklin Street PS Upgrades
235 Marginal Way
Portland, ME 04101

APPLICATION NO: 190145-07

PERIOD TO: 10/31/2019

DISTRIBUTION TO:
_ OWNER
_ ARCHITECT
_ CONTRACTOR
_ SUBCONTRACTOR

FROM (SUBCONTRACTOR): Johnson & Jordan, Inc.
18 Mussey Road
Scarborough, ME 04074

VIA (ARCHITECT):

ARCHITECT'S PROJECT NO:

CONTRACT FOR: PO 11432

CONTRACT DATE: 3/27/2019

ITEM	DESCRIPTION	SCHEDULE VALUE	PREVIOUS APPLICATIONS	COMPLETED THIS PERIOD	STORED MATERIAL	COMPLETED STORED	%	BALANCE	RETAINAGE
22	Bond	3,240.00	3,240.00	0.00	0.00	3,240.00	100.00	0.00	162.00
23	C/O 1 - Bypass / Grounding Rings	65,530.00	65,530.00	0.00	0.00	65,530.00	100.00	0.00	3,276.50
24	C/O 2 - Roof Drainpipe Replacement	7,499.00	7,499.00	0.00	0.00	7,499.00	100.00	0.00	374.95
25	C/O 3 - Sheetmetal changes to dry side of pump station	4,600.00	4,600.00	0.00	0.00	4,600.00	100.00	0.00	230.00
26	C/O 4 - Valve Replacement	18,256.00	18,256.00	0.00	0.00	18,256.00	100.00	0.00	912.80
27	C/O 5 - Controls & Instrumentation, PO 11432	53,946.00	0.00	53,946.00	0.00	53,946.00	100.00	0.00	2,697.30
	REPORT TOTALS	$422,282.00	$356,080.00	$66,201.00	$0.00	$422,281.00	100.00	$1.00	$21,114.05

Contractor's Application: 1910-06

From:	Electrical Installations, Inc. 397 Whittier Highway Moultonboro, NH 03254	**Project:**	Portland, ME Franklin Street Pump Station Upgrades	**Application Date:**	October 25, 2019
		Contract/PO:	231265.02/BP-07 Electrical Work	**Period From:**	October 1, 2019
Customer:	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Engineer:**	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Period To:**	October 31, 2019

APPLICATION FOR PAYMENT

Approved Change Order Summary		
Number	Additions	Deductions
CO #1 Misc. Electrical Changes	$29,900.00	
CO #2 Amp Temp Service	$19,133.00	
CO #3 Control Panel CP-04	$18,200.00	
CO #4 Electrical Disconnect EStop & Junction Boxes - PO #11458	$25,416.75	
TOTALS	$92,649.75	
NET CHANGE BY CHANGE ORDERS	$92,649.75	

1. ORIGINAL CONTRACT PRICE	$	198,900.00
2. Net change by Change Orders		$92,649.75
3. Current Contract Price (Line 1 +/- Line 2)	$	291,549.75
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)	$	289,549.75
5. RETAINAGE: a. x 5%	$	14,477.49
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)	$	275,072.26
7. LESS PREVIOUS BILLINGS (Line 6 from prior Application)	$	236,343.85
8. AMOUNT DUE THIS APPLICATION	**$**	**38,728.41**
9. BALANCE TO FINISH PLUS RETAINAGE (Column H on Progress Estimate + Line 5 above)	$	16,477.49
10. % of Contract Value Completed		99%

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous payments received from owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to the Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptabe to the Owner indemnifying Owner against any such Liens, security interest or encumbrances); (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: _____ Date: 10/25/19

$ _____
Payment amount (typically Line 8)

_____ Recommended by (Engineer) Date

$ _____
Payment amount

_____ Approved by/Funding Agency Date

Open Balance Summary:

Billed to Date:	$275,072.26
Paid to Date:	$212,593.85
Current Outstanding:	$ 62,478.41

Remit to: Electrical Installations, Inc.
397 Whittier Highway
Moultonboro, NH 03254
(603) 253-4525

Progress Estimate

Contractor's Application 1910-06

From:	Electrical Installations, Inc. 397 Whittier Highway Moultonboro, NH 03254	**Project:** **Contract/PO:**	Portland, ME Franklin St. Pump Station Control Upgrades 0231265.02/BP-07 Elec Work
Customer:	Woodard & Curran 41 Hutchins Dr. Portland, ME 04103	**Engineer:**	Woodard & Curran 41 Hutchins Drive Portland, ME 04103

Application Date: October 25, 2019
Period From: October 1, 2019
Period To: October 31, 2019

A	B	C	D	E	F	G		H
			Work Completed					
Item Number	Description of Work	Scheduled Value	From Previous Application (D+E)	This Period	Materials Presently Stored (not in D or E)	Total Completed and Stored to Date (D+E+F)	% Complete (G/C)	Balance to Finish (C-G)
1								
2	Insurance / bonds	$ 3,900.00	$ 3,900.00	$ -	$ -	$ 3,900.00	100%	$ -
3	Submittals	$ 2,000.00	$ 2,000.00	$ -	$ -	$ 2,000.00	100%	$ -
4	Temporaries & Equipment rentals	$ 10,500.00	$ 10,500.00	$ -	$ -	$ 10,500.00	100%	$ -
5	Demo & disposal	$ 8,550.00	$ 8,550.00	$ -	$ -	$ 8,550.00	100%	$ -
6	Conduits / wiring / grounding	$ 40,300.00	$ 35,000.00	$ 3,300.00	$ -	$ 38,300.00	95%	$ 2,000.00
7	Lighting	$ 54,000.00	$ 54,000.00	$ -	$ -	$ 54,000.00	100%	$ -
8	Panelboard LP1 & Power Panel PP1	$ 72,500.00	$ 72,500.00	$ -	$ -	$ 72,500.00	100%	$ -
9	Start up & Testing	$ 5,650.00	$ -	$ 5,650.00	$ -	$ 5,650.00	100%	$ -
10	O&Ms / As-builts	$ 1,500.00	$ -	$ 1,500.00	$ -	$ 1,500.00	100%	$ -
11								
12								
13	CO #1 Misc. Electrical Changes	$ 29,900.00	$ 25,000.00	$ 4,900.00	$ -	$ 29,900.00	100%	$ -
14	CO #2 Amp Temp Service	$ 19,133.00	$ 19,133.00	$ -	$ -	$ 19,133.00	100%	$ -
15	CO #3 Control Panel CP-04	$ 18,200.00	$ 18,200.00	$ -	$ -	$ 18,200.00	100%	$ -
16	CO #4 Electrical Disconnect EStop & Junction Boxes - PO #11458	$ 25,416.75	$ -	$ 25,416.75	$ -	$ 25,416.75	100%	$ -
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30	**Totals:**	**$ 291,549.75**	**$ 248,783.00**	**$ 40,766.75**	**$ -**	**$ 289,549.75**	**99%**	**$ 2,000.00**

Certified By: _____ Date: 10/25/19

Approved By: _____ Date: _____

Remit To: **Electrical Installations, Inc.**
397 Whittier Highway
Moultonboro, NH 03254
(p) 603-253-4525 (f) 603-253-6284

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
TED BERRY COMPANY, LLC

THIS AGREEMENT is entered into this 15 day of April, 2019, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the "**CITY**"), and **TED BERRY COMPANY, LLC,** a Maine limited liability company with a mailing address of 521 Federal Road, Livermore, Maine 04253 (hereinafter the "**CONTRACTOR**").

W I T N E S S E T H:

WHEREAS, the **CITY** is in need of on-call sewer inspection and did advertise a Request for Applications #19070 entitled ""On-Call" Sewer Inspection," dated March 22, 2019 (hereinafter, the "Request for Applications"), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the **CONTRACTOR** has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated April 4, 2019, (hereinafter, the "Proposal"), a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY did award this contract to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CONTRACTOR** will furnish the materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request for Applications issued to the Contractors, and also in accordance with the **CONTRACTOR's** Proposal.

The restatement in this document of any term of the Request for Applications or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between Request for Applications or the Proposal and this document, then this document shall govern; and the Request for Applications shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONTRACTOR covenants and agrees that all Work performed and furnished hereunder shall be free from all defects, and that all Work shall be performed in a good workmanlike manner. Unless a longer warranty period is specified in the Exhibits hereto, all Work provided shall be warranted by the CONTRACTOR for one (1) full year from the date of completion of all Work hereunder and acceptance thereof by the CITY. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain occurrence-based Automobile Liability Insurance and Commercial General Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage, naming the CITY as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. A certificate that merely has a box checked under "Addl Insr," or the like, or that merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions (not to exceed $10,000.00 without prior written approval of Corporation Counsel). CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement. If the CONTRACTOR maintains broader coverage and/or higher limits than the minimum shown above, the CITY requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONTRACTOR. (*In the event that the*

Contractor requires access to the City's network or if the Contractor will be accessing or storing any sensitive City data, the City may also require Contractor to carry cyber liability insurance).

4. [Intentionally omitted.]

5. To the fullest extent permitted by law, the CONTRACTOR shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONTRACTOR, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY which otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

6. Prior to any payment, the CITY reserves the right to require Waivers of Lien for materials and labor from the CONTRACTOR and its subcontractors and suppliers guaranteeing One Hundred Percent (100%) performance, free and clear from all liens and encumbrances. Any mechanic's lien or any other lien which may be filed against the premises which are the subject of this Agreement by reason of the Work described herein shall be defended (by counsel reasonably acceptable to the CITY) and promptly discharged by the CONTRACTOR at its own expense. The CITY may require the CONTRACTOR to provide a bond satisfactory to the CITY to indemnify it against any lien and as a substitution in place of a lien. If the CONTRACTOR should fail either to defend the CITY against the lien or to discharge it, then the CITY may do so at the CONTRACTOR's expense. In the event of such an undertaking by the CITY, the CONTRACTOR will promptly reimburse the CITY for all its costs and expenses in so doing, including, but not limited to, reimbursement of the CITY's reasonable counsel fees, as well as costs which may be incurred by it in substituting a bond in place of a lien. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

7. The CONTRACTOR shall perform the work to the satisfaction of the responsible CITY official who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. CITY inspectors will have the authority to stop work in progress if such work is being done contrary to the plans, specifications or engineering practice. CONTRACTOR acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

8. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed CITY contract to the CONTRACTOR, which will commence work as requested by the City. The term of this Agreement shall be for one year following execution. Upon mutual agreement, this agreement may be extended for two one-year periods.

9. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director of the Public Works or his or her designee (hereinafter, the "Director") will be final and binding.

10. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONTRACTOR according to the prices set forth in the Proposal. CONTRACTOR acknowledges and agrees that services will be provided on an as-needed basis with no guarantee as to the amount of work to be assigned to and performed by CONTRACTOR.

11. The CITY shall have the right to retain ten percent (10 %) of each invoice amount as retainage until the Work is completed and accepted by the CITY.

12. The CONTRACTOR shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONTRACTOR not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director.

13. The CITY may terminate this Agreement for cause by written notice to the CONTRACTOR. In the event of such termination, the CONTRACTOR shall not be entitled to any further payment under this Agreement from the date of receipt of said notice.

14. The CITY shall have the right to terminate this Agreement at any time for its convenience upon prior written notice to the CONTRACTOR. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONTRACTOR for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such notice.

15. Out of concern for the public, CITY employees and the CONTRACTOR's employees, all work performed by the CONTRACTOR shall be in conformance with pertinent OSHA, local, state and federal government regulations.

16. CONTRACTOR agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education

Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONTRACTOR specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONTRACTOR where appropriate.

17. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

18. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONTRACTOR.

19. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

20. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

21. CONTRACTOR warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform their respective obligations under this Agreement, and that the person signing this Agreement on behalf of CONTRACTOR has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, **TED BERRY COMPANY, LLC** has caused this Agreement to be signed and sealed by Matthew Timberlake its Vice President the day and date first above written.

WITNESS:

Sonia Bean

CITY OF PORTLAND

By: _____
Jon P. Jennings
Its City Manager

WITNESS:

TED BERRY COMPANY, LLC

By: _____
Name: Matthew Timberlake
Its: Regional Vice President

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

EXHIBIT A

BID #19070

CITY OF PORTLAND, MAINE

"ON-CALL" SEWER INSPECTION SERVICES

Request for Applications

The City of Portland, Maine is accepting applications from contractors to provide "On-Call" Sewer Inspection Services, as described herein. The City will accept all applications, submitted on the attached forms, until 3:00 p.m., Tuesday, April 9, 2019. These may be hand delivered or mailed to Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, Maine 04101. **The envelope shall be clearly marked "On-Call Sewer Inspection Services".**

All applicants are advised that the City makes no guarantee as to the amount of work to be generated by this agreement. The City will contract, at its option, with multiple firms. Contractors will be called, based on the City's specific needs and based on the amount of equipment, crews and their respective prices stated in the application. The length of the contract will be for a year from the date of its signing through.

The City reserves the right to verify applicants' qualifications, capability to perform, availability, past performance record and to verify that the applicant is current in its obligations to the City. The City further reserves the right not to award contracts based on any negative findings to the above and/or failure to promptly sign and return the contract document with all required insurance certificates as instructed. The successful applicant shall have ten calendar days to sign the contract after notification by the Corporation Counsel's Office that it is ready for signature, otherwise his application may lapse at the election of the City.

All applications shall remain open to acceptance for thirty days after they have been opened. Late applications, or those without required signatures or those faxed or those submitted electronically shall not be accepted. **You are only required to submit one (1) copy of your bid. Please also submit the most recent copy of your firm's W-9.**

All questions must be submitted in writing to the Purchasing Office and be received no later than five working days prior to the scheduled opening date - these may be mailed, hand delivered faxed to 207-874-8652, or e-mail jrl@portlandmaine.gov. The Purchasing Office will be the only office issuing any changes to this Invitation. All changes (addenda) will be in writing and will be sent to registered application holders. The City shall not be responsible for any oral interpretation given by other City personnel or others.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Invitation from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this bid.

The Awarded Contractor will procure and maintain Automobile Insurance and General Public Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the General Liability and Automobile Liability Insurance, The Awarded Contractor shall name the City as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available under the Maine Tort Claims Act, other Maine statutory law, judicial precedent or common law. With respect to the Liability Insurance, The Awarded Contractor will provide the City a certificate of insurance evidencing such coverage, in this way: certificate must say either: A) "the policy has been endorsed to name the City of Portland as an Additional Insured" and a copy of the endorsement must come to the City of Portland with the certificate, or B) "the policy already includes an endorsement, such as the General Liability Extension Endorsement, by which the City of Portland is automatically made an additional insured." A Certificate which merely has a box checked under "Addl Insr," or the like, or which merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. The Awarded Contractor shall furnish the City and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the City of termination of insurance from insurance provider or agent..

Where applicants are required to enter or go into the City property to inspect, deliver materials or perform work or services as a result of the Invitation, or as a result of a contract award, the applicant and his or her agents will assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance as required.

The successful applicant(s) shall be liable for any damage or loss to the City occasioned by their negligence or their agents. The successful applicant(s) shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its officers and employees, from and against all claims, losses and expenses. The City disclaims any and all responsibility for injury to contractors, their agents or others while examining the job sites or at any other time.

GENERAL REQUIREMENTS & WORK SPECIFICATIONS

The City of Portland is looking for emergency sewer inspection services. Services must be provided within 4 hours of a request unless notified otherwise. The sewer inspection must include a CCTV inspection of water resources infrastructure with a deliverable of the inspection in IT Pipes format within 3 days of the inspection. Once the inspection is completed in the field, a description of the findings must be submitted via email or phone call. Cleaning of the asset may be necessary unless it is completed by City of Portland Public Works staff prior to the inspection. If cleaning is required for the inspection, it will be requested during the initial call for service.

All debris materials will be dumped at ecoMaine located at 64 Blueberry Road. The City will be responsible for all costs associated with debris removed during cleaning operations. The contractor must include a water truck in their costs for cleaning. The City will provide access to water at 109 District Road and will assume responsibility of water costs.

If the company cannot provide cleaning services and only CCTV services, please make note of this on the attachment requesting prices.

If the company requires a minimum amount of hours per inspection, please make note of the amount of hours on the attachment requesting prices.

The contractor(s) shall be prepared to furnish all tools and/or equipment necessary to perform the necessary work.

The services of the company may be required at any time within the City. The company shall have adequate staff available to respond to any request(s) within a reasonable time, i.e. the next business day or as may mutually be agreed.

All work shall be performed under the supervision of a Water Resources employee and will be according to all applicable codes and following the best standards of the trade.

All work and/or equipment are to be in full compliance with any and all pertinent Federal, OSHA, State of Maine and municipal regulations.

The materials required for any work will be purchased by, or through the City, or when approved by the authorized City staff, materials can be supplied by the contractor on a cost-plus basis as has been specified by the applicant in his application. Materials and equipment purchased for permanent installation under the contract are exempt from Maine's Sales and Use tax and from all Federal excise taxes.

All materials and equipment used as well as all methods of installation shall comply at a minimum with the following: a) National Electrical Code, latest approved edition; b) any and all Federal, State and/or local codes, including applicable municipal ordinances and regulations; c) latest approved standards of IEE, ANSI, NEMA, NFPA, NAASCO; d) Utility company regulations; e) equipment and materials utilized shall be new and UL listed, where listing is available.

The work performed and all materials utilized shall be guaranteed at a minimum for one year, and shall be corrected or replaced at the company's sole expense if they prove defective.

All waste material generated by the company's staff shall be removed daily from the work site and the area left clean and upon completion of work by that firm. Any equipment or building structure damaged by the company's staff shall be repaired or replaced to the satisfaction of its owner.

The company's staff shall erect, and maintain at all times, any and all safeguards necessary for the protection of life and property of the City and its staff, their workers as well as all pedestrian and vehicular traffic. If a police detail is required, Company must coordinate with Water Resources staff.

Work shall not commence earlier than 7:00 A.M., nor extend beyond 7:00 P.M., without the expressed approval of the City Administrative staff requesting the work. No work shall be performed on Saturdays, Sundays or holidays unless authorized by the Public Works Director, or comparable City agent. Bidders should include any/all costs of travel time to any given City jobsite in their bid prices – this includes any calls for emergency service.

EMERGENCY RESPONSE TIME AND PAYMENT OF EMERGENCY RATES

During emergency situations, as declared by the Director of Public Works, etc., the company is required to provide service no later than 240 minutes from the time of notification of the existence of an emergency condition. Under such conditions, the emergency rates will apply to personnel as numerated by the contractor in their application. These rates will not be paid to any given crew for more than eight (8) consecutive hours. Subsequent to that time, standard rates will apply for the duration of work by the contractor unless otherwise approved by the Director of Public Works, or similar agent.

The company will be required to submit separate itemized invoices to each City Department for the work they performed for that particular Department. Invoices must: a) state site location; b) list City staff person requesting the work; c) indicate number and type of crew provided and hours worked by each; and, d) any City authorized "cost-plus" materials purchased and used. Second invoices for a project must be marked "duplicate".

The City reserves the right to require lien waivers for labor and/or material, for and in the amount of each invoice, guaranteeing payment in full for all labor and materials used or required in connection with any work ensuing from the contract.

The City reserves the right to require a lump-sum price for certain, larger, projects instead of the agreed hourly rates. The contracted firm(s) may decline the opportunity if it so elects. The City further reserves the right to obtain and utilize the services of other firms to perform certain projects.

It is the custom of the City of Portland, Maine, to pay its bills 30 days after completion and acceptance of the work, and the receipt of properly documented invoices for that work covered under the contract. In submitting applications under these specifications, applicants should take into account all discounts, both trade and time, allowed in accordance with this payment policy and quote a net price.

Pursuant to Portland City Code, the City reserves the right to cancel the contract immediately for cause. The City reserves the right to cancel the contract for its convenience on thirty days prior written notice, with the City responsible for payment only for supplies,

materials and/or labor provided or amounts expended or incurred in reliance thereon prior to the effective date of such notice.

Contractor agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. Contractor specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law.

Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by the Contractor and its subcontractors where appropriate.

The City reserves the right to waive any informalities in bids, to accept any bid or portions thereof (bidders are advised to note this and quote accordingly) and to reject any or all bids should it be deemed for the best interest of the City to do so. The City reserves the right to substantiate the bidder's qualifications, capability to perform, availability, past performance record and to verify that the proposer is current in its obligations to the City, as follows:

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

March 22, 2019

Matthew F. Fitzgerald
Purchasing Manager

ITEM	TYPE OF LABORER	RATE PER HOUR
1.	CCTV INSPECTION SERVICES	Routine _____/HR
		EMERGENCY _____/HR
2.	CLEANING SERVICES	Routine _____/HR
		EMERGENCY _____/HR

A. Material, which the contractor may require to do the work, and which is not supplied by the City, will be charged,

AT COST PLUS _____% (with verifiable, suppliers' invoices)

B. If a minimum amount of hours is required per job, the City will be charged for at least

_____ hours.

A photocopy of the company's license(s) must be enclosed as part of the application submission package.

Number of: _____

Number of: _____

Number of: _____

Number of: _____

PROPOSAL

"ON-CALL" SEWER INSPECTION SERVICES

The UNDERSIGNED hereby declares that he/she or they are the only person(s), firm or corporation interested in this application as principal, that it is made without any connection with any other person(s), firm or corporation submitting an application for the same.

The UNDERSIGNED hereby declares that they have read and understand all conditions as outlined in the invitation, and that the application is made in accordance with same.

The UNDERSIGNED hereby declares that any person(s) employed by the City of Portland, Maine, who has direct or indirect personal or financial interest in this application or in any portion of the profits which may be derived therefrom has been identified and the interest disclosed by separate attachment. (Please include in your disclosure any interest which you know of. An example of a direct interest would be a City employee who would be paid to perform services under this application. An example of an indirect interest would be a City employee who is related to any officers, employees, principal or shareholders of your firm or to you. If in doubt as to status or interest, please disclose to the extent known).

The proposer acknowledges the receipt of Addenda numbered_____ (if applicable)

COMPANY NAME: _____
(Individual, Partnership, Corporation, Joint Venture)

AUTHORIZED SIGNATURE:_____ DATE: _____
(Officer, Authorized Individual or Owner)

PRINT NAME & TITLE: _____

ADDRESS:_____

_____
Zip Code

TELEPHONE:_____ FAX: _____

EMAIL ADDRESS: _____

24 HOUR #: _____

FEDERAL TAX I.D. NUMBER: _____

NOTE: All applications must bear the handwritten signature of a duly authorized member or employee of the organization making the application. This sheet must be signed and returned with proposal package.

EXHIBIT B

BID #19070

PROPOSAL

"ON-CALL" SEWER INSPECTION SERVICES

The UNDERSIGNED hereby declares that he/she or they are the only person(s), firm or corporation interested in this application as principal, that it is made without any connection with any other person(s), firm or corporation submitting an application for the same.

The UNDERSIGNED hereby declares that they have read and understand all conditions as outlined in the invitation, and that the application is made in accordance with same.

The UNDERSIGNED hereby declares that any person(s) employed by the City of Portland, Maine, who has direct or indirect personal or financial interest in this application or in any portion of the profits which may be derived therefrom has been identified and the interest disclosed by separate attachment. (Please include in your disclosure any interest which you know of. An example of a direct interest would be a City employee who would be paid to perform services under this application. An example of an indirect interest would be a City employee who is related to any officers, employees, principal or shareholders of your firm or to you. If in doubt as to status or interest, please disclose to the extent known).

The proposer acknowledges the receipt of Addenda numbered_____ (if applicable)

COMPANY NAME: Ted Berry Company, LLC
(Individual, Partnership, Corporation, Joint Venture)

AUTHORIZED SIGNATURE: Samantha Byam DATE: 4-4-2019
(Officer, Authorized Individual or Owner)

PRINT NAME & TITLE: Samantha Byam

ADDRESS: 521 Federal Road
Livermore, ME 04253
Zip Code

TELEPHONE: 207-897-3348 FAX: 207-897-3627

EMAIL ADDRESS: office@tedberrycompany.com

24 HOUR #: 207-897-3348

FEDERAL TAX I.D. NUMBER: 01-0438838

NOTE: All applications must bear the handwritten signature of a duly authorized member or employee of the organization making the application. This sheet must be signed and returned with proposal package.

ITEM	TYPE OF LABORER	RATE PER HOUR
1.	CCTV INSPECTION SERVICES	Routine $ 215.00 /HR
		EMERGENCY $ 275.00 /HR
2.	CLEANING SERVICES	Routine $ 265.00 /HR
		EMERGENCY $ 345.00 /HR

A. Material, which the contractor may require to do the work, and which is not supplied by the City, will be charged,

AT COST PLUS 10 % (with verifiable, suppliers' invoices)

B. If a minimum amount of hours is required per job, the City will be charged for at least

4 hours.

A photocopy of the company's license(s) must be enclosed as part of the application submission package.

Number of: See Attached

Number of:

Number of:

Number of:

TED BERRY
COMPANY LLC.
A VORTEX COMPANY

NASSCO Inspection Certifications

NAS	Cert Number	Certification	Expiration
Luc Chretien	U-1116-07006132	PACP/MACP/LACP	1/27/2020
Adam Gilbert	U-415-06024016	PACP/MACP/LACP	3/28/2021
Austin Henault	U-0218-070300735	PACP/MACP/LACP	2/23/2021
Ashley Jones	U-1018-0703003325	PACP/MACP/LACP	10/17/2021
Jon Latham	U-1116-07006130	PACP/MACP/LACP	1/27/2020
Tim Lemon	U-1018-0703003323	PACP/MACP/LACP	10/17/2021
Rob Melanson	U-0218-070300736	PACP/MACP/LACP	2/23/2021
Shawn Ready	CIPP-1115-02011636	ITCP	12/1/2026
Charlie Roberts	U-1116-07006131	PACP/MACP/LACP	1/27/2020
Ryan Rouillard	U-416-07003891	PACP/MACP/LACP	5/20/2019
Matt Timberlake	CIPP-1115-02011634	ITCP	12/1/2026
Brian Turcotte	U-214-06020390	PACP/MACP/LACP	5/30/2021
Jimmy Wolfe	U-715-07000887	PACP/MACP/LACP	8/28/2021

Phone: (207) 897-3348 | 521 Federal Road, Livermore, ME 04253 | Fax: (207) 897-3627

CERTIFICATE OF LIABILITY INSURANCE

12/31/2019

DATE (MM/DD/YYYY): 5/9/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
LOCKTON COMPANIES
3657 BRIARPARK DRIVE, SUITE 700
HOUSTON TX 77042
866-260-3538

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: American Fire and Casualty Company	24066
INSURER B: The Ohio Casualty Insurance Company	24074
INSURER C: Marine Employers Mutual Inc. Co.	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
1462311
Ted Berry Company, LLC
521 Federal Road
Livermore ME 04253

COVERAGES **CERTIFICATE NUMBER:** 16077092 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:	Y	N	BKA (19) 58 28 10 28	12/31/2018	12/31/2019	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 15,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
B	AUTOMOBILE LIABILITY X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	Y	N	BA0 (19) 58 28 10 28	12/31/2018	12/31/2019	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$ XXXXXXX
							BODILY INJURY (Per accident)	$ XXXXXXX
							PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
B	X UMBRELLA LIAB [ ] OCCUR	N	N	US0 (19) 58 28 10 28	12/31/2018	12/31/2019	EACH OCCURRENCE	$ 1,000,000
	[ ] EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$ 1,000,000
	[ ] DED [ ] RETENTION $							$ XXXXXXX
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	N	510 1800974	12/31/2018	12/31/2019	X PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$ 500,000
							E.L. DISEASE - EA EMPLOYEE	$ 500,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
All policies (except Workers' Compensation/EL) include a blanket automatic additional insured [provision] that confers additional insured status to the certificate holder only if there is a written contract between the named insured and the certificate holder that requires the named insured to name the certificate holder as an additional insured. In the absence of such a contractual obligation on the part of the named insured, the certificate holder is not an additional insured under the policy.

CERTIFICATE HOLDER

16077092

City of Portland
212 Canco Road Suite B
Portland ME 04103

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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The ACORD name and logo are registered marks of ACORD

2019 Ted Berry Company Invoices CCTV Inspections		
Operating Budget - 57031202 403500		
FY18		
Date	Invoice	Amount
5/31/2019	16912	$36,348.84
6/28/2019	170009	$3,600.00
6/28/2019	17010	$52,800.00
6/28/2019	17011	$5,520.00
6/28/2019	17012	$24,720.00
		$122,988.84
FY19		
7/30/2019	360070	$3,840.00
8/13/2019	360138	$537.50
8/13/2019	360140	$1,827.50
8/13/2019	360141	$1,440.00
7/30/2019	370071	$2,880.00
8/30/2019	*360255*	$483.75
9/30/2019	360412	$698.75
9/30/2019	360413	$1,680.00
10/30/2019	360542	$3,762.50
11/8/2019	360584	$2,687.50
12/19/2019	360753	$860.00
		$20,697.50

TED BERRY COMPANY LLC.
A VORTEX COMPANY

521 Federal Rd., Livermore, ME 04253
Tel: 207-897-3348 Fax: 207-897-3627
www.tedberrycompany.com

Invoice

DATE	INVOICE #
5/31/2019	16912

BILL TO	PROJECT INFORMATION
City of Portland Accounts Payable 389 Congress St Portland, ME 04101	On Call Sewer Inspection Services Portland, ME May 13, 14, 16 & 20 - 23 , 2019 Benjamin Pearson, John Emerson

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	State	PROJECT
Agreement	Net 30	6/30/2019	DB	5/31/2019	ME	M-19-00280

QUANTITY	ITEM CODE	DESCRIPTION	PRICE EACH	AMOUNT
74.25	MVIA	CCTV Inspection Services	215.00	15,963.75
74.25	MHIB	Cleaning Services	265.00	19,676.25
1	MMIS	Traffic Control - May 19, 2019	708.84	708.84

Past due invoices are subject to 1.5% per month finance charge. Finance charges will begin 30 days from the date of invoice if not paid in full or if other arrangements have not been made in writing. Further collection processes may be taken uo to and including liens. Any disputes to the accuracy of this bill must be received by the due date of the bill or the amount will be deemed to be as agreed upon and billed.

Total	$36,348.84
Payments/Credits	$0.00
Balance Due	$36,348.84

TED BERRY COMPANY LLC.
A VORTEX COMPANY

521 Federal Rd., Livermore, ME 04253
Tel: 207-897-3348 Fax: 207-897-3627
www.tedberrycompany.com

Invoice

DATE	INVOICE #
6/28/2019	17009

BILL TO	PROJECT INFORMATION
City of Portland Accounts Payable 389 Congress St Portland, ME 04101	Clean and CCTV Inspection Services Portland, ME May 27 - June 28, 2019 Ben Pearson

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	State	PROJECT
Agreement	Net 30	7/28/2019	DB	6/28/2019	ME	M-19-0028001

QUANTITY	ITEM CODE	DESCRIPTION	PRICE EACH	AMOUNT
7.5	MVIA	CCTV Inspection Services	215.00	1,612.50
7.5	MHIB	Cleaning Services	265.00	1,987.50

Past due invoices are subject to 1.5% per month finance charge. Finance charges will begin 30 days from the date of invoice if not paid in full or if other arrangements have not been made in writing. Further collection processes may be taken uo to and including liens. Any disputes to the accuracy of this bill must be received by the due date of the bill or the amount will be deemed to be as agreed upon and billed.

Total	$3,600.00
Payments/Credits	$0.00
Balance Due	$3,600.00

TED BERRY COMPANY LLC.
A VORTEX COMPANY

521 Federal Rd., Livermore, ME 04253
Tel: 207-897-3348 Fax: 207-897-3627
www.tedberrycompany.com

Invoice

DATE	INVOICE #
6/28/2019	17010

BILL TO	PROJECT INFORMATION
City of Portland Accounts Payable 389 Congress St Portland, ME 04101	Clean and CCTV Inspection Services Portland, ME May 27 - June 28, 2019 Ben Pearson, Nathanial Smith

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	State	PROJECT
Agreement	Net 30	7/28/2019	DB	6/28/2019	ME	M-19-0028002

QUANTITY	ITEM CODE	DESCRIPTION	PRICE EACH	AMOUNT
110	MVIA	CCTV Inspection Services	215.00	23,650.00
110	MHIB	Cleaning Services	265.00	29,150.00

Past due invoices are subject to 1.5% per month finance charge. Finance charges will begin 30 days from the date of invoice if not paid in full or if other arrangements have not been made in writing. Further collection processes may be taken uo to and including liens. Any disputes to the accuracy of this bill must be received by the due date of the bill or the amount will be deemed to be as agreed upon and billed.

Total	$52,800.00
Payments/Credits	$0.00
Balance Due	$52,800.00

TED BERRY COMPANY LLC.
A VORTEX COMPANY

521 Federal Rd., Livermore, ME 04253
Tel: 207-897-3348 Fax: 207-897-3627
www.tedberrycompany.com

Invoice

DATE	INVOICE #
6/28/2019	17011

BILL TO	PROJECT INFORMATION
City of Portland Accounts Payable 389 Congress St Portland, ME 04101	Clean and CCTV Inspection Services Portland, ME May 27 - June 28, 2019 Ben Pearson, Justin Pellerin

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	State	PROJECT
Agreement	Net 30	7/28/2019	DB	6/28/2019	ME	M-19-0028003

QUANTITY	ITEM CODE	DESCRIPTION	PRICE EACH	AMOUNT
11.5	MVIA	CCTV Inspection Services	215.00	2,472.50
11.5	MHIB	Cleaning Services	265.00	3,047.50

Past due invoices are subject to 1.5% per month finance charge. Finance charges will begin 30 days from the date of invoice if not paid in full or if other arrangements have not been made in writing. Further collection processes may be taken uo to and including liens. Any disputes to the accuracy of this bill must be received by the due date of the bill or the amount will be deemed to be as agreed upon and billed.

Total	$5,520.00
Payments/Credits	$0.00
Balance Due	$5,520.00

TED BERRY COMPANY LLC.
A VORTEX COMPANY

521 Federal Rd., Livermore, ME 04253
Tel: 207-897-3348 Fax: 207-897-3627
www.tedberrycompany.com

Invoice

DATE	INVOICE #
6/28/2019	17012

BILL TO	PROJECT INFORMATION
City of Portland Accounts Payable 389 Congress St Portland, ME 04101	Clean and CCTV Inspection Services Portland, ME May 27 - June 28, 2019 Ben Pearson, John Emerson

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	State	PROJECT
Agreement	Net 30	7/28/2019	DB	6/28/2019	ME	M-19-0028004

QUANTITY	ITEM CODE	DESCRIPTION	PRICE EACH	AMOUNT
51.5	MVIA	CCTV Inspection Services	215.00	11,072.50
51.5	MHIB	Cleaning Services	265.00	13,647.50

Past due invoices are subject to 1.5% per month finance charge. Finance charges will begin 30 days from the date of invoice if not paid in full or if other arrangements have not been made in writing. Further collection processes may be taken uo to and including liens. Any disputes to the accuracy of this bill must be received by the due date of the bill or the amount will be deemed to be as agreed upon and billed.

Total	$24,720.00
Payments/Credits	$0.00
Balance Due	$24,720.00

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360413

Bill to:	Job: M190028002
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Nathaniel Smith Portland, ME

Invoice #: 360413 Date: 09/30/19	Customer P.O. #: Nathaniel Smith
Payment Terms: Net 30	Project Manager: Adam Gilbert
Customer Code: 10316	

Remarks: Sep 13, 2019 - BCM - Forest Ave/Darthmouth St

Quantity	Description	U/M	Unit Price	Extension
3.500	CCTV Inspection Services	HR	215.000	752.50
3.500	Cleaning Services	HR	265.000	927.50
		Subtotal:		**1,680.00**
		Total:		**1,680.00**

10/22/19
5703120240 3500

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360412

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360412 Date: 09/30/19	Customer P.O. #: Ben Pearson
Payment Terms: Net 30	Project Manager: Adam Gilbert
Customer Code: 10316	

Remarks: Sep 13, 2019 - Brackett Street

Quantity	Description	U/M	Unit Price	Extension
3.250	CCTV Inspection Services	HR	215.000	698.75
			Subtotal:	**698.75**
			Total:	**698.75**

10/22/19
570 31202 403500

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3627

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360070

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360070 Date: 07/30/19	Customer P.O. #: Ben Pearson
Payment Terms: Net 30 Customer Code: 10316	Project Manager: David Beauchamp

Remarks: June 29 - July 19, 2019

Quantity	Description	U/M	Unit Price	Extension
8.000	CCTV Inspection Services	HR	215.000	1,720.00
8.000	Clean Services	HR	265.000	2,120.00
			Subtotal:	**3,840.00**
			Total:	**3,840.00**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3627

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360138

Bill to:	Job: M190028002
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Nathaniel Smith Portland, ME

Invoice #: 360138 Date: 08/13/19	Customer P.O. #: Nathaniel Smith
Payment Terms: Net 30	Project Manager: David Beauchamp
Customer Code: 10316	

Remarks: July 20 - August 2, 2019

Quantity	Description	U/M	Unit Price	Extension
2.500	CCTV Inspection Services	HR	215.000	537.50
			Subtotal:	**537.50**
			Total:	**537.50**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3627

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360140

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360140 Date: 08/13/19	Customer P.O. #: Ben Pearson
Payment Terms: Net 30	Project Manager: David Beauchamp
Customer Code: 10316	

Remarks: July 20 - August 2, 2019

Quantity	Description	U/M	Unit Price	Extension
8.500	CCTV Inspection Services	HR	215.000	1,827.50
			Subtotal:	**1,827.50**
			Total:	**1,827.50**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3627

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360141

Bill to:	Job: M190028004
City of Portland, ME PO Box 544 Portland, ME 04112-9981	John Emerson

Invoice #: 360141 Date: 08/13/19	Customer P.O. #: John Emerson
Payment Terms: Net 30	Project Manager: David Beauchamp
Customer Code: 10316	

Remarks: July 20 - August 2, 2019

Quantity	Description	U/M	Unit Price	Extension
3.000	CCTV Inspection Services	HR	215.000	645.00
3.000	Cleaning Services	HR	265.000	795.00
			Subtotal:	**1,440.00**
			Total:	**1,440.00**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360255

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #:	360255	Date: 08/30/19	Customer P.O. #: Ben Pearson
Payment Terms:	Net 30		Project Manager: David Beauchamp
Customer Code:	10316		

Remarks: August 5 - 30, 2019

Quantity	Description	U/M	Unit Price	Extension
2.250	CCTV Inspection Services	EA	215.000	483.75
			Subtotal:	**483.75**
			Total:	**483.75**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360412

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360412	Date: 09/30/19	Customer P.O. #: Ben Pearson	
Payment Terms: Net 30		Project Manager: Adam Gilbert	
Customer Code: 10316			

Remarks: Sep 13, 2019 - Brackett Street

Quantity	Description	U/M	Unit Price	Extension
3.250	CCTV Inspection Services	HR	215.000	698.75
			Subtotal:	**698.75**
			Total:	**698.75**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360542

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360542 Date: 10/30/19	Customer P.O. #: Benjamin Pearson
Payment Terms: Net 30 Customer Code: 10316	Project Manager: Adam Gilbert

Remarks: October 7, 11, & 22, 2019

Quantity	Description	U/M	Unit Price	Extension
17.500	CCTV Inspection Services	HR	215.000	3,762.50
10/7/19 Washington Ave, Auburn St & Stat St				
10/11/19 Washington Ave				
10/22/19 USM Roundabout				

Subtotal: **3,762.50**

Total: **3,762.50**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360584

Bill to:	Job: M190028007
City of Portland, ME PO Box 544 Portland, ME 04112-9981	CCTV Pembrook St Backedup 34 Pembrook St. PORTLAND, ME

Invoice #:	360584	Date: 11/08/19	Customer P.O. #: Ben Pearson
Payment Terms:	Net 30		Project Manager: Adam Gilbert
Customer Code:	10316		

Remarks: October 28 - November 1, 2019

Quantity	Description	U/M	Unit Price	Extension
12.500	CCTV Inspection	HR	215.000	2,687.50
			Subtotal:	**2,687.50**
			Total:	**2,687.50**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3348

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360753

Bill to:	Job: M190028001
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Ben Pearson Portland, ME

Invoice #: 360753 Date: 12/13/19	Customer P.O. #: Ben Pearson
Payment Terms: Net 30 Customer Code: 10316	Project Manager: Adam Gilbert

Remarks: November 14, 2019 / Kenwood Street, Portland, ME

Quantity	Description	U/M	Unit Price	Extension
4.000	CCTV Inspection Services	HR	215.000	860.00
			Subtotal:	**860.00**
			Total:	**860.00**

Ted Berry Company, LLC
521 Federal Road
Livermore, ME 04253
207 897-3627

TED BERRY company, llc
A VORTEX COMPANY

Invoice 360071

Bill to:	Job: M190028002
City of Portland, ME PO Box 544 Portland, ME 04112-9981	Nathaniel Smith Portland, ME

Invoice #: 360071 Date: 07/30/19	Customer P.O. #: Nathaniel Smith
Payment Terms: Net 30 Customer Code: 10316	Project Manager: David Beauchamp

Remarks: June 29 - July 19, 2019

Quantity	Description	U/M	Unit Price	Extension
6.000	CCTV Inspection Services	HR	215.000	1,290.00
6.000	Cleaning Services	HR	265.000	1,590.00
			Subtotal:	**2,880.00**
			Total:	**2,880.00**

Inflow and Infiltration Study - Arcadis			
PO 43930			
Date	Invoice	Amount	Date Paid
6/8/2017	849636	$5,796.56	6/15/2017
7/10/2017	855266	$18,417.00	10/10/2017
7/31/2017	858108	$14,487.50	
8/30/2017	863773	$16,953.75	
10/2/2017	869348	$18,976.65	10/10/2017
11/2/2017	874462	$23,898.00	
12/4/2017	879975	$45,906.85	
1/10/2018	886281	$34,033.95	City Wide
		$7,072.00	CSO 42
		$41,105.95	Total
1/29/2018	889378	$6,627.42	City Wide
		$7,304.00	CSO 42
		$13,931.42	Total
3/7/2018	895770	$8,885.00	City Wide
		$1,247.00	CSO 42
		$10,132.00	Total
4/5/2018	900596	$56,923.27	
5/3/2018	905271	$13,301.56	
6/11/2018	912295	$16,727.80	City Wide
		$894.50	CSO 42
		$17,622.30	Total
7/10/2018	917600	$91,802.00	City Wide
		$1,590.00	CSO 42
		$93,392.00	Total
7/30/2018	920432	$18,831.50	City Wide
		$1,765.00	CSO 42
		$20,596.50	Total
8/28/2018	925602	$13,880.50	City Wide
		$7,983.60	CSO 42
		$21,864.10	Total
10/1/2018	931871	$21,674.85	City Wide
		$10,192.83	CSO 42
		$31,867.68	Total
11/6/2018	938242	$28,678.44	City Wide
		$14,135.07	CSO 42
		$42,813.51	Total
12/7/2018	944034	$14,144.00	City Wide
		$12,127.00	CSO 42
		$26,271.00	Total
1/4/2019	950020	$35,761.07	City Wide
		$8,276.50	CSO 42
		$44,037.57	Total
2/13/2019	956714	$115,291.88	City Wide

		$17,838.50	CSO 42
		$133,130.38	Total
3/22/2019	964024	$27,948.50	City Wide
		$1,357.00	CSO 42
		$29,305.50	Total
3/27/2019	964024	$64,643.48	City Wide
		$595.00	CSO 42
		$65,238.48	Total
5/14/2019	973330	$66,114.02	City Wide
		$485.00	CSO 42
		$66,599.02	Total
6/6/2019	977638	$50,224.25	City Wide
6/21/2019	981708	$86,364.45	City Wide
9/16/2019	34121164	$183,478.29	City Wide
10/9/2019	34125134	$207,675.97	City Wide
Total Budgeted		$1,800,000.00	
Total Spent		$1,384,688.51	$92,863.00
Remaining		$415,311.49	$47,137.00

INVOICE

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	January 4, 2019
Project No:	26980001.0000
Invoice No:	0950020
Payment Terms:	30 Days
Invoice Due Date:	February 3, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- REFINEMENT OF 2019 METER AREAS
- FLOW ISOLATION AND CCTV FIELD WORK AND OVERSIGHT

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- ANALYSIS OF MANHOLE INSPECTIONS AND SMOKE AND DYE TESTING RESULTS
- DEVELOPMENT OF REHABILITATION RECOMMENDATIONS
- CONTINUED SUMMARY REPORT FOR I/I INVESTIGATIONS FOR WARREN AVENUE/CSO-042 STUDY AREA

Professional Services from December 3, 2018 to December 30, 2018

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
ENGINEER/SCIENTIST/ARCHITECT II				
JENKINS, CAMERON	3.00	106.00	318.00	
PROJECT MANAGER				
HAYNES, SCOTT	4.50	195.00	877.50	
Totals	7.70		1,212.50	
Total Labor				**1,212.50**
			Total this Task	**$1,212.50**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	.50	195.00	97.50	
Totals	.50		97.50	
Total Labor				**97.50**
		Total this Task		**$97.50**

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
CATHCART, ERIC	.50	106.00	53.00	
JENKINS, CAMERON	53.70	106.00	5,692.20	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	58.00	175.00	10,150.00	
EDWARDS, KATHRYN	5.00	175.00	875.00	
PROJECT MANAGER				
HAYNES, SCOTT	6.00	195.00	1,170.00	
Totals	123.20		17,940.20	
Total Labor				**17,940.20**

Consultants

SUBCONTRACTOR COSTS			
1/2/2019	Flow Assessment Services, LLC	990.00	
	Total Consultants	**990.00**	**990.00**
		Total this Task	**$18,930.20**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT I				
HILL, JENNA	7.00	96.00	672.00	
ENGINEER/SCIENTIST/ARCHITECT II				
BEAUREGARD, BRANDON	64.20	106.00	6,805.20	
JENKINS, CAMERON	7.00	106.00	742.00	
ENGINEER/SCIENTIST/ARCHITECT III				
BEADLE, STEPHANIE	28.50	125.00	3,562.50	
PROJECT MANAGER				
HAYNES, SCOTT	17.00	195.00	3,315.00	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	2.00	205.00	410.00	
Totals	125.70		15,506.70	
Total Labor				**15,506.70**

Project	26980001.0000	Citywide I/I Program	Invoice	0950020

Reimbursable Expenses

REIMB EMPLOYEE MILEAGE

12/10/2018	HILL, JENNA	Gas	14.17	
	Total Reimbursables		**14.17**	**14.17**

Total this Task **$15,520.87**

Task 00700 Warren Ave/CSO-042 Investigations

Professional Personnel

	Hours	**Rate**	**Amount**	
ENGINEER/SCIENTIST/ARCHITECT I				
MACDONALD, SETH	59.00	96.00	5,664.00	
STAFF ENGINEER/SCIENTIST/ARCHITECT				
MITCHELL, SEAN	2.00	145.00	290.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.50	195.00	682.50	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	8.00	205.00	1,640.00	
Totals	72.50		8,276.50	
Total Labor				**8,276.50**

Total this Task **$8,276.50**

Total this Invoice **$44,037.57**

INVOICE

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	February 13, 2019
Project No:	26980001.0000
Invoice No:	0956714
Payment Terms:	30 Days
Invoice Due Date:	March 15, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- REFINEMENT OF 2019 METER AREAS
- FLOW ISOLATION AND CCTV REVIEW AND RECOMMENDATIONS

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- DEVELOPMENT OF REHABILITATION RECOMMENDATIONS
- COMPLETED AND DELIVERED DRAFT SUMMARY REPORT FOR I/I INVESTIGATIONS FOR WARREN AVENUE/CSO-042 STUDY AREA

Professional Services from December 31, 2018 to January 27, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.00	195.00	585.00	
Totals	3.20		602.00	
Total Labor				**602.00**
			Total this Task	**$602.00**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	5.00	195.00	975.00	
Totals	5.00		975.00	
Total Labor				**975.00**
			Total this Task	**$975.00**

Task 00300 Data Gap Analysis

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	.50	195.00	97.50	
Totals	.50		97.50	
Total Labor				**97.50**
		Total this Task		**$97.50**

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	48.00	175.00	8,400.00	
PROJECT MANAGER				
HAYNES, SCOTT	8.00	195.00	1,560.00	
Totals	56.00		9,960.00	
Total Labor				**9,960.00**
		Total this Task		**$9,960.00**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
BEAUREGARD, BRANDON	78.60	106.00	8,331.60	
JENKINS, CAMERON	136.00	106.00	14,416.00	
ENGINEER/SCIENTIST/ARCHITECT III				
BEADLE, STEPHANIE	23.50	125.00	2,937.50	
PROJECT MANAGER				
HAYNES, SCOTT	15.00	195.00	2,925.00	
Totals	253.10		28,610.10	
Total Labor				**28,610.10**

Consultants

SUBCONTRACTOR COSTS			
1/11/2019	Flow Assessment Services, LLC	75,047.28	
	Total Consultants	**75,047.28**	**75,047.28**
		Total this Task	**$103,657.38**

Task 00700 Warren Ave/CSO-042 Investigations

Professional Personnel

	Hours	Rate	Amount
ENGINEER/SCIENTIST/ARCHITECT I			
MACDONALD, SETH	73.50	96.00	7,056.00
STAFF ENGINEER/SCIENTIST/ARCHITECT			
MITCHELL, SEAN	41.00	145.00	5,945.00

PROJECT MANAGER			
HAYNES, SCOTT	18.50	195.00	3,607.50
PROJECT DIRECTOR / PRINCIPAL IN CHARGE			
LACHMAYR, JENNIFER	6.00	205.00	1,230.00
Totals	139.00		17,838.50
Total Labor			**17,838.50**
		Total this Task	**$17,838.50**
		Total this Invoice	**$133,130.38**

INVOICE

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	March 22, 2019
Project No:	26980001.0000
Invoice No:	0964024
Payment Terms:	30 Days
Invoice Due Date:	April 21, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- FINALIZED 2019 METER AREA DELINEATIONS
- FLOW ISOLATION AND CCTV REVIEW AND RECOMMENDATIONS

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- COMPLETED AND DELIVERED FINAL SUMMARY REPORT FOR I/I INVESTIGATIONS FOR WARREN AVENUE/CSO-042 STUDY AREA

Professional Services from January 28, 2019 to February 24, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	5.00	195.00	975.00	
Totals	5.20		992.00	
Total Labor				**992.00**
			Total this Task	**$992.00**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	2.00	195.00	390.00	
Totals	2.00		390.00	
Total Labor				**390.00**
			Total this Task	**$390.00**

Project	26980001.0000	Citywide I/I Program	Invoice	0964024

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	38.00	175.00	6,650.00	
PROJECT MANAGER				
HAYNES, SCOTT	7.50	195.00	1,462.50	
Totals	45.50		8,112.50	
Total Labor				**8,112.50**
			Total this Task	**$8,112.50**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
BEAUREGARD, BRANDON	31.20	106.00	3,307.20	
JENKINS, CAMERON	90.00	106.00	9,540.00	
ENGINEER/SCIENTIST/ARCHITECT III				
BEADLE, STEPHANIE	11.50	125.00	1,437.50	
PROJECT MANAGER				
HAYNES, SCOTT	15.00	195.00	2,925.00	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	6.00	205.00	1,230.00	
Totals	153.70		18,439.70	
Total Labor				**18,439.70**

Reimbursable Expenses

IH-FIELD VEHICLE				
2/24/2019	WHEELS, INC	LP1311 Toll Transactions -MI-19-001401	14.30	
Total Reimbursables			**14.30**	**14.30**
			Total this Task	**$18,454.00**

Task 00700 Warren Ave/CSO-042 Investigations

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT I				
MACDONALD, SETH	2.00	96.00	192.00	
STAFF ENGINEER/SCIENTIST/ARCHITECT				
MITCHELL, SEAN	4.00	145.00	580.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.00	195.00	585.00	
Totals	9.00		1,357.00	
Total Labor				**1,357.00**
			Total this Task	**$1,357.00**
			Total this Invoice	**$29,305.50**

INVOICE

ARCADIS Design & Consultancy for natural and built assets

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	March 27, 2019
Project No:	26980001.0000
Invoice No:	0964635
Payment Terms:	30 Days
Invoice Due Date:	April 26, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- INSTALLED AND BEGAN READING 2019 METERS, RAIN AND GW GAUGES
- CLEANING AND CCTV OF APPROXIMATELY 14,000 LF OF SEWER PIPELINE

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- PROJECT RECOMMENDATIONS/COORDINATION

Professional Services from February 25, 2019 to March 24, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.00	195.00	585.00	
Totals	3.20		602.00	
Total Labor				**602.00**
			Total this Task	**$602.00**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	2.00	195.00	390.00	
Totals	2.00		390.00	
Total Labor				**390.00**
			Total this Task	**$390.00**

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	40.00	175.00	7,000.00	
PROJECT MANAGER				
HAYNES, SCOTT	4.00	195.00	780.00	
Totals	44.00		7,780.00	
Total Labor				**7,780.00**

Consultants

SUBCONTRACTOR COSTS				
3/1/2019	Flow Assessment Services, LLC		990.00	
	Total Consultants		**990.00**	**990.00**

Reimbursable Expenses

TOLLS,PARKING,TRANSPORT,GAS				
3/19/2019	WHEELS, INC	LP1311 Toll Transactions	13.20	
	Total Reimbursables		**13.20**	**13.20**

Total this Task **$8,783.20**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
BEAUREGARD, BRANDON	66.00	106.00	6,996.00	
JENKINS, CAMERON	37.00	106.00	3,922.00	
ENGINEER/SCIENTIST/ARCHITECT III				
BEADLE, STEPHANIE	11.00	125.00	1,375.00	
PROJECT MANAGER				
HAYNES, SCOTT	9.00	195.00	1,755.00	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	3.00	205.00	615.00	
Totals	126.00		14,663.00	
Total Labor				**14,663.00**

Consultants

SUBCONTRACTOR COSTS				
3/25/2019	Ted Berry Company Inc.		15,111.79	
3/25/2019	Ted Berry Company Inc.		25,093.49	
	Total Consultants		**40,205.28**	**40,205.28**

Total this Task **$54,868.28**

Task 00700 Warren Ave/CSO-042 Investigations

Professional Personnel

	Hours	Rate	Amount
PROJECT MANAGER			
HAYNES, SCOTT	2.00	195.00	390.00

PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	1.00	205.00	205.00	
Totals	3.00		595.00	
Total Labor				**595.00**
			Total this Task	**$595.00**
			Total this Invoice	**$65,238.48**

INVOICE

ARCADIS Design & Consultancy for natural and built assets

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	May 14, 2019
Project No:	26980001.0000
Invoice No:	0973330
Payment Terms:	30 Days
Invoice Due Date:	June 13, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- CONTINUATION OF 2019 FLOW MONITORING, RAIN AND GW GAUGES
- CLEANING AND CCTV OF APPROXIMATELY 25,000 LF OF SEWER PIPELINE

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- PROJECT RECOMMENDATIONS/COORDINATION

Professional Services from March 25, 2019 to April 28, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	14.50	195.00	2,827.50	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	12.00	205.00	2,460.00	
Totals	26.70		5,304.50	
Total Labor				**5,304.50**
			Total this Task	**$5,304.50**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	5.50	195.00	1,072.50	
Totals	5.50		1,072.50	
Total Labor				**1,072.50**
			Total this Task	**$1,072.50**

Task 00300 Data Gap Analysis

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	2.00	195.00	390.00	
Totals	2.00		390.00	
Total Labor				**390.00**
		Total this Task		**$390.00**

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
JENKINS, CAMERON	36.00	106.00	3,816.00	
MACDONALD, SETH	1.00	106.00	106.00	
PROJECT ENGINEER/SCIENTIST/ARCHITECT				
MEYERS, COREY	16.00	155.00	2,480.00	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	66.00	175.00	11,550.00	
PROJECT MANAGER				
HAYNES, SCOTT	9.00	195.00	1,755.00	
Totals	128.00		19,707.00	
Total Labor				**19,707.00**

Consultants

SUBCONTRACTOR COSTS			
3/29/2019	Flow Assessment Services, LLC	15,400.00	
4/28/2019	Flow Assessment Services, LLC	990.00	
	Total Consultants	**16,390.00**	**16,390.00**

Unit Billing

Vehicle Mileage, Field Truck			
LP1311 JENKINS 4/26/19 -mi-19-004842	243.0 miles @ 0.58	140.94	
	Total Units	**140.94**	**140.94**
		Total this Task	**$36,237.94**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount
ENGINEER/SCIENTIST/ARCHITECT II			
BEAUREGARD, BRANDON	106.20	106.00	11,257.20
JENKINS, CAMERON	54.00	106.00	5,724.00
ENGINEER/SCIENTIST/ARCHITECT III			
BEADLE, STEPHANIE	15.50	125.00	1,937.50

Project	26980001.0000	Citywide I/I Program			Invoice	0973330
PROJECT MANAGER						
HAYNES, SCOTT			21.00	195.00	4,095.00	
	Totals		196.70		23,013.70	
	Total Labor					**23,013.70**
Reimbursable Expenses						
MEALS						
12/12/2018	BEAUREGARD, BRANDON	Lunch			11.97	
12/12/2018	BEAUREGARD, BRANDON	Dinner			36.72	
12/13/2018	BEAUREGARD, BRANDON	Breakfast & Drinking Water			6.02	
12/13/2018	BEAUREGARD, BRANDON	Dinner			22.68	
12/14/2018	BEAUREGARD, BRANDON	Breakfast			3.76	
12/14/2018	BEAUREGARD, BRANDON	Lunch			11.97	
FIELD EXPENSES						
12/12/2018	BEAUREGARD, BRANDON	Drinking Water			2.26	
	Total Reimbursables				**95.38**	**95.38**
					Total this Task	**$23,109.08**

Task	00700	Warren Ave/CSO-042 Investigations				
Professional Personnel						
			Hours	**Rate**	**Amount**	
STAFF ENGINEER/SCIENTIST/ARCHITECT						
MITCHELL, SEAN			2.00	145.00	290.00	
PROJECT MANAGER						
HAYNES, SCOTT			1.00	195.00	195.00	
	Totals		3.00		485.00	
	Total Labor					**485.00**
					Total this Task	**$485.00**
					Total this Invoice	**$66,599.02**

INVOICE

ARCADIS Design & Consultancy for natural and built assets

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	June 6, 2019
Project No:	26980001.0000
Invoice No:	0977638
Payment Terms:	30 Days
Invoice Due Date:	July 6, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- CONTINUATION OF 2019 FLOW MONITORING, RAIN AND GW GAUGES
- CLEANING AND CCTV OF APPROXIMATELY 30,000 LF OF SEWER PIPELINE

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- PROJECT RECOMMENDATIONS/COORDINATION

Professional Services from April 29, 2019 to June 2, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.50	195.00	682.50	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	6.00	205.00	1,230.00	
Totals	9.70		1,929.50	
Total Labor				**1,929.50**
			Total this Task	**$1,929.50**

Task 00200 Kickoff, Data Collection, Publ

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	4.00	195.00	780.00	
Totals	4.00		780.00	
Total Labor				**780.00**
			Total this Task	**$780.00**

Task 00300 Data Gap Analysis

Professional Personnel

	Hours	Rate	Amount	
PROJECT MANAGER				
HAYNES, SCOTT	1.00	195.00	195.00	
Totals	1.00		195.00	
Total Labor				**195.00**
		Total this Task		**$195.00**

Task 00400 Flow Monitoring Program and I/I Analysis

Professional Personnel

	Hours	Rate	Amount	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	17.00	175.00	2,975.00	
EDWARDS, KATHRYN	7.00	175.00	1,225.00	
PROJECT MANAGER				
HAYNES, SCOTT	9.50	195.00	1,852.50	
Totals	33.50		6,052.50	
Total Labor				**6,052.50**
		Total this Task		**$6,052.50**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

	Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II				
BEAUREGARD, BRANDON	80.30	106.00	8,511.80	
JENKINS, CAMERON	101.00	106.00	10,706.00	
ENGINEER/SCIENTIST/ARCHITECT III				
BEADLE, STEPHANIE	1.50	125.00	187.50	
SENIOR ENGINEER/SCIENTIST/ARCHITECT				
ANDERSON, AMY	55.00	175.00	9,625.00	
PROJECT MANAGER				
HAYNES, SCOTT	19.00	195.00	3,705.00	
Totals	256.80		32,735.30	
Total Labor				**32,735.30**

Consultants

SUBCONTRACTOR COSTS				
5/16/2019	Ted Berry Company Inc.		8,214.32	
	Total Consultants		**8,214.32**	**8,214.32**

Reimbursable Expenses

REIMB EMPLOYEE MILEAGE				
4/26/2019	ANDERSON, AMY	Portland Project Meeting	70.76	
	Total Reimbursables		**70.76**	**70.76**

Project	26980001.0000	Citywide I/I Program		Invoice	0977638
Unit Billing					
Field Truck Mileage					
LP1311 BEAUREGARD 12/14/18 -mi-19-006378			238.0 miles @ 0.545	129.71	
Vehicle Mileage, Field Truck					
LP1311 BEAUREGARD 12/14/18 -mi-19-006379			202.0 miles @ 0.58	117.16	
	Total Units			**246.87**	**246.87**
			Total this Task		**$41,267.25**
			Total this Invoice		**$50,224.25**

INVOICE

ARCADIS Design & Consultancy for natural and built assets

Remit Payments To:
Arcadis US, Inc.
Bank of America | Acct. No. 8188093937
ACH: 071 000 039 | Wire: 026009 593 | SWIFT: BOFAUS3N
Remittance Info: remit-mailbox@arcadis-us.com
62638 Collections Center Drive | Chicago, IL 60693-0626

Benjamin Pearson, Pe, Compliance Coordinator
Portland Department Of Public Works
55 Portland Street
Portland, ME 04101

Invoice Date:	June 21, 2019
Project No:	26980001.0000
Invoice No:	0981708
Payment Terms:	30 Days
Invoice Due Date:	July 21, 2019

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:
CITYWIDE I/I ANALYSIS
- PROJECT MANAGEMENT AND ADMINISTRATION
- COORDINATION WITH DPW AND SUBCONTRACTORS
- CONTINUATION OF 2019 (PHASE 2) FLOW MONITORING - DATA ANALYSIS; SELECTION OF FLOW ISOLATION
- CLEANING AND CCTV OF APPROXIMATELY 15,000 LF OF SEWER PIPELINE

TASK 7: WARREN AVE./CSO-042 INVESTIGATIONS
- PROJECT RECOMMENDATIONS/COORDINATION

Professional Services from June 3, 2019 to June 16, 2019

Task 00100 Project Management

Professional Personnel

	Hours	Rate	Amount	
ADMINISTRATIVE / TECHNICIAN				
SLATER, DUANE	.20	85.00	17.00	
PROJECT MANAGER				
HAYNES, SCOTT	3.00	195.00	585.00	
PROJECT DIRECTOR / PRINCIPAL IN CHARGE				
LACHMAYR, JENNIFER	2.00	205.00	410.00	
Totals	5.20		1,012.00	
Total Labor				**1,012.00**

Reimbursable Expenses

TOLLS,PARKING,TRANSPORT,GAS				
4/26/2019	LACHMAYR, JENNIFER	tolls	10.50	
REIMB EMPLOYEE MILEAGE				
4/26/2019	LACHMAYR, JENNIFER	City wide I/I Mtg	116.00	
Total Reimbursables			**126.50**	**126.50**
			Total this Task	**$1,138.50**

Task 00400 Flow Monitoring Program and I/I Analysis

Project	26980001.0000	Citywide I/I Program			Invoice	0981708

Professional Personnel

		Hours	Rate	Amount	
PROJECT MANAGER					
HAYNES, SCOTT		4.00	195.00	780.00	
	Totals	4.00		780.00	
	Total Labor				**780.00**

Consultants

SUBCONTRACTOR COSTS				
6/6/2019	Flow Assessment Services, LLC		55,704.00	
	Total Consultants		**55,704.00**	**55,704.00**
		Total this Task		**$56,484.00**

Task 00500 SSES - Investigate Major I/I Sources

Professional Personnel

		Hours	Rate	Amount	
ENGINEER/SCIENTIST/ARCHITECT II					
BEAUREGARD, BRANDON		29.60	106.00	3,137.60	
JENKINS, CAMERON		25.50	106.00	2,703.00	
SENIOR ENGINEER/SCIENTIST/ARCHITECT					
ANDERSON, AMY		31.00	175.00	5,425.00	
PROJECT MANAGER					
HAYNES, SCOTT		8.00	195.00	1,560.00	
	Totals	94.10		12,825.60	
	Total Labor				**12,825.60**

Consultants

SUBCONTRACTOR COSTS				
6/19/2019	Ted Berry Company Inc.		15,916.35	
	Total Consultants		**15,916.35**	**15,916.35**
		Total this Task		**$28,741.95**
		Total this Invoice		**$86,364.45**

INVOICE

City of Portland, ME
Attn. : Benjamin Pearson
55 Portland St
Portland, ME 04101-2921
United States

Arcadis U.S., Inc.
Bank of America
Acct: 8188093937
ACH: 071 000 039 Wire: 026009 593
SWIFT: BOFAUS3N
Remit-mailbox@arcadis-us.com
62638 Collections Center Drive
Chicago, IL 60693-0626

Invoice Date	**16-Sep-2019**	**Invoice Number**	**34121164**
Payment Term	**30 days**	**Due Date**	**2019-10-16**

SANITARY SEWER SYSTEM INFILTRATION/INFLOW PROGRAM - PO# 043930

WORK COMPLETED THIS PERIOD:

CITYWIDE I/I ANALYSIS

- PROJECT MANAGEMENT AND ADMINISTRATION
- PROGRESS MEETING WITH CITY
- COORDINATION WITH DPW AND SUBCONTRACTORS
- FLOW ISOLATION AND MANHOLE INSPECTIONS (ON-GOING), BASED ON PHASE 2 FLOW MONITORING
- CLEANING AND CCTV OF SEWER PIPELINES

Arcadis Reference Number	26980001.0000	Project Number	30004623
Arcadis Reference Name	26980001.0000-Citywide I/I Program	Project Name	26980001.0000-Citywide I/I Program
Arcadis Reference Description	26980001.0000-Citywide Infiltration and Inflow Program	Project Manager	Scott Haynes
Services Through	25-Aug-2019	Client Contact	Benjamin Pearson

Professional Services to 25-Aug-2019

Total This Invoice **183,478.29** **USD**

BOFA-071000039

Account No. 8188093937 SWIFT BOFAUS3N

Remittance Address: Remit-Mailbox@arcadis-us.com
Please include the invoice number on all payments and include remittance copy with all postal payments. Late payments will be assessed according to contract terms.

Bank Name BANK OF AMERICA N.A. Bank/Branch Code

Details - Invoice Number 34121164

Project	Task	Contract Line
30004623 - 26980001.0000-Citywide I/I Program	00100 - Project Management	1 - 26980001.0000/00100

Labor

Employee Name	Quantity	UOM	Rate	This Invoice
Slater, Duane	0.20	Hours	85.00	17.00
Lachmayr, Jennifer	14.00	Hours	205.00	2,870.00
Haynes, Scott	14.00	Hours	195.00	2,730.00
	28.20			**5,617.00**
Total Labor				**5,617.00**
Total This Task				**5,617.00**

Project	Task	Contract Line
30004623 - 26980001.0000-Citywide I/I Program	00200 - Kickoff, Data Collection, Publ	2 - 26980001.0000/00200

Labor

Employee Name	Quantity	UOM	Rate	This Invoice
Haynes, Scott	1.00	Hours	195.00	195.00
	1.00			**195.00**
Total Labor				**195.00**

Reimbursable Expenses

	Employee Name	Transaction Date	Comment	This Invoice
Parking				
	Lachmayr, Jennifer	07-Aug-2019	Miscellaneous-Parking / Toll	10.50
	Total Reimbursable Expenses			**10.50**
	Total This Task			**205.50**

Project	Task	Contract Line
30004623 - 26980001.0000-Citywide I/I Program	00400 - Flow Monitoring Program and I/I Analysis	4 - 26980001.0000/00400

Labor

Employee Name	Quantity	UOM	Rate	This Invoice
Lachmayr, Jennifer	1.00	Hours	205.00	205.00
Haynes, Scott	14.00	Hours	195.00	2,730.00
Anderson, Amy	93.00	Hours	175.00	16,275.00
Edwards, Kathryn	0.50	Hours	175.00	87.50
Jenkins, Cameron	102.00	Hours	106.00	10,812.00
	210.50			**30,109.50**
Total Labor				**30,109.50**

Subcontracting

Supplier Name	Invoice Date	This Invoice
Subcontractor 1		

Flow Assessment Services LLC	21-Jun-2019	55,704.00
Flow Assessment Services LLC	24-Jun-2019	990.00
Total Subcontracting		**56,694.00**
Total This Task		**86,803.50**

Project	**Task**	**Contract Line**
30004623 - 26980001.0000-Citywide I/I Program	00500 - SSES - Investigate Major I/I Sources	5 - 26980001.0000/00500

Labor

Employee Name	Quantity	UOM	Rate	This Invoice
Lachmayr, Jennifer	2.00	Hours	205.00	410.00
Haynes, Scott	37.00	Hours	195.00	7,215.00
Anderson, Amy	100.00	Hours	175.00	17,500.00
Joyce, Sheila	2.00	Hours	85.00	170.00
Raffi, Evan	21.00	Hours	96.00	2,016.00
Beauregard, Brandon	38.50	Hours	106.00	4,081.00
Jenkins, Cameron	90.00	Hours	106.00	9,540.00
	290.50			**40,932.00**
Total Labor				**40,932.00**

Subcontracting

Supplier Name	Invoice Date	This Invoice
Subcontractor 1		
Flow Assessment Services LLC	24-Jun-2019	412.50
Flow Assessment Services LLC	25-Jun-2019	43,941.98
Ted Berry Company Inc.	04-Jun-2019	5,320.47
Total Subcontracting		**49,674.95**

Reimbursable Expenses

Employee Name	Transaction Date	Comment	This Invoice
Car Mileage			
Anderson, Amy	07-Aug-2019	Portland Client Meeting	120.64
Haynes, Scott	07-Aug-2019	Portland I/I meeting	124.70
Total Reimbursable Expenses			**245.34**
Total This Task			**90,852.29**
Total This Project			**183,478.29**
Total This Invoice			**183,478.29 USD**

Total This Invoice **183,478.29** **USD**

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
JONES ASSOCIATES INC.

THIS AGREEMENT is entered into this 12th day of December, 2018, by and between the **CITY OF PORTLAND**, a body politic and corporate (hereinafter the "**CITY**"), and **JONES ASSOCIATES INC.**, a Maine corporation with a mailing address of 280 Poland Springs Road, Auburn, Maine 04210 (hereinafter the "**CONSULTANT**").

W I T N E S S E T H:

WHEREAS, the CITY is in need of surveys of its sewer right of ways and did advertise a Request for Bids #19008 dated July 31, 2018 entitled "Stake Out of Existing Sewer Right of Ways" as amended by Addenda No. 1 dated August 8, 2018, No. 2 dated August 28, 2018, and No. 3 dated August 29, 2018 (hereinafter, collectively, the "Request for Bids") a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the CONSULTANT has the requisite knowledge and technical ability to perform the required services and has submitted a proposal dated September 6, 2018, a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY decided to award this contract to CONSULTANT;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The CONSULTANT will furnish the services, materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request for Proposals and also in accordance with CONSULTANT's Proposal.

   The restatement in this document of any term of the Request for Proposals or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between the Request for Proposals or the Proposal and this document, then this document shall govern; and the Request for Proposals shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONSULTANT covenants and agrees that all Work performed and furnished hereunder shall be in accordance with all applicable professional standards.

3. Prior to the execution of this Agreement, the CONSULTANT shall, at its own expense, carry occurrence-based Professional Liability Insurance for errors, omissions and negligence, in the amount of One Million Dollars ($1,000,000.00) per claim. The CONSULTANT will also procure and maintain occurrence-based Automobile Liability Insurance, and Commercial General Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the CITY as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the Automobile Liability and Commercial General Liability Insurance, the CONSULTANT shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONSULTANT shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONSULTANT shall also provide a copy of any endorsement naming the CITY as additional insured. A certificate that merely has a box checked under "Addl Insr," or the like, or that merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONSULTANT shall provide CITY with a complete copy of any of the above-referenced policies. CONSULTANT shall be responsible for any and all deductibles and/or self-insured retentions. CITY's acceptance or lack of acceptance of CONSULTANT's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONSULTANT's obligation to obtain and maintain such insurance as required by this agreement.

4. To the fullest extent permitted by law, the CONSULTANT shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONSULTANT, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY that otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONSULTANT's obligations under this paragraph shall survive termination of this Agreement.

5. The CONSULTANT shall perform the work to the satisfaction of the Director of the Department of Public Works or his or her designee (hereinafter, the "Director") who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. The CONSULTANT acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

6. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed contract to the CONSULTANT, which will commence work as soon as reasonably possible. The CONSULTANT agrees to complete the entire work by three months after the date of execution. The time set for such completion may be extended only by written consent of the Director.

7. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director or designee will be final and binding.

8. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONSULTANT Thirty-Nine Thousand Six Hundred Eighty-Five Dollars ($39,685.00) which will include any expenses.

9. The CONSULTANT shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONSULTANT not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director or designee.

10. The CITY agrees to furnish or provide access to the CONSULTANT to any information or material in its possession which is relevant to the CONSULTANT's performance hereunder and CITY staff will cooperate with CONSULTANT. The CONSULTANT will not, without the CITY's written consent, disclose, or permit disclosure, by any officer, employee, or agent or subcontractor of CONSULTANT, of any information or material furnished or generated under this Agreement. The CONSULTANT shall be entitled to rely upon the accuracy of such information. The provisions of this Article shall not apply to information which is published or comes into the public domain through no fault of the CONSULTANT or is required to be disclosed by law.

    The following shall be requirements of this Agreement:

    (a) All data collected shall be treated as confidential material and shall be disclosed *only* to authorized CITY representatives;

(b) The CONSULTANT shall not disclose or permit disclosure of any information or material furnished and/or generated under this Agreement without the CITY's prior written consent; and

(c) All documents, data, studies, estimates, summaries and any other work or material developed under this Agreement shall be the property of the CITY and shall be promptly delivered to the appropriate Department Contact person upon completion of a particular service/assignment or upon the request of the CITY.

11. The CITY may terminate this Agreement for cause by written Notice to the CONSULTANT. In the event of such termination, the CONSULTANT shall not be entitled to any further payment under this Agreement from the date of receipt of said Notice.

12. The CITY shall have the right to terminate this Agreement at any time for its convenience with prior written Notice to the CONSULTANT. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONSULTANT for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such Notice.

13. Out of concern for the public, CITY employees and the CONSULTANT's employees, all work performed by the CONSULTANT shall be in conformance with pertinent OSHA, local, state and federal government regulations.

14. CONSULTANT agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONSULTANT specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONSULTANT where appropriate.

15. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

16. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONSULTANT.

17. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

18. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

19. CONSULTANT warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform its obligations under this Agreement, and that the person signing this Agreement on behalf of CONSULTANT has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, and **JONES ASSOCIATES INC.** has caused this Agreement to be signed and sealed by Mary Ella Jones, its Vice President, thereunto duly authorized, as of the day and date first above written.

WITNESS:

Sonia Bean

CITY OF PORTLAND

By: _____
Jon P. Jennings
Its City Manager

WITNESS:

JONES ASSOCIATES INC.

By: _____

Mary Ella Jones
Its: Vice President

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

EXHIBIT A

City of Portland, Maine

Department of Public Works

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS

BID #19008

City of Portland – DPW - Water Resources Engineering is requesting bids for a survey location and stake out of portions of the Presumpscot North Main Interceptor Sewer R/W and portions of the Bailey Ave. Branch Sewer R/W as shown on the attached GIS plan. The work shall include location of existing right of way lines, manholes, culverts and marking of any property corners (pipes, rebar, monuments, etc.) found within or near the right of way. Work shall include the placement of flagged stakes along the sidelines of the easements at intervals of 50 feet± and at angle points. The right sideline flagging color shall be red, left sideline flagging color shall be blue and centerline flagging color shall be white when looking south to north or east to west

Sealed proposals plainly marked "Stake Out of Existing Sewer Right of Ways Presumpscot North Main Interceptor and Bailey Branch Sewer, Bid # 19008" will be submitted to the City of Portland Purchasing Office at City Hall on 389 Congress Street in Portland, Maine 04101. Six (6) hard copies and one (1) electronic copy on a thumb drive of the proposal will be submitted before **3:00 p.m. on Thursday, September 6, 2018**. Late, unsigned proposals, or proposals submitted electronically shall not be accepted. Proposals shall remain open to acceptance for ninety (90) days from their opening.

MANDATORY PRE-BID MEETING

There will be a **mandatory pre-bid meeting at 10:00am on Wednesday, August 22, 2018** This meeting will commence at DPW Water Resources Facility Conference Room, 109 District Rd., Portland, Maine. Interested bidders shall meet a City Representative at the site. Only those firms represented at this meeting will be allowed to submit a bid on this project.

QUESTIONS

All **questions** shall be directed to the City of Portland Purchasing Office by email to JRL@portlandmaine.gov. All questions must be received at least five business days before the opening date. Questions received after this time will not be addressed. Responses that substantially alter this RFP will be issued in the form of written addenda to all those that have registered and received an RFP from the City of Portland Purchasing Office. Oral explanations or interpretations given before the proposal submittal deadline will not be binding.

Proposals from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Request from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this Bid.

INSURANCE REQUIREMENTS

Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain occurrence-based Automobile Liability Insurance coverage in the amount of One Million Dollars per occurrence($1,000,000.00) and Commercial General Liability Insurance coverage (including completed operations coverage for at least 24 months after completion of the Work) in the amount of Three Million dollars per occurrence ($3,000,000.00) for bodily injury, death and property damage, naming the CITY as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. CONTRACTOR shall also procure and maintain Builders Risk insurance coverage in the amount of Two Million Dollars ($2,000,000.00) adding the City as a named insured thereon. With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. A certificate that merely has a box checked under "Addl Insr," or the like, or that merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation policy shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions. CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement.

EQUAL EMPLOYMENT OPPORTUNITIES

Vendor shall comply fully with the Nondiscrimination and Equal Opportunity Provisions of the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

July 31, 2018

Matthew F. Fitzgerald
Purchasing Manager

SCOPE OF WORK

City of Portland DPW Surveying Group has prepared a GIS map of the easements, conducted the deed and vault research and provided an excel worksheet which lists affected property owners along with deed and plan references. The following is included in this Bid.

1. Map of the Right of Ways and properties.
2. List of properties and owners impacted by the Right of Ways.
3. List of Deeds for both the right of ways and the impacted properties.

Upon award of the contract all the available supporting deeds, drawings and other relevant information will be provided to the firm which will be doing the location and markout work. Control point information and drawing showing all the point used to develop the map included in the RFP will be provided to the firm in 2018 AutoCAD file format.

The scope of work shall include all labor, Survey crew time, supervision, Maine Professional Licensed Surveyor, survey equipment, base station(s), instrumentation, stakes, tools, transportation, fuel, tolls, copying, printing, meals, vehicles, administrative costs, field and office staff necessary to stake out easements with flagging and collection of state plane coordinates on pins, stakes, monuments, manholes, culverts and fence lines as encountered. A final Civil3D CAD drawing with state plane coordinates shall be provided. The vertical datum shall be provided in both NAV 1983 and NGVD 29. Horizontal data shall be provided in Maine State Plane survey foot as the unit of measure.

Deliverables:

1. Location and stake out of portions of the existing Presumpscot Main North Interceptor and Bailey Avenue Branch Sewer Right of Ways.
2. Flagging at each pin, stake or monument found within or near the right of way.
3. A final Civil3D CAD drawing with state plane coordinates on all found and set points including property markers, stakes, monuments manholes, fences, culverts, unique features, etc.
4. Flagging along the sidelines of each right of way every 50 ft between corners and at each angle point.
5. Accuracy shall be to 0.02 feet.
6. Coordinates on the centerline station at each cross section and structure.
7. Digital Photograph of each pin, stake, corner, monument or manhole.
8. Provide AutoCAD drawing of the stake out information in National CAD Standards adopted in 2014.
9. All survey points shall be provided in ESRI format for entry into the city's GIS mapping. The vertical and horizontal data shall be provided in NAD_1983_HARN_StatePlane_Maine_West_FIPS_1802_Feet WKID: 26856 Authority: EPSG

Digital Photographs are to be numbered by section or structure and 1, 2, 3, 4 etc. and short description stating looking upstream, downstream, left of right.

Pricing format shall be in Lump Sum for each item listed on price proposal form on page 6.

This proposal shall be under the existing contract condition between your firm and City of Portland

PRICE PROPOSAL PAGE

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
PRESUMPSCOT NORTH MAIN INTERCEPTOR
AND BAILEY BRANCH SEWER
BID #19008

	ITEM	LUMP SUM AMOUNT
1.	Location and stake out of portions of the existing Presumpscot Main North Interceptor Right of Ways including flagging at each pin, stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 ft intervals	
2.	Location and stake out of portions of the existing Bailey Avenue Branch Sewer including flagging at each Pin stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 ft intervals	
3.	Amount quoted to prepare and submit in AutoCAD Drawing of the easements after stake out	
4.	Amount quoted Digital Photographs for each of the easements after stake out	
5.	Amount quoted to collect and submit GIS Data of the easements after stake out	
	TOTAL AMOUNT	

PROPOSAL FORM

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
PRESUMPSCOT NORTH MAIN INTERCEPTOR
AND BAILEY BRANCH SEWER
BID #19008

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER: _____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER:

_____

STATE OF INCORPORATION, IF APPLICABLE: _____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

This is a Sample Contract or Agreement ONLY; the final terms and conditions in the actual Agreement will be determined by the City's Corporation Counsel Office, and may contain additional

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
COMPANY

THIS AGREEMENT is entered into this ____ day of _____, 2018, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the **"CITY"**), and **COMPANY,** a Maine corporation/limited liability company with a mailing address of ADDRESS (hereinafter the **"CONTRACTOR"**).

W I T N E S S E T H:

WHEREAS, the CITY did advertise a Request for Proposals #19xxx dated _____ entitled "Stake Out Of Existing Sewer Right Of Ways Presumpscot North Main Interceptor and Bailey Branch Sewer," as amended by Addenda No. __ dated ___ (hereinafter, collectively, the "Request for Bids"), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the CONTRACTOR has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated _____, (hereinafter, the "Proposal") a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY did award the bid to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CONTRACTOR** will furnish the materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request for Bids and also in accordance with the CONTRACTOR's Proposal.

The restatement in this document of any term of the Request for Bids or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between Request for Bids or the Proposal and this document, then this document shall govern; and the Request for Bids shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONTRACTOR covenants and agrees that all Work performed and furnished hereunder shall be free from all defects, and that all Work shall be performed in a good workmanlike manner. Unless a longer warranty period is specified in the Exhibits hereto, all Work provided shall be warranted by the CONTRACTOR for one (1) full year from the date of completion of all Work hereunder and acceptance thereof by the CITY. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain occurrence-based Automobile Liability Insurance coverage in the amount of One Million Dollars per occurrence($1,000,000.00) and Commercial General Liability Insurance coverage (including completed operations coverage for at least 24 months after completion of the Work) in the amount of Three Million dollars per occurrence ($3,000,000.00) for bodily injury, death and property damage, naming the CITY as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. CONTRACTOR shall also procure and maintain Builders Risk insurance coverage in the amount of Two Million Dollars ($2,000,000.00) adding the City as a named insured thereon. With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. A certificate that merely has a box checked under "Addl Insr," or the like, or that merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation policy shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions. CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement..

4. The CONTRACTOR shall furnish to the CITY, upon execution of the Contract, a Contract Performance Bond and a Contract Labor and Materials Payment Bond each for the full amount of the Contract and issued by a surety company or surety companies authorized to do business in

the State of Maine and approved by the CITY. The Bonds shall remain in effect for one year after final acceptance of the Work, and protect the CITY for at least one year of warranty of the Work hereunder, and also shall insure settlement of claims for the payment of all bills for labor, materials and equipment.

5. To the fullest extent permitted by law, the CONTRACTOR shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONTRACTOR, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY which otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

6. Prior to any payment, the CITY reserves the right to require Waivers of Lien for materials and labor from the CONTRACTOR and its subcontractors and suppliers guaranteeing One Hundred Percent (100%) performance, free and clear from all liens and encumbrances. Any mechanic's lien or any other lien which may be filed against the premises which are the subject of this Agreement by reason of the Work described herein shall be defended (by counsel reasonably acceptable to the CITY) and promptly discharged by the CONTRACTOR at its own expense. The CITY may require the CONTRACTOR to provide a bond satisfactory to the CITY to indemnify it against any lien and as a substitution in place of a lien. If the CONTRACTOR should fail either to defend the CITY against the lien or to discharge it, then the CITY may do so at the CONTRACTOR's expense. In the event of such an undertaking by the CITY, the CONTRACTOR will promptly reimburse the CITY for all its costs and expenses in so doing, including, but not limited to, reimbursement of the CITY's reasonable counsel fees, as well as costs which may be incurred by it in substituting a bond in place of a lien. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

7. The CONTRACTOR shall perform the work to the satisfaction of the responsible CITY official who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. CITY inspectors will have the authority to stop work in progress if such work is being done contrary to the plans, specifications or engineering practice. CONTRACTOR acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

8. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed CITY contract to the CONTRACTOR, which will commence work upon receipt. The term of this agreement shall be from _____ OR completion date.

9. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director of _____ or his or her designee (hereinafter, the "Director") will be final and binding.

10. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONTRACTOR _____ Thousand _____ Dollars ($_____) according to the prices set forth in the Proposal.

11. The CITY shall have the right to retain ten percent (10 %) of each invoice amount as retainage until the Work is completed and accepted by the CITY.

12. The CONTRACTOR shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONTRACTOR not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director.

13. The CITY may terminate this Agreement for cause by written notice to the CONTRACTOR. In the event of such termination, the CONTRACTOR shall not be entitled to any further payment under this Agreement from the date of receipt of said notice.

14. The CITY shall have the right to terminate this Agreement at any time for its convenience on thirty (30) days' prior written notice to the CONTRACTOR. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONTRACTOR for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such notice.

15. Out of concern for the public, CITY employees and the CONTRACTOR's employees, all work performed by the CONTRACTOR shall be in conformance with pertinent OSHA, local, state and federal government regulations.

16. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

17. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONTRACTOR.

18. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

19. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

20. CONTRACTOR warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform their respective obligations under this Agreement, and that the person signing this Agreement on behalf of CONTRACTOR has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, **COMPANY** has caused this Agreement to be signed and sealed by _____, its _____, thereunto duly authorized, the day and date first above written.

WITNESS:

_____

CITY OF PORTLAND

By: _____
Jon P. Jennings
Its City Manager

WITNESS:

_____

COMPANY

By: _____

Print or type name:

_____

Its: _____

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

Addendum #1

CITY OF PORTLAND, MAINE
STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
Bid #19008

Current Date: August 8, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW F. FITZGERALD
PURCHASING MANAGER

Please see attached additional documents (9):

1) PNMI List of Properties
2) PNMI List of Sewer Right of Ways
3) Presumpscot North Interceptor GIS Sketch
4) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_1
5) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_2
6) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_3
7) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_4
8) Avalon-Beaumont-Forest-Hicks-Warren Owners Chart_4CAD
9) RFQ Stream Easement along West Side Interceptor

Receipt of **Addendum No. 1** to the **City of Portland's Bid #19008, STAKE OUT OF EXISTING SEWER RIGHT OF WAYS** is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

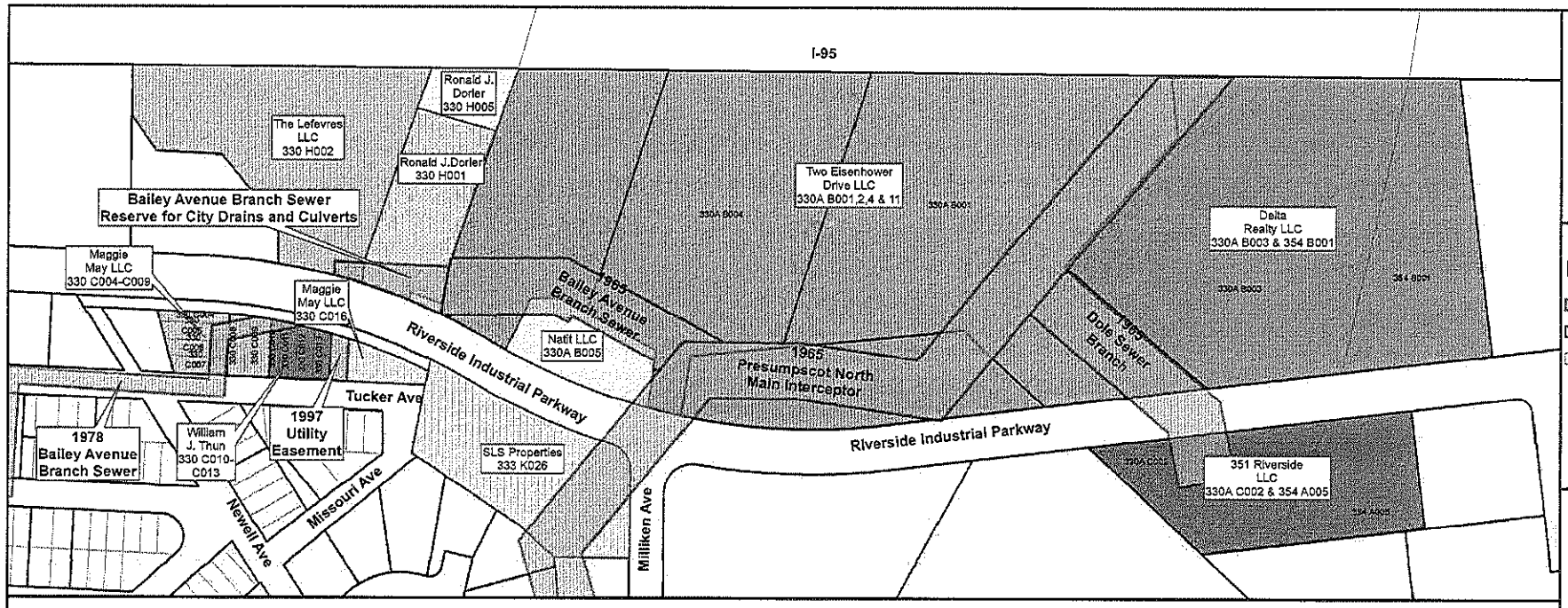
_____ ZIP CODE _____

PRESUMPSCOT NORTH MAINE INTERCEPTOR AND BAILEY AVE. BRANCH SEWER PROPERTY OWNER DETAILS: JUNE 15, 2018

APPARENT OWNER	TAX MAP-BLOCK-LOT	CURRENT DEED BOOK/PAGE REFERENCE	PROPERTY LOCATION	R/W MENTIONED IN CURRENT DEED	R/W SHOWN ON PROPERTY PLAN	PLANS ASSOCIATED WITH THIS PROPERTY	SUBJECT TO THE FOLLOWING SEWER RIGHT OF WAYS	DEED REFERENCE FOR CITY R/W, EASEMENT OR RESERVATION	NOTES	
Delta Realty, LLC	316-A-B-3 and 314-B-1	33375/109	315 Riverside Industrial Pkwy	YES	YES but plan not called for in deed	FB 108-6	Presumpscot North Main Interceptor	2511/318		
Two Elizabeth Drive, LLC	316-A-B-2, 2, 4 and 21	33051/59	239-1/356 Riverside Industrial Pkwy	YES	YES	FB 61-69, FB 314-6, FB 118-34,	Presumpscot North Main Interceptor and Bailey Ave. Branch Sewer	2511/311 and 2511/439		
Nest, LLC	316-A-B-5	32326/334	237 Riverside Industrial Pkwy	YES	YES	FB 118-34	Presumpscot North Main Interceptor, Bailey Ave. Branch Sewer	2511/318 and 2511/432, Portion of Bailey Branch is released in Deed 31453/254		
Ronald J. Derke	316-B-2	24520/164	230 Riverside Industrial Pkwy	No, but mentioned in prior deeds.	no	FB 118-34 & FB 109-34	No formal sewer r/w - only a reservation by the City for drains and culverts	2626/217-City reserves a right for drains and culverts when they convey the parcel in fee		
Ronald J. Derke	316-B-3	14526/266	230 Riverside Industrial Pkwy	No, but mentioned in prior deeds.	no	FB 118-34 & FB 109-34	No formal sewer r/w - only a reservation by the City for drains and culverts	2629/217-City reserves a right for drains and culverts when they convey the parcel in fee		
The Lefevre, LLC	316-B-2	15749/305	300 Riverside Industrial Pkwy	YES	no	FB 109-34, FB 110-21 & FB 2014/93	No formal sewer r/w - only a reservation by the City for drains and culverts	2629/217-City reserves a right for drains and culverts when they convey the parcel in fee	Based on GIS, there does not appear to be any City drainage or sewer structures on this lot	
William T. Dunn	316-C-10 to 13	31119/167	180-186 Tucker Ave	YES	no	FB 12-5	Bailey Ave. Sewer R/W	4509/269		
Maggie Mary, LLC	316-C-4 to 9	30738/183 & 31230/169	188-198 Tucker Ave	YES Was plan attached to the deed	YES	PLAN attached to lower deed 30738/183 and FB 12-5	Bailey Ave. Sewer R/W and deed reservation from City that land must remain open	Bailey Ave. Sewer in 2 deeds - 4509/269 and 15180/106 (entry, the Exhibit A). Also see 11/1/63 where City states that the land must remain open		
Maggie Mary, LLC	316-C-14	30738/183	190 Tucker Ave	YES Was deed referenced any plan attached to the deed	YES	PLAN attached to lower deed 30738/183 and FB 12-5	currently no City sewer are located on this parcel, but a 50'by easement was reserved over a 30'strip on the south side for the City	2363/332		
391 Riverside, LLC	316A-C12 & 316-A-5	28746/59	317 Riverside Industrial Pkwy	YES	YES but plan not called for in deed	FB 108-6	Presumpscot North Main Interceptor	2511/318		
SLS Properties	313-E-16	31315/69	295 Riverside Industrial Pkwy	YES	YES but plan not called for in deed	FB 108-6	Presumpscot North Main Interceptor	2511/318		

PRESUMPSCOT NORTH MAINE INTERCEPTOR AND BAILEY AVE. BRANCH SEWER RIGHT OF WAY DOCUMENTS

YEAR RIGHT OF WAY WAS ESTABLISHED	NAME OF RIGHT OF WAY	DEEDS TO THE CITY FOR THE RIGHT OF WAY	RIGHT OF WAY PLAN	OTHER CITY PLANS ASSOCIATED WITH THE RIGHT OF WAY	NOTES	
1945	Riverside Industrial Parkway	2354/114, 2551/423 and 2216/138	6053 A 2	41534, 43512, 43532, 43518, 43538, 4515, 43531		
1945	Presumpscot North Main Interceptor Sewer and the Dole Branch Sewer	2811/508	63613	65711		
1945	Bailey Avenue Branch Sewer (northerly side of Riverside Industrial Parkway)	2551/438, 3415/271, and partial rights in deed 11123/306 (see notes)	63615	63517	A small portion of the right of way was original to the owner of parcel 330A B-5 in deed 11123/306	
1946	Milliken Street	not researched	59612	not researched		
1978	Bailey Avenue branch Sewer (northerly side of Riverside Industrial Parkway)	4358/210 and 13185/106	49518	70417	4509/210 impacts parcels 330-C4 to 12. Deed 13185/106 impacts parcels 330-C4 to 12. The deed does not have an Exhibit A.	
1997	utility easement	13495/131	attached to deed	none	The City retains a utility easement over a 30' strip of land on the southerly side of 330-C-16. There may be no utilities in the easement.	
1999	open space	15165/1	none	none	When City sells the property they state that parcel 330-C-4to7 shall remain open space and undeveloped. Parcel 330-C-16 shall not be utilized for any residential housing purposes	



Owner	Address	CBL	Sewer ROW	Second Sewer ROW
351 Riverside LLC	317 RIVERSIDE INDUSTRIAL PKWY	330A C002 & 354 A005	Dole Branch Sewer	
Delta Realty LLC	328 RIVERSIDE INDUSTRIAL PKWY	330A B003 & 354 B001	Presumpscot North Main Interceptor	
Maggie May LLC	190 TUCKER AVE	330 C016	Utility easement reserved by City	
Maggie May LLC	168 TUCKER AVE	330 C004,5,6,7,8 & 9	Bailey Ave. Sewer	Land must remain open
Natit LLC	232 RIVERSIDE INDUSTRIAL PKWY	330A B005	Presumpscot North Main Interceptor	Bailey Ave. Branch Sewer
Ronald J. Dorler	220 RIVERSIDE INDUSTRIAL PKWY	330 H001	No formal ROW- Reserved by City for drains & Culverts	
Ronald J. Dorler	222 RIVERSIDE INDUSTRIAL PKWY	330 H005	No formal ROW- Reserved by City for drains & Culverts	
SLS Properties	235 RIVERSIDE INDUSTRIAL PKWY	333 K026	Presumpscot North Main Interceptor	
The Lefevres LLC	200 RIVERSIDE INDUSTRIAL PKWY	330 H002	No formal ROW- Reserved by City for drains & Culverts	
Two Eisenhower Drive LLC	216 RIVERSIDE INDUSTRIAL PKWY	330A B001,2,4, & 11	Presumpscot North Main Interceptor	Bailey Ave. Branch Sewer
William J. Thun	168 TUCKER AVE	330 C010,11,12,13	Bailey Ave. Sewer	

Year ROW	Sewer ROW Name	Deed Reference
1965	Bailey Avenue Branch Sewer	2931/430, 3689/271 & partial release 12833/306
1965	Dole Sewer Branch	2881/318
1965	Presumpscot North Main Interceptor	2881/318
1965	Bailey Avenue Branch Sewer- Reserve for City Drains and Culverts	2829/277
1978	Bailey Avenue Branch Sewer	4509/249 & 15180/106
1997	Utility Easement	13495/171

CITY OF PORTLAND, MAINE
DEPT. OF PUBLIC WORKS
55 PORTLAND ST, PORTLAND, MAINE 04101
PHONE (207) 874-8846 FAX (207) 874-8852

Legend

- Sewer Easement ROW
- Tax Parcels
- Interior Lot Lines

Sewer Right of Way & Easements

Presumpscot North Main Interceptor

1

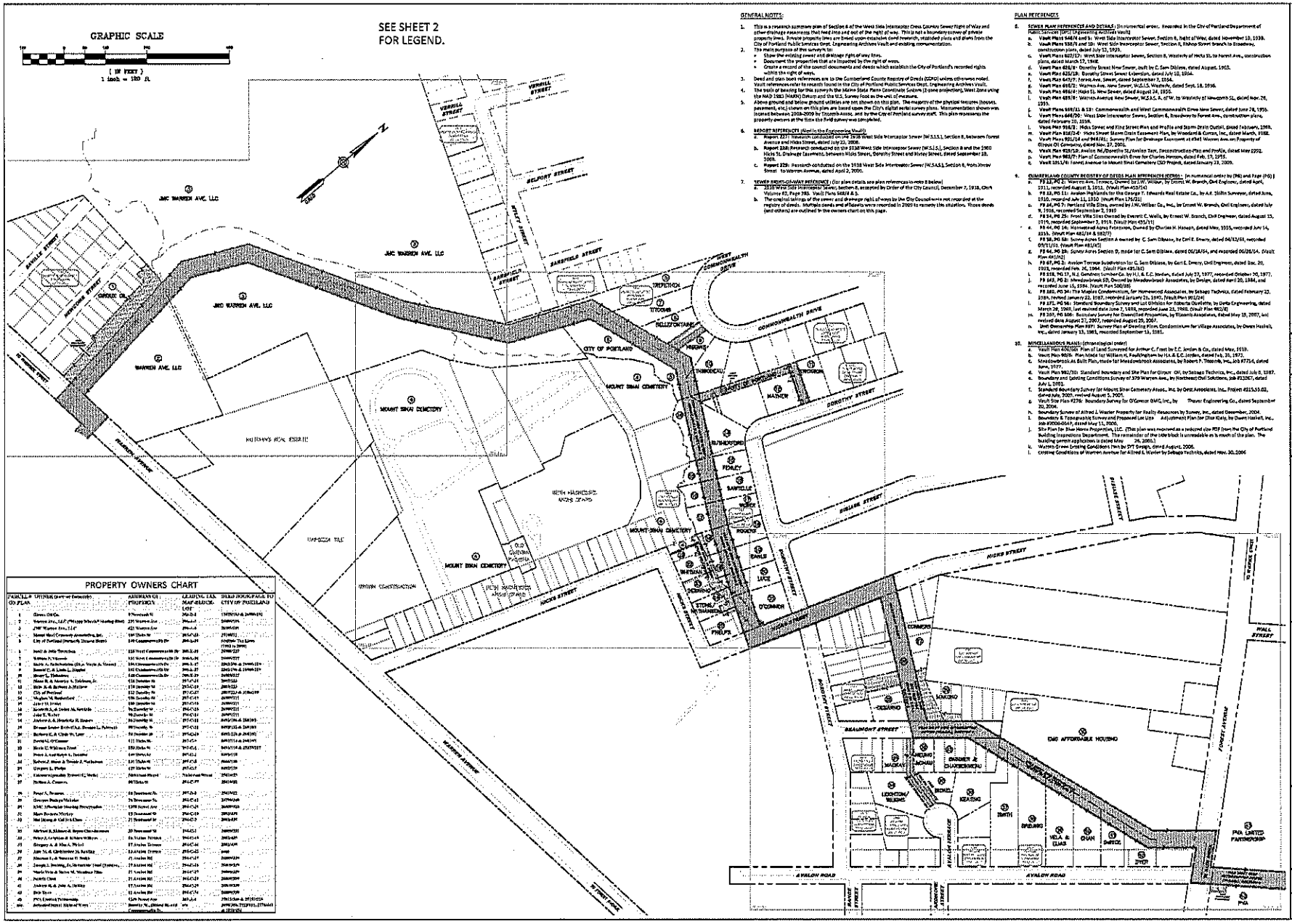
FIGURE

PAGE 1 OF 1

June 2018

DESIGN BY: XXX | DRAWN BY: XXX | CHECK BY: XXX

0 75 150 300 Feet



GENERAL NOTES:

1. This is a research summary plan of Section 8 of the West Side Interceptor Cross Country Sewer Right-of-Way and other drainage easements that lead into and out of the right of way. This is not a boundary survey of private property lines. Private property lines are based upon available deed research, recorded plans and plans from the City of Portland Public Services Dept. Engineering Archives Vault and existing monumentation.
2. The main purpose of this survey is to
   - Show the existing sewer and drainage right of way lines.
   - Document the properties that are impacted by the right of ways.
   - Create a record of the council documents and deeds which establish the City of Portland's recorded rights within the right of ways.
3. Deed and plan book references are to the Cumberland County Registry of Deeds (CCRD) unless otherwise noted. Vault references refer to records found in the City of Portland Public Services Dept. Engineering Archives Vault.
4. The basis of bearing for this survey is the Maine State Plane Coordinate System (Zone projection), West Zone using the NAD 1983 (NAD96) Datum and the U.S. Survey foot as the unit of measure.
5. Above ground and below ground utilities are not shown on this plan. The majority of the physical features (houses, pavement, etc.) shown on this plan are based upon the City's digital aerial survey plans. Monumentation shown was located between 2008-2009 by Dennett Assoc. and by the City of Portland survey staff. This plan represents the property owners as the time the field survey was completed.
6. **REPORT REFERENCES** (filed in the Engineering Vault)
   a. Report 237: Research conducted on the 1938 West Side Interceptor Sewer (W.S.I.S.), Section 8, between Forest Avenue and Hicks Street, dated July 22, 2008.
   b. Report 238: Research conducted on the 1938 West Side Interceptor Sewer (W.S.I.S.), Section 8 and the 1960 Hicks St. Drainage Easements, between Hicks Street, Dorothy Street and Morey Street, dated September 18, 2008.
   c. Report 239: Research conducted on the 1938 West Side Interceptor Sewer (W.S.A.S.), Section 8, from Morey Street to Warren Avenue, dated April 2, 2009.
7. **SEWER RIGHT-OF-WAY REFERENCE** (for plan details see plan references to note 8 below)
   a. 1938 West Side Interceptor Sewer, Section 8, accepted by Order of the City Council, December 7, 1938, City Volume 63, Page 388. Vault Plans 568/4 & 5.
   b. The original takings of the sewer and drainage right of ways by the City Council were not recorded at the registry of deeds. Multiple deeds and releases were recorded in 2009 to remedy the situation. Those deeds (and others) are outlined in the owners chart on this page.

PLAN REFERENCES

8. **SEWER PLAN REFERENCE AND DETAILS** (in numerical order. Recorded in the City of Portland Department of Public Services (DPS) Engineering Archives Vault)
   a. Vault Plan 568/4 and 5: West Side Interceptor Sewer, Section 8, Right of Way, dated November 10, 1938.
   b. Vault Plans 538/6 and 10: West Side Interceptor Sewer, Section 8, Bishop Street Branch to Broadway, construction plans, dated July 13, 1938.
   c. Vault Plans 622/17: West Side Interceptor Sewer, Section 8, Westerly of Hicks St. to Forest Ave., construction plans, dated March 17, 1948.
   d. Vault Plan 628/8: Dorothy Street New Sewer, built by C. Sam Dibiase, dated August. 1963.
   e. Vault Plan 635/18: Dorothy Street Sewer Extension, dated July 18, 1964.
   f. Vault Plan 647/7: Forest Ave. Sewer, dated September 3, 1964.
   g. Vault Plan 695/2: Warren Ave. New Sewer, W.S.I.S. Westerly, dated Sept. 18, 1966.
   h. Vault Plan 696/4: Hicks St. New Sewer, dated August 24, 1966.
   i. Vault Plan 489/8: Warren Avenue New Sewer, W.S.A.S. R. of W. to Westerly of Newcomb St., dated Nov. 26, 1955.
   j. Vault Plans 599/11 & 12: Commonwealth and West Commonwealth Drive New Sewer, dated June 28, 1959.
   k. Vault Plans 648/20: West Side Interceptor Sewer, Section 8, Broadway to Forest Ave., construction plans, dated February 21, 1964.
   l. Vault Plan 916/2: Hicks Street and Fire Street Plan and Profile and Storm Drain Outfall, dated February, 1969.
   m. Vault Plan 816/14: Hicks Street Storm Drain Easement Plan, by Woodard & Curran, Inc., dated March, 1982.
   n. Vault Plans 921/14 and 944/61: Survey Plan for Drainage Easement at 494 Warren Ave. on Property of Mount Sinai Cemetery, dated Nov. 27, 2001.
   o. Vault Plan 920/10: Avalon Rd./Danville St./Avalon Ter. Reconstruction Plan and Profile, dated May 1992.
   p. Vault Plan 983/7: Plan of Commonwealth Drive for Charles Hansen, dated Feb. 17, 1915.
   q. Vault 101/6: Forest Avenue to Mount Sinai Cemetery (CSO Project), dated January 23, 2009.
9. **CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN REFERENCES (CCRD)**: (in numerical order by (PB) and Page (PG))
   a. PB 12, PG 2: Warren Ave., Forest, Owned by J.W. Velber, by Ernest W. Branch, Civil Engineer, dated April, 1911, recorded August 3, 1911. (Vault Plan 452/14)
   b. PB 12, PG 11: Avalon Highlands for the Garage F. Edwards Real Estate Co., by A.E. Shifflin Surveyor, dated June, 1910, recorded July 11, 1910 (Vault Plan 176/21)
   c. PB 14, PG 7: Portland Villa Sites, owned by J.W. Velber Co., Inc., by Ernest W. Branch, Civil Engineer, dated July 9, 1916, recorded September 2, 1919
   d. PB 14, PG 25: Frost Villa Sites Owned by Everett C. Wells, by Ernest W. Branch, Civil Engineer, dated August 15, 1915, recorded September 7, 1915. (Vault Plan 455/15)
   e. PB 14, PG 14: Homestead Acres Extension, Owned by Charles H. Hanson, dated May, 1915, recorded July 14, 1915. (Vault Plan 481/14 & 482/7)
   f. PB 18, PG 58: Sunny Acres Section A owned by C. Sam Dibiase, by Carl E. Emery, dated 04/12/61, recorded 09/11/61 (Vault Plan 481/42)
   g. PB 14, PG 29: Sunny Acres Section D, made for C. Sam Dibiase, dated 06/18/64, and recorded 06/26/64. (Vault Plan 481/42)
   h. PB 67, PG 3: Avalon Terrace Subdivision for C. Sam Dibiase, by Carl E. Emery, Civil Engineer, dated Dec. 20, 1963, recorded Feb. 26, 1964 (Vault Plan 481/46)
   i. PB 118, PG 17, N.J. Gendron Lumber Co. by H.L. & E.C. Jordan, dated July 23, 1977, recorded October 20, 1977.
   j. PB 143, PG 8: Meadowbrook 20, Owned by Meadowbrook Associates, by Design, dated April 20, 1984, and recorded June 15, 1984. (Vault Plan 500/88)
   k. PB 180, PG 34: The Maples Condominium, for Homewood Associates, by Sebago Technics, dated February 23, 1986, revised January 22, 1987, recorded January 26, 1987. (Vault Plan 901/24)
   l. PB 201, PG 96: Standard Boundary Survey and List Exhibits for Roberta Ouellette, by Owen Engineering, dated March 28, 1988, last revised date June 7, 1988, recorded June 21, 1988. (Vault Plan 902/8)
   m. PB 207, PG 108: Boundary Survey for Diamond Properties, by Bissonnette Associates, dated May 18, 2007, last revised date August 27, 2007, recorded August 29, 2007.
   Unit Ownership Plan REF: Survey Plan of Owning Firm. Condominium for Village Associates, by Owen Haskell, Inc., dated January 13, 1983, recorded September 13, 1983.
10. **MISCELLANEOUS PLANS** (chronological order)
   a. Vault Plan 400/60: Plan of Land Surveyed for Arthur C. Frost by E.C. Jordan & Co., dated May, 1919.
   b. Vault Plan 903/6: Plan Made for William H. Faulkingham by H.L & E.C. Jordan, dated Feb. 26, 1972.
   c. Smallwoodbrook As Built Plan, made for Meadowbrook Associates, by Robert P. Titcomb, Inc., Job #7714, dated June, 1977.
   d. Vault Plan 982/30: Standard boundary and Site Plan for Group One, by Sebago Technics, Inc., dated July 8, 1987.
   e. Boundary and Existing Conditions Survey of 379 Warren Ave., by Northeast Civil Solutions, Job #23267, dated July 1, 2002.
   f. Standard Boundary Survey for Mount Sinai Cemetery Assoc., Inc. by Gnoc Associates, Inc., Project #215.55.02, dated July, 2005, revised August 5, 2005.
   g. Vault Site Plan #278: Boundary Survey for O'Connor GMC, Inc., by Thayer Engineering Co., dated September 20, 2004.
   h. Boundary Survey of Alfred J. Wexler Property for Realty Resources by Survey, Inc., dated December, 2004.
   i. Boundary & Topographic Survey and Proposed Lot Line Adjustment Plan for Dan Kelly, by Owen Haskell, Inc., Job #2008-0049, dated May 11, 2006.
   j. Site Plan for Blue Horse Properties, LLC. (This plan was received as a reduced size PDF from the City of Portland Building Inspections Department. The remainder of the title block is unreadable as is much of the plan. The building permit application is dated May 26, 2006.)
   k. Warren Grove Existing Conditions Plan by TYT Design, dated August, 2006.
   l. Existing Conditions of Warren Avenue for Alfred J. Wexler by Sebago Technics, dated Nov. 30, 2006

100 PROJECT NAME:
Plan Reference for Sec 8 CSO

DRAWING NAME:
Plan Reference for Sec 8 Plan

WORK BY:
VASILY E.S.

SEWER BOOKS:
98 217 PP 88-75
98 217 PP 86-96, 105, 110 120

DEEDS BOOKS:
TB 102 PP 29-31
TB 102 PP 32-35
TB 115 PP 42-45
TB 119 PP 41-42, 48

REFERENCES:

SURVEY COMPANY	
DRAWN BY	VASILY
CHECKED BY	CCA
APPROVED BY	CCA
SCALE	1" = 100'
DATE	12/12/2011

CARVILLE C. ALDEN
PLS #2355

RESEARCH SUMMARY PLAN, SECTION 8
OF THE
WEST SIDE INTERCEPTOR SEWER,
FROM
WARREN AVENUE TO FOREST AVENUE

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

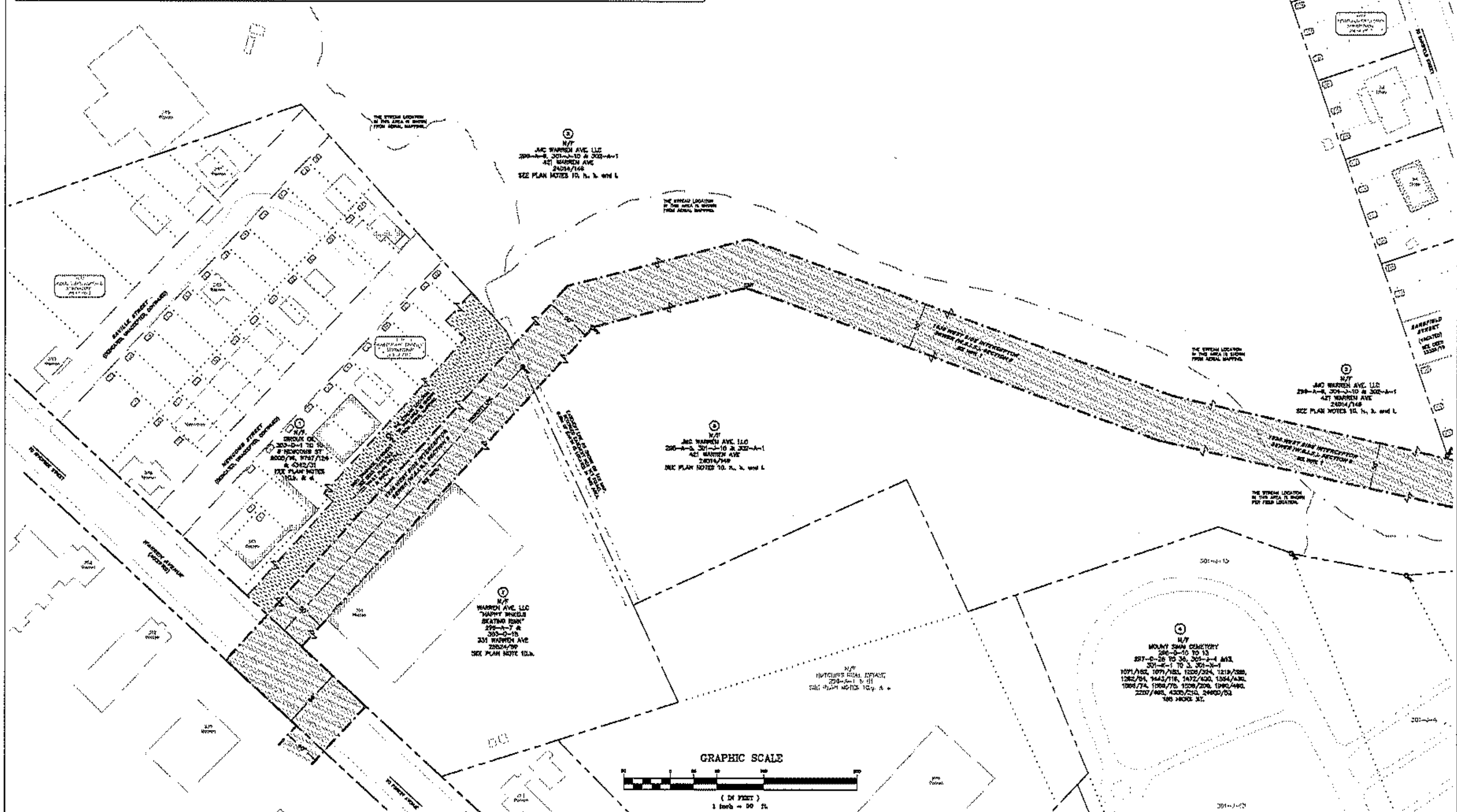
SHEET # 1 OF 4

PLAN NUMBER 1012 / 2

LEGEND

Symbol	Description
	IRON PIPE FOUND
	IRON ROD FOUND
	REBAR FOUND
	MONUMENT FOUND
	COMMON OWNERSHIP
	BUILDING (AERIAL MAPPING)
	BUILDING (FIELD LOCATION)
	SEWER RIGHT-OF-WAY AREA
	DRAINAGE EASEMENT AREA
	CITY STREET LINE
	DEDICATED, CONTINUED, UNACCEPTED STREET LINE
	VACATED STREET LINE
	PROPERTY LINE
	INTERIOR LOT LINE
	EXISTING SEWER RIGHT-OF-WAY AND DRAINAGE EASEMENT LINE
	EDGE OF ROAD OR TRAVELED WAY
STREAM = BOUNDARY LINE	STREAM / SWALE AS PROPERTY LINE
	STREAM / SWALE
	LOT NUMBER FROM SUBDIVISION PLAN
	NUMBER CORRESPONDS WITH REPORT NUMBER
N/F	NOW OR FORMERLY
333-J-33	ASSESSORS TAX MAP-BLOCK-LOT NUMBER
2345/678	DEED BOOK AND PAGE (CUMBERLAND COUNTY REGISTRY OF DEEDS)
PB X P 99	PLAN BOOK AND PAGE (CUMBERLAND COUNTY REGISTRY OF DEEDS)

SEE SHEET 1 FOR GENERAL NOTES AND PLAN REFERENCES.



REFERENCES:

TRANSIT BOOKS:
TB 101 PP 129-137
TB 102 PP 50-52
TB 108 PP 47-48
TB 115 PP 49-66
TB 119 PP 41-42, 48

SEWER BOOKS:
SB 227 PP 68-79
SB 227 PP 86-96, 106, 110-120

LEVEL BOOKS:
LB 843 PP 27-35
ITECOMB FIELD BOOK

DWG PROJECT NAME:
DRAWING NAME:
VAULT PLANS:
S18/4 & 5

CAMILLE C. ALDEN
PLS #2335

DATE:
SCALE: 1" = 50'

RESEARCH SUMMARY PLAN,
SECTION 8
OF THE
WEST SIDE INTERCEPTOR SEWER,
FROM
WARREN AVE NW'LY TOWARD IFFLEY ST

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 2 OF 4

PLAN NUMBER 1012 / 2

SEE SHEET 1 FOR GENERAL NOTES AND PLAN REFERENCES.

SEE SHEET 2 FOR LEGEND.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LDG PROJECT NAME:
Public Services Project 2010-01

DRAWING NAME:
Z:\Projects\Sewer\Research Plans\Section 8\Section 8 Plans.dwg

MAP/BLAND
SEQ/PAGE

SEWER BOOKS:
SB 230 PP 68-73
SB 227 PP 68-98, 106, 110-120

DATA BOOKS:
DB 315 PP 41-45
DB 315 PP 46-48
TIC CROSS FIELD BOOK

REFERENCES:

TRANSIT BOOKS:
TB 001 PP 116-117
TB 322 PP 50-52
TB 315 PP 41-45
TB 315 PP 49-51
TB 315 PP 46-48

SURVEY CREW	
CHECKED BY	R.C. ALBERTINI
DRAWN BY	T.P. CRESSETTE
CALCULATED BY	J.L. GLADDEN
SCALE	1"=50'
DATE	04/22/2011

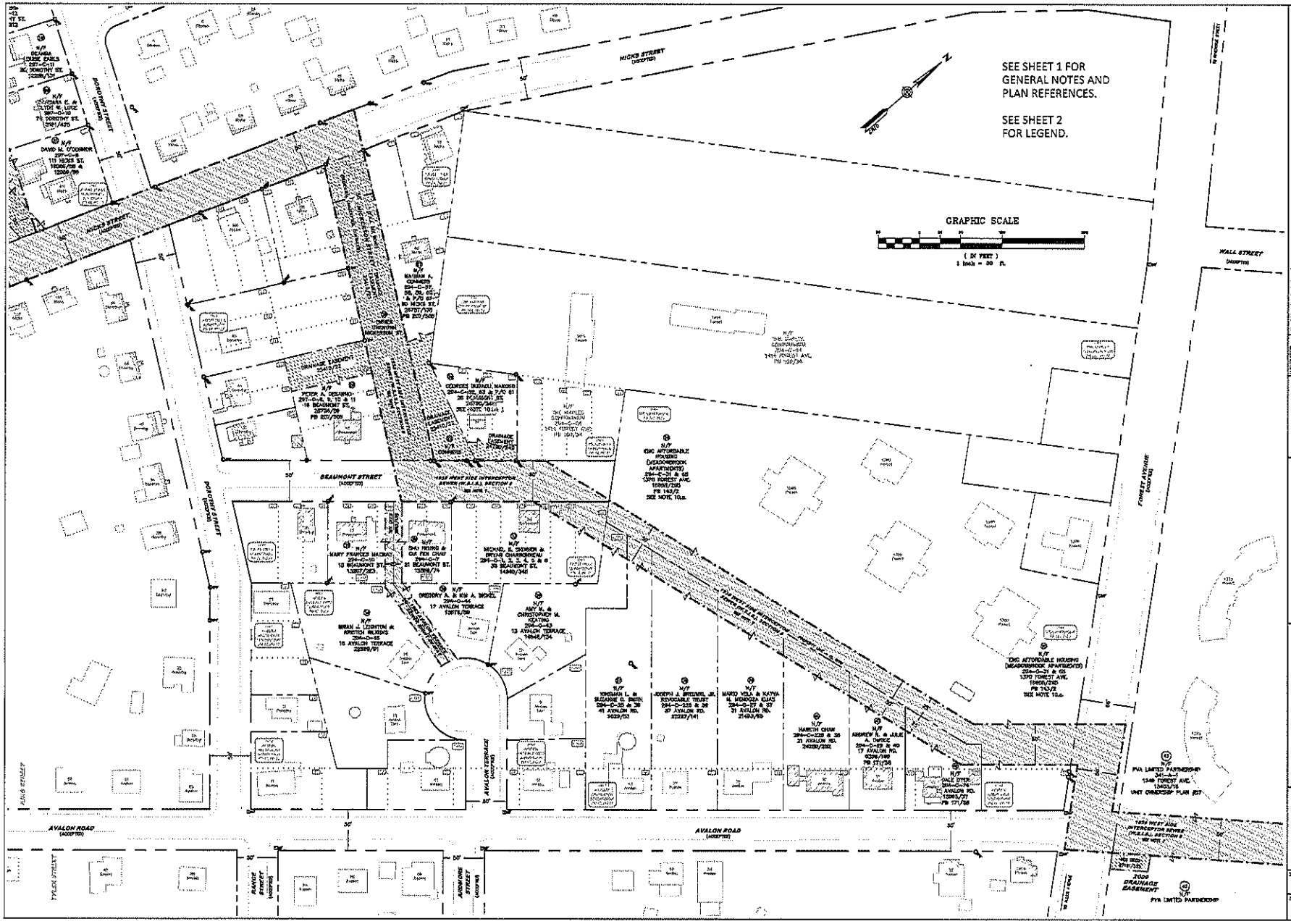
CASSIDY C. ALDEN
FILE #2339

RESEARCH SUMMARY PLAN,
SECTION 8
OF THE
WEST SIDE INTERCEPTOR SEWER,
FROM
SYVY OF IFFLEY ST TO HICKS ST

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 3 OF 4

PLAN NUMBER 1012 / 2



LDG PROJECT NAME:
Avalon Reserve Phase 1 (2005-2006)

DRAWING NAME:
Avalon Reserve Phase 1 Subdivision (2005-2006) 8" Lining

SEWER BOOKS:
SB 237 PP 68-73
SB 227 PP 58-66, 101, 110-120

LEVEL BOOKS:
TB 115 PP 52-54
TB 115 PP 55-56
TB 110-0-4 FIELD BOOK

VERTICAL DATUM:
NGVD 29

REFERENCES:

TRAVERSE BOOKS:
TB 110 PP 13-15, 17
TB 110 PP 32-33
TB 115 PP 52-54
TB 115 PP 55-56
TB 113 PP 41-42, 48

DATE FIELD	
DRAWN/TRACED	
SURVEY	
A.S.B.UPDATE	
CHECKED	
CORRECT	
REVISED	
SCALE	1" = 50'
DATE	8/22/2011

CAGILLE C. ALDRICH
PLS #2335

RESEARCH SUMMARY PLAN,
SECTION 8
OF THE
WEST SIDE INTERCEPTOR SEWER,
FROM
HICKS ST TO FOREST AVE

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 4 OF 4

PLAN NUMBER 1012 / 2

PARCEL # ON PLAN	OWNER (now or formerly)	ADDRESS OF PROPERTY	LEADING TAX MAP-BLOCK-LOT	DEED BOOK/PAGE TO CITY OF PORTLAND
1	Giroux Oil Co.	8 Newcomb St	303-D-1	17475/153 & 26985/193
2	Warren Ave., LLC ("Happy Wheels" Skating Rink)	331 Warren Ave	296-A-7	26985/185
3	JMC Warren Ave., LLC	421 Warren Ave	296-A-6	26985/201
4	Mount Sinai Cemetery Association, Inc.	185 Hicks St	297-C-30	27198/32
5	City of Portland (Formerly Hanson Heirs)	148 Commonwealth Dr	300-E-39	Multiple Tax Liens (1993 to 2008)
6	Scott & Julie Trefethen	125 West Commonwealth Dr	300-E-25	26985/227
7	William P. Titcomb	131 West Commonweatlh Dr	300-E-26	26985/227
8	Marie A. Bellefontaine (f.k.a. Marie A. Moore)	156 Commonweatlh Dr	300-E-27	2362/396 & 26985/219
9	Ronald C. & Linda L. Higgins	152 Commonweatlh Dr	300-E-27	2362/396 & 26985/219
10	Henry L. Thibodeau	148 Commonweatlh Dr	300-E-29	26985/227
11	Diana R. & Maurice A. Erickson, Jr.	126 Dorothy St	297-C-21	2807/223
12	Baby K. & Barbara J. Mathew	118 Dorothy St	297-C-19	2807/223
13	City of Portland	122 Dorothy St	297-C-27	2807/223 & 3186/388
14	Meghan M. Rutherford	106 Dorothy St	297-C-17	26985/211
15	Janet M. Fenley	100 Dorothy St	297-C-16	26985/211
16	Kenneth A. & Debra M. Sawtelle	96 Dorothy St	294-C-15	26985/211
17	John T. Weber	90 Dorothy St	294-C-14	26985/211
18	Andrew J. & Henrietta R. Rogers	86 Dorothy St	297-C-12	8492/106 & 26810/1
19	Deanna Louise Earls (f.k.a. Deanna L. Palazzo)	80 Dorothy St	297-C-11	8492/122 & 26810/1
20	Barbara E. & Clyde W. Luce	74 Dorothy St	297-C-10	8492/110 & 26810/1
21	David M. O'Connor	111 Hicks St	297-C-9	8492/114 & 26810/1
22	Kevin C. Whitman Trust	153 Hicks St	297-C-1	8492/118 & 27375/217
23	Peter A. and Ralph A. Desarno	149 Hicks St	297-C-3	8492/118
24	Robert J. Stone & Bonnie J. Nathanson	131 Hicks St	297-C-5	8666/140
25	Gregory L. Phelps	127 Hicks St	297-C-7	8492/125
26	Unknown (possibly Everett C. Wells)	Nickerson Street	Nickerson Street	25410/25
27	Nathan A. Conners	80 Hicks St	294-C-57	25410/22
28	Peter A. Desarno	16 Beaumont St.	297-D-8	25410/22
29	Georges Budagu Makoko	26 Beaumont St.	294-C-62	24790/240
30	EMC Affordable Housing Preservation	1370 Forest Ave	294-C-31	26809/323
31	Mary Frances Mackay	15 Beaumont St	294-C-10	2882/435

32	Shu Heung & Cui Fen Chau	21 Beaumont St	294-C-7	2882/435
33	Michael B. Skinner & Bryan Char-bonneau	33 Beaumont St	294-C-1	26809/331
34	Brian J. Leighton & Kristen Wilkens	16 Avalon Terrace	294-C-45	2882/435
35	Gregory A. & Kim A. Bickel	17 Avalon Terrace	294-C-44	2882/435
36	Amy M. & Christopher M. Keating	13 Avalon Terrace	294-C-43	none
37	Kinsman L. & Suzanne D. Smith	41 Avalon Rd	294-C-25	26809/339
38	Joseph J. Breunig, Jr. Revocable Trust (Trustee,	37 Avalon Rd	294-C-26	26809/339
39	Mario Vela & Katya M. Mendoza Elias	31 Avalon Rd	294-C-27	26809/339
40	Nareth Chan	21 Avalon Rd	294-C-28	26809/339
41	Andrew R. & Julie A. DeRice	17 Avalon Rd	294-C-29	26809/339
42	Dale Dyer	11 Avalon Rd	294-C-74	26809/339
43	PVA Limited Partnership	1349 Forest Ave	341-A-1	27013/340 & 27151/325
n/a	Accepted Street Right of Ways	Dorothy St., Dibiase St. and Commonwealth Dr.	n/a	2650/304, 2722/131, 2776/441 & 2838/454

July 26, 2018

RE: Request for proposal – Stream Easement along West Side Interceptor

City of Portland – DPW - Water Resources Engineering is requesting quotes for survey, prepare easement description with plot plan for lots with the rear or side boundary line as stream behind Dorothy and Hicks Streets. The easement descriptions shall be written by the company awarded the work, negotiation with respective property owners and filling of easement descriptions shall be conducted by the City of Portland, these lots are

Map-Block Lot	Deed Book/Page
297-C-30	27198/32
300-E-39	Multiple – City of Portland Property
297-C-17	26985/211
297-C-16	26985/211
297-C-15	26985/211
297-C-14	26985/211
297-C-1	8492/118 & 27375/217

City of Portland DPW Surveying Group has prepared a AutoCAD map of the West Side Interceptor Easements, conducted the deed, easement and vault research and provided an excel worksheet which lists affected property owners along with deed and plan references. The following is included in this RFQ

1. Map of the Right of Ways and properties.
2. List of properties and owners impacted by the Right of Ways.
3. List of Deeds for both the right of ways and the impacted properties.

Upon award of the contract all the available supporting deeds, drawings and other relevant information will be provided to the firm which will be doing the location and markout work. Control point information and drawing showing all the point used to develop the map included in the RFP will be provided to the firm in 2018 AutoCAD file format.

The scope of work shall include all labor, Survey crew time, supervision, Maine Professional Licensed Surveyor, survey equipment, base station(s), instrumentation, stakes, tools, transportation, fuel, tolls, copying, printing, meals, vehicles, administrative costs, field and office staff necessary to stake out easements with flagging and collection of state plane coordinates on pins, writing easement descriptions, prepare plot plans, stakes, monuments, manholes, culverts and fence lines as encountered. A final Civil3D CAD drawing with state plane coordinates shall be provided. The vertical datum shall be provided in both NAV 1983 and NGVD 29. Horizontal data shall be provided in

Deliverables:

1. Locate, stakeout, prepare written easement descriptions and plot plans for 7 lots along West Side Interceptor as listed.
2. A final Civil3D CAD drawing with state plane coordinates on all found and set points including property markers, stakes, monuments manholes, fences, culverts, unique features, etc.
3. Flagging along the side lines of each right of way every 50 ft between corners and at each angle point.
4. Accuracy shall be to 0.02 feet.
5. Coordinates on the centerline station at each cross section and structure.
6. Digital Photograph of each pin, stake, corner, monument or manhole.

7. Provide AutoCAD drawing of the stake out information in National CAD Standards adopted in 2014.
8. All survey points shall be provided in ESRI format for entry into the city's GIS mapping. The vertical and horizontal data shall be provided in NAD_1983_HARN_StatePlane_Maine_West_FIPS_1802_Feet WKID: 26856 Authority: EPSG

Pricing format shall be in Lump Sum for each item listed on proposal form.

This proposal shall be under the existing contract condition between your frim and City of Portland

Sincerely,
CITY OF PORTLAND

Proposal – Location, Easement Descriptions and Stake out Of Stream Easement along West Side Interceptor

Bid No. 19008

Name of Firm: _____

Address: Street _____

City _____ **State**_____ **Zip Code**_____

Survey and prepare easement descriptions 10 ft wide on either side of stream for 6 lots behind Dorothy and Hicks Street stake out easements. _____ Lump Sum

Amount quoted to prepare and submit in AutoCAD: Drawing of the easements after stake out _____ Lump Sum

Amount quoted Digital Photographs for each: of the easements after stake out _____ Lump Sum

Amount quoted to collect and submit GIS Data: of the easements after stake out _____ Lump Sum

Total Amount quoted: _____

Proposals are due _____, _____, ____ 2018 1:00 PM via email to

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

Current Date: August 28, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached the following documents:

1. A revised price proposal page (please use this page when submitting your bid)
2. Sewer Right of Way & Easements – Presumpscot North Main Interceptor (Figure 1)
3. Sewer Right of Way & Easements – Presumpscot North Main Interceptor (Figure 2)
4. Easements Along Stream at Sinai Cemetery

Receipt of **Addendum No. 2** to the City of Portland's **Bid #19008, Stake Out of Existing Sewer Rights of Way** is hereby acknowledged.

COMPANY NAME:

_____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

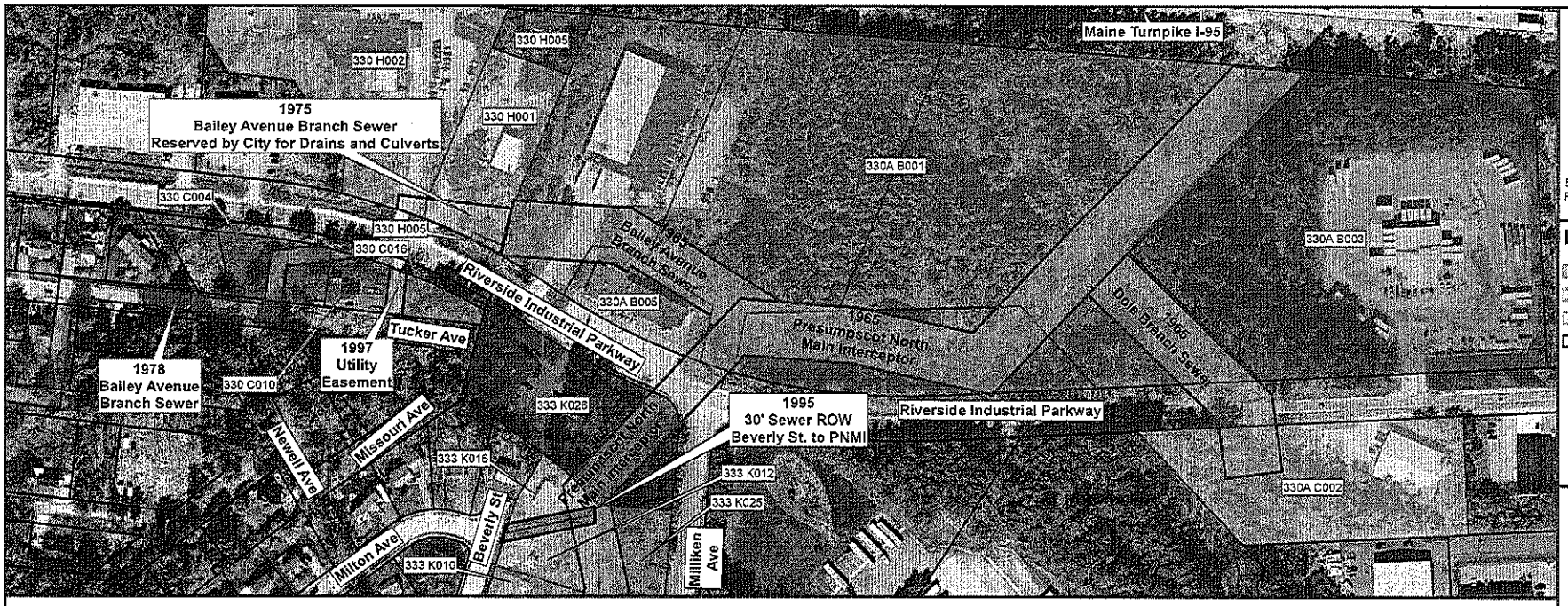
_____

ZIP CODE

PRICE PROPOSAL PAGE
(REVISED PER ADDENDUM 2)

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
PRESUMPSCOT NORTH MAIN INTERCEPTOR
AND BAILEY BRANCH SEWER
BID #19008

	ITEM	LUMP SUM AMOUNT
1.	Location and stake out of portions of the existing Presumpscot Main North Interceptor Right of Ways including flagging at each pin, stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	
2.	Location and stake out of portions of the existing Bailey Avenue Branch Sewer including flagging at each Pin stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	
3.	Location and stake out of portions of Avalon-Beaumont-Forest-Hicks-Warren Sewer including flagging at each Pin stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	
4.	Amount quoted to prepare and submit in AutoCAD Drawing of the easements after stake out.	
5.	Amount quoted Digital Photographs for each of the easements after stake out.	
6.	Amount quoted to collect and submit GIS Data of the easements after stake out.	
	TOTAL AMOUNT	



CITY OF PORTLAND, MAINE
DEPT. OF PUBLIC WORKS
55 PORTLAND ST, PORTLAND, MAINE 04101
PHONE (207) 874-8846 FAX (207) 874-8852

Legend

- No Deeded Easement
- PWD Easement
- Yes Deeded Eastment or ROW
- Tax Parcels

Lead CBL	Owner	Address	Sewer ROW	Other Sewer ROW
330 C004	Maggie May LLC	168 TUCKER AVE	1978 Bailey Avenue Branch Sewer	Land must remain open
330 C010	William J. Thun	168 TUCKER AVE	1978 Bailey Avenue Branch Sewer	
330 C016	Maggie May LLC	190 TUCKER AVE	1997 Utility Easement	
330 H001	Ronald J. Dorler	220 RIVERSIDE INDUSTRIAL PKWY	1975 Bailey Avenue Branch Sewer Drains & Culverts	
330 H002	The Lefevres LLC	200 RIVERSIDE INDUSTRIAL PKWY	1975 Bailey Avenue Branch Sewer Drains & Culverts	
330 H005	Ronald J. Dorler	222 RIVERSIDE INDUSTRIAL PKWY	1975 Bailey Avenue Branch Sewer Drains & Culverts	
330A B001	Two Eisenhower Drive LLC	216 RIVERSIDE INDUSTRIAL PKWY	1965 Presumpscot North Main Interceptor	1965 Bailey Avenue Branch Sewer
330A B003	Delta Realty LLC	328 RIVERSIDE INDUSTRIAL PKWY	1965 Presumpscot North Main Interceptor	
330A B005	Natit LLC	232 RIVERSIDE INDUSTRIAL PKWY	1965 Presumpscot North Main Interceptor	1965 Bailey Avenue Branch Sewer
330A C002	351 Riverside LLC	317 RIVERSIDE INDUSTRIAL PKWY	1965 Dole Branch Sewer	
333 K010	Paul J. Connolly, Jr.	149 BEVERLY ST	1965 Presumpscot North Main Interceptor	1964 Portland Water District Easement
333 K012	Earnest T, Maureen A., & Melissa Rosenberg	155 BEVERLY ST	1965 Presumpscot North Main Interceptor	1995 30' Sewer Row Beverly st. to PNMI
333 K016	Gerard F. Moore	159 BEVERLY ST	1965 Presumpscot North Main Interceptor	1995 30' Sewer Row Beverly st. to PNMI
333 K025	66 Milliken St., LLC	65 MILLIKEN ST	1965 Presumpscot North Main Interceptor	1968 Presumpscot North Main Interceptor
333 K026	SLS Properties	235 RIVERSIDE INDUSTRIAL PKWY	1965 Presumpscot North Main Interceptor	

Year	Sewer ROW Name	Deed Reference
1965	Presumpscot North Main Interceptor	BK 2881 PG 318
1965	Dole Branch Sewer	BK 2881 PG 318
1965	Bailey Avenue Branch Sewer	BK 2931 PG 430, BK 3689 PG 271, partial release BK 12833 PG 306 (over 330A B005 Only)
1975	Bailey Avenue Branch Sewer- Reserved by City for drain and culverts	BK 3689 PG 271
1978	Bailey Avenue Branch Sewer	BK 4509 PG 249, BK 15180 PG 106
1995	30' Sewer ROW Beverly St. to PNMI	no deed found
1997	Utility Easement	BK 13495 PG 171

Sewer Right of Way & Easements

Presumpscot North Main Interceptor

1

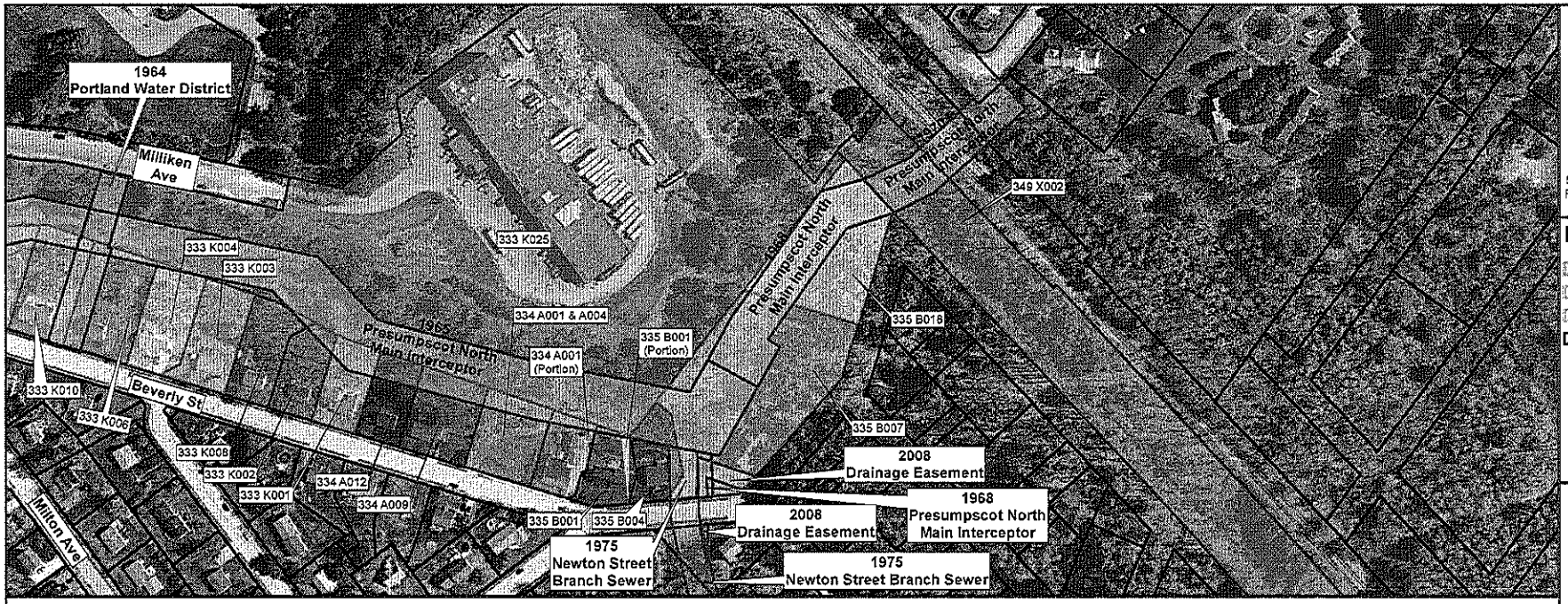
FIGURE

PAGE 1 OF 2

July 18, 2018

DESIGN BY: CCA | DRAWN BY: KET | CHECK BY: CCA

0 75 150 300 Feet



Lead CBL	Owner	Address	Sewer ROW	Other Sewer ROW
333 K001	Beth L. Schurman	105 BEVERLY ST	1965 Presumpscot North Main Interceptor	
333 K002	Jacqueline A. & Jon M. Delano, SR	111 BEVERLY ST	1965 Presumpscot North Main Interceptor	
333 K003	Jon L. Blomquist	125 BEVERLY ST	1965 Presumpscot North Main Interceptor	
333 K004	Robert E. Mitchell, III & Catherine M. Halsey (aka Mitchell)	131 BEVERLY ST	1965 Presumpscot North Main Interceptor	
333 K006	Glenn R. & Nancy S.K. Strout	139 BEVERLY ST	1965 Presumpscot North Main Interceptor	1964 Portland Water District Easement
333 K008	Michael J. & Christine R. Maher	117 BEVERLY ST	1965 Presumpscot North Main Interceptor	
333 K010	Paul J. Connolly, Jr.	149 BEVERLY ST	1965 Presumpscot North Main Interceptor	1964 Portland Water District Easement
333 K012	Earnest T. Maureen A., & Melissa Rosenberg	155 BEVERLY ST	1965 Presumpscot North Main Interceptor	1965 30' Sewer Row Beverly st. to PNMI
333 K025	66 Milliken St., LLC	65 MILLIKEN ST	1965 Presumpscot North Main Interceptor	1968 Presumpscot North Main Interceptor
334 A001 (Portion)	G&J Construction, LLC	71 BEVERLY STREET	1965 Presumpscot North Main Interceptor	
334 A001 & A004	Richard S. Brooks	71 BEVERLY ST	1965 Presumpscot North Main Interceptor	
334 A009	Heidi A. & Christopher A. Johnson	89 BEVERLY ST	1965 Presumpscot North Main Interceptor	
334 A012	Erin M. & Courtney J. James	91 BEVERLY ST	1965 Presumpscot North Main Interceptor	
335 B001 (Portion)	Ameritech Environmental Service Inc. (AKA GLH Enterprises, Inc.)	65 BEVERLY ST	1965 Presumpscot North Main Interceptor	
335 B001	Thomas F. Bill, III	65 BEVERLY ST	1965 Presumpscot North Main Interceptor	
335 B004	Rachel B. Tarmy	57 BEVERLY ST	1965 Presumpscot North Main Interceptor	1968 Presumpscot North Main Interceptor, 1975 Newton Branch Sewer
335 B007	Clifford A. & Mary K. Williams	45 BEVERLY ST	1965 Presumpscot North Main Interceptor	1968 Presumpscot North Main Interceptor, 1975 Newton Branch Sewer, & 2008 Drainage Easement
335 B018	City of Portland	0 BEVERLY ST	1968 Presumpscot North Main Interceptor	
349 X002	Portland Water District	0 NATICK ST	1970 Presumpscot North Main Interceptor	

Year	Sewer ROW Name	Deed Reference
1964	Portland Water District Easement	BK 2883 PG 531
1965	Presumpscot North Main Interceptor	BK 2881 PG 318
1968	Presumpscot North Main Interceptor	BK 3037 PG 829
1970	Presumpscot North Main Interceptor	BK 3147 PG 132, BK 3163 PG 346
1975	Newton Street Branch Sewer	BK 3673 PG 290
2008	Drainage Easement	BK 26467 PG 212

CITY OF PORTLAND, MAINE
DEPT. OF PUBLIC WORKS
55 PORTLAND ST, PORTLAND, MAINE 04101
PHONE (207) 874-8846 FAX (207) 874-8852

Legend

- No Deeded Easement
- PWD Easement
- Yes Deeded Eastment or ROW
- Tax Parcels

N

Sewer Right of Way & Easements

Presumpscot North Main Interceptor

2

FIGURE

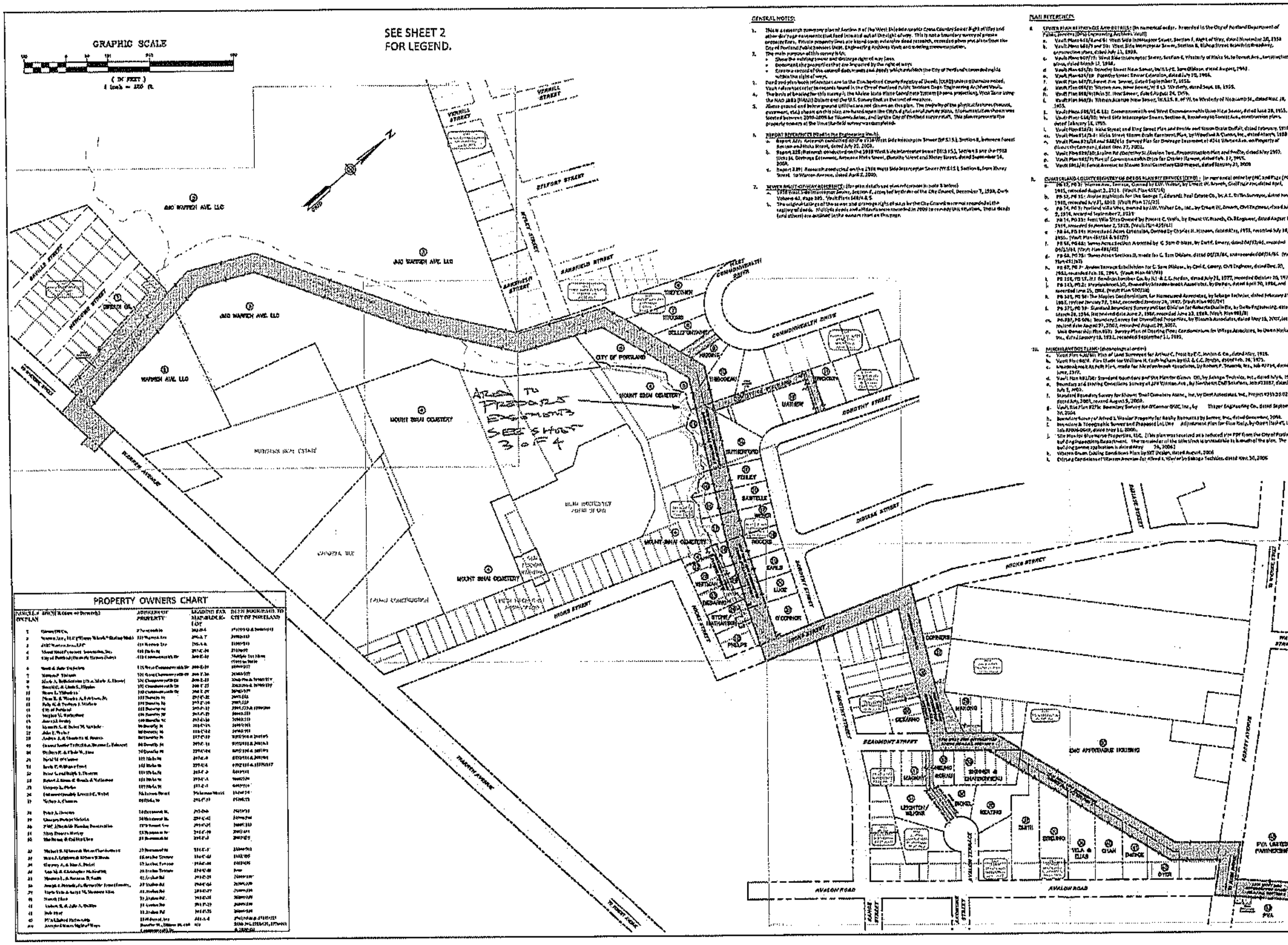
PAGE 2 OF 2

July 18, 2018

DESIGN BY: CCA | DRAWN BY: KET | CHECK BY: CCA

0 75 150 300 Feet

SEE SHEET 1 FOR GENERAL NOTES AND PLAN REFERENCES.
SEE SHEET 2 FOR LEGEND.
PROPERTIES TO HAVE EASEMENTS (10' WIDE) PREPARED FOR ALONG STREAM
GRAPHIC SCALE
REFERENCES:
CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION
RESEARCH DRAINAGE PLAN, SECTION A
WEST SIDE ENTRE-EPOR-LEWIS, INC.
EVER OF FOREST TO DORCHESTER ST
SHEET 3 OF 4
1012 / 2


SEE SHEET 2
FOR LEGEND.
GRAPHIC SCALE
(IN FEET)
GENERAL NOTES:
PLAN REFERENCES:
REFERENCES:
PROPERTY OWNERS CHART
CITY OF PORTLAND
MOUNT SINAI CEMETERY
WARREN AVENUE
FOREST AVENUE
HICKS STREET
DOROTHY STREET
BEAUMONT STREET
AVALON ROAD
AVALON TERRACE
COMMONWEALTH DRIVE
Area to prepare easements see sheet 3 of 4
RESEARCH SUMMARY PLAN,
SECTION 8
OF THE
WEST SIDE INTERCEPTOR SEWER,
FROM
WARREN AVENUE TO FOREST AVENUE
CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION
RESURGAM
CITY OF PORTLAND, MAINE
SHEET #
1 OF 4
PLAN NUMBER
1012 / 2

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

Current Date: August 29, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached our response to some follow-up questions from addendum 2 received related to this bid.

Receipt of **Addendum No. 3** to the City of Portland's **Bid #19008, Stake Out of Existing Sewer Rights of Way** is hereby acknowledged.

COMPANY NAME:

_____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____

ZIP CODE

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

QUESTIONS:

The following is response to questions submitted on August 28, 2018, the two digital maps submitted are included in the response to questions to provide clarification to others as to what the questions and responses are referring to. This response includes two (2) written pages, two (2) digital color aerial maps and one (1) digital easement map.

1. *We would like to get clarity to what right of ways are included in this project and which are not. Addendum 2 included a second map with additional right of ways. At the pre-bid meeting it was stated that they are the right of ways "in green" on the original map and that they would be "circled" on any newly provided mapping. Since nothing was circled we will assume the "in green" statement still stands.*

   RESPONSE: Please review the responses to each of the questions below to clarify the stake out of easement extents and limits.

2. *On Figure 1 we have the following as "green" right of ways, Presumpscot North Main Interceptor and Baily Avenue Branch Sewer, both listed on the original scope and cost sheet, and the "1965 Dole Branch Sewer". Should the 1965 Dole Branch Sewer be staked out? If so, should it only be staked out to Riverside Industrial Parkway or extended into lot 330A C002? (See attached Question1.pdf, circle 1).*

   RESPONSE: Dole Branch Sewer from Presumpscot North Main Interceptor Easement to Riverside Industrial Parkway shall be included in the Presumpscot interceptor stake out and cost shall be included in amount bid for Item No. 1. There is no sewer or easement on Lot 330A C002. The easement shown on lot 330A C002 is a graphical error.

3. *There is also a "brown" right of way the "1995 30' Sewer ROW Beverly ST. to PNMI" shown. Should this 1995 ROW be staked out? (See attached Question1.pdf, circle 2).*

   RESPONSE: Beverly Street Sewer Right of Way between Beverly St and Presumpscot North Main Interceptor is shown in Brown as there is the potential that an easement for the sewer between these two properties (159 Beverly St 333-K-016 and 155 Beverly St 333-K-012) on either side of the sewer main does not exist. The stake out and cost for this work shall be included in amount bid for Item No. 1. Should it be determined that additional work is required then a change order will be issued.

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

4. *Figure 2 also includes the Presumpscot North Main Interceptor, but also includes the "1975 Newton Street Branch Sewer". Should this 1995 ROW be staked out? If so, should it only be staked out to Newton Street or into the properties to the south? (See attached Question1.pdf, circle 3)*

   RESPONSE: 1975 Newton Street Sewer Easement form Presumpscot North Main Interceptor Easement to Beverly shall be staked out, the remainder of the Newton Sewer Easement extending south of Beverly is not part of this contract. The stake out and cost for this work shall be included in amount bid for Item No. 1.

5. *What about the 2008 Drainage Easements (although not sewer, they are in green)?*

   <u>RESPONSE</u>: 2008 Drainage Easement is shown for reference only and not included in this contract.

6. *Avalon-Beaumont-Forest-Hicks-Warren Sewer*

   Addendum 1 list the 7 lots for which the easement descriptions will be written:
   297-C-30
   300-E-39
   297-C-17
   297-C-16
   297-C-15
   297-C-14
   297-C-1

   The provided map in Addendum 2 on page 6 shows the project area on the stream hatched in red. This hatching includes two Mount Sinai Cemetery lots (297-C-28 and 297-C-29) to the south of the stream that are part not of the original list. The hatching also does not include parcel 297-C-1? (See attached Question2.pdf)

   Our take is that the hatching was only done to highlight the area and the original list still holds.

   <u>RESPONSE</u>: The lots requiring a 10 foot wide easement along the stream are as follows:

   Mount Sinai Cemetery property are:

   297-C-30
   297-C-29
   297-C-28

Addendum #3

CITY OF PORTLAND, MAINE

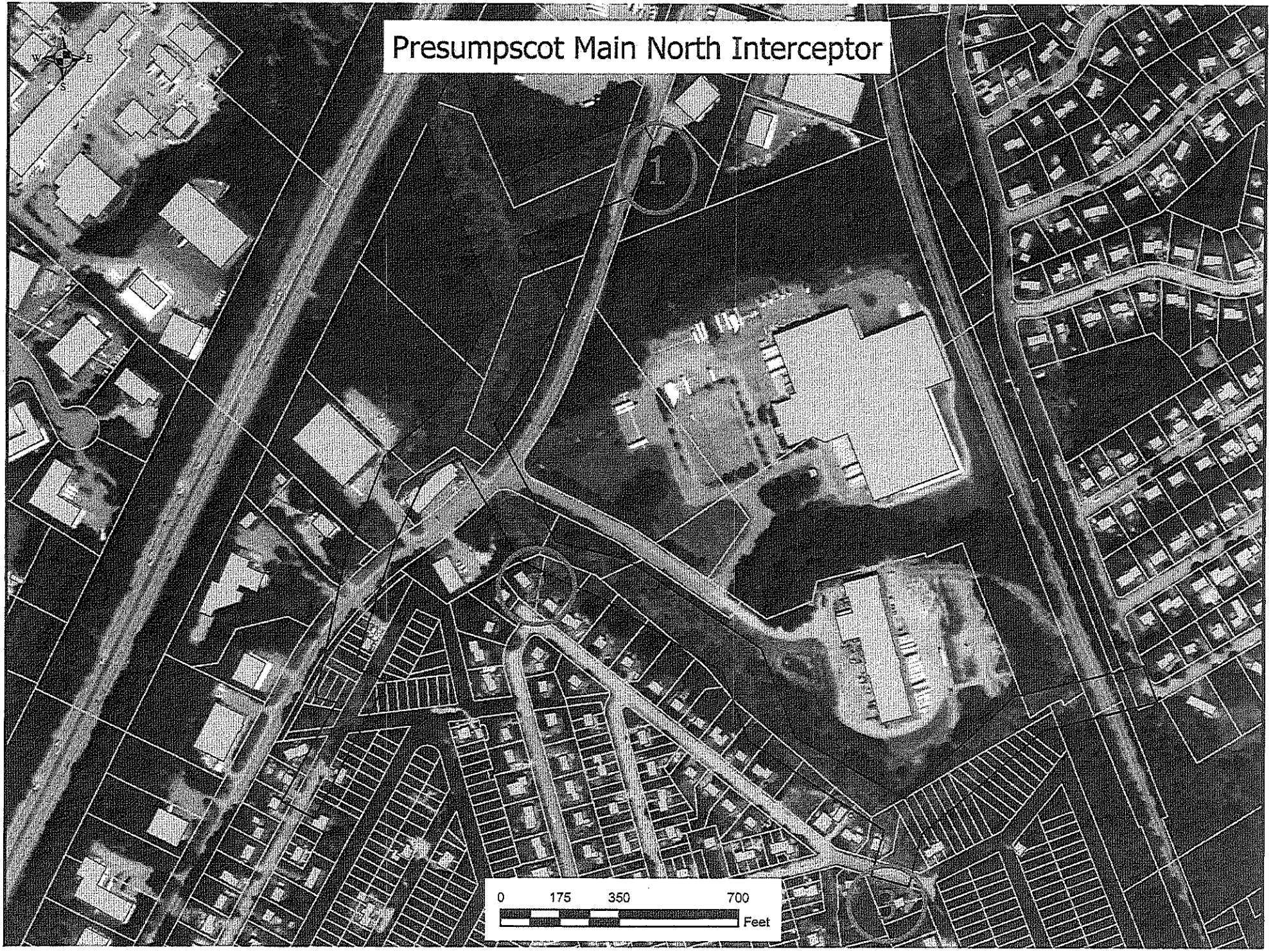
STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

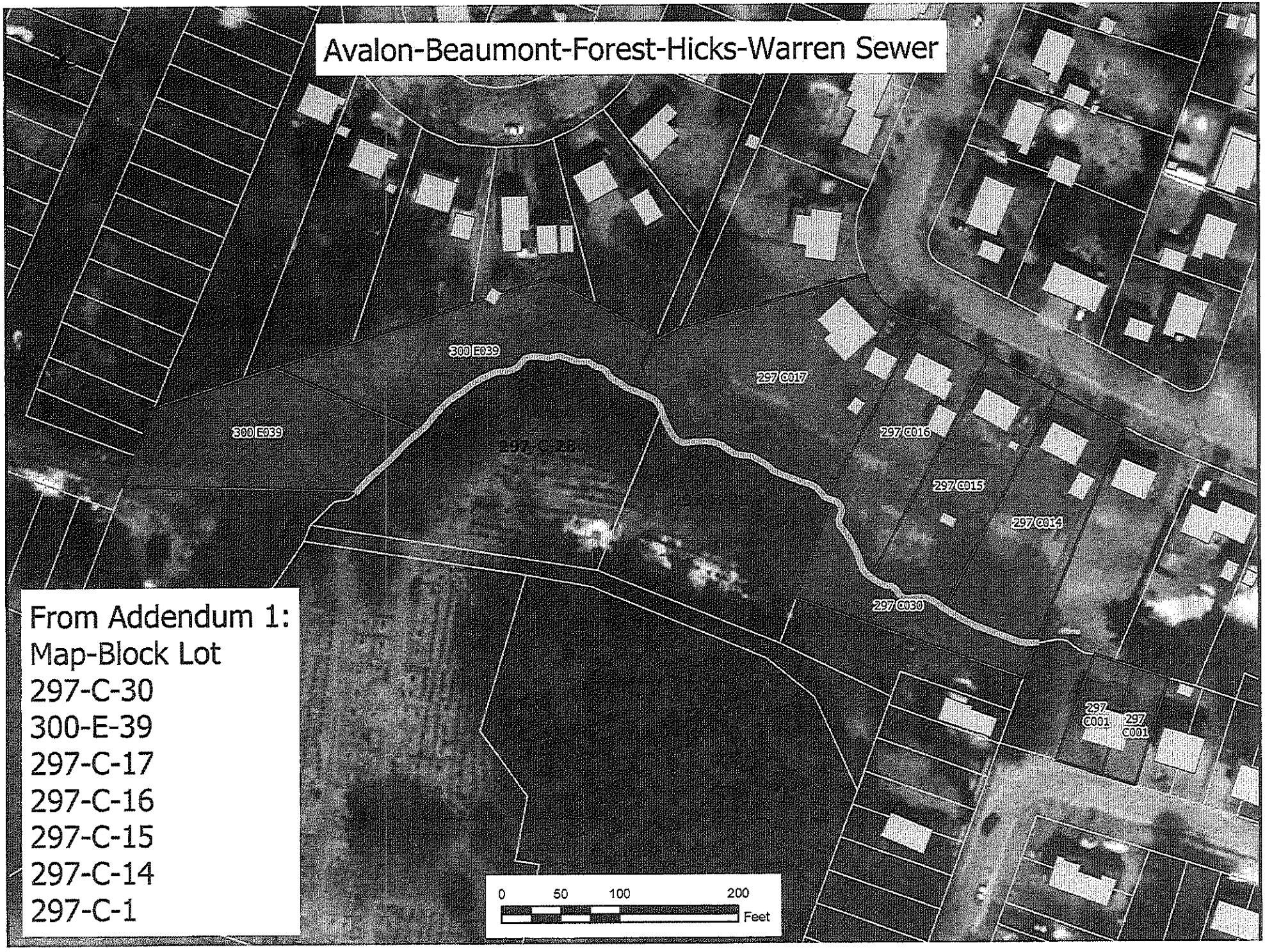
Individual Home Owners:

297-C-17 shown with 14 in circle N/F Meghan M. Rutherford 106 Dorothy St
297-C-16 shown with 15 in circle N/F Janet M. Fenley 100 Dorothy St
297-C-15 shown with 16 in circle N/F Kenneth A. & Debra M. Sawtelle 96 Dorothy St
297-C-14 shown with 17 in circle N/F John T. Weber 90 Dorothy St
XIVRAY Street
297-C-1 & 2 shown with 22 in circle N/F Kevin Whitman trust 153 Hicks St
297-C-30 & 31 shown with 4 in circle N/F Mount Sinai Cemetery

The amount bid for Item No. 3 shall include the work as described and for all of the properties listed above in response to question 2.

The date for submission of proposal remains the same.


Presumpscot Main North Interceptor
1
0
175
350
700
Feet


Avalon-Beaumont-Forest-Hicks-Warren Sewer
300 E039
300 E039
297 C017
297 C016
297 C015
297 C014
297 C030
297 C001
297 C001
From Addendum 1:
Map-Block Lot
297-C-30
300-E-39
297-C-17
297-C-16
297-C-15
297-C-14
297-C-1
0
50
100
200
Feet

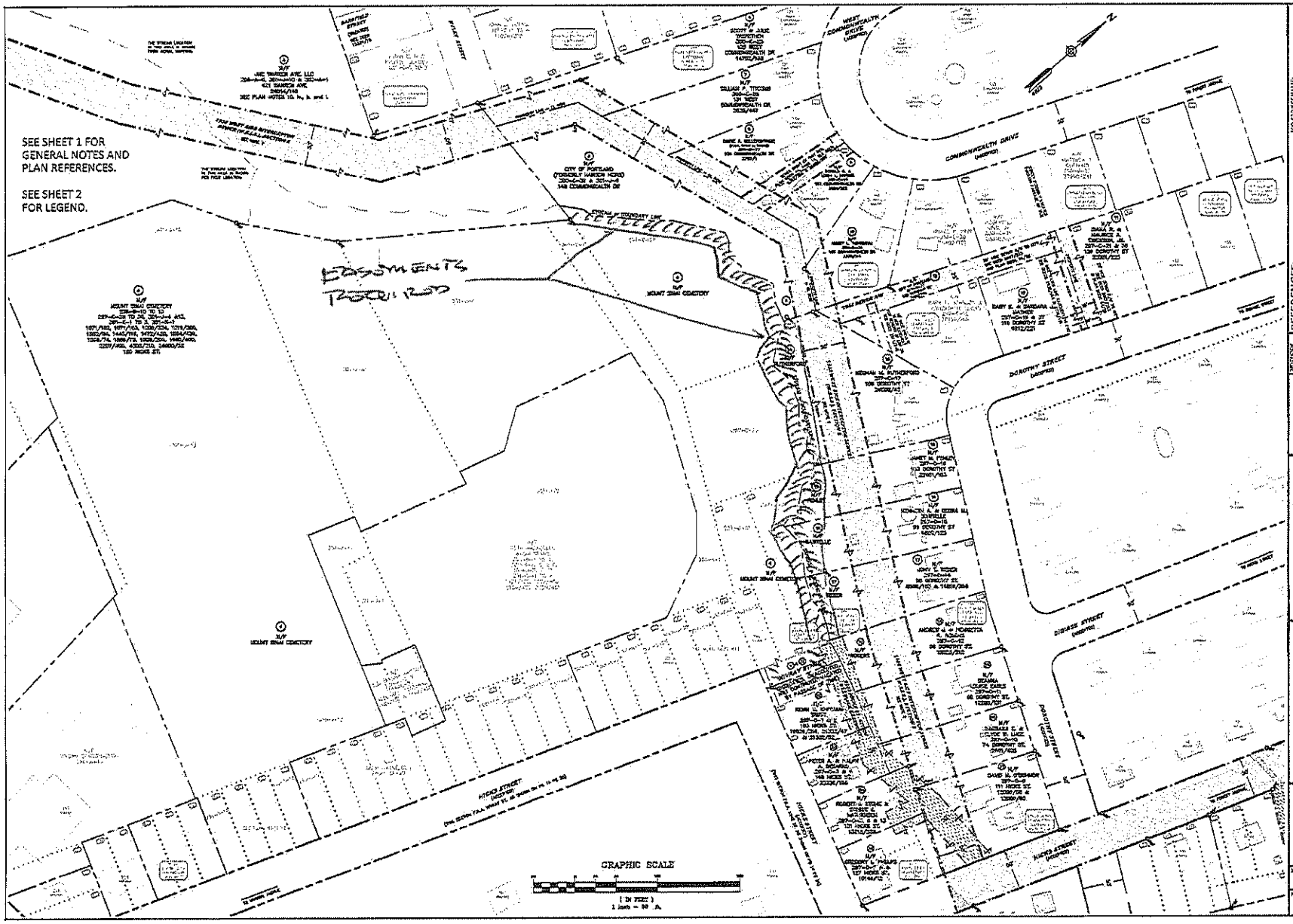

SEE SHEET 1 FOR GENERAL NOTES AND PLAN REFERENCES.
SEE SHEET 2 FOR LEGEND.
EASEMENTS TO BE REQUIRED
COMMONWEALTH DRIVE
DOROTHY STREET
DISHAS STREET
HICKS STREET
MOUNT SINAI CEMETERY
GRAPHIC SCALE
REFERENCES:
RESEARCH SUMMARY PLAN, SECTION 8
WEST SIDE INTERCEPTOR SEWER,
FROM
SIDEY DE HYSLEY ST TO HICKS ST
CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION
SHEET 3 OF 4
PLAN NUMBER 1012/2

EXHIBIT B

JONES ASSOCIATES
Foresters, Surveyors and Environmental Consultants

August 6, 2018

Matthew Fitzgerald, Purchasing Manager
Purchasing Office, City Hall Room 103
Congress Street
Portland, Maine 04101

RE: Request for Proposals (RFP) #19008 Stake Out of Existing Sewer Right of Ways

Dear Mr. Fitzgerald:

It is with great pleasure that Jones Associates, Inc (JAI) provides the City of Portland with the enclosed proposal to provide survey services.

Enclosed you will find one (1) original and five (5) copies of our response to RFP #19008. If selected, JAI will meet all the requirement of the proposal as requested in the scope of work and addendums 1, 2 and 3.

We look forward to the opportunity to provide our services to the City of Portland. If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

Rick Jones

280 Poland Spring Road
Auburn, ME 04210
207-241-0235
www.jonesai.com

PRICE PROPOSAL PAGE
(REVISED PER ADDENDUM 2)

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
PRESUMPSCOT NORTH MAIN INTERCEPTOR
AND BAILEY BRANCH SEWER
BID #19008

	ITEM	LUMP SUM AMOUNT
1.	Location and stake out of portions of the existing Presumpscot Main North Interceptor Right of Ways including flagging at each pin, stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	$ 21,500.00
2.	Location and stake out of portions of the existing Bailey Avenue Branch Sewer including flagging at each Pin stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	$ 4,950.00
3.	Location and stake out of portions of Avalon-Beaumont-Forest-Hicks-Warren Sewer including flagging at each Pin stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 foot intervals.	$ 9,950.00
4.	Amount quoted to prepare and submit in AutoCAD Drawing of the easements after stake out.	$ 1,750.00
5.	Amount quoted Digital Photographs for each of the easements after stake out.	$ 890.00
6.	Amount quoted to collect and submit GIS Data of the easements after stake out.	$ 645.00
	TOTAL AMOUNT	$ 39,685.00

PROPOSAL FORM

STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
PRESUMPSCOT NORTH MAIN INTERCEPTOR
AND BAILEY BRANCH SEWER
BID #19008

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: 1, 2 and 3

COMPANY NAME: Jones Associates, Inc.

AUTHORIZED SIGNATURE: Mary Ella Jones

DATE: 9-6-2018

PRINT NAME & TITLE: Mary Ella Jones, Vice President

ADDRESS: 280 Poland Spring Road, Auburn, ME 04210

E-MAIL ADDRESS: rjones@jonesai.com, mjones@jonesai.com

PHONE NUMBER: 207-241-0235 FAX NUMBER: 207-241-0237

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: S corporation

STATE OF INCORPORATION, IF APPLICABLE: Maine

FEDERAL TAX IDENTIFICATION NUMBER (Required): 01-0462789

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

CITY OF PORTLAND, MAINE
STAKE OUT OF EXISTING SEWER RIGHT OF WAYS
Bid #19008

Current Date: August 8, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW F. FITZGERALD
PURCHASING MANAGER

Please see attached additional documents (9):

1) PNMI List of Properties
2) PNMI List of Sewer Right of Ways
3) Presumpscot North Interceptor GIS Sketch
4) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_1
5) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_2
6) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_3
7) Avalon-Beaumont-Forest-Hicks-Warren CSO FINAL 2011_sht_4
8) Avalon-Beaumont-Forest-Hicks-Warren Owners Chart_4CAD
9) RFQ Stream Easement along West Side Interceptor

Receipt of **Addendum No. 1** to the **City of Portland's Bid #19008, STAKE OUT OF EXISTING SEWER RIGHT OF WAYS** is hereby acknowledged.

COMPANY NAME: James Associates, Inc

SIGNED BY: Mary Ella Jones DATE: 9-6-2018

PRINT NAME & TITLE: Mary Ella Jones, Vice President

ADDRESS: 280 Poland Spring Road

Auburn, Maine ZIP CODE 04210

Addendum #2

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

Current Date: August 28, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached the following documents:

1. A revised price proposal page (please use this page when submitting your bid)
2. Sewer Right of Way & Easements – Presumpscot North Main Interceptor (Figure 1)
3. Sewer Right of Way & Easements – Presumpscot North Main Interceptor (Figure 2)
4. Easements Along Stream at Sinai Cemetery

Receipt of **Addendum No. 2** to the City of Portland's **Bid #19008, Stake Out of Existing Sewer Rights of Way** is hereby acknowledged.

COMPANY NAME: Jones Associates, Inc.

SIGNED BY: Mary Ella Jones DATE: 9-6-18

PRINT NAME & TITLE: Mary Ella Jones, Vice President

ADDRESS: 280 Poland Spring Road

Auburn, ME 04210

ZIP CODE

Addendum #3

CITY OF PORTLAND, MAINE

STAKE OUT OF EXISTING SEWER RIGHTS OF WAY
Bid #19008

Current Date: August 29, 2018

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached our response to some follow-up questions from addendum 2 received related to this bid.

Receipt of **Addendum No. 3** to the City of Portland's **Bid #19008, Stake Out of Existing Sewer Rights of Way** is hereby acknowledged.

COMPANY NAME: Jones Associates, Inc

SIGNED BY: Mary Ella Jones DATE: 9-6-18

PRINT NAME & TITLE: Mary Ella Jones, Vice President

ADDRESS: 280 Poland Spring Road

Auburn, ME 04210

ZIP CODE

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/12/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Cross Insurance-Portland
2331 Congress Street
Portland ME 04102

CONTACT NAME: Ben Stallman
PHONE (A/C, No, Ext): (207) 780-1677 FAX (A/C, No): (207) 780-6377
E-MAIL ADDRESS: bstallman@crossagency.com

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	American Fire & Casualty	24066
INSURER B:	Ohio Casualty Insurance Company	24074
INSURER C:	Ohio Security Ins Co	24082
INSURER D:	Everest Indemnity Company	10851
INSURER E:		
INSURER F:		

INSURED
Jones Associates, Inc.
280 Poland Spring Rd
Auburn ME 04210

COVERAGES **CERTIFICATE NUMBER:** CL18102266765 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:	Y		BKA56922588	09/23/2018	09/23/2019	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
							MED EXP (Any one person)	$ 15,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
							Employment Practices	$ 250,000
A	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	Y		BAA56922588	09/23/2018	09/23/2019	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
							Uninsured motorists	$ 1,000,000
B	[X] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $			USO56922588	09/23/2018	09/23/2019	EACH OCCURRENCE	$ 2,000,000
							AGGREGATE	$ 2,000,000
								$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		XWS56922588	09/23/2018	09/23/2019	[X] PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$ 500,000
							E.L. DISEASE - EA EMPLOYEE	$ 500,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000
D	Errors & Omissions Agg.: 2,000,000 Ded: 5,000			EF4ML05724-181	09/23/2018	09/23/2019	Contractors Pollution Professional Liability	$1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Portland is named as Additional Insured with respect to General Liability and Auto Liability when required by written contract.

CERTIFICATE HOLDER

City of Portland
389 Congress Street
Portland ME 04101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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(2) If the Limits of Insurance of any other insurance policy have been exhausted; or

(3) To "bodily injury" or "property damage" that occurred before you acquired or formed the organization.

2. EMPLOYEES AS INSUREDS

SECTION II - LIABILITY COVERAGE, paragraph **A.1.** - WHO IS AN INSURED is amended to include the following as an insured:

f. Any "employee" of yours while using a covered "auto" you do not own, hire or borrow but only for acts within the scope of their employment by you. Insurance provided by this endorsement is excess over any other insurance available to any "employee".

g. An "employee" of yours while operating an "auto" hired or borrowed under a written contract or agreement in that "employee's" name, with your permission, while performing duties related to the conduct of your business and within the scope of their employment. Insurance provided by this endorsement is excess over any other insurance available to the "employee".

3. ADDITIONAL INSURED BY CONTRACT, AGREEMENT OR PERMIT

SECTION II - LIABILITY COVERAGE, paragraph **A.1.** - WHO IS AN INSURED is amended to include the following as an insured:

h. Any person or organization with respect to the operation, maintenance or use of a covered "auto", provided that you and such person or organization have agreed in a written contract, agreement, or permit issued to you by governmental or public authority, to add such person, or organization, or governmental or public authority to this policy as an "insured".

However, such person or organization is an "insured":

(1) Only with respect to the operation, maintenance or use of a covered "auto";

(2) Only for "bodily injury" or "property damage" caused by an "accident" which takes place after you executed the written contract or agreement, or the permit has been issued to you; and

(3) Only for the duration of that contract, agreement or permit

4. SUPPLEMENTARY PAYMENTS

SECTION II - LIABILITY COVERAGE, Coverage Extensions, **2.a.** Supplementary Payments, paragraphs **(2)** and **(4)** are replaced by the following:

(2) Up to $3,000 for cost of bail bonds (including bonds for related traffic violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(4) All reasonable expenses incurred by the insured at our request, including actual loss of earnings up to $500 a day because of time off from work.

5. AMENDED FELLOW EMPLOYEE EXCLUSION

In those jurisdictions where, by law, fellow employees are not entitled to the protection afforded to the employer by the workers compensation exclusivity rule, or similar protection, the following provision is added:

SECTION II - LIABILITY, exclusion **B.5.** FELLOW EMPLOYEE does not apply if the "bodily injury" results from the use of a covered "auto" you own or hire.

SECTION III - PHYSICAL DAMAGE COVERAGE is amended as follows:

6. HIRED AUTO PHYSICAL DAMAGE

Paragraph **A.4.** Coverage Extensions of SECTION III - PHYSICAL DAMAGE COVERAGE, is amended by adding the following:

If hired "autos" are covered "autos" for Liability Coverage, and if Comprehensive, Specified Causes of Loss or Collision coverage are provided under the Business Auto Coverage Form for any "auto" you own, then the Physical Damage coverages provided are extended to "autos":

a. You hire, rent or borrow; or

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b. The last paragraph of subsection **2. Exclusions** is replaced by the following:

Exclusions **c.** through **n.** do not apply to damage by fire, lightning, explosion, smoke or leakage from automatic fire protection systems to premises while rented to you or temporarily occupied by you with permission of the owner. A separate limit of insurance applies to Damage To Premises Rented To You as described in **Section III - Limits Of Insurance.**

2. Paragraph **6.** under **Section III - Limits Of Insurance** is replaced by the following:

6. Subject to Paragraph **5.** above, the Damage To Premises Rented To You Limit is the most we will pay under Coverage **A** for damages because of "property damage" to:

a. Any one premise:

(1) While rented to you; or

(2) While rented to you or temporarily occupied by you with permission of the owner for damage by fire, lightning, explosion, smoke or leakage from automatic protection systems; or

b. Contents that you rent or lease as part of a premises rental or lease agreement.

3. As regards coverage provided by this provision **D. EXTENDED DAMAGE TO PROPERTY RENTED TO YOU (Tenant's Property Damage) -** Paragraph **9.a.** of **Definitions** is replaced with the following:

9.a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire, lightning, explosion, smoke, or leakage from automatic fire protection systems to premises while rented to you or temporarily occupied by you with the permission of the owner, or for damage to contents of such premises that are included in your premises rental or lease agreement, is not an "insured contract".

E. MEDICAL PAYMENTS EXTENSION

If **Coverage C Medical Payments** is not otherwise excluded, the Medical Payments provided by this policy are amended as follows:

Under Paragraph **1. Insuring Agreement** of **Section I - Coverage C - Medical Payments,** Subparagraph **(b)** of Paragraph **a.** is replaced by the following:

(b) The expenses are incurred and reported within three years of the date of the accident; and

F. EXTENSION OF SUPPLEMENTARY PAYMENTS - COVERAGES A AND B

1. Under **Supplementary Payments - Coverages A** and **B**, Paragraph **1.b.** is replaced by the following:

b. Up to **$3,000** for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

2. Paragraph **1.d.** is replaced by the following:

d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to **$500** a day because of time off from work.

G. ADDITIONAL INSUREDS - BY CONTRACT, AGREEMENT OR PERMIT

1. Paragraph **2.** under **Section II - Who Is An Insured** is amended to include as an insured any person or organization whom you have agreed to add as an additional insured in a written contract, written agreement or permit. Such person or organization is an additional insured but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused in whole or in part by:

a. Your acts or omissions, or the acts or omissions of those acting on your behalf, in the performance of your on going operations for the additional insured that are the subject of the written contract or written agreement provided that the "bodily injury" or "property damage" occurs, or the "personal and advertising injury" is committed, subsequent to the signing of such written contract or written agreement; or

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b. Premises or facilities rented by you or used by you; or

c. The maintenance, operation or use by you of equipment rented or leased to you by such person or organization; or

d. Operations performed by you or on your behalf for which the state or political subdivision has issued a permit subject to the following additional provisions:

(1) This insurance does not apply to "bodily injury", "property damage", or "personal and advertising injury" arising out of the operations performed for the state or political subdivision;

(2) This insurance does not apply to "bodily injury" or "property damage" included within the "completed operations hazard".

(3) Insurance applies to premises you own, rent, or control but only with respect to the following hazards:

(a) The existence, maintenance, repair, construction, erection, or removal of advertising signs, awnings, canopies, cellar entrances, coal holes, driveways, manholes, marquees, hoist away openings, sidewalk vaults, street banners, or decorations and similar exposures; or

(b) The construction, erection, or removal of elevators; or

(c) The ownership, maintenance, or use of any elevators covered by this insurance.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and

2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

With respect to Paragraph **1.a.** above, a person's or organization's status as an additional insured under this endorsement ends when:

(1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

(2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

With respect to Paragraph **1.b.** above, a person's or organization's status as an additional insured under this endorsement ends when their written contract or written agreement with you for such premises or facilities ends.

With respects to Paragraph **1.c.** above, this insurance does not apply to any "occurrence" which takes place after the equipment rental or lease agreement has expired or you have returned such equipment to the lessor.

The insurance provided by this endorsement applies only if the written contract or written agreement is signed prior to the "bodily injury" or "property damage".

We have no duty to defend an additional insured under this endorsement until we receive written notice of a "suit" by the additional insured as required in Paragraph **b.** of Condition **2. Duties In the Event Of Occurrence, Offense, Claim Or Suit** under **Section IV - Commercial General Liability Conditions.**

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AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
SGC ENGINEERING LLC

THIS AGREEMENT is entered into this 16th day of August, 2019, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the "**CITY**"), and **SGC ENGINEERING LLC,** a Maine limited liability company with a mailing address of 501 County Road, Westbrook, Maine 04092 (hereinafter the "**CONSULTANT**").

W I T N E S S E T H:

WHEREAS, the CITY is in need of location and stake out services for a sewer line and did advertise a Request for Bids #19081 entitled "Location and Stake Out of Existing Sewer Right of Way West Side Interceptor Sewer," dated April 23, 2019 as amended by Addenda No. 1 dated April 30, 2019, No. 2 dated May 7, 2019, No. 3 dated May 8, 2019, and No. 4 dated May 17, 2019 (hereinafter, collectively, the "Request for Bids"), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the CONSULTANT has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated May 23, 2019, (hereinafter, the "Proposal"), a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY decided to award this contract to CONSULTANT;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The CONSULTANT will furnish the services, materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request for Proposals and the CONSULTANT's Proposal. Section 6.0 of the Proposal (General Contract Conditions) is hereby deleted in its entirety.

   The restatement in this document of any term of the Request for Proposals or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between the Request for Proposals or the Proposal and this document, then this document shall govern; and the Request for Proposals shall govern over the Proposal, to the extent

they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONSULTANT covenants and agrees that all Work performed and furnished hereunder shall be in accordance with all applicable professional standards.

3. Prior to the execution of this Agreement, the CONSULTANT shall, at its own expense, carry occurrence-based Professional Liability Insurance for errors, omissions and negligence, in the amount of One Million Dollars ($1,000,000.00) per claim. The CONSULTANT will also procure and maintain occurrence-based Automobile Liability Insurance, and Commercial General Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the CITY as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the Automobile Liability and Commercial General Liability Insurance, the CONSULTANT shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONSULTANT shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONSULTANT shall also provide a copy of any endorsement naming the CITY as additional insured. A certificate that merely has a box checked under "Addl Insr," or the like, or that merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONSULTANT shall provide CITY with a complete copy of any of the above-referenced policies. CONSULTANT shall be responsible for any and all deductibles and/or self-insured retentions (not to exceed $10,000.00 without prior written approval of Corporation Counsel). CITY's acceptance or lack of acceptance of CONSULTANT's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONSULTANT's obligation to obtain and maintain such insurance as required by this agreement. If the CONSULTANT maintains broader coverage and/or higher limits than the minimum shown above, the CITY requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONSULTANT. (*In the event that the Consultant requires access to the City's network or if the Consultant will be accessing or storing any sensitive City data, the City may also require Consultant to carry cyber liability insurance).*

4. To the fullest extent permitted by law, the CONSULTANT shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of

defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONSULTANT, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY that otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONSULTANT's obligations under this paragraph shall survive termination of this Agreement.

5. The CONSULTANT shall perform the work to the satisfaction of the Director of the Public Works Department (hereinafter, the "Director") who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. The CONSULTANT acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

6. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed contract to the CONSULTANT, which will commence work as soon as reasonably possible. The CONSULTANT agrees to complete the entire work by eight months after the date of execution of the Agreement. The time set for such completion may be extended only by written consent of the Director.

7. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director or designee will be final and binding.

8. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONSULTANT an amount not to exceed Forty-Four Thousand Five Hundred Dollars ($44,500) for the items set forth in the Request for Bids on the Price Proposal Page and presented in Section 4.0 in the Proposal, which will include any expenses.

9. The CONSULTANT shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONSULTANT not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director or designee.

10. The CITY agrees to furnish or provide access to the CONSULTANT to any information or material in its possession which is relevant to the CONSULTANT's performance hereunder and CITY staff will cooperate with CONSULTANT. The CONSULTANT will not, without the CITY's written consent, disclose, or permit disclosure, by any officer, employee, or agent or subcontractor of CONSULTANT, of any information or material furnished or generated under this Agreement. The CONSULTANT shall be

entitled to rely upon the accuracy of such information. The provisions of this Article shall not apply to information which is published or comes into the public domain through no fault of the CONSULTANT or is required to be disclosed by law.

The following shall be requirements of this Agreement:

(a) All data collected shall be treated as confidential material and shall be disclosed *only* to authorized CITY representatives;

(b) The CONSULTANT shall not disclose or permit disclosure of any information or material furnished and/or generated under this Agreement without the CITY's prior written consent; and

(c) All documents, data, studies, estimates, summaries and any other work or material developed under this Agreement shall be the property of the CITY and shall be promptly delivered to the appropriate Department Contact person upon completion of a particular service/assignment or upon the request of the CITY.

11. The CITY may terminate this Agreement for cause by written Notice to the CONSULTANT. In the event of such termination, the CONSULTANT shall not be entitled to any further payment under this Agreement from the date of receipt of said Notice.

12. The CITY shall have the right to terminate this Agreement at any time for its convenience with prior written Notice to the CONSULTANT. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONSULTANT for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such Notice.

13. Out of concern for the public, CITY employees and the CONSULTANT's employees, all work performed by the CONSULTANT shall be in conformance with applicable local, state, and federal laws, ordinances, rules and regulations.

14. CONSULTANT agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONSULTANT specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or

color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONSULTANT where appropriate.

15. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

16. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONSULTANT.

17. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

18. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

19. CONSULTANT warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform its obligations under this Agreement, and that the person signing this Agreement on behalf of CONSULTANT has the authority to do so.

20. CONSULTANT may not assign its rights or obligations under this Agreement without the CITY's prior written consent.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly

authorized, and **SGC ENGINEERING LLC** has caused this Agreement to be signed and sealed by Christen Wilber, its President, thereunto duly authorized, as of the day and date first above written.

WITNESS:

CITY OF PORTLAND

By: _____
Jon P. Jennings
Its City Manager

WITNESS:

_____

SGC ENGINEERING LLC

By: _____

Print or type name: Christen Wilber

Its: President

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

EXHIBIT A

City of Portland, Maine

Department of Public Works

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer

Bid# 19081

April 23, 2019

GENERAL INFORMATION

Sealed bids will be received by the City of Portland Purchasing Office, 389 Congress Street, Room 103, Portland, Maine 04101 until 3:00 P.M. on Thursday, May 23, 2019 The consultant shall submit one (1) hard copy of the Qualification Packages, clearly marked on the front "Location and Stake out of existing Sewer Rights of Way West Side Interceptor Sewer" as well as one (1) PDF on a thumb drive or DVD. Copies of the bid documents are available electronically by contacting the City of Portland Purchasing Office by phone (207) 874-8654 or e-mail: JRL@portlandmaine.gov.

MANDATORY PRE-BID CONFERENCE

Before submitting bids, firms are required to attend a mandatory pre-bid conference, which will be held at 10:00 a.m. on Tuesday, May 7, 2019, in Conference Room 209 at Portland City Hall. Only firms represented at this meeting will be allowed to submit a bid for this contract.

Late, unsigned bids or bids submitted electronically shall not be accepted. Bids shall remain open to acceptance for ninety (90) days from their opening. Please submit one (1) hard copy of your bid submission, including any descriptive literature, shall be submitted on the forms provided and in an envelope plainly marked on the outside with the bid's title and number along with one (1) PDF on a thumb drive or DVD along with your company's most recent W-9.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Request from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this bid.

Questions regarding this bid shall be made in writing only and be sent to the Purchasing Office, being received no later than five working days prior to the bid opening. They may be e-mailed to JRL@portlandmaine.gov or faxed to 207-874-8652. Questions that result in modifications to the bid's specifications will be in the form of a written addendum and sent to all bid holders on registered in the Purchasing Office.

The Awarded Contractor will procure and maintain Automobile Insurance and General Public Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the General Liability and Automobile Liability Insurance, The Awarded Contractor shall name the City as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available under the Maine Tort Claims Act, other Maine statutory law, judicial precedent or common law. With respect to the Liability Insurance, The Awarded Contractor will provide the City a certificate of insurance evidencing such coverage, in this way: certificate must say either: A) "the policy has been endorsed to name the City of Portland as an Additional Insured" and a copy of the endorsement must come to the City of Portland with the certificate, or B) "the policy already includes an endorsement, such as the General Liability Extension Endorsement, by which the City of Portland is automatically made an additional insured." A Certificate which merely has a box checked under "Addl Insr," or the like, or which merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation

against the City of Portland, its officers or employees. The Awarded Contractor shall furnish the City and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the City of termination of insurance from insurance provider or agent.

All materials and equipment used as well as all methods of installation shall comply at a minimum with any and all Federal, OSHA, State and/or local codes, including applicable municipal ordinances and regulations.

Equal Employment Opportunities. Any award recipient agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. Contractor specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by the developer and its contractors where appropriate.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

April 23, 2019

Matthew F.Fitzgerald
Purchasing Manager

INTRODUCTION

City of Portland – DPW - Water Resources Engineering is requesting bids for a survey location and stake out of portions of the West Side Interceptor Sewer (WSIS) as shown on the attached GIS plan. The purpose of this survey is to establish and mark the main WSIS right of way and the 14 secondary Rights of Way and easement so that the City can clear, maintain the sewer easements inspect and repair interceptor. The main section of the WSIS to be staked out is 7,200 feet in length along its centerline. The WSIS intersects or abuts 60 properties, is connected to or crosses 15 street Rights of Way and crosses through 12 subdivisions.

The work shall include:

- Establishing and marking the existing WSIS right of way lines.
- Establishing and marking the 14 secondary Rights of Way and easements that feed into and out of the main WSIS.
- Establishing the street Rights of Way of 15 streets in areas where the secondary easements intersect those streets or in the areas where easements will be needed.
- Locating manholes, culverts, manmade structures (garages, shed or other) and any property corners (pipes, rebar, monuments, etc.) found within or near the right of way.
- Flagging, painting or marking any property corners (pipes, rebar, monuments, etc.) found within or near the right of way.
- Flagging stakes along the sidelines of the Rights of Way and easements at intervals of 50 feet± and at angle points. The right sideline flagging color shall be red, left sideline flagging color shall be blue and centerline flagging color shall be white. The flagging colors are from the view point of starting near the railroad tracks at Warren Ave. and heading southward towards Brighton Avenue.

The West Side Interceptor Sewer project begins at Warren Avenue at its intersection with Trundy Road. The project extends southerly across the railroad tracks to Brighton Avenue for a total distance of approximately 7,200 feet. No field work shall be conducted within the railroad right of way. Stake out work shall begin on the south side of the Railroad Right of Way where it intersects with the WSIS. Stake out shall continue southerly through the Evergreen Cemetery property and through the following subdivisions: Warwick Heights Development sections 3, 2, 1, Sunset Heights section subdivision B, A, Glenwood Subdivision, Longfellow Woods Section L, I & A, Violette Hill and Howard Realty Company. Stake out shall end at the northerly street line of Brighton Avenue. See Excel

Worksheet for list of all properties involved.

City of Portland DPW Surveying Group has prepared a GIS map of the easements. The Survey Group has conducted the deed and vault research and have provided two excel worksheets – one which lists affected property owners along with deed and plan references and one which lists the sewer Rights of Way and easements along with deed and plan references.

The following is included in this RFQ:

1. GIS Map that is a representation and approximation of the Rights of Way and properties.
2. List of the sewer and drainage Rights of Way and easements
3. List of properties owners that are impacted by the Rights of Way
4. 11"x17" Copies of the 3 main WSIS R/W plans (Section 7, Section 8 and Home Branch).

5. List of Deeds for both the Rights of Way and the impacted properties pages 5 to 8.

Upon award of the contract all the available supporting deeds, plans, drawings, nearby City bench marks and nearby City control points and other relevant information will be provided.

The scope of work shall include all labor, Survey crew time, supervision, Maine Professional Licensed Surveyor time, survey equipment, base station(s), instrumentation, stakes, tools, transportation, fuel, tolls, copying, printing, meals, vehicles, administrative costs, field and office staff necessary to establish and stake out the right of way and easements with flagging and collection of field locations of pins, stakes, monuments, manholes, culverts, manmade structures and fence lines as encountered. A final Civil3D CAD drawing on state plane coordinates (NAD 1983 HARN State Plane Maine West FIPS 1802 US Survey Foot) and City vertical datum (NGVD 29) shall be provided. A final list of coordinates shall be provided in both NAV 1983 and NGVD 1929.

Deliverables:

1. Show or list City benchmarks used for establishing elevation and City Control points used to establish horizontal control.
2. Establish street sidelines for Brighton Avenue, Alden Circle, Harmon Road, Violette Avenue, Dennett Street, Longwood Terrace, Warwick Street, Sunset Lane, Candlewyck Terrace, Glen Haven West, Dorset Street, Pinebrook Lane, Penwood Drive, Birchwood Drive and Warren Avenue.
3. Establish and stake out of portions of the existing West Side Interceptor Sewer Right of Way and the 14 secondary Rights of Way and easements that intersect it.
4. Flag each pin, stake or monument found within or near the right of way.
5. Prepare written easement descriptions (Exhibit "A") and Exhibit "B" plans for the easements that will be needed for the existing pipes along Dennett Street and Essex Street.
6. A final Civil3D CAD drawing with state plane coordinates on all found and set points including property markers, stakes, monuments manholes, fences, culverts, unique features, etc.
7. Flagging along the sidelines of each right of way every 50 feet between corners and at each angle point.
8. Accuracy shall be to 0.02 feet for property corners. Easement flagging stakes shall be within 0.10 ft of right of way line and 2 ft between stake.
9. Coordinate points at each centerline station at each cross section and structure.
10. Digital Photograph of each pin, stake, corner, monument or manhole with short description of where the photograph is taken include date and time.
11. Provide AutoCAD drawing of the stake out information in National CAD Standards adopted in 2014.
12. All survey points shall be provided in ESRI format for entry into the city's GIS mapping. The vertical and horizontal data shall be provided in NAD_1983_HARN_StatePlane_Maine_West_FIPS_1802_US Survey Foot Feet WKID: 26856 Authority: EPSG

City of Portland, Maine

Price Proposal

Location and Stake out Of
Sewer Rights of Way
West Side Interceptor Sewer

Bid No. 19081

1.	Establish and stake out of portions of the existing West Side Interceptor Sewer Rights of Way including street side lines, lots lines as flagging at each pin, stake or monument found within or near the right of way, flagging along the side lines of each right of way at every 50 ft. intervals	Lump Sum: _____
2.	Amount quoted to prepare and submit in AutoCAD Drawing of the easements after stake out:	Lump Sum: _____
3.	Amount quoted Digital Photographs for each of the easements after stake out:	Lump Sum: _____
4.	Amount quoted to collect and submit GIS Data Lump Sum easements after stake out:	Lump Sum: _____
	Total Amount (Award Basis)	_____

PROPOSAL FORM
City of Portland, Maine
Department of Public Works

Location and Stake out of existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER: _____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER:
_____

STATE OF INCORPORATION, IF APPLICABLE: _____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal._____

Attachments:

1. West side Interceptor Sewer Section 7&8 Figure 1 - Warren Avenue to Lot 277 F030
2. West side Interceptor Sewer Section 7&8 Figure 2 - Lot 277 F030 to intersection City Home Branch Sewer Right of Way to Lot 285 F006
3. West side Interceptor Sewer Section 7&8 Figure 3 - 285 F006 to Brighton Avenue
4. WSIS List of Properties
5. WSIS List of Sewer Rights of Way
6. 11"x17" Plan of the WSIS Section 7 Plan #579/4.
7. 11"x17" Plan of the WSIS Home Branch Plan #579/5
8. 11"x17" Plan of the WSIS Section 8 Plan #548/4

Pages 8 to 11 list all property documentation to be provided to the firm that is awarded the contract.

Documents to be provided upon award of contract

Blue Sheets

Alden Circle 01
Alden Circle 02
Birchwood dr 1
Birchwood Dr 2
Brighton Ave 14, 15, 16, 17, 18 & 19
Brookview Terrace
Candlewyck Terr 1 & 2
Dennett 1, 2 & 3
Dorset St
Glen Haven 1 & 2
Harmon Rd
Longwood Terr
Penwood Dr 1 & 2
Pinecrest Dr 1, 2, 3, 4, 5 & 6
Sunset 1 & 2
Violette Ave
Warren 1, 2 & 3
Warwick St 1 & 2

Benchmark Cards

Brighton Ave at Fellows St
Brighton Ave at Kenilworth St
Brighton Ave at Machigonne St
WSIS Sec 8 at Warren Ave

Deeds from the Registry

503-135
958-159
959-159
1043-469
1071-284
1077-456
1370-340
1488-468
1573-400
1731-289
1833-399
1836-66
1875-263
1997-65
2116-249
2198-371
2241-228
2260-34
2281-445
2288-310
2291-415

Deeds from the Registry (cont)

2528-257
2534-265
2541-426
2927-414
3002-519
3080-486
3105-635
3106-271
3198-323
3552-72
3769-241
4251-309
6116-248
6229-250
6243-205
7898-284
8103-139
10056-91
13294-51
14031-295
14983-243
15845-26
16678-106
19109-244
21122-37
22323-349
22572-297
24586-298
25397-137 MDOT
25627-58
25950-164
27335-212
27951-337
30840-44
31665-64
31829-32
31933-23
32676-342
33410-346
33523-283
33698-236
CCRD 01121_084 Mallory
CCRD 01689_0110_FLICK
CCRD 02053_127_PWD_EASE
CCRD 02073_170_CMP_EASE
CCRD 02241_228_KAATX
CCRD_274_KAATZ_EASE

CCRD 02281_132_MINAT
CCRD 02291_415_MINAT

Deeds from the Registry (cont)

CCRD 02308_258_KAATZ
CCRD 02308_447_SHARPE
CCRD 02319_162_RICCHI
CCRD 02499_275_MERRILL
CCRD 02518_468_SMALLEY
CCRD 02528_238_GAUDIN
CCRD 02595_030_SCAMMAN
CCRD 02617_047_KILLAMRTIN
CCRD 02693_461_MURPHY
CCRD 02696_096_SMALL
CCRD 2842_047_MCGUIRE
CCRD 02851_113_KAATZ_LILLIAN
CCRD 02927_414_KAATZ_LILLIAN
CCRD 02965_503_HASTINGS
CCRD 02965_634_OSTEO_HOSPITAL
CCRD 02990_682_MACDOUGAL
CCRD 02990_680_KILMARTIN
CCRD 03043_431_FLICK
CCRD 03056_613_BRUME
CCRD 3104_080_OLSEN
CCRD 3104_082_SHARPE
CCRD 3135_475_MINAT
CCRD 3139_668_MCGUIRE
CCRD 03199_063)LEBARES
CCRD 3199_065_LEBARES_REC_DATEPDF
CCRD 3210_868_MERCIER
CCRD 05099_340_HASTING
CCRD 06120_065_ MADISON
CCRD 06402_114_SMALL
CCRD 06578_170_ZOLTAN
CCRD 06635_298_LEBARES
CCRD 06968_068_LEWIS
CCRD 07797_220_SYNDER
CCRD 07883_007 BRUME
CCRD 08162_160_VAIL
CCRD 08190_188_SMALL
CCRD 08892_268_KENT
CCRD 08892_096_MITCHELL
CCRD 09591_244_WHITTEMORE
CCRD 09953_0292_FREDERICK
CCRD 10012_033_CITY
CCRD 10373_342_CITY
CCRD 10678_145_BOUCHER
CCRD 10678_147_BOUCHER
CCRD 012452_144_MCGUIRE
CCRD 12504_001_GALLANT
CCRD 12733_144_GALLANT
CCRD 12793_298_KRASSNER
CCRD 13524_143_OLEARY

Deeds from the Registry (cont)

CCRD 13545_089_OLEARY
CCRD 14488_153 MAURICE
CCRD 14892_091_PROVENCHER
CCRD 15107_195_CHANCE
CCRD15284_194_MIKKELSEN
CCRD 15475_062_PHANOR
CCRD 15822_040_LEPERANCE
CCRD 16172_069_GAUDIN
CCRD 16787_137_OUETTETTE
CCRD 22010_201_LACROIX
CCRD 23296_010_SMALLEY
CCRD 23832_154_TEDDER
CCRD 24028_164_LACROIX
CCRD 24461_283_ODONNELL
CCRD 24590_319_RAMSAY
CCRD 25716_252_PROFENNO
CCRD 26246_085_TAYLOR
CCRD 26412_159_MURPHY
CCRD 26412_169_MURPHY
CCRD 26811_111_ENAIRE
CCRD 27519_036_ROMANOW
CCRD 27805_269_CHASE
CCRD 28582_181_STAFFORD
CCRD 28657_177_BLANCAS_RUIZ
CCRD 28950_287_SEAGERS
CCRD 29539_172_QUATTRUCCI
CCRD 31024_061_BARTHOLOMEW
CCRD 33050_231_BEGGS
CCRD 33481_104_PHP_RESTORATIONS
CCRD 33534_091_BYRD
CCRD 33623_018_GRAY
CCRD PB 050_048_WARWICK HEIGHTS No 2
PR 08100_282_1987_SMALL SISDIE
PR 15492_032_2000_GAURIDE_EMILE

CITY PROPERTY PLANS AND ROW

CITY PROPERTY PLAN 72
CITY PROPERTY PLAN 139
CITY PROPERTY PLAN 139a
CITY PROPERTY PLAN 139b
CITY PROPERTY PLAN 139c
CITY PROPERTY PLAN 139d
CITY PROPERTY PLAN 139e
CITY ROW PLAN 009
CITY ROW PLAN 020
CITY ROW PLAN 029
CITY ROW PLAN 050

SEWER RIGHT OF WAY BOOK

03-15-7 REQUEST TO CDORRX2
P 23 WSIS SEC T AND HOME BRANCH
P 41 BISHOP ST AND WARREN AVE INTERCEPTOR
P44 DORSET ST SEWER
P87 GLENHAVEN W SEWER AND DRAIN
P 102 GLENHAVEN W SEWER AND OUTLET
P190 PENWOOD BIRCHWOOD SEWER AND DRAIN
P196 BIRCHWOOD WOODVALE SEWER AND DRAIN
WSIS SEC 7 AND HOME BRANCH-CLERK COPY
WSIS SEC 8 CERTIFIED CLERK RECORD

STREET RECORDS

ALDEN CIRCLE 02611_223
ALDEN CIRCLE VOLUME 2 PAGE 293
BRICHWOOD VOLUME 2 PAGES 332 7 337
BROOKVIEW TERR CCRD 02661_227
BROOKVIEW TERR VOLUME 2 PAGE 300
CANDLEWYCK TERR VOLUME 2 PAGES 351 & 352
CCRD13326_019 VACATION DEED
DENNETT VOLUME 2 PAGES 193, 277, 339, 340
DORSET VOLUME 2 PAGE 56

STREET RECORDS

GLENHAVEN VOLUME 2 PAGE 278 & 290
HARMON VOLUME 2 PAGE 266
LONGWOOD TERR VOLUME 2 PAGE 339
PENWOOD DR VOLUME 2 PAGES 331 & 332
PINEBROOK LANE CCRD 02640_043
PINEBROOK LN VOLUME 2 PAGE 298
PINECREST VOLUME 2 PAGES 326, 327, 331, 342, 343, 367, & 368
SUNSET VOLUME 2 PAGES 273, 295, 299, 367 & 368
VIOLETTE VOLUME 2 264 7 341
VIOLETTE VOLUME 3 PAGE 76
WARREN VOLUME 2 PAGES 30, 31, 32 & 203 WARWICK VOLUME 2 PAGES 98, 136, 272 & 278

TAX MAPS

Sheet 182A, 183, 269, 273, 276, 277, 277A, 278, 278A, 279, 280, 283, 285, 286, 296, & 303

VAULT PLANS

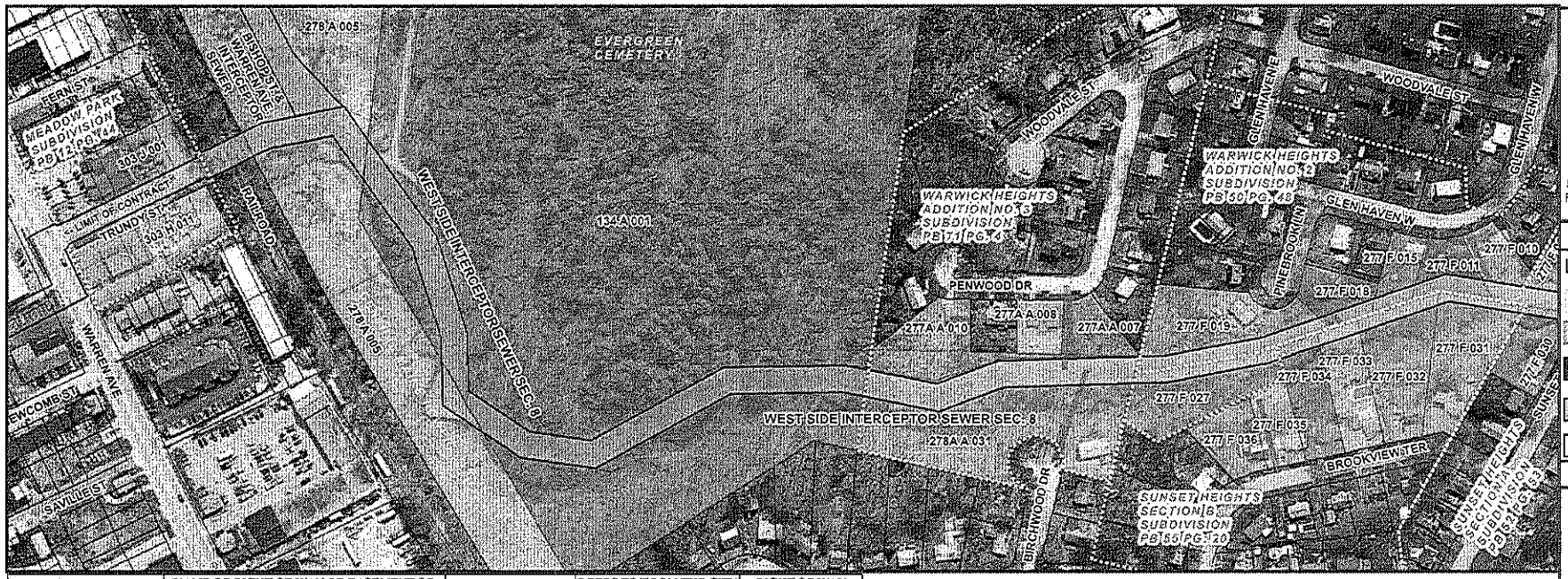
2151624ALTA-1,-2,-3 Surveys
00090_006_001
00184_011_001
00215_004_001
00216_015_001
00260_006_001
00303_002_001
00393_009_001
00401_032_001
00408_014_001
00423_001_001
00438_042_001
00456_001_001
00460_018_001

00462_030_001
00463_030_001
00471_019_001
00548_004_001 Sec 8 R-W
00548_005_001
00558_003_001 Sec 8 P&P
00558_009_001
00566_010_001
00576_007_001
00576_010_001 color
00579_004_001 Sec 7 R-W
00579_005_001 Home Branch R-W
00579_008_001 Sec 7 P&P
00579_009_001
00597_016_001
00607_016_001
00619_012_001 Bishop_Warren r-w
00639_006_001
00646_021_001
00647_011_001
00655_001_001
00655_002_001
00658_004_001
00659_018_001
00669_001
00866_002_001
00882_020_002
00918_001_003
00920_003_002
00932_016_009
00932_016_011
00934_014_001
00934_014A_001
00947_003B_001
00986_010_003

VAULT PLANS cont'd

01012_016_001
01017_011_002
01017_011_003
01019_004_021

END OF DOCUMENT LIST



YEAR	NAME OF RIGHT OF WAY OR EASEMENT OR STREET LOCATION	CLERK RECORDS	DEEDS TO/FROM THE CITY FOR THE RIGHT OF WAY	RIGHT OF WAY VAULT PLANS
1937	West Side Interceptor Sewer (WSIS) Section 7	Vol. 61, Page 281	2486/222 and 2486/256,	579/4
1938	West Side Interceptor Sewer (WSIS) Section 8	Vol. 62, Page 285		548/4
1944	Bishop ST. and Warren Ave. Interceptor Sewer	Vol. 66, Page 231		619/12
1958	Glenhaven Rd. Sewer and Drain Outlet		2517/341	666/13
1960	Brookview Terrace Sewer and Drain		2583/174	669/1
1965	Birchwood Drive Sewer and Storm Drain		2969/98	655/2
1965	Penwood Drive and Woodvale Street Sewers		2969/98	655/1

TAX MAP-BLOCK-LOT-(LEAD PARCEL)	ADDRESS	APPARENT OWNER	RECORDED PLAN BOOK AND PAGE	NAME OF RECORDED PLAN	LOT #	SUBJECT TO THE FOLLOWING SEWER RIGHT OF WAYS AND STRUCTURES
303-H-11	336 Warren Ave. and Trundy Ave.	Keven P. Doree	PB 12/44	Meadow Park	1 to 9	WSIS Section 8
303-J-1	320 Warren Ave. and Trundy Ave.	Delta Realty, LLC	PB 12/44	Meadow Park	10 to 19 & 27	WSIS Section 8
278-A-5	Warren Ave.	Central Maine Power	n/a	n/a	n/a	WSIS Section 8 and the Bishop St. and Warren Ave. Branch Sewers
134-A-1 (279-A-2 & 280-A-2)	Evergreen Cemetery Warren Ave. (Stevens Ave.)	City of Portland	n/a	n/a	n/a	WSIS Section 8
277-F-31	9 Brookview Terrace	Mark Anthony Profenno and Maria Elizabeth Colvin	PB 55/20	Sunset Heights Section 8	30	WSIS Section 8
277-F-32	15 Brookview Terrace	Ann Marie Phanor & Jean Claude Phanor	PB 55/20	Sunset Heights Section 8	31	WSIS Section 8
277-F-33	21 Brookview Terrace	Jenni E. Stafford	PB 55/20	Sunset Heights Section 8	32	WSIS Section 8
277-F-34	27 Brookview Terrace	Devra M Kraessner	PB 55/20	Sunset Heights Section 8	33	WSIS Section 8
277-F-35	35 Brookview Terrace	Robert A. & Marlene A. Allen	PB 55/20	Sunset Heights Section 8	34	drainage easement
277-F-36	37 Brookview Terrace	Anna Lidman	PB 55/20	Sunset Heights Section 8	35	drainage easement
277-F-10	32 Glenhaven West	Jimmy D. Meredith, III and Audrey L. Bartholomew	PB 50/48	Warwick Heights Addition No. 2	3	WSIS Section 8 and drainage r/w
277-F-11	38 Glenhaven West	Julia J. Whittemore	PB 50/48	Warwick Heights Addition No. 2	4	WSIS Section 8 and drainage r/w
277-F-15	44 Glenhaven West	William J., Jr. & Susan E. Seagers	PB 50/48	Warwick Heights Addition No. 2	5	WSIS Section 8
277-F-18	12 Pinebrook Lane	Peggy A. Ouellette	PB 50/48	Warwick Heights Addition No. 2	8	WSIS Section 8 and 30' wide sewer & drainage r/w
277-F-19 & 277-F-27	20 Pinebrook Lane	Michael T. & Janet K. Vail	PB 50/48	Warwick Heights Addition No. 2	9	WSIS Section 8 and 30' wide sewer & drainage r/w from Pinebrook Lane
277A-A-7	38 Penwood Dr	Mark & Deborah Madison	PB 71/4	Warwick Heights Addition No. 3	7	20' wide sewer and storm drain r/w from Penwood Dr.
277A-A-8	44 Penwood Dr	Owen M. O'Donnell	PB 71/4	Warwick Heights Addition No. 3	8	20' wide sewer and storm drain r/w from Penwood Dr.
277A-A-10	58 Penwood Dr	Jay H. & Susan N. Bolster	PB 71/4	Warwick Heights Addition No. 3	10 & p/o 24	20' wide sewer and storm drain r/w from Penwood Dr.
278A-A-31	101 Birchwood Dr	Taylor Colucci and Caleb R. Gray	PB 71/4	Warwick Heights Addition No. 3	p/o 24	WSIS Section 8 and 50' wide sewer and storm drain r/w from Birchwood Dr.

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Legend

- Subdivisions
- Affidavit needed
- Easement needed
- No action needed
- Other Parcels

Sewer Right of Way & Easements

West Side Interceptor Sewer Sections 7 & 8

Figure 1

PAGE 1 OF 3

NOVEMBER 2018

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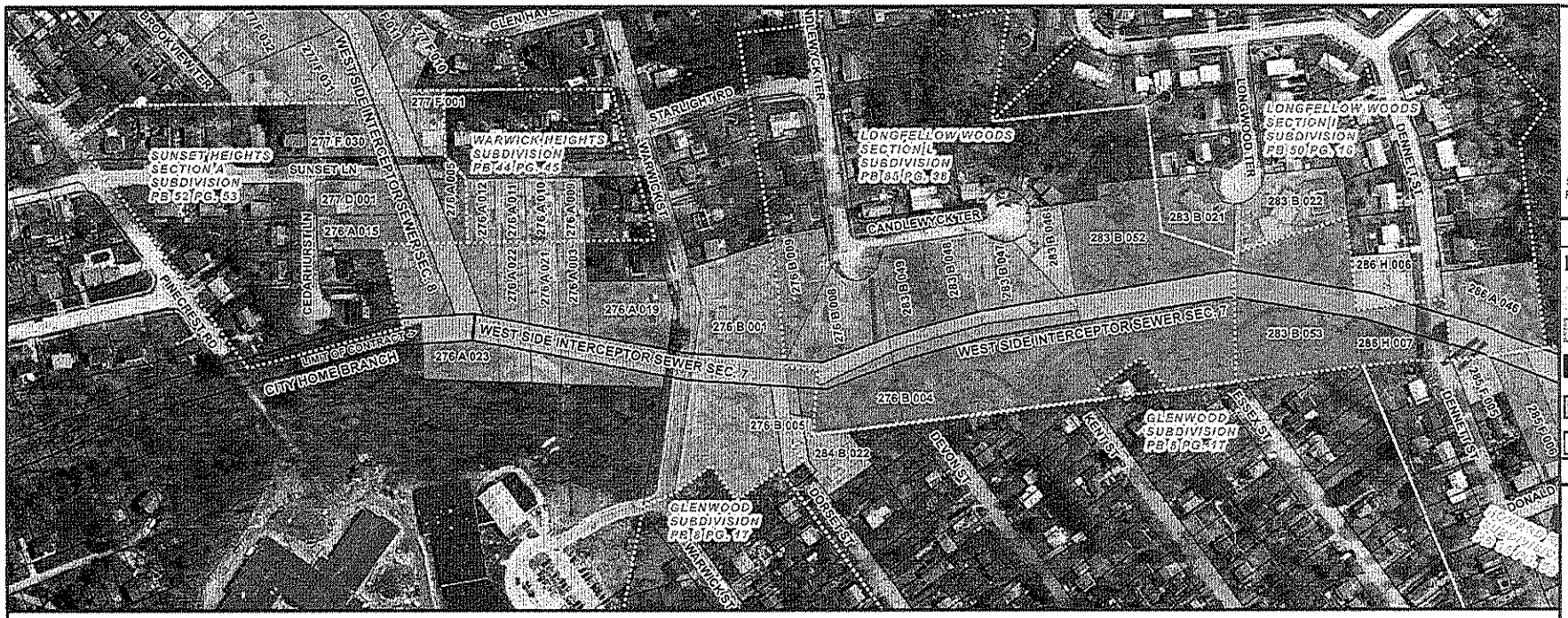
0 0.015 0.03 0.06 Miles



TAX MAP-BLOCK-LOT-LEAD PARCEL	ADDRESS	APPARENT OWNER	RECORDED PLAN BOOK AND PAGE	NAME OF RECORDED PLAN	LOT #	SUBJECT TO THE FOLLOWING SEWER RIGHT OF WAYS AND STRUCTURES
276-B-1	155 Warwick St	Tayler Eldridge AND Anne Arundel	PB 126/63	Agnes C. Hansen Boundary Plan	n/a	WSIS Section 7, Dorset St. Sewer R/W, Culverts and wing walls off Warwick St.
284-B-22 & 276-B-5	115 Dorset St	Allan R. Leighton, Jr.	PB 8/17 & PB 126/63	Glenwood Subdivision & Agnes C. Hansen Boundary Plan	201, 202 & p/o 200	Dorset St. Sewer R/W
283-B-22	26 Longwood Terrace	Ernest J. Quattrucci	PB 76/23	Longfellow Woods Section I	236	Drainage r/w
283-B-53 and 286-H-7	86 Dennett St	City of Portland	PB 76/23	Longfellow Woods Section I	no lot #	WSIS Section 7 and drainage pipe from Longwood Terrace
286-H-6	100 Dennett St	John M. & Tracy N. Frederick	PB 76/23	Longfellow Woods Section I	243	WSIS Section 7
283-B-21 & 283-B-52	25 Longwood Terrace	Douglas R. & Gwendolyn S. Tedder	PB 76/23 & PB 85/38	Longfellow Woods Section I & Longfellow Woods Section L	235, 235A & p/o 292	WSIS Section 7 over 283-B-52, drainage r/w over 283-B-21 and possible 15' drainage r/w from Essex St. over 283-B-52
276-B-4	0 Candlewyck Terrace	City of Portland	PB 85/38	Longfellow Woods Section L	no lot #	WSIS Section 7 & Dorset St. Sewer R/W
276-B-8	79 Candlewyck Terrace	Jennifer L. Snyder	PB 85/38	Longfellow Woods Section L	296	WSIS Section 7 and drainage r/w from Candlewyck Terrace
276-B-9	71 Candlewyck Terrace	Christopher Beggs and Heather Kimball	PB 85/38	Longfellow Woods Section L	297	WSIS Section 7 (?)
283-B-46	109 Candlewyck Terrace	Steven Eric Byrd, Daniela Bossani, Moraes Byrd	PB 85/38	Longfellow Woods Section L	p/o 292	WSIS Section 7
283-B-47	103 Candlewyck Terrace	Marc A. & Michelle R. Lesperance	PB 85/38	Longfellow Woods Section L	293	WSIS Section 7 & drainage r/w
283-B-48	93 Candlewyck Terrace	Robert J. Mitchell and Susan Reiners	PB 85/38	Longfellow Woods Section L	294	WSIS Section 7 & drainage r/w
283-B-49	87 Candlewyck Terrace	Alfred J. & Lorraine D. Mercier	PB 85/38	Longfellow Woods Section L	295	WSIS Section 7 & drainage r/w
276-A-19	158 Warwick St	Donald E. & Arlin L. Kent	n/a	n/a	n/a	WSIS Section 7
276-A-5	30 Sunset Lane	Cynthia L. Taylor	PB 52/53	Sunset Heights Section A	A	WSIS Section 8
276-A-15	8 Cedarhurst Lane	Mary Jane Lewis	PB 52/53	Sunset Heights Section A	2	WSIS Section 8
277-D-1	44 Sunset Lane	Anita C. & Richard B. Romanow	PB 52/53	Sunset Heights Section A	1	WSIS Section 8 and drainage pipes/culverts
277-F-30	45 Sunset Lane	45 Sunset Lane Realty Trust (Phillip R. & Patricia S. Lasprix, Trustees)	PB 52/53	Sunset Heights Section A	14	WSIS Section 8 and drainage pipes
277-F-1	31 Sunset Lane	William C. Chance and Deborah K. Wray	PB 52/53	Sunset Heights Section A	8	WSIS Section 8
276-A-3 and 276-A-9	10 Sunset Lane	Carolyn J. Gallant	PB 44/45	Warwick Heights	8	WSIS Section 7
276-A-10 and 276-A-21	16 Sunset Lane	Zoram Blancas-Ruiz and Julie-Beth Blancas-Ruiz	PB 44/45	Warwick Heights	9	WSIS Section 7
276-A-11 and 276-A-22	20 Sunset Lane	John J. O'Leary, Jr., Peggy O'Leary Powers, Kevin R., James J., Michael G. and Richard E. O'Leary	PB 44/45	Warwick Heights	10	WSIS Section 7
276-A-12 and 276-A-23	24 Sunset Lane	Morgan N. Chase	PB 44/45	Warwick Heights	11	WSIS Section 7, WSIS Section 8 and Home Branch Sewer

YEAR	NAME OF RIGHT OF WAY OR EASEMENT OR STREET LOCATION	CLERK RECORDS	DEEDS TO/FROM THE CITY FOR THE RIGHT OF WAY	RIGHT OF WAY VAULT PLANS
1937	West Side Interceptor Sewer (WSIS) Section 7	Vol. 61, Page 281	2486/222 and 2486/236.	579/4
1937	City Home Branch Sewer	Vol. 61, Page 281		579/5
1938	West Side Interceptor Sewer (WSIS) Section 8	Vol. 62, Page 285		54k/4
1951	Dorset Street Sewer R/W.	Vol. 70, Page 464		408/14
1957	Warwick Street Easement for Culvert and Brook Relocation			411/5
1958	Dennett St Sewer		2362/401	658/4
1958	Glenhaven Rd. Sewer and Drain Outlet		2517/341	666/13
1960	Brookview Terrace Sewer and Drain		2583/174	669/1
1965	Birchwood Drive Sewer and Storm Drain		7969/04	655/2
1967	Longwood Terrace			655/13
1969	Candlewyck Road and Candlewyck Terrace Sewer			490/6
1988	Warwick Street Storm Water		7809/298 and 7809/292	921/2
1996	Sunset Lane Reconstruction			

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Legend

- Subdivisions
- Affidavit needed
- Easement needed
- No action needed
- Other Parcels

Sewer Right of Way & Easements

West Side Interceptor Sewer Sections 7 & 8

Figure 2

PAGE 2 OF 3

NOVEMBER 2018

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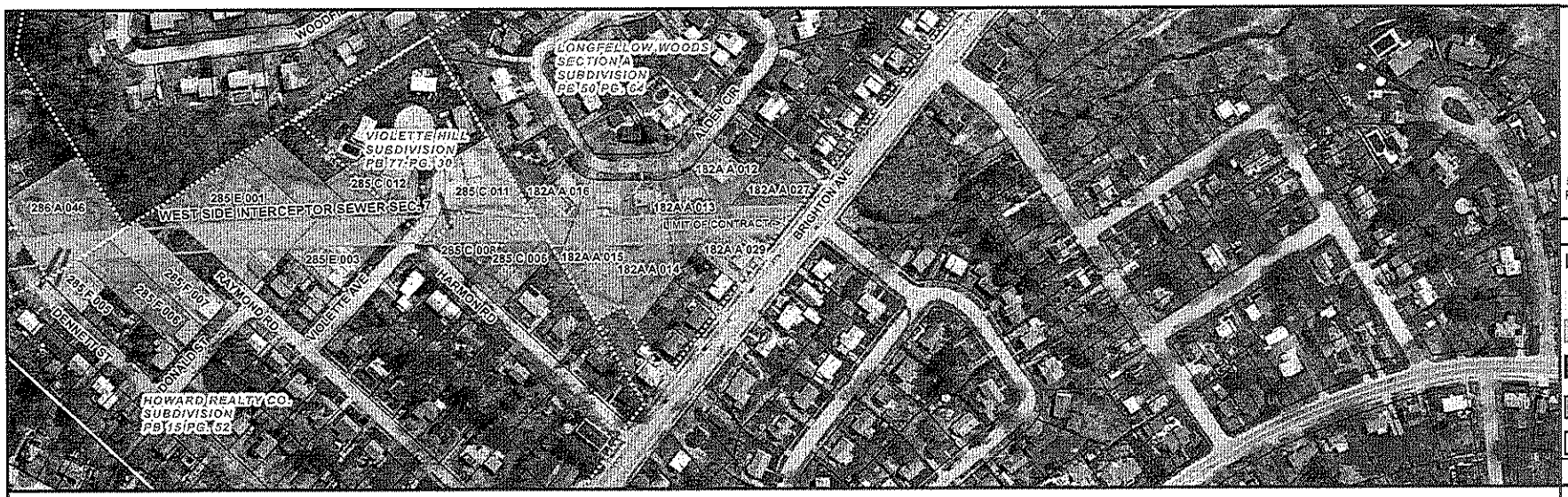
0 0.015 0.03 0.06 Miles



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Legend

- Subdivisions
- Affidavit needed
- Easement needed
- No action needed
- Other Parcels

Sewer Right of Way & Easements

West Side Interceptor Sewer Sections 7 & 8

TAX MAP-BLOCK-LOT LEAD PARCEL	ADDRESS	APPARENT OWNER	RECORDED PLAN BOOK AND PAGE	NAME OF RECORDED PLAN	LOT #	SUBJECT TO THE FOLLOWING SEWER RIGHT OF WAYS AND STRUCTURES
182A-A-12	38 Alden Circle	Richard M. & Donna E. Fournier	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	39	WSIS Section 7 and drainage/sewer easement
182A-A-13	44 Alden Circle	Philomena M. Lane	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	40	WSIS Section 7 and drainage/sewer easement
182A-A-14	50 Alden Circle	Lois Ann D. Winter and Valerie K. Healey	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	41	WSIS Section 7 and drainage/sewer easement
182A-A-15	54 Alden Circle	Donald R. Marsh	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	42	WSIS Section 7
182A-A-16	60 Alden Circle	Robert C. & Deborah L. Briggs	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	43	WSIS Section 7
182A-A-27	763 Brighton Ave.	Corey E. Gallant	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	23	WSIS Section 7
286-A-46	95 Dennett St	James E., Jr. & Anne M. Mikkelsen	PB 76/23	Longfellow Woods Section I	248	WSIS Section 7, sewer line from Dennett St. to WSIS, drainage pipe from Dennett St.
182A-A-29	779 Brighton Ave.	Ronald A. Guevin	n/a	n/a	n/a	WSIS Section 7 and drainage easement for culverts
285-C-6	29 Harmon Rd	Todd R. & Elizabeth A. Wing	PB 13/20 & PB 15/52	William H. Howard & Howard Realty	82 & p/o 81	WSIS Section 7
285-E-1	59 Raymond Rd	John W. Caron	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	74 & p/o 71 to 73	WSIS Section 7
285-E-3	11 Violette Ave	Cecile Y. Champagne	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	75 & p/o 71 to 74	WSIS Section 7
285-F-5	79 Dennett St	Lena M. Minervino	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 40 & 41	Drainage pipe from Dennett St.
285-F-6	9 Donald St	Kevin Proctor	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 37 to 41 & 52	WSIS Section 7
285-F-7	3 Donald St	Ruth F. MacLean	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 52 & 53	WSIS Section 7
285-C-8	35 Harmon Rd	Lindsay M. & Jordohn A. Bileau	PB 13/20, PB 15/52, PB 33/17 & PB	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	p/o 5	WSIS Section 7 and drainage and sewer structures
285-C-11	33 Violette Hill	Bruce and Margery Smallwood	PB 13/20, PB 15/52, PB 33/17 & PB	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	p/o 5	WSIS Section 7 and a wing wall from a box culvert
285-C-12	44 Violette Hill	Anthony R. & Leigh R. Schwieterman	PB 13/20, PB 15/52, PB 33/17 & PB	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	1 & p/o Harmon Rd.	WSIS Section 7 and a wing wall from a box culvert

YEAR	NAME OF RIGHT OF WAY OR EASEMENT OR STREET LOCATION	CLERK RECORDS	DEEDS TO/FROM CITY FOR THE RIGHT OF WAY	RIGHT OF WAY VAULT PLANS
1937	West Side Interceptor Sewer (WSIS) Section 7	Vol. 61, Page 281	2486/222 and 2486/256,	579/4
1958	Dennett St Sewer		2362/401	658/4
1960	Alden Circle Sewer and Drain Outlet		2520/45	666/9
1998	Brighton Ave. drainage easement		14092/209	

N

Figure 3

PAGE 3 OF 3

NOVEMBER 2018

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0 0.015 0.03 0.06 Miles

NOVEMBER 9, 2015 LIST OF PROPERTIES EFFECTED BY THE WEST SIDE INTERCEPTOR SEWER FROM BRIGHTON AVE. NORTHEASTERLY TO WARREN AVE. (organized by subdivision name)

TAX MAP-BLOCK-LOT- LEAD PARCEL	STREET NAME	STREET NUMBER	APPARENT OWNER	CURRENT DEED BOOK/PAGE REFERENCE	R/W MENTIONED IN CURRENT DEED	R/W SHOWN ON RECORDED PROPERTY PLAN	RECORDED PLAN BOOK AND PAGE	NAME OF RECORDED PLAN	LOT #	SUBJECT TO THE FOLLOWING SEWER RIGHTS OF WAYS AND STRUCTURES	DEED REFERNCE FOR CITY R/W, EASEMENT OR RESERVATION	RECOMMENDATIONS BY CORPORATION COUNSEL	NOTES
276-B-1	Warwick St	155	Tayler Eldridge AND Anne Arundel	34117/23	NO	YES, but only WSIS	PB 126/63	Agnes C. Hansen Boundary Plan	n/a	WSIS Section 7, Dorset St. Sewer R/W, Culverts and wing walls off Warwick St.	7809/292 for land in fee and for slope easement	Affidavit needed for WSIS. Affidavit needed for Dorset St. Sewer R/W	Culverts and wing walls appear to fall within the slope easement.
284-B-22 & 276-B-5	Dorset St	115	Allan R. Leighton, Jr.	10263/86 & 16678/106	NO	NO	PB 8/17 & PB 126/63	Glenwood Subdivision & Agnes C. Hansen Boundary Plan	201, 202 & p/o 200	Dorset St. Sewer R/W	NO	Affidavit needed for Dorset St. Sewer R/W	
182A-A-12	Alden Circle	38	Richard M. & Donna B. Fournier	8103/139	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	39	WSIS Section 7 and drainage/sewer easement	2486/222 and 2486/256 for the WSIS and 2520/45 for sewer and drain outlet	No action needed	In deed 2486/222 the City releases the WSIS within the subdivision. In deed 2486/256 the WSIS r/w is conveyed back to the City in a location that is 10 feet westerly of its original location, again only within the subdivision.
182A-A-13	Alden Circle	44	Philomena M. Lane	25627/58	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	40	WSIS Section 7 and drainage/sewer easement	2486/222 and 2486/256 for the WSIS and 2520/45 for sewer and drain outlet	No action needed	In deed 2486/222 the City releases the WSIS within the subdivision. In deed 2486/256 the WSIS r/w is conveyed back to the City in a location that is 10 feet westerly of its original location, again only within the subdivision.
182A-A-14	Alden Circle	50	Lois Ann D. Winter and Valerie K. Healey	22323/349	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	41	WSIS Section 7 and drainage/sewer easement	2486/222 and 2486/256 for the WSIS and 2520/45 for sewer and drain outlet	No action needed	In deed 2486/222 the City releases the WSIS within the subdivision. In deed 2486/256 the WSIS r/w is conveyed back to the City in a location that is 10 feet westerly of its original location, again only within the subdivision.
182A-A-15	Alden Circle	54	Donald R. Marsh	25950/164	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	42	WSIS Section 7	2486/222 and 2486/256	No action needed	In deed 2486/222 the City releases the WSIS within the subdivision. In deed 2486/256 the WSIS r/w is conveyed back to the City in a location that is 10 feet westerly of its original location, again only within the subdivision.
182A-A-16	Alden Circle	60	Robert C. & Deborah L. Briggs	10056/91	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	43	WSIS Section 7	2486/222 and 2486/256	No action needed	In deed 2486/222 the City releases the WSIS within the subdivision. In deed 2486/256 the WSIS r/w is conveyed back to the City in a location that is 10 feet westerly of its original location, again only within the subdivision.
182A-A-27	Brighton Ave.	763	Corey E. Gallant	27335/212	YES	YES	PB 50/16 & PB 50/64	Longfellow Woods Sec. A	23	WSIS Section 7	NO	Affidavit needed	Prior owner (Minat Corp.) reserved the drainage and sewer rights over this lot in deed 2534/265. However, Minat Corp. never conveyed those rights to the City.
283-B-22	Longwood Terrace	26	Ernest J. Quattrucci	29539/172	YES	YES	PB 76/23	Longfellow Woods Section I	236	Drainage r/w	NO	Special Affidavit needed for drainage r/w.	The drainage easement is on the subdivision plan, but, is never reserved by the developer or conveyed to the City.
283-B-53 and 286-H-7	Dennett St	86	City of Portland	10373/342 & 10012/33	YES	YES	PB 76/23	Longfellow Woods Section I	no lot #	WSIS Section 7 and drainage pipe from Longwood Terrace	NO	No action needed	
286-A-46	Dennett St	95	James E., Jr. & Anne M. Mikkelsen	15284/194 & 14677/152	YES	YES	PB 76/23	Longfellow Woods Section I	248	WSIS Section 7, sewer line from Dennett St. to WSIS, drainage pipe from Dennett St.	NO***	Affidavit needed for WSIS. Affidavit needed for drain pipe from Dennett St. Easement needed for sewer pipe.????	An easement for a sewer pipe that runs from Dennett St. to the WSIS was conveyed to the City by Placid Violette in deed 2362/401. However, Placid Violette never owned this property. In other words, Violette conveyed an easement across land that he did not own. No easement was found for the drain pipe either.
286-H-6	Dennett St	100	John M. & Tracy N. Frederick	9953/292	YES	YES	PB 76/23	Longfellow Woods Section I	243	WSIS Section 7	NO	Affidavit needed	Prior owner had a survey completed in 1990 that was not recorded at the registry. See Vault Plan 866/2.
283-B-21 & 283-B-52	Longwood Terrace	25	Douglas R. & Gwendolyn S. Teddor	23832/252	YES	YES	PB 76/23 & PB 85/38	Longfellow Woods Section I & Longfellow Woods Section L	235, 235A & p/o 292	WSIS Section 7 over 283-B-52, drainage r/w over 283-B-21 and possible 15' drainage r/w from Essex St. over 283-B-52	NO	Affidavit needed for WSIS over 283-B-52. Special affidavit needed for drainage r/w over 283-B-21. May need easement or affidavit over 283-B-52 if there is a drainage structure between Essex St. and the WSIS.	This parcel combines lots from two different subdivisions with a third parcel that is not part of any subdivision. The drainage easement over 283-B-21 is on the subdivision plan, but, is never reserved by the developer or conveyed to the City. The drainage easement over parcel 283-B-52 is reserved by the developer (Minat Corp.) in deed 3552/72, but, is never conveyed to the City. The Essex St. drainage is not shown on the plan. Survey needed to determine if there is a drainage pipe between Essex St. and the WSIS.
276-B-4	Candlewyck Terrace	0	City of Portland	6116/233 (previous deed)	NO	YES	PB 85/38	Longfellow Woods Section L	no lot #	WSIS Section 7 & Dorset St. Sewer R/W	NO	No action needed	WSIS is shown on the subdivision plan, but, the Dorset St. sewer r/w is not.
276-B-8	Candlewyck Terrace	79	Jennifer L. Snyder	7797/220	YES	YES	PB 85/38	Longfellow Woods Section L	296	WSIS Section 7 and drainage r/w from Candlewyck Terrace	NO	Affidavits needed for WSIS and drainage r/w from Candlewyck.	
276-B-9	Candlewyck Terrace	71	Christopher Beggs and Heather Kimball	33050/213	NO***	YES	PB 85/38	Longfellow Woods Section L	297	WSIS Section 7 (?)	NO	Affidavit may be needed	***Plan doesn't show that the WSIS impacts this parcel, but it may. Survey needed to determine if parcel is impacted by the WSIS.
283-B-46	Candlewyck Terrace	109	Steven Eric Byrd, Daniela Bassani, Momes Byrd	33534/91	NO	YES	PB 85/38	Longfellow Woods Section L	p/o 292	WSIS Section 7	NO	Affidavit needed	
283-B-47	Candlewyck Terrace	103	Marc A. & Michelle R. Lesperance	15822/40	Drainage r/w mentioned, WSIS not mentioned	YES	PB 85/38	Longfellow Woods Section L	293	WSIS Section 7 & drainage r/w	NO	Affidavit needed for both WSIS and drainage r/w	The drainage r/w appears to be used for a sewer pipe based on GIS maps.
283-B-48	Candlewyck Terrace	93	Robert J. Mitchell and Susan Reiners	8892/96	NO	YES	PB 85/38	Longfellow Woods Section L	294	WSIS Section 7 & drainage r/w	NO	Affidavit needed for both WSIS and drainage r/w	The drainage r/w appears to be used for a sewer pipe based on GIS maps.
283-B-49	Candlewyck Terrace	87	Alfred J. & Lorraine D. Mercier	3210/868	YES	YES	PB 85/38	Longfellow Woods Section L	295	WSIS Section 7 & drainage r/w	NO	Affidavit needed for both WSIS and drainage r/w	
303-H-11	Warren Ave. and Trundy Ave.	336	Keven P. Doree	27951/337	NO	NO	PB 12/44	Meadow Park	1 to 9	WSIS Section 8	NO	Affidavit needed	Subdivision plan predates the sewer r/w. The r/w is entirely located within Trundy Road (formerly Brook St.) which is a dedicated and continued paper street.
303-J-1	Warren Ave. and Trundy Ave.	320	Delta Realty, LLC	33523/283 & 33698/236	NO	NO	PB 12/44	Meadow Park	10 to 19 & 27	WSIS Section 8	NO	Affidavit needed	Subdivision plan predates the sewer r/w. The r/w is entirely located within Trundy Road (formerly Brook St.) which is a dedicated and continued paper street.
182A-A-29	Brighton Ave.	779	Ronald A. Guevin	13294/51	YES	n/a	n/a	n/a	n/a	WSIS Section 7 and drainage easement for culverts	14092/209 for drainage easement only	Affidavit needed for WSIS only	Prior owner (Minat Corp.) reserved the drainage and sewer rights over this lot in deed 2528/257. However, Minat Corp. never conveyed those rights to the City.
276-A-19	Warwick St	158	Donald E. & Arlin L. Kent	8365/268	NO	n/a	n/a	n/a	n/a	WSIS Section 7	7809/298 for land in fee and for slope easement	Affidavit needed for WSIS only	Sewer R/W is mentioned in several prior deeds in the chain of title. City is conveyed 2 small slivers of land for widening the road and an easement for slopes in deed 7809/298. See vault plan 921/2.
278-A-5	Warren Ave.	n/a	Central Maine Power	2073/170	YES	n/a	n/a	n/a	n/a	WSIS Section 8 and the Bishop St. and Warren Ave. Branch Sewers	2073/170	No action needed	When City conveys the property to CMP (deed 2073/10), the City specifically reserves the rights to Section 8 of the WSIS and to the Bishop St. and Warren Ave. Branch Sewer. See City Property Plans, 139 C & D
134-A-1 (279-A-2 & 280-A-2)	Warren Ave. (Stevens Ave.)	Evergreen Cemetery	City of Portland	370/481, 370/484 & 429/351	NO	n/a	n/a	n/a	n/a	WSIS Section 8	NO	No action needed	City property. No easement needed. See City Property Plans72 and 139, Vault Plan 215/4
276-A-5	Sunset Lane	39	Cynthia L. Taylor	26246/85	YES	YES	PB 52/53	Sunset Heights Section A	A	WSIS Section 8	NO	Affidavit needed	
276-A-15	Cedarhurst Lane	8	Mary Jane Lewis	6968/81	NO	YES	PB 52/53	Sunset Heights Section A	2	WSIS Section 8	NO	Affidavit needed	
277-D-1	Sunset Lane	44	Anita C. & Richard B. Romanow	27519/36	YES	YES	PB 52/53	Sunset Heights Section A	1	WSIS Section 8 and drainage pipes/culverts	NO	Affidavit needed for WSIS. Letter of notice needed for drainage pipes/culverts.	No easement was found for the culverts and drainage pipes that extend outside the r/w of Sunset Lane.
277-F-30	Sunset Lane	45	45 Sunset Lane Realty Trust (Philip R. & Patricia S. Lacroix, Trustees)	24028/164	YES	YES	PB 52/53	Sunset Heights Section A	14	WSIS Section 8 and drainage pipes	NO	Affidavit needed for WSIS. Letter of notice needed for drainage pipes/culverts.	No easement was found for the culverts and drainage pipes that extend outside the r/w of Sunset Lane.
277-F-1	Sunset Lane	31	William C. Chance and Deborah K. Wray	15107/195	YES	YES***	PB 52/53	Sunset Heights Section A	B	WSIS Section 8	NO	Affidavit needed	***This parcel is shown as Lot B on PB 52/53; however, the plan is never called out in any deeds in the chain of title. The deeds call out the abutting plan (PB 44/45) which shows the WSIS.
277-F-31	Brookview Terrace	9	Mark Anthony Profenno and Marie Elizabeth Colvin	25716/252	YES	YES	PB 55/20	Sunset Heights Section B	30	WSIS Section 8	NO	Affidavit needed	
277-F-32	Brookview Terrace	15	Ann Marie Phanor & Jean Claude Phanor	15475/62	YES	YES	PB 55/20	Sunset Heights Section B	31	WSIS Section 8	NO	Affidavit needed	
277-F-33	Brookview Terrace	21	Jenni E. Stafford	24822/72 & 28582/181	NO	YES	PB 55/20	Sunset Heights Section B	32	WSIS Section 8	NO	Affidavit needed	
277-F-34	Brookview Terrace	27	Devra M Krusamer	12793/298	YES	YES	PB 55/20	Sunset Heights Section B	33	WSIS Section 8	NO	Affidavit needed	

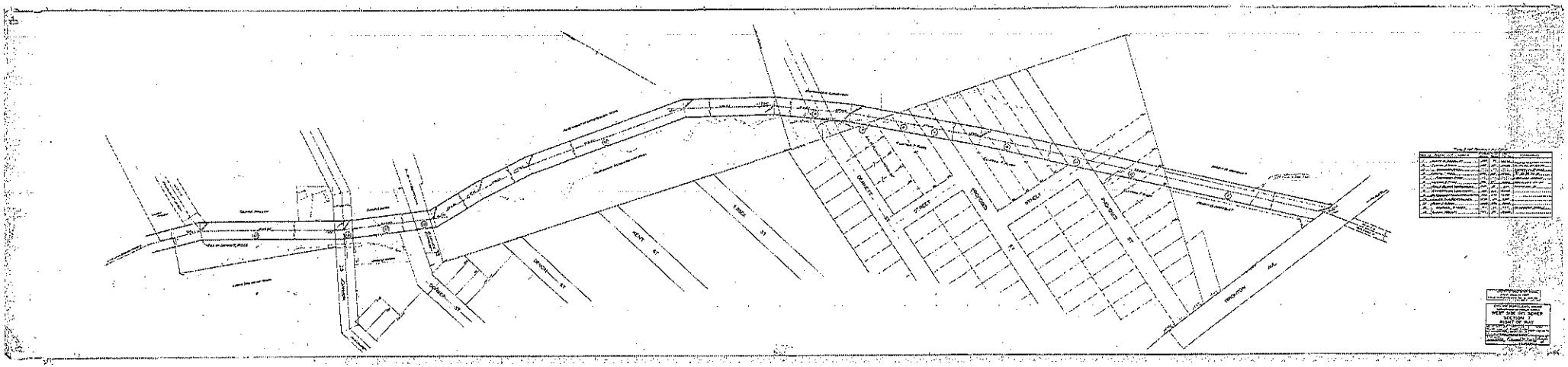
NOVEMBER 9, 2018 LIST OF PROPERTIES EFFECTED BY THE WEST SIDE INTERCEPTOR SEWER FROM BRIGHTON AVE. NORTHEASTERLY TO WARREN AVE. (organized by subdivision name)

TAX MAP-BLOCK-LOT-LEAD PARCEL	STREET NAME	STREET NUMBER	APPARENT OWNER	CURRENT DEED BOOK/PAGE REFERENCE	R/W MENTIONED IN CURRENT DEED	R/W SHOWN ON RECORDED PROPERTY PLAN	RECORDED PLAN BOOK AND PAGE	NAME OF RECORDED PLAN	LOT #	SUBJECT TO THE FOLLOWING SEWER RIGHT OF WAYS AND STRUCTURES	DEED REFERENCE FOR CITY R/W, EASEMENT OR RESERVATION	RECOMMENDATIONS BY CORPORATION COUNSEL	NOTES
277-F-35	Brookview Terrace	35	Robert A. & Marlene A. Allen	4251/309	NO	YES***	PB 55/20	Sunset Heights Section B	34	drainage easement	2583/174 for drainage easement only	No action needed	***WSIS is shown on the subdivision plan, but, the drainage easement is not. This parcel is not impacted by the WSIS.
277-F-36	Brookview Terrace	37	Anna Lidman	14983/243	NO	YES***	PB 55/20	Sunset Heights Section B	35	drainage easement	2583/174 for drainage easement only	No action needed	***WSIS is shown on the subdivision plan, but, the drainage easement is not. This parcel is not impacted by the WSIS.
276-A-3 and 276-A-9	Sunset Lane	10	Carolyn J. Gallant	12733/163 & 12504/1	NO	NO***	PB 44/45	Warwick Heights	8	WSIS Section 7	NO	Affidavit needed	***This parcel is made up of a subdivision lot (276-A-9) that is not subject to the r/w AND a rear lot (276-A-3) which is subject to the r/w but is not part of the subdivision. Previous deeds in the chain of title for the rear lot mention the sewer r/w. The subdivision plan does not show the portion of the sewer r/w that crosses the rear lot.
276-A-10 and 276-A-21	Sunset Lane	16	Zoraim Blancas-Ruiz and Julie-Beth Blancas-Ruiz	28657/177	YES	NO***	PB 44/45	Warwick Heights	9	WSIS Section 7	NO	Affidavit needed	***This parcel is made up of a subdivision lot (276-A-10) that is not subject to the r/w AND a rear lot (276-A-21) which is subject to the r/w but is not part of the subdivision. The subdivision plan does not show the portion of the sewer r/w that crosses the rear lot.
276-A-11 and 276-A-22	Sunset Lane	20	John J. O'Leary, Jr., Peggy O'Leary Powers, Kevin R., James J., Michael G. and Richard E. O'Leary	7674/196, 7690/348, 7723/344, 13524/143 and 13545/89	NO	NO***	PB 44/45	Warwick Heights	10	WSIS Section 7	NO	Affidavit needed	***This parcel is made up of a subdivision lot (276-A-11) that is not subject to the r/w AND a rear lot (276-A-22) which is subject to the r/w but is not part of the subdivision. Previous deeds in the chain of title for the rear lot mention the sewer r/w. The subdivision plan does not show the portion of the sewer r/w that crosses the rear lot. All of the owners listed have only a partial interest in the lot.
276-A-12 and 276-A-23	Sunset Lane	24	Morgan N. Chase	27805/269	NO	YES (partially)	PB 44/45	Warwick Heights	11	WSIS Section 7, WSIS Section 8 and Home Branch Sewer	NO	Affidavit needed	***This parcel is made up of a subdivision lot (276-A-12) that is not subject to the r/w AND a rear lot (276-A-23) which is subject to both r/w's but is not part of the subdivision. Previous deeds in the chain of title for the rear lot mention the sewer r/w. The subdivision plan shows only a small portion of the sewer r/w that crosses the rear lot.
277-F-10	Glenhaven West	32	Jimmy D. Meredith, III and Audrey L. Bartholomew	31024/261	NO	YES	PB 50/48	Warwick Heights Addition No. 2	3	WSIS Section 8 and drainage r/w	2517/341 for drainage r/w only	Affidavit needed for WSIS only	
277-F-11	Glenhaven West	38	Julia J. Whittemore	9591/244	NO	YES	PB 50/48	Warwick Heights Addition No. 2	4	WSIS Section 8 and drainage r/w	2517/341 for drainage r/w only	Affidavit needed for WSIS only	
277-F-15	Glenhaven West	44	William J., Jr. & Susan E. Seagers	28950/287	NO	YES	PB 50/48	Warwick Heights Addition No. 2	5	WSIS Section 8	NO	Affidavit needed	
277-F-18	Pinebrook Lane	12	Peggy A. Ouellette***	16787/137	NO	YES	PB 50/48	Warwick Heights Addition No. 2	8	WSIS Section 8 and 30' wide sewer & drainage r/w	2517/341 for 30' wide sewer & drainage r/w only	Affidavit needed for WSIS only	***Owner has a notice of foreclosure in deed 27838/114
277-F-19 & 277-F-27	Pinebrook Lane	20	Michael T. & Janet K. Vail	8162/160	YES	YES	PB 50/48	Warwick Heights Addition No. 2	9	WSIS Section 8 and 30' wide sewer & drainage r/w from Pinebrook Lane	2517/341 for 30' wide sewer & drainage r/w from Pinebrook Lane only	Affidavit needed for WSIS only	This parcel is made up of a subdivision lot (277-F-19) on Pinebrook Lane and a rear lot (277-F-27) that is not part of any subdivision. In deed 2583/174 the developer conveys a drainage easement to the City. The easement begins in Brookview Terrace and extends into parcel 277-F-27. However, the developer had already sold lot 277-F-27 and so could not convey an easement over land he did not own. The drainage pipe that is supposed to be located in this easement does not appear to extend into the rear lot. If a survey shows that the pipe does extend into the lot, then an easement might be needed.
277A-A-7	Penwood Dr	38	Mark & Deborah Madison	6120/65	YES	YES	PB 71/4	Warwick Heights Addition No. 3	7	20' wide sewer and storm drain r/w from Penwood Dr.	2969/98	No action needed	This property is not encumbered by the WSIS.
277A-A-8	Penwood Dr	44	Owen M. O'Donnell	24461/283 & 34992/134	YES	YES	PB 71/4	Warwick Heights Addition No. 3	8	20' wide sewer and storm drain r/w from Penwood Dr.	2969/98	No action needed	This property is not encumbered by the WSIS.
277A-A-10	Penwood Dr	58	Jay H. & Susan N. Bolster	22572/297	NO	YES	PB 71/4	Warwick Heights Addition No. 3	10 & p/o 24	20' wide sewer and storm drain r/w from Penwood Dr.	2969/98	No action needed	This property is not encumbered by the WSIS.
278A-A-31	Birchwood Dr	101	Taylor Colucci and Caleb R. Gray	33623/18	YES	YES	PB 71/4	Warwick Heights Addition No. 3	p/o 24	WSIS Section 8 and 50' wide sewer and storm drain r/w from Birchwood Dr.	2969/98 for storm drain r/w from Birchwood Dr. only	Affidavit needed for WSIS only	
285-C-6	Harmon Rd	29	Todd R. & Elizabeth A. Wing	34235/47	NO	NO	PB 13/20 & PB 15/52	William H. Howard & Howard Realty	82 & p/o 81	WSIS Section 7	NO	Affidavit needed	
285-E-1	Raymond Rd	59	John W. Caron	15845/26	YES	NO	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	74 & p/o 71 to 73	WSIS Section 7	NO	Affidavit needed	Owner has 2 notices of Foreclosure in deeds 29005/329 & 33201/60
285-E-3	Violette Ave	11	Cecile Y. Champagne	19109/244 & 21122/37	YES	NO	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	75 & p/o 71 to 74	WSIS Section 7	NO	Affidavit needed	
285-F-5	Dennett St	79	Lena M. Minervino	31829/32	NO	NO	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 40 & 41	Drainage pipe from Dennett St.	NO	Easement needed for drainage pipe	An easement for a sewer pipe that runs from Dennett St. to the WSIS was conveyed to the City by a prior owner (Placid Violette) in deed 2362/401. However, the sewer pipe appears to cross the land of the abutting parcel (285-A-46). That land was never owned by Violette. In other words, Violette conveyed an easement across land that he did not own. No easement was found for the drainage pipe.
285-F-6	Donald St	9	Kevin Proctor	33410/345	NO	NO	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 37 to 41 & 52	WSIS Section 7	NO	Affidavit needed	
285-F-7	Donald St	3	Ruth F. MacLean	24586/298	NO	NO	PB 13/20, PB 15/52 & PB 33/17	William H. Howard, Howard Realty & Violette & Jacques Revised Plan	p/o 52 & 53	WSIS Section 7	NO	Affidavit needed	
285-C-8	Harmon Rd	35	Lindsay M. & Jordohn A. Bilcos	31933/23	YES	YES	PB 13/20, PB 15/52, PB 33/17 & PB 77/30	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	p/o 5	WSIS Section 7 and drainage and sewer structures	NO	Affidavit needed for WSIS, easement needed for the structures located outside the WSIS r/w. Notify owner that house is encroaching into the r/w and cannot be rebuilt in the r/w should the house ever be destroyed. Record the notice after the work is completed.	House is built into the right of way and almost on top of the pipe. Wing wall and sewer pipe from Violette Hill are outside the WSIS r/w.
285-C-11	Violette Hill	33	Bruce and Margery Smallwood	14031/295	NO, but mentioned in prior deeds	YES	PB 13/20, PB 15/52, PB 33/17 & PB 77/30	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	p/o 5	WSIS Section 7 and a wing wall from a box culvert	NO	Affidavit needed for WSIS. Send notice for drain and wing wall structures.	
285-C-12	Violette Hill	44	Anthony R. & Leigh R. Schwietzerman	32676/342	YES	YES	PB 13/20, PB 15/52, PB 33/17 & PB 77/30	William H. Howard, Howard Realty, Violette & Jacques Revised Plan & Violette Hill	1 & p/o Harmon Rd.	WSIS Section 7 and a wing wall from a box culvert	NO	Affidavit needed for WSIS. Send notice for drain and wing wall structures.	

NOVEMBER 9, 2018

LIST OF WEST SIDE INTERCEPTOR SEWER RIGHT OF WAYS FROM BRIGHTON AVE. TO WARREN AVE. (organized by name of right of way)

YEAR	NAME OF RIGHT OF WAY OR EASEMENT OR STREET LOCATION	CLERK RECORDS	DEEDS TO/FROM THE CITY FOR THE RIGHT OF WAY OR EASEMENT	RIGHT OF WAY VAULT PLANS	OTHER VAULT PLANS AND RECORDED PLANS	NOTES
1960	Alden Circle Sewer and Drain Outlet	0	2520/45	666/9	PB 50/16 & PB 50/64	Storm water pipe and sewer pipe from Alden Circle to the WSIS.
1965	Birchwood Drive Sewer and Storm Drain	0	2969/98	655/2	655/1, City ROW Plan 9, PB 70/14 & PB 71/4	Sewer pipe from the end of Birchwood Dr. to the WSIS. Storm water pipe from end of Birchwood Dr. to a point near the stream.
1944	Bishop ST. and Warren Ave. Interceptor Sewer	Vol. 66, Page 231	0	619/12	882/20, 576/7, 576/8, 597/16	Begins southerly of Warren Ave. and southerly of the railroad at an angle point in the WSIS Section 8 that's southerly of Trundy Road.
1998	Brighton Ave. drainage easement	0	14092/209	0	986/12	Easement is for drainage structures.
1960	Brookview Terrace Sewer and Drain	0	2583/174	669/1	PB 55/20	Drainage pipe from Brookview Terrace to a point near the stream.
1969	Candlewyck Road and Candlewyck Terrace Sewer	0	0	490/6	PB 85/38	Storm water pipe and sewer pipe from Candlewyck Terrace to the WSIS in two different locations.
1937	City Home Branch Sewer	Vol. 61, Page 281	0	579/5	579/9	Branches off from the end of the WSIS Section 7 (between Warwick St. and Cedarhurst Lane) and continues in a westerly direction towards Holm Avenue.
1958	Dennett St Sewer	0	2362/401	658/4	659/5, 669/12, 866/2, 920/3, 981/2	The deed was in error. The sewer line is not located on the property where the easement was conveyed (285-F-5). The sewer line is on the abutting property (286-A-46) whose owner did not convey an easement to the City.
1951	Dorset Street Sewer R/W.	Vol. 70, Page 464	0	408/14	411/5, 624/11, City ROW Plan 20, PB 8/17 & PB 126/63	The sewer line as shown on GIS appears to be outside the r/w as shown on the r/w plan.
1958	Glenhaven Rd. Sewer and Drain Outlet	0	2517/341	666/13	City ROW Plan 29 and 50, PB 50/48	Storm water pipe from Glenhaven West towards the WSIS. Storm and sewer pipe from Pinebrook Lane to the WSIS.
1967	Longwood Terrace	0	0	655/13	PB 76/23	Storm water pipe from Longwood Terrace to the WSIS.
1965	Penwood Drive and Woodvale Street Sewers	0	2969/98	655/1	655/2, 920/2, City ROW Plan 9, PB 70/14 & PB 71/4	Sewer pipe from Penwood Dr. to the WSIS. Storm water pipe from Penwood Dr. to a point near the stream.
1996	Sunset Lane Reconstruction	0	0	0	216/15	This is a plan for the construction of the culvert under Sunset Lane. No easements were found for the structures outside of the street r/w.
1956	Sunset Lane Sewer	0	2336/460 and 2556/135	659/18 & 659/22	PB 44/45 & PB 52/53, 918/1	This sewer is all within the r/w of Sunset Lane.
1957	Warwick Street Easement for Culvert and Brook Relocation	0	0	411/5	City ROW Plan 20, PB 8/17 & PB 126/63	Drain pipes and culverts that fall outside the r/w of Warwick Street.
1988	Warwick Street Storm Water	0	7809/298 and 7809/292	921/2	918/4, PB 126/63	Culverts and wing walls located outside of the Warwick St. right of way. Easement is only for slopes.
1937	West Side Interceptor Sewer (WSIS) Section 7	Vol. 61, Page 281	2486/222 and 2486/256.	579/4	579/8, 181/17, 456/1, 607/8, 607/16, 647/11, 655/16, 659/16, 986/10	City releases the portion of the sewer right of way within Longfellow Woods Subdivision in deed 2486/222 (see PB 50/16 & PB 50/64). The Minat Corp. then conveys the sewer r/w back to the City in a location that is 10 feet southwest of its original location. No deeds were found for the remainder of the sewer r/w.
1938	West Side Interceptor Sewer (WSIS) Section 8	Vol. 62, Page 285	0	548/4	456/1, 471/19, 558/3, 558/9, 597/16, 659/8, 921/14, 932/16, 1019/4	Begins at the end of the WSIS Section 7 (between Warwick St. and Cedarhurst Lane) and continues northeasterly to Warren Ave. and beyond.


WEST SIDE INTERCEPTOR SEWER
SECTION 1
RIGHT OF WAY
PLAN
SCALE: 1" = 40'
DATE: 1-1-1900
DRAWN BY: J. DOE
CHECKED BY: J. SMITH
APPROVED BY: J. JONES
DRAWING NO. 1
SHEET 1 OF 1
SUBJECT
PROPOSED
STREET
PROPOSED
STREET
PROPOSED
IRVINGTON
AVE.
EAST
31
HEVIA
ST.
SPANGLER
ST.
ORANGE
ST.
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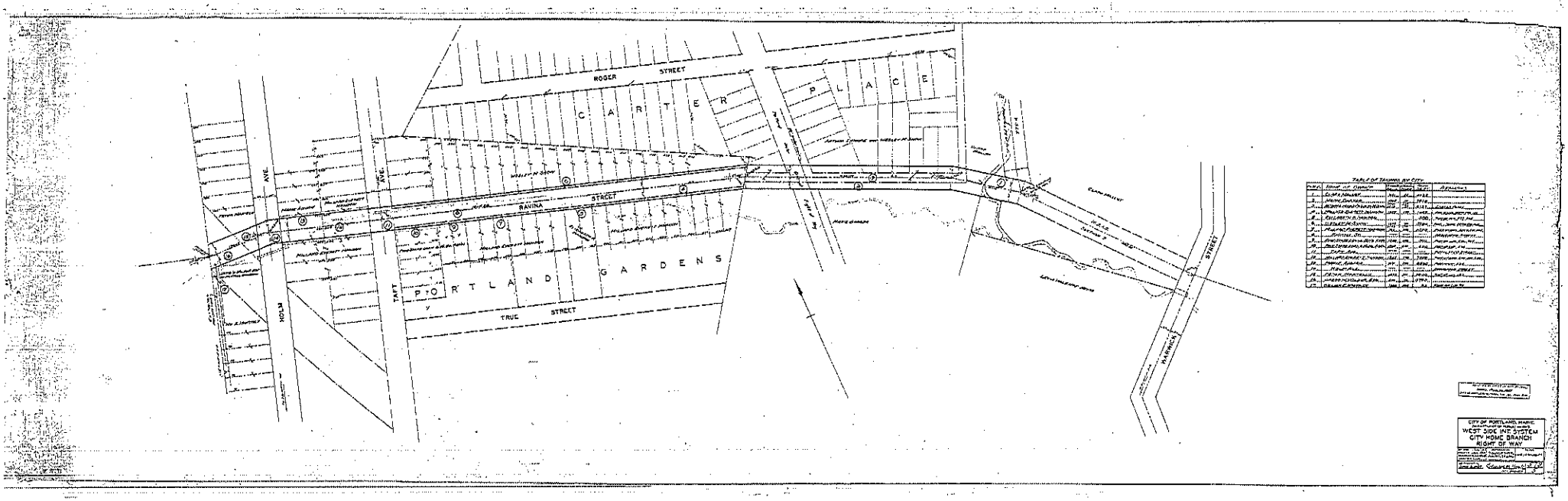
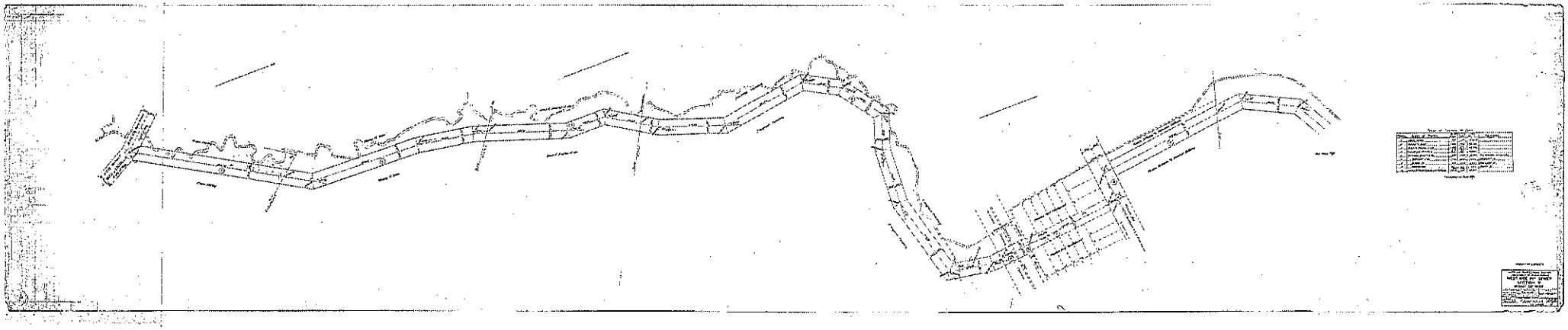
AVE.


ROGER STREET
C A R T E R
P L A C E
RAVINA STREET
P O R T L A N D G A R D E N S
TRUE STREET
HOLM AVE.
TAFT AVE.
MARGINAL STREET
TABLE OF TRACKS BY CITY
CITY OF PORTLAND, MAINE
WEST SIDE I.P.T. SYSTEM
CITY HOME BRANCH
RIGHT OF WAY



Addendum #1

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: April 30, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached revisions to the bid documents for this project.

Receipt of **Addendum No. 1** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____
ZIP CODE

Addendum #1

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Deliverables shall include AutoCAD drawing showing the Right of Way stake, locations of pins, rebar, iron bar, pipes, monuments, manholes, headwalls, flared ends sections, tie diagrams for all points set for baseline, right of way lines and control.

The drawing shall show all distances held and used to reproduce the street, sewer, drain and easement right of way lines (i.e. distances and angles used from record deeds and plans, monumentation held ties held, etc.) The drawing shall show the recorded deed references that established sewer, drain and easement right of way lines.

The drawing shall indicate current property owner name, Assessor's Chart-Block-Lot and address for properties that abut the sewer, drain and easement right of way lines.

The final drawing shall be signed and sealed by a Maine Licensed Professional Land Surveyor.

The cost of this work shall be included in Item 2 of the Price Proposal Form included in the Bid Package.

Addendum #2

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: May 7, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached our response to a question received related to this bid as well as a list of pre-bid meeting attendees from this morning.

Receipt of **Addendum No. 2** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____
ZIP CODE

Addendum #2

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

QUESTION:

1. **Is there a schedule for the project?**

   The survey work including development of existing Interceptor sewer right of way and/or easement boundaries and stake of edge lines shall be completed in six (6) months. The final drawings as stated in Addendum #1 shall be completed two (2) months after stake out is completed for a total contract of eight (8) months.

PRE-BID MEETING ATTENDEES:

Attendee	Company Name	Phone	EMail
Tim Gallant	Main-Land Development Consultants Inc.	(207) 897-6752	tim@mainlanddci.com
Don Dostie	SGC Engineering LLC	(207) 347-8137	don.dostie@lr.org
Mary Ella Jones	Jones Associates	(207) 241-0235	mjones@jonesai.com
Sean Pierce	Northern Survey Engineering	(978) 729-7110	spierce@northernsurveyengineering.com
David St. Clair	St. Clair Associates	(207) 829-5558	david@stclairassociatesmaine.com

Addendum #3

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: May 8, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

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****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached notes from yesterday's pre-bid meeting.

Receipt of **Addendum No. 3** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____
ZIP CODE

Addendum #3

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

West Side Interceptor Sewer Bid No. 19081

City of Portland – DPW - Water Resources Engineering is requesting quotes for a survey location and stake out of portions of the West Side Interceptor Sewer (WSIS) as shown on the attached GIS plan. The purpose of this survey is to establish and mark the main WSIS right of way and the 14 secondary right of ways and easements so that the City can clear and maintain the sewer right of ways and inspect and repair the interceptor sewer pipes. The main section of the WSIS to be staked out is 7200 in length along its centerline. The WSIS intersects or abuts 60 properties, is connected to or crosses 15 street right of ways and crosses through 12 subdivisions.

Introduction of city staff involve, Matt Fitzgerald Purchasing Official, Camille Alden, PLS DPW Lead Surveyor, Gerry Remsen PE, CME DPW Water Resources – Project Manager

Sign In sheet circulated for all attendees not with the City.

1. Bid due date is Thursday, May 23 at 3:00 PM.

   Cannot accept late bids - make sure bid is submit before 3 PM

2. End of Questions is Thursday, May 16 at noon.

   Please submit questions in writing to JRL@portlandmaine.gov before the close of questions. This way Engineering & Survey will be able to prepare an appropriate response. Please do not call Camille or Gerry direct as they will not respond directly. All answers will be shared with all bidders.

3. Review of Data provided and to be provided to surveyor awarded contract

   All the data listed in the bid will be provided to the surveyor who is awarded the contract. This includes deeds, affidavits, subdivision maps, Blue sheets for roads, easements, right of way maps from original construction.

4. Affidavits issued, signed and received

   Affidavits were mailed to the current property owners whose properties are affected by the original takings. These affidavits are in the Corporation Counsel Office and should be recorded soon.

5. Must establish base line for right of way.

   The surveyor must establish the right of way. There is little or no boundary evidence of the Right of way since the original sewers were constructed in the late 1930s. Surveyor must create baseline.

   A. ***The project encompasses 12 subdivisions, 60 properties, 15 streets, 2 main sewer right of ways and 14 minor sewer/drain easements. The main sewer right of ways total about 7200' in length along the center line. The 14 minor easements individually vary in length from 80 feet to 155 feet, with most being in the 90' length.***

   B. ***This is a survey of the boundaries of the City's sewer and drain right of ways and easements and portions of several street lines. It is not a boundary of private property lines with the following exception: Some of the 14 minor easements are defined by offsets from private property lines. In those cases, a private property line will need to be established in order to define the easement.***

6. Condition of Right of Way – some dense brush and trees, some backyards, some streets

   The brush is very dense and thick. Little to no clearing has been done since the sewers were constructed. There is a section in Evergreen Cemetery where some clearing has been done to allow for opening of some manholes.

7. City will post on website notice about survey work

   The City's communication office will issue a public notification on the City's website for all residents.

   The Surveyor who is awarded the contract may send out notification letters on their own, but they are not required to do so. If the surveyor chooses to send a notification letter, reference to the City Website and contact information for Gerry Remsen at Water Resources in DPW should be included in the letter.

8. Cutting of line and exposing corners, monuments etc.

   The contractor shall exercise care in cutting line, it is understood that some cutting is necessary to creating line of site for survey and stake out. There had been an incident where a surveyor working for the city did their due diligence in uncovering a buried boundary marker. The Homeowner who was impacted by the digging called and complained. The ground was frozen and restoration was not possible when it was frozen. The surveyor did restore the area once warmer weather arrived. Point of matter is just be aware of where uncovering is being done.

9. Schedule

   The survey work including development of existing Interceptor sewer right of way and/or easement boundaries and stake of edge lines shall be completed in 6 months. The final drawings as stated in Addendum #1 shall be completed 2 months after stake out is completed. For a total contract of 8 months.

10. Addendums 1 and 2

    Addendum 1 has been issued. All bidders should have received it.
    Addendum 2 has been issued with the pre-bid sign in sheet and discussion of time frame for work. This is Addendum 3 consisting of Pre-Bid Meeting Agenda, and meeting notes.

GENERAL DISCUSSION ITEMS

11. WSIS survey work is 7,200 ft long the PNMI project is 4,000 ft long

12. Does the city have an order to do the work in or will the city be awarding sections of the work?

    This is one contract for the entire right of way and easements development. The surveyor may work the contract in any manner they deem appropriate in their professional opinion. In the end all work must align and coordinates all work together. The final survey document will be incorporated into the city GIS so that in 5, 10 or 20 years the right of way can be established again using the information provided by the surveyor.

13. Does the city have shape files for headwalls and culverts within the easements and the right of way.

    Yes, the City has shape files and will share them. It is understood that the information may be inaccurate in places. The City used historical plan data to create the shape files. While they were the best source of mapping data at the time of the creation of the shape files, those sources were not always accurate.

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: May 17, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

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****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached our reply to questions received right before the deadline. This will be the final addendum issued prior to the bid opening on May 23 at 3:00 p.m.

Receipt of **Addendum No. 4** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____
ZIP CODE

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

QUESTIONS:

1. *Does the scope of the project involve solving individual parcel lines intersecting the project route?*

   Yes, The parcels which describe the limits of the Right of Way.

2. *Do we need to solve the individual parcels lines when the easement was taken? We ask this question because if you are going to be providing metes and bounds descriptions within the right-of-way then this might be useful.*

   The Right of way for the sewer was taken before most of the parcels were developed therefore you must solve the parcels to ensure that the stake out of the right of way is in proper location.

3. *On the laterals, do we need just a general location of the pipe or does the pipe need to be located using sub-surface locating techniques?*

   Subsurface location methods are not required, however locating manholes is required. Water Resources will provide assistance when this work is being done to ensure that the correct pipe is being located on your plans.

4. *For the scope of work, do we need to locate signs of use such as dumping areas, fences, mowed lawns, etc.?*

   All signs must be located, no matter what they say.

5. *Can we limit the location of any outfalls to those which intersect the existing sewer right-of-way?*

   Yes, any outfall which is within the right of way or immediately adjacent (5 to 10 feet).

6. *For location of features within the road right of ways do we need to locate items such as pavement, signs, curbing, utility poles, utilities, etc.?*

   The edge of pavement, curbing, guiderail, fences, utility poles, and any other item which are in the street within the projected right of way lines for interceptor. Location of Subsurface utilities i.e. Gas, Water Electrical and communications is not required to be located.

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

7. *We assume that any stationing on the baseline will be on the centerline stakes only and marked only on those stakes.*

   Yes, the centerline stakes will receive stationing marks. The sideline stakes will have the appropriate color as described in specifications.

8. *Can we get confirmation on the item 5 where the streets are listed as Dennett and Essex, and where it appears it is Dennett, Candlewyck, and Violette?*

   The question is not clear as to what is being asked.

9. *If deed / plan composite has been developed by the City of Portland, will it be provided as part of the information for the project?*

   The composite drawing developed by the City Survey staff will be provided with all of the other information listed in the bid.

EXHIBIT B

May 23, 2019

Mr. James Lobley
Executive Assistant-Purchasing
389 Congress Street, Room 103
Portland, Maine 04101

RE: **Location and Stake out of existing Sewer Rights of Way West Side Interceptor Sewer Bid #19081**

Dear Mr. Lobley,

SGC Engineering, LLC (SGC) is pleased to submit this proposal for surveying engineering services relative to establishing and marking the main West Side Interceptor Sewer (WSIS) running from Warren Avenue at its intersection with Trundy Road extending approximately 7,200 linear feet to the northerly street line of Brighton Avenue, along with 14 secondary Rights of Way and easements associated with this section of WSIS in Portland. This proposal is based on our knowledge and experience with similar projects. Included are a detailed Scope of Services, Additional Services, Schedule of Services, and Fees for Services, Payment Terms and Contract Conditions. Please be advised this proposal is valid for thirty days. SGC has prepared this proposal based upon the following clarifications and assumptions.

- This proposal has been prepared based on the Bid #19081 package dated April 23, 2019 and Addendums as well as attendance at a mandatory pre-bid conference held in Conference Room 209 at Portland City Hall, May 7th, 2019.

- Deliverables and work will be completed according to requirements set forth in the Bid #19081 package and as outlined in Addendums 1 through 4.

- For the sake of this proposal, all documents, drawings, nearby City benchmarks and control points referenced in the Bid #19081 package including deeds and plans will be provided to SGC by the City of Portland if awarded the project.

- If a police detail is required to ensure safety of survey field crews, it is assumed that the City of Portland shall be responsible for providing appropriate personnel.

- All landowners will be notified of the survey and what company will be working in the area prior to the start of field work by the City of Portland.

Following is a detailed Scope of Services, Additional Services, Schedule of Services, Fees for Services, Payment Terms and Contract Conditions. Please be advised this proposal is valid for thirty (30) days.

1.0 SCOPE OF SERVICES

For the purpose of this Scope of Services, the limits of the survey area based on discussions with representatives of Portland's Engineering Department, the limits of survey are understood to be as follows:

- Main WSIS right of way running from Warren Avenue to Brighton Avenue *7,200 l.f.*
- 14 secondary Rights of Way and easements for lateral lines running into the main WSIS from the nearest sewer manhole located within public streets nearby, adjacent or running through the main WSIS
- It is understood that the survey work will include establishing the street rights of way for 15 streets depicted on maps contained within the Bid #19081 package in areas where secondary easements intersect those streets or in areas where a total of four easements will be needed.
- The survey will include locating manholes, culverts, manmade structures and evidence of property corners found within or near the right of way. Found evidence of property corners will be flagged.
- The survey will include flagging stakes along the sidelines of the Rights of Way and easements at intervals of approximately 50 feet and at angle points. The right sideline flagging color will be red, left sideline flagging color will be blue and centerline flagging color will be white beginning on the south side of the railroad tracks south of Warren Avenue and heading southerly to the northerly side of Brighton Avenue. No field work will be conducted within the railroad right of way.

1.1. Field Survey

1.1.1. GPS Survey – A rapid static and/or Real Time Kinematic (RTK) GPS and conventional total station survey will be performed to establish the primary horizontal and vertical control network in the project area. Recovered geodetic control points and City of Portland control will be incorporated into the GPS network and held as fixed values. For the sake of this proposal, it is assumed that adjustment of the GPS network will not reveal inconsistencies in the provided recovered geodetic control. If this assumption proves false, additional efforts may be required to verify published control values.

1.1.2. Field Survey – A planimetric survey of the main WSIS rights of way and 14 secondary rights of way meeting the requirements stipulated in Bid #19081 package will be performed in accordance with City of Portland Survey Specifications with the following exceptions and clarifications:

- SGC will collect survey data utilizing survey codes developed in house. Survey data description codes for final, adjusted coordinates will be converted to City of Portland standards for delivery.

1.1.3. Utility Survey – Inverts of storm and sanitary sewers will be measured in the field. Pipe diameters, materials, and general conditions will be noted using SGC

data collection methods. If manholes or catch basins are buried, sealed, or full of refuse it is assumed the City will provide appropriate personnel and equipment to assist in providing access to said structures.

1.2. Publication of Survey Results and Deliverables

1.2.1. Reduce and verify field measurements to ensure data integrity prior to commencement of drafting activities. Drafting will commence once final approval is given to SGC by the City of Portland on all horizontal and vertical adjustments. City benchmarks used for establishing elevation (NGVD 1929 datum) and City control points used to establish horizontal control (NAD1983 HARN State Plane Maine West FIPS 1802 US survey foot) will be noted.

1.2.2. Monuments located in the field will be reconciled with right of way records, deeds and plans provided by the City of Portland as referenced in the Bid #19081 package with additional research completed for boundary determination where needed. Right of way locations for 15 streets listed in the Bid #19081 package will be determined as well as the main WSIS right of way sidelines and intersecting boundary lines of parcels.

1.2.3. Prepare written easement descriptions Exhibit "A" and Exhibit "B" plans for easements that will be needed for existing pipelines as directed by the City of Portland.

1.2.4. Prepare an AutoCAD Civil 3D (2016) CAD drawing on state plane coordinates depicting all found and set points including property markers, monuments, stakes set, manholes, fences, culverts and unique features mutually agreed upon between SGC and the City of Portland at a scale of 1" = 40' depicting the results of the survey. Said plan will depict planimetric features, surface evidence of utilities, right of way lines for the main WSIS and 14 secondary rights of way, the main WSIS baseline, street right of way lines for 15 streets crossing or near the main WSIS as defined in the Bid #19081 package and pertinent property boundary lines. Plans shall be drafted in accordance with National CAD Standards adopted in 2014.

1.2.5. We will provide coordinate points at each centerline station, at each cross station and structure located or established during the survey.

1.2.6. A digital photograph of each pin, stake, corner, monument or manhole will be provided along with a short description of where the photograph is taken including date and time.

1.2.7. All survey points will be provided in ESRI formatted geodatabase for entry into the City's GIS mapping as directed in the Bid #19081 package.

2.0 ADDITIONAL SERVICES

SGC Engineering, LLC would be pleased to provide the services described below which are excluded from this agreement, for mutually agreed upon additional compensation.

2.1. Using subsurface locations methods for any underground utilities situated within or near the survey area. All locations will be based on above ground structures and observation of inverts within structures viewed.

2.2. Attendance at any project meetings during the course of the survey.

2.3. Additional efforts associated with the compilation of record information or utility information not marked in the field.

2.4. For the sake of this proposal, it is assumed that sufficient monumentation exists on the ground and that boundary evidence is not in substantial conflict with title. Additionally, it is assumed that deeds and plans provided in the title package contain sufficient information to allow for the compilation of property boundaries. If either of these assumptions proves false, additional costs may be incurred before property boundaries may be published on final plans.

3.0 SCHEDULE OF SERVICES

We are prepared to begin work on this project upon receipt of written authorization to proceed and anticipate a time to completion November 8th of 2019. Please be advised that uncertainties can arise during the course of completing a survey, such as insufficient land records, record encroachments, boundary disputes and inclement weather. This schedule of services is given with our assumption that none of these factors will be encountered, however, SGC Engineering, LLC, reserves the right to change the completion date for the scope of services outlined in this proposal.

4.0 FEES FOR SERVICES

Work will be performed on a time and materials basis in accordance with the attached fee schedule and contract terms and conditions. We request that a budget of **$44,500.00** be established for the above Scope of Services. We will regard this budget as a not-to-exceed limit and will not exceed this budget without first receiving authorization from the Client. Reimbursable expenses (for example, mileage, reprographics, shipping, etc.) will be billed at cost. The budget is broken down as follows:

Establish and stake out portions of the existing West Side Interceptor Sewer Rights of Way including street sidelines, lot lines as flagging at each pin, stake or monument found within or near the right of way, flagging along the sidelines of each right of way at every 50 ft. intervals as described in the Bid #19081 package.
Lump Sum: $33,000.00

Amount quoted to prepare and submit in AutoCAD format a drawing of the easements after stake out as described in the Bid #19081 package.
Lump Sum: $9,000.00

Amount quoted to provide Digital Photographs for each of the easements after stake out as described with the Bid #19081 package.
Lump Sum: $2000.00

SGC

Amount quoted to collect and submit GIS Data Lump Sum easements after stake out as described in the Bid #19081 package.
Lump Sum: $500.00

5.0 PAYMENT

Invoices for our services will be submitted monthly or upon completion of the project and that payment shall be made in accordance with Terms and Conditions contained in the Bid #19081 package.

SGC Engineering, LLC reserves the right to stop work on the project if invoices are not paid according to said agreement.

6.0 GENERAL CONTRACT CONDITIONS

The Contract Conditions contained in SGC's general Terms and Conditions attached hereto and the laws of the State of Maine shall govern the work under this contract. Any amendments thereto shall be noted, dated and initialed by both parties.

By signing this letter, you indicate your acceptance of the terms and conditions contained herein and you give us authorization to proceed with the scope of work indicated.

Thank you for this opportunity to be of service to you.

Very truly yours,
SGC Engineering, LLC

Donald E. Dostie, PLS
Project Manager

Chris Wilber, PLS
VP-SGC
Lloyd's Register-Energy

Accepted and authorized to proceed:

_____

Addendum #1

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: April 30, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

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****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached revisions to the bid documents for this project.

Receipt of **Addendum No. 1** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: SGC ENGINEERING LLC

SIGNED BY: Donald E Dostie DATE: May 23, 2019

PRINT NAME & TITLE: DONALD E. DOSTIE PROJECT MANAGER

ADDRESS: 501 COUNTY ROAD

WESTBROOK ME 04092

ZIP CODE

Addendum #1

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Deliverables shall include AutoCAD drawing showing the Right of Way stake, locations of pins, rebar, iron bar, pipes, monuments, manholes, headwalls, flared ends sections, tie diagrams for all points set for baseline, right of way lines and control.

The drawing shall show all distances held and used to reproduce the street, sewer, drain and easement right of way lines (i.e. distances and angles used from record deeds and plans, monumentation held ties held, etc.) The drawing shall show the recorded deed references that established sewer, drain and easement right of way lines.

The drawing shall indicate current property owner name, Assessor's Chart-Block-Lot and address for properties that abut the sewer, drain and easement right of way lines.

The final drawing shall be signed and sealed by a Maine Licensed Professional Land Surveyor.

The cost of this work shall be included in Item 2 of the Price Proposal Form included in the Bid Package.

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

Current Date: May 17, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

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****

MATTHEW FITZGERALD
PURCHASING MANAGER

Please see attached our reply to questions received right before the deadline. This will be the final addendum issued prior to the bid opening on May 23 at 3:00 p.m.

Receipt of **Addendum No. 4** to the City of Portland's **Bid #19081, Location and Stake Out of Existing Sewer Rights of Way West Side Interceptor Sewer** is hereby acknowledged.

COMPANY NAME: SGC ENGINEERING LLC

SIGNED BY: Donald E Dostie DATE: MAY 23, 2019

PRINT NAME & TITLE: DONALD E. DOSTIE PROJECT MANAGER

ADDRESS: 501 COUNTY ROAD

WEST BROOK ME. 04092

ZIP CODE

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

QUESTIONS:

1. *Does the scope of the project involve solving individual parcel lines intersecting the project route?*

   Yes, The parcels which describe the limits of the Right of Way.

2. *Do we need to solve the individual parcels lines when the easement was taken? We ask this question because if you are going to be providing metes and bounds descriptions within the right-of-way then this might be useful.*

   The Right of way for the sewer was taken before most of the parcels were developed therefore you must solve the parcels to ensure that the stake out of the right of way is in proper location.

3. *On the laterals, do we need just a general location of the pipe or does the pipe need to be located using sub-surface locating techniques?*

   Subsurface location methods are not required, however locating manholes is required. Water Resources will provide assistance when this work is being done to ensure that the correct pipe is being located on your plans.

4. *For the scope of work, do we need to locate signs of use such as dumping areas, fences, mowed lawns, etc.?*

   All signs must be located, no matter what they say.

5. *Can we limit the location of any outfalls to those which intersect the existing sewer right-of-way?*

   Yes, any outfall which is within the right of way or immediately adjacent (5 to 10 feet).

6. *For location of features within the road right of ways do we need to locate items such as pavement, signs, curbing, utility poles, utilities, etc.?*

   The edge of pavement, curbing, guiderail, fences, utility poles, and any other item which are in the street within the projected right of way lines for interceptor. Location of Subsurface utilities i.e. Gas, Water Electrical and communications is not required to be located.

Addendum #4

City of Portland, Maine

Location and Stake Out of Existing Sewer Rights of Way
West Side Interceptor Sewer
Bid# 19081

7. *We assume that any stationing on the baseline will be on the centerline stakes only and marked only on those stakes.*

   Yes, the centerline stakes will receive stationing marks. The sideline stakes will have the appropriate color as described in specifications.

8. *Can we get confirmation on the item 5 where the streets are listed as Dennett and Essex, and where it appears it is Dennett, Candlewyck, and Violette?*

   The question is not clear as to what is being asked.

9. *If deed/ plan composite has been developed by the City of Portland, will it be provided as part of the information for the project?*

   The composite drawing developed by the City Survey staff will be provided with all of the other information listed in the bid.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 08/20/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Willis Towers Watson Northeast, Inc. fka Willis of New York, Inc.
c/o 26 Century Blvd
P.O. Box 305191
Nashville, TN 372305191 USA

CONTACT NAME:
PHONE (A/C, No, Ext): 1-877-945-7378 FAX (A/C, No): 1-888-467-2378
E-MAIL ADDRESS: certificates@willis.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Zurich American Insurance Company	16535
INSURER B: Liberty Mutual Fire Insurance Company	23035
INSURER C: Employers Insurance Company of Wausau	21458
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
SGC Engineering, LLC
501 County Road
Westbrook, ME 04092

COVERAGES **CERTIFICATE NUMBER:** W12337162 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC OTHER:	Y		GL0541575906	07/01/2019	07/01/2020	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY	Y		AS2-641-444792-019	07/01/2019	07/01/2020	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
A	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED RETENTION $			7067564	07/01/2019	07/01/2020	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000 $
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N No (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WC6641444792029	07/01/2019	07/01/2020	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
A	US Property	Y		MCP486222305	07/01/2019	07/01/2020	Limits	$2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
This Voids and Replaces Previously Issued Certificate Dated 06/28/2019 WITH ID: W11897579.
SEE ATTACHED

CERTIFICATE HOLDER

City of Portland, Maine
389 Congress Street
Portland, ME 04101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: _____

LOC #: _____

ACORD® ADDITIONAL REMARKS SCHEDULE

AGENCY Willis Towers Watson Northeast, Inc. fka Willis of New York, Inc.	NAMED INSURED SGC Engineering, LLC 501 County Road Westbrook, ME 04092
POLICY NUMBER See Page 1	
CARRIER See Page 1 / NAIC CODE See Page 1	EFFECTIVE DATE: See Page 1

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

City of Portland, Maine is included as an Additional Insured as respects to General Liability and Auto Liability where required by written contract.
City of Portland, Maine is included as an Additional Insured as respects to Property Coverage.
Waiver of Subrogation applies in favor of the City of Portland, its officers or employees with respects to Workers Compensation where required by written contract and as permitted by law.

INSURER AFFORDING COVERAGE: Zurich American Insurance Company NAIC#: 16535
POLICY NUMBER: IPR929637108 EFF DATE: 07/01/2019 EXP DATE: 07/01/2020

TYPE OF INSURANCE:	LIMIT DESCRIPTION:	LIMIT AMOUNT:
Professional Liability	Per Claim	$1,000,000
	Aggregate	$1,000,000

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Additional Insured – Automatic – Owners, Lessees Or Contractors

ZURICH®

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 5415759-05	07/01/2018	07/01/2019		14317000	INCL	

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured: LLOYD'S REGISTER NORTH AMERICA, INC.

Address (including ZIP Code):

1330 ENCLAVE PARKWAY,SUITE 200

HOUSTON, TX 77077

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

A. Section **II – Who Is An Insured** is amended to include as an additional insured any person or organization whom you are required to add as an additional insured on this policy under a written contract or written agreement. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf,

in the performance of your ongoing operations or "your work" as included in the "products-completed operations hazard", which is the subject of the written contract or written agreement.

However, the insurance afforded to such additional insured:

1. Only applies to the extent permitted by law; and
2. Will not be broader than that which you are required by the written contract or written agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to:

"Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or failure to render, any professional architectural, engineering or surveying services including:

a. The preparing, approving or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

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C. The following is added to Paragraph **2.** Duties In The Event Of Occurrence, Offense, Claim Or Suit of Section **IV – Commercial General Liability Conditions**:

The additional insured must see to it that:

1. We are notified as soon as practicable of an "occurrence" or offense that may result in a claim;
2. We receive written notice of a claim or "suit" as soon as practicable; and
3. A request for defense and indemnity of the claim or "suit" will promptly be brought against any policy issued by another insurer under which the additional insured may be an insured in any capacity. This provision does not apply to insurance on which the additional insured is a Named Insured if the written contract or written agreement requires that this coverage be primary and non-contributory.

D. For the purposes of the coverage provided by this endorsement:

1. The following is added to the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

   Primary and Noncontributory insurance

   This insurance is primary to and will not seek contribution from any other insurance available to an additional insured provided that:

   a. The additional insured is a Named Insured under such other insurance; and

   b. You are required by written contract or written agreement that this insurance be primary and not seek contribution from any other insurance available to the additional insured.

2. The following paragraph is added to Paragraph **4.b.** of the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

   This insurance is excess over:

   Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by a written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

E. This endorsement does not apply to an additional insured which has been added to this policy by an endorsement showing the additional insured in a Schedule of additional insureds, and which endorsement applies specifically to that identified additional insured.

F. With respect to the insurance afforded to the additional insureds under this endorsement, the following is added to Section **III – Limits Of Insurance**:

The most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the written contract or written agreement referenced in Paragraph **A.** of this endorsement; or
2. Available under the applicable Limits of Insurance shown in the Declarations,

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms and conditions of this policy remain unchanged.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

The waiver does not apply to any right to recover payments which the Minnesota Workers Compensation Reinsurance Association may have or pursue under M.S. 79.36.

Not applicable in Kentucky, New Hampshire and New Jersey.

Schedule

Where required by contract or written agreement prior to loss and allowed by law.

In the states of Connecticut, Florida & Nebraska, the premium charge is 1% of the total manual premium, subject to a minimum premium of $250 per policy.

In the state of New York, the premium charge is 2% of the total manual premium, subject to a minimum premium of $250 per policy.

In the state of North Carolina, the premium charge is 2% of the total manual premium, subject to a minimum premium of $100 per policy.

In the state of Virginia, the premium charge is 5% of the total manual premium, subject to a minimum premium of $250 per policy.

In the state of Louisiana, the premium charge is 2% of the total standard premium, subject to a minimum premium of $250 per policy.

In the state of Massachusetts, the premium charge is 1% of the total manual premium.

In the state of Wisconsin, the premium charge is 2% of the total manual premium, subject to a minimum premium of $50 per policy.

In the states of Alabama, Arizona, Colorado, Delaware, Georgia, Illinois, Indiana, Kansas, Maine, Michigan, Minnesota, Mississippi, Nevada, New Mexico, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, West Virginia and Vermont, the premium charge is 0% of the total manual premium, subject to a minimum premium of $0 per policy.

Issued by Employers Insurance Company of Wausau 15555

For attachment to Policy No. WCC-641-444792-028 Effective Date Premium $

Issued to Lloyd's Register Americas, Inc.

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Bedford Street Sewer Separation Project
Shaw Brothers Construction, Inc.
PO BOX 69, 341 Mosher Rd.
Gorham, ME
Purchase Order No.: 044992
Account No.
375-3100.500

City of Portland- Department of Public Works
Water Resources Engineering

Payment 16

Project Code	Amount
MM1310	$5,124,035.70

Payment Period **10/1/2019-10/31/2019**
Submitted: **12-Nov-19**
Processed: **20-Nov-19**

Sewer Separation Base Bid

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	Payment 16 QTY REQ	Payment 16 AMOUNT REQUESTED	Previous Amount PREV QTY	Previous Amount AMOUNT REQUESTED	Quantity to Date QTY TO DATE	Quantity to Date AMOUNT TO DATE	Quantity to Date % COMPLETE
201.24	Remove Tree and Stamp	EA	4.00	$650.00	$2,600.00	1.00	$650.00	2.00	$1,300.00	3.00	$1,950.00	75%
202.15	Remove Existing Manhole or Catch Basin	EA	6	$450.00	$2,700.00	1.00	$450.00	12.00	$5,400.00	13.00	$5,850.00	217%
202.20	Remove Bituminous Concrete Pavement	SY	20,970	$3.50	$73,395.00	2,009.53	$7,033.36	14,007.83	$49,027.41	16017.36	$56,060.76	76%
202.60	Remove Storm Drain or Sewer Pipe	LF	82	$30.00	$2,460.00	0.00	$0.00	46.00	$1,380.00	46.00	$1,380.00	56%
202.70	Remove Subsurface Cobblestones with Concrete Base	SY	2,740	$13.00	$35,620.00	140.42	$1,825.46	2,623.47	$34,105.11	2763.89	$35,930.57	101%
202.90	Remove Subsurface Rail Line	LF	920	$7.20	$6,624.00	-276.00	($1,987.20)	1,369.00	$9,856.80	1093.00	$7,869.60	119%
203.20	Common Excavation	CY	4,840	$19.50	$94,380.00	408.41	$7,964.00	5,865.77	$114,382.52	6274.18	$122,346.51	130%
203.25	Granular Borrow	CY	340	$25.00	$8,500.00	15.40	$385.00	1,452.27	$36,306.75	1467.67	$36,691.75	432%
203.28	Test Pits	VF	70	$86.50	$6,055.00	0.00	$0.00	145.30	$12,568.45	145.30	$12,568.45	208%
203.35	Crushed Stone (Overdepth)	CY	140	$35.00	$4,900.00	0.00	$0.00	6.29	$220.15	6.29	$220.15	4%
206.061	Structural Earth Excavation (Overdepth)	CY	140	$20.00	$2,800.00	0.00	$0.00	4.44	$88.80	4.44	$88.80	3%
206.07	Structural Rock Excavation	CY	1,620	$0.01	$16.20	0.00	$0.00	65.77	$0.66	65.77	$0.66	4%
304.10	Aggregate Subbase Course Type D	CY	6,010	$27.00	$162,270.00	93.90	$2,535.30	6,560.64	$177,137.28	6654.54	$179,672.58	111%
304.15	Aggregate Base Course Type B	CY	1,140	$36.00	$41,040.00	385.13	$13,864.68	1,099.87	$39,595.32	1485.00	$53,460.00	130%
312.10	Bituminous Driveway/Apron	SY	563	$49.00	$27,587.00	27.00	$1,323.00	651.75	$31,935.75	678.75	$33,258.75	121%
403.207	Hot Mix Asphalt 19mm	TON	2,280	$87.00	$198,360.00	924.31	$80,414.97	1,631.82	$141,968.34	2556.13	$222,383.31	112%
403.208	Hot Mix Asphalt 12.5mm	TON	2,440	$89.00	$217,160.00	272.93	$24,290.77	1,352.71	$120,391.19	1625.64	$144,681.96	67%
603.132	8 Inch PVC SDR35 Storm Drain/Sewer Pipe	LF	2,140	$95.90	$205,226.00	0.00	$0.00	2,272.50	$217,932.75	2272.50	$217,932.75	106%
603.142	10 Inch PVC SDR35 Storm Drain/Sewer Pipe	LF	1,150	$98.30	$113,045.00	58.50	$5,750.55	1,339.16	$131,639.43	1397.66	$137,389.98	122%
603.159	12 Inch PVC or HDPE Storm Drain Pipe	LF	1,150	$95.00	$109,250.00	45.50	$4,322.50	938.05	$89,114.75	983.55	$93,437.25	86%
603.179	18 Inch Diameter Storm Drain Pipe	LF	390	$140.00	$54,600.00	0.00	$0.00	492.00	$68,880.00	492.00	$68,880.00	126%
603.199	24 Inch Diameter Storm Drain Pipe	LF	1,870	$150.60	$281,622.00	0.00	$0.00	1,803.00	$271,531.80	1803.00	$271,531.80	96%
603.209	30 Inch Diameter PVC or HDPE Storm Draine Pipe	LF	765	$160.50	$122,782.50	0.00	$0.00	678.50	$108,899.25	678.50	$108,899.25	89%
603.219	36 Inch Diameter PVC or HDPE Storm Drain Pipe	LF	300	$160.00	$48,000.00	0.00	$0.00	297.50	$47,600.00	297.50	$47,600.00	99%
603.229	42 Inch Diameter PVC or HDPE Storm Drain Pipe	LF	320	$180.00	$57,600.00	0.00	$0.00	330.00	$59,400.00	330.00	$59,400.00	103%
603.239	48 Inch Diameter PVC or HDPE Storm Drain Pipe	LF	710	$227.50	$161,525.00	0.00	$0.00	708.00	$161,070.00	708.00	$161,070.00	100%
603.259	60 Inch Diameter PVC or HDPE Storm Drain Pipe	LF	220	$280.50	$61,710.00	0.00	$0.00	225.50	$63,252.75	225.50	$63,252.75	103%
603.829	42 Inch Diameter DIP, Class 250, Storm Drain Pipe	LF	90	$459.00	$41,310.00	0.00	$0.00	0.00	$0.00	0.00	$0.00	0%
603.91	30 Inch Diameter Check Valve	EA	1	$12,750.00	$12,750.00	0.00	$0.00	1.00	$12,750.00	1.00	$12,750.00	100%
603.93	42 Inch Diameter Check Valve	EA	2	$24,750.00	$49,500.00	0.00	$0.00	2.00	$49,500.00	2.00	$49,500.00	100%
604.131	4 Foot Diameter Catch Basin	EA	44	$3,800.00	$167,200.00	2.00	$7,600.00	38.50	$146,300.00	40.50	$153,900.00	92%
604.15	4 Foot Diameter Manhole	EA	21	$4,000.00	$84,000.00	1.50	$6,000.00	20.00	$80,000.00	21.50	$86,000.00	102%
604.153	5 Foot Diameter Manhole	EA	23	$6,045.00	$139,035.00	0.00	$0.00	15.00	$90,675.00	15.00	$90,675.00	65%
604.154	6 Foot Diameter Manhole	EA	7	$7,800.00	$54,600.00	0.00	$0.00	6.00	$46,800.00	6.00	$46,800.00	86%
604.156	8 Foot Diameter Manhole	EA	4	$15,000.00	$60,000.00	0.00	$0.00	8.00	$120,000.00	8.00	$120,000.00	200%
604.159	14 Foot x 5 Foot Vault Structure	EA	1	$33,125.00	$33,125.00	0.00	$0.00	1.00	$33,125.00	1.00	$33,125.00	100%
604.161	Modify Structure	EA	8	$1,500.00	$12,000.00	0.00	$0.00	26.00	$39,000.00	26.00	$39,000.00	325%
604.18	Adjusting Manhole or Structure to Grade	EA	7	$750.00	$5,250.00	0.00	$0.00	1.00	$750.00	1.00	$750.00	14%
608.08	Reinforced Concrete Sidewalk	SY	302	$89.00	$26,878.00	11.75	$1,045.75	341.26	$30,372.14	353.01	$31,417.89	117%
608.081	Reinforced Concrete Driveway	SY	77	$110.00	$8,470.00	0.00	$0.00	0.00	$0.00	0.00	$0.00	0%
608.15	Brick Sidewalk with Bituminous Base	SY	20	$115.00	$2,300.00	0.00	$0.00	43.50	$5,002.50	43.50	$5,002.50	218%
608.26	Curb Ram Detectable Warning Field	SF	12	$100.00	$1,200.00	0.00	$0.00	112.00	$11,200.00	112.00	$11,200.00	933%
609.15	Sloped Curb Type 1	LF	472	$35.00	$16,520.00	0.00	$0.00	300.00	$10,500.00	300.00	$10,500.00	64%
609.151	Sloped Curb Type 1 - Cir.	LF	58	$50.00	$2,900.00	0.00	$0.00	75.00	$3,750.00	75.00	$3,750.00	129%
609.38	Remove and Reset Granite Curb	LF	770	$28.00	$21,560.00	42.00	$1,176.00	821.92	$23,013.76	863.92	$24,189.76	112%
610.08	Plain Riprap	CY	456	$70.00	$31,920.00	0.00	$0.00	281.61	$19,712.70	281.61	$19,712.70	62%

614.14	Masonry Plug	EA	28	$450.00	$12,600.00	0.00	$0.00	46.00	$20,700.00	46.00	$20,700.00		164%
614.16	Flowable Concrete Fill	CY	30	$175.00	$5,250.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
615.072	Loam, Seed, and Mulch	SY	390	$10.00	$3,900.00	0.00	$0.00	98.72	$987.20	98.72	$987.20		25%
621.712	Harbacceous Perennial (No. 1 Count) Group A	EA	58	$25.00	$1,450.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
627.733	4 Inch White or Yellow Pavement Marking Line	LF	9,590	$0.30	$2,877.00	0.00	$0.00	7,058.00	$2,117.40	7058.00	$2,117.40		74%
627.744	6 Inch White or Yellow Pavement Marking Line	LF	3,820	$0.50	$1,910.00	0.00	$0.00	2,567.00	$1,283.50	2567.00	$1,283.50		67%
627.75	White or Yellow Pavement & Curb Marking	LF	2,530	$2.00	$5,060.00	0.00	$0.00	1,557.00	$3,114.00	1557.00	$3,114.00		62%
627.82	Directional Arrow & Bike Symbol	EA	44	$35.00	$1,540.00	0.00	$0.00	26.00	$910.00	26.00	$910.00		59%
629.05	Hand Labor, Straight Time	HR	40	$45.00	$1,800.00	0.00	$0.00	20.00	$900.00	20.00	$900.00		50%
629.06	Mason, Straight Time	HR	40	$45.00	$1,800.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
631.105	Air Tool and Compressor (incl. Operator)	HR	40	$50.00	$2,000.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
631.12	All Purpose Excavator (incl. Operator)	HR	40	$170.00	$6,800.00	0.00	$0.00	15.50	$2,635.00	15.50	$2,635.00		39%
631.121	Heavy Duty Excavator (incl. Operator)	HR	40	$210.00	$8,400.00	1.00	$210.00	3.00	$630.00	4.00	$840.00		10%
631.13	Bulldozer (incl. Operator)	HR	40	$125.00	$5,000.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
631.172	Truck - Large or Small (incl. Operator)	HR	40	$90.00	$3,600.00	0.00	$0.00	13.50	$1,215.00	13.50	$1,215.00		34%
631.22	Front End Loader (incl. Operator)	HR	40	$100.00	$4,000.00	0.00	$0.00	10.50	$1,050.00	10.50	$1,050.00		26%
631.36	Foreman, Straight Time	HR	40	$80.00	$3,200.00	0.00	$0.00	12.00	$960.00	12.00	$960.00		30%
632.043	10 Inch Inserta-Tee Section	EA	6	$500.00	$3,000.00	0.00	$0.00	9.00	$4,500.00	9.00	$4,500.00		150%
632.08	4"/6" x 8" WYE Section	EA	19	$200.00	$3,800.00	0.00	$0.00	30.00	$6,000.00	30.00	$6,000.00		158%
633.05	4"/6" Sewer Laterals	LF	919	$90.00	$82,710.00	28.50	$2,565.00	431.47	$38,832.30	459.97	$41,397.30		50%
637.071	Dust Control	LS	1	$5,000.00	$5,000.00	0.00	$0.00	1.00	$5,000.00	1.00	$5,000.00		100%
645.106	Demount and Reinstall Sign	LS	1	$2,500.00	$2,500.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
645.107	Furnish & Install New Reg, Warning, Conf. & Route Sig	LS	1	$2,500.00	$2,500.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
652.38	Flagger	EA	1	$113,750.00	$113,750.00	0.005	$568.75	0.99	$112,612.50	0.995	$113,181.25		100%
652.39	Work Zone Traffic Control	LS	1	$1,747,000.00	$1,747,000.00	0.005	$8,735.00	0.99	$1,729,530.00	0.995	$1,738,265.00		100%
654.08	Density Test	EA	43	$75.00	$3,225.00	10.00	$750.00	36.00	$2,700.00	46.00	$3,450.00		107%
656.75	Temporary Soil Erosion and Water Pollution Control	LS	1	$13,000.00	$13,000.00	0.05	$650.00	0.95	$12,350.00	1.00	$13,000.00		100%
670.06	NSBB-6-12 Nutrient Baffle Box	EA	1	$70,070.00	$70,070.00	0.00	$0.00	1.00	$70,070.00	1.00	$70,070.00		100%
670.1	NSBB-10-16 Nutrient Baffle Box	EA	1	$122,020.00	$122,020.00	0.00	$0.00	1.00	$122,020.00	1.00	$122,020.00		100%
900.401	Water Quality Swale 1	EA	1	$5,300.00	$5,300.00	0.00	$0.00	1.00	$5,300.00	1.00	$5,300.00		100%
900.402	Water Quality Swale 2	EA	1	$5,300.00	$5,300.00	0.00	$0.00	1.00	$5,300.00	1.00	$5,300.00		100%
900.403	Water Quality Swale 3	EA	1	$5,300.00	$5,300.00	0.00	$0.00	1.00	$5,300.00	1.00	$5,300.00		100%
900.404	Water Quality Swale 4	EA	1	$6,400.00	$6,400.00	0.00	$0.00	1.00	$6,400.00	1.00	$6,400.00		100%
900.405	Water Quality Swale 5	EA	1	$8,500.00	$8,500.00	0.00	$0.00	1.00	$8,500.00	1.00	$8,500.00		100%
900.406	Water Quality Swale 6	EA	1	$6,400.00	$6,400.00	0.00	$0.00	1.00	$6,400.00	1.00	$6,400.00		100%
901.501	Filtera 6 x 10	EA	1	$28,300.00	$28,300.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
901.502	Filtera 4 x 8	EA	1	$21,400.00	$21,400.00	0.00	$0.00	0.00	$0.00	0.00	$0.00		0%
999	Belmeade Outfall Completion Date	LS	1	-$75,000.00	-$75,000.00	1.00	($75,000.00)	0.00	$0.00	1.00	($75,000.00)		100%
999.1	Clerical Error on Proposal	LS	1	$28.00	$28.00	0.00	$0.00	1.00	$28.00	1.00	$28.00		100%
999.2	Thames Street Test Pits	LS	1	-	-	0.00	$0.00	1.00	$4,360.00	1.00	$4,360.00		100%
Sewer Separation Total					**$5,124,035.70**		**$103,122.88**		**$4,899,141.25**		**$5,002,264.13**		**98%**

Change Order #1 -DMH-4 RESET

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
CO # 1	DMH-4 Reset	LS	1.00	$18,318.00	$18,318.00	0.00	$0.00	1.00	$18,318.00	1.00	$18,318.00	100%
CO # 1 Total					**$18,318.00**		**$0.00**		**$18,318.00**		**$18,318.00**	**100%**

Change Order #2 -Over Excavation

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
CO # 2	Over Excavation	LS	1.00	$11,108.49	$11,108.49	0.00	$0.00	1.00	$11,108.49	1.00	$11,108.49	100%
CO # 2 Total					**$11,108.49**		**$0.00**		**$11,108.49**		**$11,108.49**	**100%**

Change Order #3 -SD-10 Duct Bank Conflict

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
CO # 3	SD-10 Duct Bank Conflict	LS	1.00	$37,102.50	$37,102.50	0.00	$0.00	1.00	$37,102.50	1.00	$37,102.50	100%
CO # 3 Total					**$37,102.50**		**$0.00**		**$37,102.50**		**$37,102.50**	**100%**

Change Order #4 -Tide Flex Valve Design Change

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
CO # 4	Tide Flex Valve Design Change	LS	1.00	$49,434.00	$49,434.00	0.00	$0.00	1.00	$49,434.00	1.00	$49,434.00	100%
CO # 4 Total					**$49,434.00**		**$0.00**		**$49,434.00**		**$49,434.00**	**100%**

Change Order #6 -Additional Forest Avenue Box Cut

Item No	Description	Unit	EST QTY	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
CO # 6	Additional Forest Avenue Box Cut	LS	1.00	$103,307.07	$103,307.07	0.93	$95,664.00	0.00	$0.00	0.93	$95,664.00	93%
CO # 6 Total					**$103,307.07**		**$95,664.00**		**$0.00**		**$95,664.00**	**93%**

	Total Value	Payment 16	Previous	To Date	
Project Totals	**$5,343,305.76**	**$198,786.88**	**$5,015,104.24**	**$5,213,891.12**	**98%**

Bedford Street Sewer Separation	$5,124,035.70
CO # 1- DMH-4 Reset	$18,318.00
CO # 2- Overexcavation	$11,108.49
CO # 3- SD 10-Duct Bank Confilct	$37,102.50
CO # 4-42" Tideflex Valve Design Change	$49,434.00
CO # 6-Additional Forest Avenue Box Cut	$103,307.07
Project Total	$5,343,305.76

TOTAL THIS ESTIMATE		$198,786.88
RETAINAGE (5%) - LINE ITEM 1 - MM1310		$9,939.34
***** PAY THIS ESTIMATE ****		$188,847.54

Purchase Order:	44992		
PAY THIS ESTIMATE	MM1310	LINE ITEM 1	$93,183.54
PAY THIS ESTIMATE	MM1310	LINE ITEM 2	$0.00
PAY THIS ESTIMATE	MM1310	LINE ITEM 3	$0.00
PAY THIS ESTIMATE	MM1310	LINE ITEM 4	$0.00
PAY THIS ESTIMATE	MM1310	LINE ITEM 5	$0.00
PAY THIS ESTIMATE	C20201	LINE ITEM 6	$95,664.00
		TOTAL PAYMENT	$188,847.54

PAID	
PAY REQUISITION 1	$472,209.57
PAY REQUISITION 2	$1,496.25
PAY REQUISITION 3	$440,819.66
PAY REQUISITION 4	$415,336.88
PAY REQUISITION 5	$961,662.18
PAY REQUISITION 6	$385,762.67
PAY REQUISITION 7	$142,942.70
PAY REQUISITION 8	$505,840.90
PAY REQUISITION 9	$149,947.14
PAY REQUISITION 10	$116,076.96
PAY REQUISITION 11	$147,979.79
PAY REQUISITION 12	$125,704.23
PAY REQUISITION 13	$262,824.34
PAY REQUISITION 14	$270,079.88
PAY REQUISITION 15	$365,665.89
PAY REQUISITION 16	$188,847.54
TOTAL PAID TO DATE	$4,953,196.56

5-Dec-19
Date

Brad A. Roland, P.E.
Senior Project Engineer
City of Portland Public Works

Project Engineer - Justin R, Pellerin, P.E.
City of Portland Public Works

Checked By - Tim Michaud
City Inspector- Wood.

Chris Dyer
Shaw Brothers, Project Manager

RETAINAGE	
PAY REQUISITION 1	$24,853.14
PAY REQUISITION 2	$78.75
PAY REQUISITION 3	$23,201.03
PAY REQUISITION 4	$21,859.84
PAY REQUISITION 5	$50,613.80
PAY REQUISITION 6	$20,303.30
PAY REQUISITION 7	$7,523.30
PAY REQUISITION 8	$26,623.21
PAY REQUISITION 9	$7,891.95
PAY REQUISITION 10	$6,109.31
PAY REQUISITION 11	$7,788.41
PAY REQUISITION 12	$6,616.01
PAY REQUISITION 13	$13,832.86
PAY REQUISITION 14	$14,214.73
PAY REQUISITION 15	$19,245.57
PAY REQUISITION 16	$9,939.34
TOTAL RETAINAGE TO DATE	$260,694.56

TOTAL PROJECT AMOUNT	$5,343,305.76
(-) TOTAL COST TO DATE	$5,213,891.12
BALANCE OF CONTRACT	$129,414.64

City of Portland - Department of Public Works - Water Resources

Preble, Kennebec, Somerset Sewer Separation Project

Payment 6

Sargent Corporation
378 Bennoch Road
Stillwater ME 04489

Purchase Order No.: 53199

Account No.	Project Code	Amount
37531000-40701	MM1311	$3,718,995.00
37531000-40701	C20519	$221,852.50

Payment Period:
Through: November 30, 2019
Submitted: December 12, 2019
Processed: December 14, 2019

Base Bid	SRF Vs Non						Pay Req 6		Req's. 1 thru 5 Previous Amount				
ITEM #		DESCRIPTION	UNIT	EST QTY	UNIT PRICE	ESTIMATED AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
201.23		Remove Single Tree and Stump	EA	3	$700.00	$2,100.00	0.0	$0.00	6.50	$4,550.00	6.50	$4,550.00	217%
202.15		Remove Existing Manhole or Catch Basin	EA	1	$650.00	$650.00	0.0	$0.00	2.00	$1,300.00	2.00	$1,300.00	200%
202.16		Remove Existing Pipe	LF	100	$28.00	$2,800.00	8.0	$224.00	310.00	$8,680.00	318.00	$8,904.00	318%
202.20		Remove Bituminous Concrete Pavement	SY	4,650	$5.00	$23,250.00	82.1	$410.55	4141.61	$20,708.05	4223.72	$21,118.60	91%
202.201	Non	Remove Bit Concrete Pavement - Non-SRF	SY	2,800	$5.00	$14,000.00	61.1	$305.55	580.56	$2,902.80	641.67	$3,208.35	23%
202.50		Remove Cobblestones (w/Concrete Base)	SY	4,650	$12.00	$55,800.00	82.1	$985.32	3827.27	$45,927.24	3909.38	$46,912.56	84%
202.501	Non	Remove Cobblestones (w/Concrete Base) - Non-SRF	SY	2,800	$12.00	$33,600.00	61.1	$733.32	580.56	$6,966.72	641.67	$7,700.04	23%
202.60		Remove Railroad Rails with Railroad Ties	SY	320	$36.00	$11,520.00	0.0	$0.00	159.50	$5,742.00	159.50	$5,742.00	50%
202.601	Non	Remove Railroad Rails with Railroad Ties - Non-SRF	SY	60	$36.00	$2,160.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
202.70		Remove Guardrail and Posts	LF	180	$14.00	$2,520.00	0.0	$0.00	199.00	$2,786.00	199.00	$2,786.00	111%
203.20		Common Excavation	CY	100	$26.00	$2,600.00	0.0	$0.00	33.75	$877.50	33.75	$877.50	34%
203.201	Non	Common Excavation - Non-SRF	CY	1,450	$26.00	$37,700.00	248.1	$6,451.38	1611.12	$41,889.12	1859.25	$48,340.50	128%
203.25		Granular Borrow	CY	730	$44.00	$32,120.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
203.28		Test Pit Excavation	VF	60	$250.00	$15,000.00	0.0	$0.00	123.40	$30,850.00	123.40	$30,850.00	206%
203.31		2-inch Crushed Stone (overdepth)	CY	730	$54.00	$39,420.00	1.1	$59.94	263.38	$14,222.52	264.49	$14,282.46	36%
206.061		Earth Excavation, Below Grade (overdepth)	CY	730	$40.00	$29,200.00	0.0	$0.00	255.11	$10,204.40	255.11	$10,204.40	35%
206.07		Structural Rock Excavation - Drainage/Minor Structures	CY	730	$1.00	$730.00	0.0	$0.00	64.35	$64.35	64.35	$64.35	9%
304.09		Aggregate Base Course - Type B	CY	550	$60.00	$33,000.00	149.9	$8,994.00	281.74	$16,904.40	431.64	$25,898.40	78%
304.091	Non	Aggregate Base Course - Type B - Non-SRF	CY	250	$60.00	$15,000.00	11.8	$705.00	229.24	$13,754.40	240.99	$14,459.40	96%
304.10		Aggregate Base Course - Type D	CY	2,000	$46.00	$92,000.00	494.5	$22,747.00	1493.20	$68,687.20	1987.70	$91,434.20	99%
304.101	Non	Aggregate Base Course - Type D - Non-SRF	Cy	1,200	$46.00	$55,200.00	297.2	$13,669.36	827.02	$38,042.92	1124.18	$51,712.28	94%
403.207		Hot Mix Asphalt 19.0 mm Base	T	710	$140.00	$99,400.00	205.4	$28,751.80	614.61	$86,045.40	819.98	$114,797.20	115%
403.2071	Non	Hot Mix Asphalt 19.0 mm Base - Non-SRF	T	440	$140.00	$61,600.00	102.7	$14,376.60	152.71	$21,379.40	255.40	$35,756.00	58%
403.208		Hot Mix Asphalt 12.5 mm HMA Surface	T	500	$153.00	$76,500.00	0.0	$0.00	104.00	$15,912.00	104.00	$15,912.00	21%
403.2081	Non	Hot Mix Asphalt 12.5 mm HMA Surface - Non-SRF	T	290	$153.00	$44,370.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
603.133		12-inch Sanitary Sewer Pipe	LF	185	$210.00	$38,850.00	27.5	$5,775.00	115.40	$24,234.00	142.90	$30,009.00	77%
603.135		18-inch Sanitary Sewer Pipe	LF	1,310	$260.00	$340,600.00	35.0	$9,100.00	1056.80	$274,768.00	1091.80	$283,868.00	83%
603.1351		21-inch Sanitary Sewer Pipe	LF	285	$262.00	$74,670.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
603.136		24-inch Sanitary Sewer Pipe	LF	335	$274.00	$91,790.00	0.0	$0.00	264.80	$72,555.20	264.80	$72,555.20	79%
603.137		30-inch Sanitary Sewer Pipe	LF	55	$330.00	$18,150.00	0.0	$0.00	114.00	$37,620.00	114.00	$37,620.00	207%
603.153		10-inch Storm Drain Pipe	LF	730	$120.00	$87,600.00	129.5	$15,540.00	244.61	$29,353.20	374.11	$44,893.20	51%
603.1531		10-inch Ductile Iron Storm Drain Pipe	LF	50	$140.00	$7,000.00	0.0	$0.00	21.70	$3,038.00	21.70	$3,038.00	43%
603.159		12-inch Storm Drain Pipe	LF	600	$130.00	$78,000.00	66.0	$8,580.00	475.40	$61,802.00	541.40	$70,382.00	90%
603.1591		12-inch Ductile Iron Storm Drain Pipe	LF	60	$160.00	$9,600.00	0.0	$0.00	60.00	$9,600.00	60.00	$9,600.00	100%
603.179		18-inch Storm Drain Pipe	LF	500	$150.00	$75,000.00	15.2	$2,280.00	310.10	$46,515.00	325.30	$48,795.00	65%
603.199		24-inch Storm Drain Pipe	LF	760	$168.00	$127,680.00	0.0	$0.00	474.00	$79,632.00	474.00	$79,632.00	62%
603.209		30-inch Storm Drain Pipe	LF	400	$260.00	$104,000.00	0.0	$0.00	374.00	$97,240.00	374.00	$97,240.00	94%

603.219		36-inch Storm Drain Pipe	LF	305	$310.00	$94,550.00	0.0	$0.00	305.00	$94,550.00	305.00	$94,550.00	100%
603.2191		36-inch Ductile Iron Storm Drain	LF	220	$550.00	$121,000.00	0.0	$0.00	230.50	$126,775.00	230.50	$126,775.00	105%
604.13		4-foot Diameter Catch Basin	EA	57	$5,250.00	$299,250.00	0.0	$0.00	22.00	$115,500.00	22.00	$115,500.00	39%
604.15		4-foot Diameter Manhole	EA	47	$6,000.00	$282,000.00	4.0	$24,000.00	32.00	$192,000.00	36.00	$216,000.00	77%
604.151		6-foot Diameter Manhole	EA	8	$9,000.00	$72,000.00	0.0	$0.00	8.00	$72,000.00	8.00	$72,000.00	100%
604.171		Alter Existing Structure	EA	2	$1,500.00	$3,000.00	10.0	$15,000.00	23.00	$34,500.00	33.00	$49,500.00	1650%
604.18		Adjust Manhole or Catch Basin to Grade	EA	17	$500.00	$8,500.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
604.19		Core Inlet/Outlet Pipe Hole in CB or MH	EA	5	$800.00	$4,000.00	0.0	$0.00	1.00	$800.00	1.00	$800.00	20%
605.09		6-inch Underdrain Type B	LF	130	$42.00	$5,460.00	0.0	$0.00	54.00	$2,268.00	54.00	$2,268.00	42%
608.08		Reinforced Concrete Sidewalk	SY	120	$160.00	$19,200.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
608.09		Reinforced Concrete Driveway	SY	45	$180.00	$8,100.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
608.15		Brick Sidewalk with Bituminous Base	SY	280	$190.00	$53,200.00	0.0	$0.00	3.11	$590.90	3.11	$590.90	1%
608.16		Brick Driveway with Bituminous Base	SY	10	$190.00	$1,900.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
608.25		Hot Bituminous Sidewalk or Median	SY	310	$30.00	$9,300.00	0.0	$0.00	11.90	$357.00	11.90	$357.00	4%
608.26		Hot Bituminous Driveway	SY	40	$42.00	$1,680.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
608.27		Curb Ramp Detectable Warning Field	SF	40	$120.00	$4,800.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.11		Type 1 Vertical Curb	LF	450	$44.00	$19,800.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.12		Type 1 Vertical Curb - Circular	LF	20	$55.00	$1,100.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.234		Terminal Curb Type 1 - 4-foot	EA	2	$450.00	$900.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.237		Terminal Curb Type 1 - 7-foot	EA	2	$340.00	$680.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.2371		Terminal Curb Type 1 - 7-foot - Circular	EA	2	$400.00	$800.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
609.38		Reset Curb Type 1	LF	1,350	$24.00	$32,400.00	0.0	$0.00	164.00	$3,936.00	164.00	$3,936.00	12%
614.14		Masonry Plug 8-inch or Greater	EA	30	$200.00	$6,000.00	0.0	$0.00	25.00	$5,000.00	25.00	$5,000.00	83%
614.16		Flowable Concrete Fill	CY	22	$350.00	$7,700.00	0.0	$0.00	1.00	$350.00	1.00	$350.00	5%
615.071		Loam, Seed, and Mulch	SY	820	$12.00	$9,840.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
627.733	Non	4" Painted Pavement Marking Line - Non-SRF	LF	2,150	$0.75	$1,612.50	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
627.744	Non	6" Painted Pavement Marking Line - Non-SRF	LF	470	$1.00	$470.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
627.75		White or Yellow Pavement and Curb Marking - Non-SRF	SF	2,700	$3.00	$8,100.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
629.05		Hand Labor, Straight Time	HR	40	$38.00	$1,520.00	1.0	$38.00	16.50	$627.00	17.50	$665.00	44%
629.06		Mason, Straight Time	HR	40	$100.00	$4,000.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
631.12		All Purpose Excavator (incl. Operator)	HR	40	$145.00	$5,800.00	1.0	$145.00	9.50	$1,377.50	10.50	$1,522.50	26%
631.13		Bulldozer (incl. Operator)	HR	40	$165.00	$6,600.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
631.15		Roller Earth Base CS (incl. Operator)	HR	40	$85.00	$3,400.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
631.172		Truck-Large (incl. Operator)	HR	40	$105.00	$4,200.00	1.0	$105.00	10.50	$1,102.50	11.50	$1,207.50	29%
631.22		Front-end Loader (incl. Operator)	HR	40	$140.00	$5,600.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
631.36		Foreman, Straight Time	HR	40	$60.00	$2,400.00	1.0	$60.00	15.00	$900.00	16.00	$960.00	40%
632.04		4-inch - 6-inch Wye Pipe Connection	EA	50	$1,150.00	$57,500.00	1.0	$1,150.00	19.00	$21,850.00	20.00	$23,000.00	40%
632.07		10-inch Inserta-Tee Connection	EA	1	$800.00	$800.00	0.0	$0.00	1.00	$800.00	1.00	$800.00	100%
632.08		12-inch Inserta-Tee Connection	EA	1	$1,200.00	$1,200.00	0.0	$0.00	1.00	$1,200.00	1.00	$1,200.00	100%
633.04		4-inch - 6-inch Sanitary Sewer and Storm Drain Laterals	LF	1,650	$90.00	$148,500.00	13.2	$1,188.00	204.97	$18,447.30	218.17	$19,635.30	13%
645.251	Non	Roadside Guide Signs Type 1 - Non-SRF	SF	7	$140.00	$980.00	0.0	$0.00	15.00	$2,100.00	15.00	$2,100.00	214%
652.312		Type III Barricade	EA	20	$300.00	$6,000.00	0.0	$0.00	6.00	$1,800.00	6.00	$1,800.00	30%
652.32		Drum	EA	50	$110.00	$5,500.00	0.0	$0.00	4.00	$440.00	4.00	$440.00	8%
652.34		Cone	EA	50	$25.00	$1,250.00	0.0	$0.00	75.00	$1,875.00	75.00	$1,875.00	150%
652.35		Construction Signs	EA	650	$100.00	$65,000.00	0.0	$0.00	512.00	$51,200.00	512.00	$51,200.00	79%
652.361		Maintenance of Traffic Control Devices	LS	1	$368,000.00	$368,000.00	0.1	$36,800.00	0.65	$239,200.00	0.75	$276,000.00	75%
652.38		Flaggers	HR	850	$45.00	$38,250.00	672.3	$30,251.25	2863.75	$128,868.75	3536.00	$159,120.00	416%
652.41		Portable Changeable Message Sign	EA	4	$8,000.00	$32,000.00	0.0	$0.00	3.00	$24,000.00	3.00	$24,000.00	75%
654.08		Density Test	EA	45	$125.00	$5,625.00	9.0	$1,125.00	34.00	$4,250.00	43.00	$5,375.00	96%
656.75		Temporary Soil Erosion and Water Pollution Control/Dust C	LS	1	$88,000.00	$88,000.00	0.1	$8,800.00	0.65	$57,200.00	0.75	$66,000.00	75%

659.10		Mobilization	LS	1	$150,000.00	$150,000.00	0.0	$0.00	1.00	$150,000.00	1.00	$150,000.00	100%
824.34		2-Inch Water Offset	EA	1	$1,000.00	$1,000.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
824.34		6-Inch Water Offset	EA	1	$3,200.00	$3,200.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
901.01		12-inch Inline Check Valve	EA	2	$11,000.00	$22,000.00	0.0	$0.00	0.00	$0.00	0.00	$0.00	0%
		SRF Base Bid Subtotal				$3,674,155.00		$222,109.86		$2,423,583.41		$2,645,693.27	72%
		NON SRF Base Bid Subtotal				$266,692.50		$36,241.21		$127,035.36		$163,276.57	61%
		Project Base Bid Total				$3,940,847.50							
		Contract Admendment No 1 - SRF eligble	LS	1	$31,178.25	$31,178.25	0.0	$0.00	1.00	$31,178.25	1.00	$31,178.25	100%
		Contract Admendment No 2 - SRF eligble	LS	1	$61,006.00	$61,006.00	0.0	$0.00	1.00	$61,006.00	1.00	$61,006.00	100%
		Contract Admendment No 3 - SRF Ineligble	LS	1	$17,941.00	$17,941.00	0.0	$0.00	1.00	$17,941.00	1.00	$17,941.00	100%
		PROJECT TOTAL				$4,050,972.75		$258,351.07		$2,660,744.02		$2,919,095.09	72%

BASE BID - SRF ELIGIBLE	$3,674,155.00
BASE BID - NON-SRF	$266,692.50
Contract Admendment No 1 - SRF eligble	$31,178.25
Contract Admendment No 2 - SRF eligble	$61,006.00
Contract Admendment No 3 - SRF Ineligble	$17,941.00
PROJECT TOTAL	$4,050,972.75

		Pay Req 6
TOTAL THIS ESTIMATE		$258,351.07
SRF RETAINAGE (5%)		$11,105.49
NON SRF RETAINAGE (5%)	→	$1,812.06
RELEASE OF RETAINAGE		
***** PAY THIS ESTIMATE ****		$245,433.52

Purchase Order No.	53199		
PAY THIS ESTIMATE -	Line Item 1	→	$0.00
PAY THIS ESTIMATE - MM1311 - Contract Admendment 1	Line Item 2	→	
PAY THIS ESTIMATE - MM1311	Line Item 3	→	$211,004.37
PAY THIS ESTIMATE - C20519	Line Item 4		$34,429.15
PAY THIS ESTIMATE - MM1311 - Contract Admendment 2	Line Item 5	→	$0.00
PAY THIS ESTIMATE - C20519 - Contract Admendment 3	Line Item 6	→	$0.00
	TOTAL PAYMENT		$245,433.52

PAID	
PAY REQUISITION 1	$702,468.83
PAY REQUISITION 2	$663,424.53
PAY REQUISITION 3	$442,465.13
PAY REQUISITION 4	$434,030.74
PAY REQUISITION 5	$285,317.59
PAY REQUISITION 6	$245,433.52
TOTAL PAID TO DATE	$2,773,140.34

RETAINAGE	
PAY REQUISITION 1 SRF	$36,867.04
PAY REQUISTION 1 NON SRF	$105.00
PAY REQUISITION 2 SRF	$33,669.29
PAY REQUISTION 2 NON SRF	$1,247.79
PAY REQUISITION 3	$ 23,090.42
PAY REQUISTION 3 NON SRF	$197.22

PAY REQUISITION 4	$19,507.20
PAY REQUISTION 4 NON SRF	$3,336.53
PAY REQUISITION 5	$12,654.43
PAY REQUISTION 5 NON SRF	$2,362.28
PAY REQUISITION 6	$11,105.49
PAY REQUISTION 6 NON SRF	$1,812.06
TOTAL RETAINAGE TO DATE	$145,954.75

TOTAL PROJECT AMOUNT	$4,050,972.75
(-) TOTAL COST TO DATE	$2,919,095.09
BALANCE OF CONTRACT	$1,131,877.66

PERCENTAGE PROJECT COMPLETE: FINANCIAL

SRF ELIGIBILE ——> 48% From % Complete To Date

NON SRF ——> 12%

PERCENTAGE PROJECT COMPLETE: TIME ——> 32% See Below

Authorization Given: April 30, 2019

Original Due Date: June 30, 2020

Revised Due Date after CO #1 July 7, 2020

Revised Due Date after CO #2 July 17, 2020

No time change CO-3

work days	426
June - days work req 1	20
July - days work req 2	25
August - days work req 3	24
September - days work req 4	24
October - days work req 5	25
November - days work req 6	19

12/19/2019

Date

Bradley Roland

Senior Project Engineer - Bradley A. Roland, P.E.
Water Resources

Project Engineer - Gerard T Remsen III, P.E., CME
Water Resources

Matt A. S 12/19/19

Checked By - Matt Scherer
JT Consulting

12-19-19

Glenn Adams P.E.
Sargent Corporation

City of Portland - Department of Public Works - Water Resources

Diamond Tide Gate Project

Payment 1

R.E. Coleman, Inc.
126 Industrial Way
Portland, ME 04103-1082
207-797-3779

Purchase Order No.: 52100

Account No.	Project Code	Amount
370-3100-500.70-10	C15501	$600,983.00

Payment Period:
Through October 31, 2019
Submitted: November 6, 2019
Processed: November 12, 2019
Revised: November 25, 2019

Base Bid			EST	UNIT	ESTIMATED	Pay Req 1		Previous Amount				
ITEM #	DESCRIPTION	UNIT	QTY	PRICE	AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
203.20	Common Excavation*	CY	100	$28.00	$2,800.00	145.00	$4,060.00	0.00	$0.00	145.00	$4,060.00	145%
203.21	Rock Excavation*	CY	10	$325.00	$3,250.00		$0.00	0.00	$0.00	0.00	$0.00	0%
203.2332	Offsite Disposal of Gr 1 & 3 Soils	LS	1	$19,500.00	$19,500.00		$0.00	0.00	$0.00	0.00	$0.00	0%
203.2333	Offsite Disposal of Gr 2 Soils*	TON	5	$320.00	$1,600.00		$0.00	0.00	$0.00	0.00	$0.00	0%
203.24	Common Borrow*	CY	50	$28.00	$1,400.00		$0.00	0.00	$0.00	0.00	$0.00	0%
203.28	Test Pit Excavation*	VF	25	$135.00	$3,375.00	22.0	$2,970.00	0.00	$0.00	22.00	$2,970.00	88%
203.31	Crushed Stone (Overdepth)*	CY	50	$65.00	$3,250.00	8.92	$579.80	0.00	$0.00	8.92	$579.80	18%
206.061	Struct Earth Exc (Overdepth)*	CY	150	$40.00	$6,000.00	20.31	$812.40	0.00	$0.00	20.31	$812.40	14%
206.07	Structural Rock Excavation*	CY	5	$450.00	$2,250.00		$0.00	0.00	$0.00	0.00	$0.00	0%
304.09	Agg Base - Crushed, Type "B"*	CY	25	$52.00	$1,300.00	19.63	$1,020.76	0.00	$0.00	19.63	$1,020.76	79%
304.10	Agg Subbase- Gravel, Type "D"*	CY	50	$34.00	$1,700.00	117.72	$4,002.48	0.00	$0.00	117.72	$4,002.48	235%
403.207	Hot Bit Pavement 19.0 mm	TON	10	$220.00	$2,200.00	53.96	$11,871.20	0.00	$0.00	53.96	$11,871.20	540%
403.208	Hot Bit Pavement 12.5 mm	TON	15	$240.00	$3,600.00		$0.00	0.00	$0.00	0.00	$0.00	0%
534.73	Precast Check Valve Vault Structure (9'x12')	EA	1	$218,758.00	$218,758.00		$0.00	0.00	$0.00	0.00	$0.00	0%
603.87	12 " Dia Storm Drain Pipe	LF	5	$690.00	$3,450.00	6.00	$4,140.00	0.00	$0.00	6.00	$4,140.00	120%
603.88	12 " Dia Sewer Pipe	LF	5	$740.00	$3,700.00	5.00	$3,700.00	0.00	$0.00	5.00	$3,700.00	100%
603.91	18 " Dia Sewer Pipe with 24" Casing Pipe	LF	15	$800.00	$12,000.00	18.00	$14,400.00	0.00	$0.00	18.00	$14,400.00	120%
603.92	24 " Dia Storm Drain Pipe	LF	5	$870.00	$4,350.00	16.00	$13,920.00	0.00	$0.00	16.00	$13,920.00	320%
603.93	30 " Dia Storm Drain Pipe	LF	24	$950.00	$22,800.00	19.00	$18,050.00	0.00	$0.00	19.00	$18,050.00	79%
603.100	66 " Dia Storm Drain Pipe	LF	10	$2,000.00	$20,000.00		$0.00	0.00	$0.00	0.00	$0.00	0%
603.101	72" Diameter Storm Drain Pipe (All	LF	15	$2,000.00	$30,000.00		$0.00	0.00	$0.00	0.00	$0.00	0%
604.132	5 ' Diameter Catch Basin, Type "E"	EA	1	$18,000.00	$18,000.00	0.8	$14,400.00	0.00	$0.00	0.80	$14,400.00	80%
604.150	4 ' Diameter Sewer Manhole	EA	1	$7,500.00	$7,500.00	1.0	$7,500.00	0.00	$0.00	1.00	$7,500.00	100%
604.155	6 ' Diameter Drain Manhole	EA	1	$28,000.00	$28,000.00	0.8	$22,400.00	0.00	$0.00	0.80	$22,400.00	80%
604.159	9x9 ' Square Drain Manhole	EA	1	$40,000.00	$40,000.00		$0.00	0.00	$0.00	0.00	$0.00	0%
604.181	Replace Ex MH Frame/Cover	EA	1	$1,250.00	$1,250.00	2.0	$2,500.00	0.00	$0.00	2.00	$2,500.00	200%
609.34	Granite Curb, Type 5 Remove&Reset	LF	50	$35.00	$1,750.00		$0.00	0.00	$0.00	0.00	$0.00	0%
613.139	Erosion Control Blanket	EA	1	$2,800.00	$2,800.00		$0.00	0.00	$0.00	0.00	$0.00	0%
615.071	Loam, Seed and Mulch	LS	1	$9,650.00	$9,650.00		$0.00	0.00	$0.00	0.00	$0.00	0%
	Base Bid Subtotal				$477,933.00		$126,326.64		$0.00		$126,326.64	

Base Bid						Pay Req 1		Previous Amount				
ITEM #	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	EST AMT	QTY REQ	AMOUNT REQUESTED	PREV QTY	AMOUNT REQUESTED	QTY TO DATE	AMOUNT TO DATE	% COMPLETE
629.05	Hand Labor, Straight Time*	HR	1	$45.00	$45.00		$0.00	0.0	$0.00	0.0	$0.00	0%
629.06	Mason, Straight Time*	HR	1	$65.00	$65.00		$0.00	0.0	$0.00	0.0	$0.00	0%
631.105	Air Tool and Compressor, Including Operator*	HR	1	$120.00	$120.00		$0.00	0.0	$0.00	0.0	$0.00	0%
631.12	All-Purpose Excavator, Including Operator*	HR	1	$180.00	$180.00		$0.00	0.0	$0.00	0.0	$0.00	0%
631.171	Truck, Small, Including Operator*	HR	1	$65.00	$65.00		$0.00	0.0	$0.00	0.0	$0.00	0%
631.22	Front End Loader, Including Operator*	HR	1	$120.00	$120.00		$0.00	0.0	$0.00	0.0	$0.00	0%
631.36	Foreman, Straight Time*	HR	1	$55.00	$55.00		$0.00	0.0	$0.00	0.0	$0.00	0%
637.071	Dust Control	LS	1	$5,000.00	$5,000.00	0.25	$1,250.00	0.0	$0.00	0.3	$1,250.00	25%
646.10	72" Inline Check Valve	EA	1	$80,000.00	$80,000.00	0.8	$64,000.00	0.0	$0.00	0.8	$64,000.00	80%
652.39	Work Zone Traffic Control	LS	1	$15,000.00	$15,000.00	0.25	$3,750.00	0.0	$0.00	0.3	$3,750.00	25%
654.08	Trench Density Tests*	EA	10	$120.00	$1,200.00		$0.00	0.0	$0.00	0.0	$0.00	0%
654.09	Roadway Density Tests*	EA	10	$120.00	$1,200.00		$0.00	0.0	$0.00	0.0	$0.00	0%
656.75	Temporary Soil Erosion and Water Pollution Control	LS	1	$20,000.00	$20,000.00	0.25	$5,000.00	0.0	$0.00	0.3	$5,000.00	25%
	Project Base Bid Total				$600,983.00		$200,326.64		$0.00		$200,326.64	
	Project Total				$600,983.00		$200,326.64		$0.00		$200,326.64	33%

BASE BID	$600,983.00	
PROJECT TOTAL	$600,983.00	
TOTAL THIS ESTIMATE	→	$200,326.64
RETAINAGE (5%) - LINE ITEM 1 - C15501	→	$10,016.00
***** PAY THIS ESTIMATE ****		$190,310.64

Purchase Order No.: 52100

PAY THIS ESTIMATE - C15501	LINE ITEM 1	→	$190,310.64
	TOTAL PAYMENT		$190,310.64

PAID	
PAY REQUISITION 1	$190,310.64
PAY REQUISITION 2	
PAY REQUISITION 3	
PAY REQUISITION 4	
PAY REQUISITION 5	
TOTAL PAID TO DATE	$190,310.64
RETAINAGE	
PAY REQUISITION 1	$10,016.00
PAY REQUISITION 2	
PAY REQUISITION 3	
PAY REQUISITION 4	
PAY REQUISITION 5	
TOTAL RETAINAGE TO DATE	$10,016.00

TOTAL PROJECT AMOUNT	$600,983.00
(-) TOTAL COST TO DATE	$200,326.64
BALANCE OF CONTRACT	$400,656.36

2019-11-26
Date

Bradley A. Roland, P.E.
Senior Project Engineer

Craig Sloan
Associate Engineer

Rodney Coleman/ Bill Bradshaw
R.E. Coleman, Inc.

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
PRECISION TRENCHLESS, LLC

THIS AGREEMENT is entered into this 5th day of September 2019, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the "**CITY**"), and **PRECISION TRENCHLESS, LLC,** a New York corporation with a mailing address of 1710 Erie Boulevard, Schenectady, New York 12308 (hereinafter the "**CONTRACTOR**").

W I T N E S S E T H:

WHEREAS, the **CITY** is in need of sewer pipe rehabilitation and did advertise a Request for Applications #19100 entitled ""On-Call" Trenchless Technology Services," dated June 7, 2019 as amended by Addendum No. 1 dated June 21, 2019, (hereinafter, collectively, the "Request for Applications"), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the **CONTRACTOR** has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated June 20, 2019, (hereinafter, the "Proposal"), a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY did award the bid to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CONTRACTOR** will furnish the materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request for Applications issued to the Contractors, and also in accordance with the **CONTRACTOR's** Proposal.

The restatement in this document of any term of the Request for Applications or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between Request for Applications or the Proposal and this document, then this document shall govern; and the Request for Applications shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONTRACTOR covenants and agrees that all Work performed and furnished hereunder shall be free from all defects, and that all Work shall be performed in a good workmanlike manner. Unless a longer warranty period is specified in the Exhibits hereto, all Work provided shall be warranted by the CONTRACTOR for one (1) full year from the date of completion of all Work hereunder and acceptance thereof by the CITY. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain:

- Occurrence based Commercial General Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence-based Automobile Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence based Pollution Liability Insurance coverage in amounts of not less than Two Million Dollars ($2,000,000.00) per occurrence;
- Workers' Compensation Insurance coverage to the extent required by law, which shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees;

With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. The Workers' Compensation insurance shall include an endorsement waiving all rights of

subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions (not to exceed $10,000.00 without prior written approval of Corporation Counsel). CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement. If the CONTRACTOR maintains broader coverage and/or higher limits than the minimum shown above, the CITY requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONTRACTOR. (*In the event that the Contractor requires access to the City's network or if the Contractor will be accessing or storing any sensitive City data, the City may also require Contractor to carry cyber liability insurance).*

4. [Intentionally omitted.]

5. To the fullest extent permitted by law, the CONTRACTOR shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONTRACTOR, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY which otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

6. Prior to any payment, the CITY reserves the right to require Waivers of Lien for materials and labor from the CONTRACTOR and its subcontractors and suppliers guaranteeing One Hundred Percent (100%) performance, free and clear from all liens and encumbrances. Any mechanic's lien or any other lien which may be filed against the premises which are the subject of this Agreement by reason of the Work described herein shall be defended (by counsel reasonably acceptable to the CITY) and promptly discharged by the CONTRACTOR at its own expense. The CITY may require the CONTRACTOR to provide a bond satisfactory to the CITY to indemnify it against any lien and as a substitution in place of a lien. If the CONTRACTOR should fail either to defend the CITY against the lien or to discharge it, then the CITY may do so at the CONTRACTOR's expense. In the event of such an undertaking by the CITY, the CONTRACTOR will promptly reimburse the CITY for all its costs and expenses in so doing, including, but not limited to, reimbursement of the CITY's reasonable counsel fees, as well as costs which may be incurred by it in substituting a bond in place of a lien.

CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

7. The CONTRACTOR shall perform the work to the satisfaction of the responsible CITY official who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. CITY inspectors will have the authority to stop work in progress if such work is being done contrary to the plans, specifications or engineering practice. CONTRACTOR acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

8. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed CITY contract to the CONTRACTOR, which will commence work upon receipt. The term of this Agreement shall be for two (2) years following execution. Upon mutual agreement, this agreement may be extended for one year.

9. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director of the Department of Public Works or his or her designee (hereinafter, the "Director") will be final and binding.

10. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONTRACTOR according to the prices set forth in the Proposal.

11. The CITY shall have the right to retain ten percent (10 %) of each invoice amount as retainage until the Work is completed and accepted by the CITY.

12. The CONTRACTOR shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONTRACTOR not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director.

13. Upon the CITY's determination that CONTRACTOR is in default with regard to a material term of this Agreement, and upon CONTRACTOR's failure to cure such alleged default within three (3) working days from receipt of written notice by the CITY, the CITY may terminate this Agreement for cause. In the event of such termination, the CONTRACTOR shall not be entitled to any further payment for uncompleted or nonconforming work from the date of receipt of said notice.

14. The CITY shall have the right to terminate this Agreement at any time for its convenience upon prior written notice to the CONTRACTOR. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONTRACTOR for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such notice.

15. Out of concern for the public, CITY employees and the CONTRACTOR's employees, all work performed by the CONTRACTOR shall be in conformance with pertinent OSHA, local, state and federal government regulations.

16. CONTRACTOR agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONTRACTOR specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONTRACTOR where appropriate.

17. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

18. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONTRACTOR.

19. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

20. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

21. CONTRACTOR warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform their respective obligations under this Agreement, and that the person signing this Agreement on behalf of CONTRACTOR has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, **PRECISION TRENCHLESS, LLC** has caused this Agreement to be signed and sealed by Mara Kilburn its President, the day and date first above written.

WITNESS:

Sonia Bean

CITY OF PORTLAND

By: Jon P. Jennings
Jon P. Jennings
Its City Manager

WITNESS:

Scott Adams

PRECISION TRENCHLESS, LLC

By:
Name: Mara Kilburn
Its: President

Approved as to form:

City Corporation Counsel's Office

Approved as to funds:

City Finance Director

EXHIBIT A

CITY OF PORTLAND, MAINE

DEPARTMENT OF PUBLIC WORKS

"ON-CALL" Trenchless Technology Services
Bid #19100

Request for Applications

The City of Portland, Maine is accepting applications from contractors to provide "On-Call" Trenchless Technology Services, as described herein. The City will accept all applications, submitted on the attached forms, until 3:00 p.m., Tuesday, June 25, 2019. These may be hand delivered or mailed to Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, Maine 04101. The envelope shall be clearly marked "On-Call Trenchless Technology Services".

All applicants are advised that the City makes no guarantee as to the amount of work to be generated by this agreement. The City will contract, at its option, with multiple firms. Contractors will be called, based on the City's specific needs and based on the amount of equipment, crews and their respective prices stated in the application. The length of the contract will be for a year from the date of its signing through.

The City reserves the right to verify applicants' qualifications, capability to perform, availability, past performance record and to verify that the applicant is current in its obligations to the City. The City further reserves the right not to award contracts based on any negative findings to the above and/or failure to promptly sign and return the contract document with all required insurance certificates as instructed. The successful applicant shall have ten calendar days to sign the contract after notification by the Corporation Counsel's Office that it is ready for signature, otherwise his application may lapse at the election of the City.

All applications shall remain open to acceptance for ninety days after they have been opened. Late applications, or those without required signatures or those faxed or those submitted electronically shall not be accepted. You are only required to submit one (1) copy of your bid. Please also submit the most recent copy of your firm's W-9.

All questions must be submitted in writing to the Purchasing Office and be received no later than five working days prior to the scheduled opening date - these may be mailed, hand delivered faxed to 207-874-8652, or e-mail jrl@portlandmaine.gov. The Purchasing Office will be the only office issuing any changes to this Invitation. All changes (addenda) will be in writing and will be sent to registered application holders. The City shall not be responsible for any oral interpretation given by other City personnel or others.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Invitation from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this bid.

The Awarded Contractor will procure and maintain Automobile Insurance and General Public Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the General Liability and Automobile Liability Insurance, The Awarded Contractor shall name the City as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available under the Maine Tort Claims Act, other Maine statutory law, judicial precedent or common law. With respect to the Liability Insurance, The Awarded Contractor will provide the City a certificate of insurance evidencing such coverage, in this way: certificate must say either: A) "the policy has been endorsed to name the City of Portland as an Additional Insured" and a copy of the endorsement must come to the City of Portland with the certificate, or B) "the policy already includes an endorsement, such as the General Liability Extension Endorsement, by which the City of Portland is automatically made an additional insured." A Certificate which merely has a box checked under "Addl Insr," or the like, or which merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. The Awarded Contractor shall furnish the City and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the City of termination of insurance from insurance provider or agent.

Where applicants are required to enter or go into the City property to inspect, deliver materials or perform work or services as a result of the Invitation, or as a result of a contract award, the applicant and his or her agents will assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance as required.

The successful applicant(s) shall be liable for any damage or loss to the City occasioned by their negligence or their agents. The successful applicant(s) shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its officers and employees, from and against all claims, losses and expenses. The City disclaims any and all responsibility for injury to contractors, their agents or others while examining the job sites or at any other time.

All materials and equipment used as well as all methods of installation shall comply at a minimum with any and all Federal, OSHA, State and/or local codes, including applicable municipal ordinances and regulations.

EQUAL EMPLOYMENT OPPORTUNITIES. Any award recipient agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. Contractor specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by the developer and its contractors where appropriate.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

June 7, 2019

Matthew F. Fitzgerald
Purchasing Manager

GENERAL REQUIREMENTS & WORK SPECIFICATIONS

The City of Portland is looking for a contractor to provide sewer rehabilitation utilizing Ultraviolet Cured Pipe Lining on an on-call basis to allow the City to rehabilitate pipe sections as needed. Trenchless services for the following:

- UV Cured Pipe Lining (8" to 24")
- CIPP Sectional Repairs (8" to 24")
- Geoploymer Manhole Lining (4' Dia)

It is the intent of the City to enter into an agreement with the firm based on the criteria included in the proposal for work as needed. There is no set amount of work for this contract.

Work must meet relevant ASTM standards including F1216, F2019, F1743, F1417, and D2990.

The finished pipe liner in place shall be fabricated from materials which when complete is chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperature of 150°F.

Field measurements of the existing pipe diameters, ovality and length shall be taken.

The liner thickness shall be sized for a minimum hydrostatic load of 8.0 feet and maximum depth of earth cover as measured in the field. The hydrostatic load shall be increased to the manhole depth plus 1.0 foot for bury depths in excess of 8.0 feet.

The liner shall be structurally designed for a minimum service life of 50 years; fully deteriorated host pipe/direct bury condition; prism loading; 120lb/c.f. soil; factor of safety of 2.0; 2% ovality factor; maximum deflection 5%; soil modulus of 1000 psi; lining enhancement factor maximum 5, H-20 live loading, applicable long term modulus reduction factor; and an appropriate groundwater correction factor applied to the hydrostatic load only.

All UV cured-in-place fiberglass lining products shall comply with ASTM F 2019-03 or intent thereof as determined by the Owner, minimum finished liner thickness 3mm and maximum of 6MM up to 15 inch. For wall thicknesses of a minimum of 3mm to a maximum of 10mm from 18 inch to 24 inch (except for services).

The Contractor shall furnish a general purpose, polyester or vinyl ester UV Curing resin and catalyst system compatible with the Ultra Violet Light Curing. Liner material shall be manufactured with resins pre impregnated within the liner to eliminate the possibility of air bubbles and voids.

The Contractor shall carry out his operations in strict accordance with all OSHA and manufacturer's safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.

It shall be the responsibility of the Contractor to remove all internal debris and clean the existing sewer line prior to installation of the liner. Cleaning and disposal of material shall be performed by the Contractor. Disposal costs of material will be paid by the City.

Inspection of existing sewer lines shall be performed by experienced personnel NAASCO trained in locating breaks, obstacles and service connections by closed circuit television. The interior of the line shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the liner pipe into the lines, and such conditions shall be noted so they can be corrected. A video and suitable log shall be kept for later reference by the Owner. All inspection data must be available in IT Pipes format for viewing and as a deliverable.

Where practicable, liners should be installed in continuous runs where there are two or more continuous manhole segments. This is especially desirable to connect several short manhole segments with a continuous lining.

Provide all plugs, pumps, piping, hoses, and other equipment and material needed to bypass sewage.

Provide Owner with a writing plan for by pass pumping and sewer spill cleanup. Coordinate sewage bypass pumping equipment and hoses with traffic control plan.

All spills including sewage backups that occur must be taken care of in accordance with local and Federal regulations at the Contractor's expense. The Contractor shall be responsible for clean-up, repair and property damage, as well as any claims brought because of sewage spill or sewage back-up. If a spill occurs, Owner must be notified immediately. Wastewater spills into street gutters, storm drains, or open excavations are prohibited.

Maintain on site a reliable backup pump and power generator during all bypass pumping operations in the event of a pump and/or power failure.

Installation shall be in accordance with the manufacturer's recommendations, which shall be available for verification by the Owner.

The Pre-Impregnated UV Light Fiberglass Liner shall be inserted through the existing manhole or other approved access by means of a pull in place process by means of a winch in which will fully extend it to the next designated manhole or termination point.

The Fiberglass Liner shall be inflated in place slightly with air to the manufacturer's specification for installing the UV Chain. The liner will then be inspected with a camera mounted on the UV Chain as it is pulled to the end of the liner. After inspection and complete inflation to manufacturer's specifications, the UV light bulbs will be turned on.

The curing will commence at a rate specified by the manufacturer according to the total dimensions of the size of the liner. Initial cure shall be deemed to be complete when the UV Chain arrives at the initial entry point of insertion.

As the liner is curing the UV Curing System shall record all curing data in DVD (IT Pipes software deliverable, video file to be '.mpg') format for the viewing.

The Contractor shall apply a hydrophilic seal at the terminus of each segment. The seal shall be of a material compatible with the CIPP material.

PROPOSAL REQUIREMENTS

Interested firms are encouraged to submit copies of a proposal for services including, at a minimum, the following information:

- A description of the firm (size, experience, staff, etc.) and resumes of key personnel.
- A listing of company owned equipment expected to be available for proposed services.
- Technical competence of the firm including;
- Past record of performance on similar work.
- References, including contact information, for similar projects occurring within the last three (3) years.
- Familiarity and understanding of the required services.
- A statement of the firm's capacity to fulfill the requirements of the services and its expected response time to calls for service.
- Product documentation and submittal information for materials intended to be used for each item.
- A cost proposal covering the various methods of service using appropriate unit pricing.

The contractor(s) shall be prepared to furnish all tools and/or equipment necessary to perform the necessary work.

The services of the company may be required at any time within the City. The company shall have adequate staff available to respond to any request(s) within a reasonable time, i.e. the next business day or as may mutually be agreed.

All work shall be performed under the supervision of a Water Resources employee and will be according to all applicable codes and following the best standards of the trade.

All work and/or equipment are to be in full compliance with any and all pertinent Federal, OSHA, State of Maine and municipal regulations.

Pricing shall include all materials necessary to perform the work, including bypass pumping.

Work will be measured per lineal foot.

Payment covers all costs associated with cleaning the pipe (including roots), pre-installation video, post installation video and diverting water through bypass pumping.

Payment covers the cost of furnishing and installing the UV-CIPP per specifications and traffic control and mobilization of each segment to be lined.

All materials and equipment used as well as all methods of installation shall comply at a minimum with the following: a) National Electrical Code, latest approved edition; b) any and all Federal, State and/or local codes, including applicable municipal ordinances and regulations; c) latest approved standards of IEE, ANSI, NEMA, NFPA, NAASCO; ASTM d) Utility company regulations; e) equipment and materials utilized shall be new and UL listed, where listing is available.

The work performed and all materials utilized shall be guaranteed at a minimum for one year, and shall be corrected or replaced at the company's sole expense if they prove defective.

All waste material generated by the company's staff shall be removed daily from the work site and the area left clean and upon completion of work by that firm. Any equipment or building structure damaged by the company's staff shall be repaired or replaced to the satisfaction of its owner.

The company's staff shall erect, and maintain at all times, any and all safeguards necessary for the protection of life and property of the City and its staff, their workers as well as all pedestrian and vehicular traffic. If a police detail is required, Company must coordinate with Water Resources staff.

Work shall not commence earlier than 7:00 A.M., nor extend beyond 7:00 P.M., without the expressed approval of the City Administrative staff requesting the work. No work shall be performed on Saturdays, Sundays or holidays unless authorized by the Public Works Director, or comparable City agent. Bidders should include any/all costs of travel time to and from their place of business to the work-site.

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	
	15" – 18"	Each	
	21" – 24"	Each	
Protruding Service Connection Removal	4"-12"	Each	

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	

Please list any exclusions or additional items:

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER: _____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: _____

STATE OF INCORPORATION, IF APPLICABLE:

_____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

Current Date: June 21, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

Matthew F. Fitzgerald
PURCHASING MANAGER

Please see attached our response to several questions received related to this Bid.

Receipt of Addendum No. 1 to the City of Portland's Bid #19100, On Call Trenchless Technology Services, is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ **DATE:** _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____

ZIP CODE

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

1. *Does the liner need to be UV cured?*

   The answer is yes, and we did look at submissions regarding thermal curing and since this is not UV cure, it would not be acceptable as part of this RFP. This RFP is specifically for a method of curing and this alternate product uses hot water/steam, which we would only consider for a much more comprehensive project.

2. *In the cost proposal can you please clarify the following:*

   a. *For the Protruding service connection removal – Are these being priced for protruding services to be removed within a pipe to be lined or in the event the city simply wants a protruding service to be removed in any pipeline?*

      It was meant for the pipe to be lined. They can provide a price for any intruding lateral in the additional items as something like "The above intruding lateral cost is for pipes to be lined, any other intruding lateral will cost "" to be removed."

   b. *Manhole lining – It appears to be requesting a per each price for any 4' manhole 0-50' in depth. These are typically priced per vertical foot (vf).*

      Put the cost of what a 4' manhole would be at their vertical foot price and then put the vertical foot price in the additional items.

EXHIBIT B

Bid #19100

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: N/A

COMPANY NAME: Precision Trenchless LLC

AUTHORIZED SIGNATURE:

DATE: 6/20/2019

PRINT NAME & TITLE: Mara Kilburn, President

ADDRESS: 1710 Erie Blvd Schenectady, NY 12308

E-MAIL ADDRESS: MKilburn@precisiontrenchless.com

PHONE NUMBER: 518-346-5800 FAX NUMBER: 518 346-6077

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: LLC

STATE OF INCORPORATION, IF APPLICABLE:

FEDERAL TAX IDENTIFICATION NUMBER (Required): 46-5433576

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	$ 60 per foot
	10"	LF	$ 70 per foot
	12"	LF	$ 71 per foot
	15"	LF	$ 85 per foot
	18"	LF	$ 98 per foot
	21"	LF	$ 118 per foot
	24"	LF	$ 132 per foot
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	$ 47 per foot
	10"	LF	$ 55 per foot
	12"	LF	$ 58 per foot
	15"	LF	$ 71 per foot
	18"	LF	$ 83 per foot
	21"	LF	$ 104 per foot
	24"	LF	$ 128 per foot
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	$ 47 per foot
	10"	LF	$ 49 per foot
	12"	LF	$ 53 per foot
	15"	LF	$ 64 per foot
	18"	LF	$ 74 per foot
	21"	LF	$ 95 per foot
	24"	LF	$ 110 per foot

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	$ 3,200.00 each
	15" – 18"	Each	$ 3,700.00 each
	21" – 24"	Each	$ 4,100.00 each
Protruding Service Connection Removal	4"-12"	Each	$ 250.00

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	$ 220.00 per vertical ft.

Please list any exclusions or additional items:

Mobilization $ 10,000.00 per Instance
Basic Traffic included lane closures will be $ 2,500.00 per day
Bypass 8 - 12 inch will be $ 7,500.00 per day
Bypass 15 - 24 inch will be $ 5,000.00 per day
lateral reinstatement $ 250.00 each

Form **W-9**
(Rev. November 2017)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Precision Trenchless, LLC

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☑ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ P

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
1710 Erie Boulevard

Requester's name and address (optional)

6 City, state, and ZIP code
Schenectady, New York 12309

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number
4 6 – 5 4 3 3 5 7 6

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ Date ▶ 4/4/19

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

THE
PRECISION
Precision Industrial Maintenance, Inc. • Martin Environmental Services, Inc.
Precision Trenchless, LLC
GROUP

Precision Group is a 62 employee company with three branches, Precision Trenchless LLC, Precision Industrial Mantience and Martin Environmental. The company was founded in 1992 with many of the same management still in place today.

Precision Trenchless LLC has been Installing UV cured liner since 2014. We have the Onondaga County contract for our second consecutive term, totaling over 5 years and have installed 14.87 miles for this customer alone. Sizes have ranged from 8-inch to 60-inch liners.

We have completed multiple NYS DOT projects, totaling over 1 million dollars each and are 1 of only 2 UV certified installers for NYS DOT.

THE

PRECISION

Precision Industrial Maintenance, Inc. • Martin Environmental Services, Inc.
Precision Trenchless, LLC

GROUP

Mara Kilburn

President - Precision Trenchless, LLC.
mkilburn@precisiontrenchless.com

POSITION

Mara Kilburn is the President and founder of Precision Trenchless, LLC, a woman owned business. Ms. Kilburn is responsible for all aspects of day to day management of the company, including but not limited to, overseeing projects, ensuring that processes and procedures are in place and followed, communicating with customers and maintaining job files, ensuring job is "on track" financially, directing and consulting on sales and marketing endeavors, oversight of equipment needs and financing, and fulfilling human resource requirements. Ms. Kilburn also has a background in the financial services and insurance industries

TRAINING AND EDUCATION

Smith College
Bachelor of Arts - Political Science

OSHA 40 Hour Training; Hazwoper Training; Confined Space Entry Training; First Aid/CPR.

Various professional, industry specific short courses and seminars.

ORGANIZATIONS and AFFILIATIONS

NAAWIC, NESCA, SBA Emerging Leaders

REPRESENTATIVE CAREER EXPERIENCE & PROJECTS

M&T Bank - 1992 – 1994 Assistant Manager

State Farm Insurance - 1994 – 1998 Administrative Assistant

Precision Industrial Maintenance- 1998 – 2013 Accounting/Payroll/ Human Resources

Precision Trenchless - 2013 – Present Owner

THE

PRECISION

Precision Industrial Maintenance, Inc. • Martin Environmental Services, Inc.
Precision Trenchless, LLC

GROUP

Lawrence Curtis

Project Manager and Superintendent
lcurtis@precisiontrenchless.com

POSITION

Lawrence Curtis is a Project Manager and Superintendent at Precision Trenchless, LLC, a member of the Precision Group of companies. His responsibilities include all aspects of cost estimating and project management of pipe cleaning, inspecting and trenchless pipe rehabilitation projects. Mr. Curtis is responsible for examining project documents, such as blueprints and specifications in order to estimate project costs, create work plans, and develop procedures necessary for the successful execution of projects. He has oversight over work progress, equipment, and construction sites to verify safety and to ensure that project specifications and schedules are being met and are consistent with or exceed the quality and safety objectives of our customers.

TRAINING AND EDUCATION

OSHA 40 Hour Training; Hazwoper Training; Department of Transpiration Hazardous Material Transportation and Security Training; Confined Space Entry Training; Confined Space Rescue Training; First Aid/CPR.

PACP - Pipeline Assessment Certification

Various professional, industry specific short courses and seminars.

ORGANIZATIONS and AFFILIATIONS

NASSCO

REPRESENTATIVE CAREER EXPERIENCE AND PROJECTS

Martin Environmental Services Inc. 02/2007 - 09/2014 Technician / Supervisor / Project Manager

Precision Trenchless 09-/2014 – Present - Project Manager and Superintendent

Onondaga County Project – Install Contract '8" – 42" – 10,080 LF.
Increased flow capacity so much that a 5 million dollar pump station is not now used

Onondaga County Project – Butternut – 21" 3120 LF
Teardrop Pipe Customer had no other options due to depth of cover

NYS DOT Sullivan County – CIPP of 18" – 48" – 12,960 LF
NYS Dot 60 pipe locations were under highway

THE

PRECISION

Precision Industrial Maintenance, Inc. • Martin Environmental Services, Inc.
Precision Trenchless, LLC

GROUP

Rich Robinson

Project Superintendent
rrobinson@precisiontrenchless.com

POSITION

Rich Robinson is a Project Superintendent at Precision Trenchless, LLC, a member of the Precision Group of companies. His responsibilities include all aspects of supervising and safely and efficient executing project plans in conformance with contract specifications. Mr. Robinson is responsible for examining project documents, such as blueprints and specifications in order to estimate project costs, create work plans, and develop procedures necessary for the successful execution of projects. He has oversight over work progress, equipment, and construction sites to verify safety and to ensure that project specifications and schedules are being met and are consistent with or exceed the quality and safety objectives of our customers. Mr. Robinson has experience in sewer line / leachate line cleaning activities, including remote CCTV camera video inspection with reporting in various formats, hydro-excavation and vacuum-excavation, AST/UST Cleaning/Removal and high pressure water blasting.

TRAINING AND EDUCATION

OSHA 40 Hour Training; Hazwoper Training; Department of Transportation Hazardous Material Transportation and Security Training; Confined Space Entry Training; Confined Space Rescue Training; First Aid/CPR.

Various professional, industry specific short courses and seminars.

AMI Technical Institute Certified Honda Tech; NYS CDL-B with Tanker and HAZMAT endorsements.

REPRESENTATIVE CAREER EXPERIENCE

Precision Industrial Maintenance 07/2008 - 02/2014 Driver-Operator/Tech/Supervisor

Precision Trenchless 02/2014 – Present Project Superintendent

Precision Trenchless LLC - Fleet list as of 6/15/2019

Fleet#	Vehicle	Year	Make	Model	Color/Type
2	Combo I	2003	International	7600	White Jetter Truck
35	3/4 Ton	2016	Ford	F-250	White Crew Cab F-250
36	3/4 Ton	2016	Ford	F-250	White Crew Cab F-250
37	Explorer	2017	Ford	Explorer	Silver SUV
63	Combo II	2004	International	7600	White Jetter Truck
64	Rack IV	2012	Ford	F-550	White Utility w/liftgate
66	Bucket Trl.	1990	SE/EQ	BU/37/HYD	Orange Bucket Winch Trailer
69	Rack V	2015	Ford	F-550	White Utility w/liftgate
74	Cutter/Camera Truck	2015	Mercedes	3500	White Van
76	UV Box Van	2012	Isuzu	NRR	White 20' Box Van
77	Box Van	2006	Ford	E450	White 17' box van (tool/equip.)
79	Bucket Trl.	2013	SE/EQ	Winch	White Bucket Winch Trailer
80	Flat Bed	2010	Freightliner	M2	White Rack Truck
81	Box Van	2006	Ford	E450	White 17' box van (tool/equip.)
83	Cutter/Camera Truck	2015	Mercedes	3500	White Van
85	UV Box Van	2017	Isuzu	NQR	White Box Van
89	Box Van	2006	Ford	E450	White 17' box van (tool/equip.)
90	UV Box Van	2013	Ford	F550	White UV Box Van
91	3/4 Ton	2018	Ford	F250	White Crew Cab F-250

Total Dollar Value	Diameter(s)	Contact Info	Email	Compl. Date	GC / SUB	Location	Address of Owner	Owner	Job Description
$55,160.00	12" 22"	Stephanie Vetter 518-452-1290		8/6/12	sub	Canajoharie,NY		Vil. Of Canajoharie	Install 8, 12 ,20" - 1,495 LF
$107,100.00	12" 27"	Ed Davis 518-458-7112		10/1/12	GC	Colinie, NY		Village/Colonie, NY	Install 12" & 27"---1,500 LF
$45,000.00	42"	Jeff Marsh 315-956-6660	Jeffrey.Marsh@obg.com	2/1/13	GC	Syracuse, NY	555 West Washington, Syracuse, NY 13210	O'Brien & Gere, Inc.	Install a 42" UV Cured Liner---150 LF
$360,667.00		Scott Armbrust 717-645-6125	Glenn Quinn (gaquinn@umja.org)	2/1/13	GC	Pennsburg, PA	UMJA, Pennsburg, PA 18703	Upper Montgomery	Install 8 and 12" liners, 1,440 LF
$52,500.00	36"	John Holding 802-295-8888	Ken.Upmal@state.vt.us	5/1/13	GC	Thetford, VT	VDOT, Montpelier, VT 05601	Vtrans/Thetford	Install a 30" liner---210LF
$314,515.00	36"	Jeff Marsh 315-956-6660	Jeffrey.Marsh@obg.com	5/1/13	GC	Syracuse, NY	555 West Washington, Syracuse, NY 13210	O'Brien & Gere, Inc.	Install 36" - 460 LF
$550,000.00	48"	Rick Duff (315)956-6660	rick.duff@obg.com	5/30/13	GC	Ithaca, NY	555 West Washington, Syracuse, NY 13210	Pyramid Mall Ithaca	Install 48" - 750 LF
$150,999.00	24"	Joe Mihm 845-338-7622	J. Mihm <jmihm@blengineers.com>	10/1/13	GC	Kingston, NY	City of Kingston, Kingston, NY 12401	City of Kingston, NY	Install 24" UV Cured liner 100' below ground level---280 LF
$192,980.00		Ed Davis 518-458-7112		11/1/13	GC	Colonie, NY		Village/Colonie, NY	Install Various sizes to 24"---675LF
$89,685.00	30"	Steve Roy 802-865-7258	SRoy@burlingtonvt.gov	2/1/14	GC	Burlington, VT	City of Burlington, VT	Burlington, VT	Install 30" storm sewer in Middle of Feb. 10 degrees below zero---2,160 LF
$447,173.00	24" - 48"	John Urbanak 845-348-1005	JohnUrbanak@pyramidmg.com	2/1/14	sub	Nyack, NY	Pyramid Corp, Destiny Mall Syracuse, NY 13210	PalisadesPark Mall	Various sizes UV cured liner Plus other work---1,025 LF
$88,380.00	10"12"15"36"	Ed Davis 518-458-7112		5/1/14	GC	Colonie, NY		North Colonie CSD	Install Contract – 490 LF
$49,750.00	18"	Doug Cole 518-382-1774		5/30/14	GC	Malta, NY		Malta NY	Install 18" Liner 1,035'
$15,000.00	6" 8"	Kirk Timperio		8/30/14	GC	New Paltz, NY		SUNY New Paltz	275 LF
$450,000.00	12" 15" 48"	Rick Duff (315)956-6660	rick.duff@obg.com	8/30/14	sub	Nyack, NY	555 West Washington, Syracuse, NY 13210	Palisades Mall Nyack	24 -48" - 2,150 LF
$42,500.00	24"	Ken Upmal 802-828-0415	Ken.Upmal@state.vt.us	9/1/14	GC	St. Albins, VT	VDOT, Montpelier, VT 05601	Vtrans,St.Albins, VT	Install 24" - 435 LF
$50,000.00	30"	Jim Cota 802-782-0802	Ken.Upmal@state.vt.us	9/30/14	GC	Milton, VT	VDOT, Montpelier, VT 05602	VTRANS/Milton	30" culvert - 435 LF
$89,650.00	8"	Brian Whitaker, 315-956-6100	brian.whitaker@obg.com	10/1/14	sub	Utica, NY	555 West Washington, Syracuse, NY 13210	Oneida City, Cont.#5	Install 8" - 1,850 LF
$1,275,000.00	33" - 42"	Joe Hausman 203-727-8627	joe.hausmann@wright-pierce.com	12/1/14	gc	Stamford, CT	City of Stamford, Stamford CT	Stamford Ct	Install 33" - 42" - 7,900 LF
$208,000.00	36"	Kevin Clark	Clark, Xevin <ClarkK@bouldercolorado	3/1/15	GC	Boulder, CO	City of Boulder, Boulder, CO 80302	Boulder Water	Install 1,550 LF Of 36" "WATER" UV cured liner at 9,000 ft high on 8' wide dirt road
$55,000.00	18"	Jeff Marsh 315-956-6660	Jeffrey.Marsh@obg.com	5/30/15	GC	Syracuse, NY	455 West Washington, Syracuse, NY 13210	Honeywell/Skinner	Install 18" UV cured liner---180 LF
$685,000.00	24" – 48"	Gail House 585-352-0674	House, Gail A (DOT) <Gail.House@dot.r	8/15/15	GC	Webster, NY	NYSDOT Region 6, Rochester, NY	NYS DOT Rochester	Rochester - CIPP – 24" – 48", 8,640 LF
$890,000.00	21" – 36"	Mike Bulan 518-365-4843	mbulan@rifenburg.com	8/15/15	Sub	Willmington, NY	NYSDOT Region 1, Albany, NY 12232	NYSDOT	whiteface Mtn – 21" – 36",7,920 if
$1,475,000.00	33" – 36"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net	11/1/15	GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	Solar Street – 33" – 36", 6,330 LF
$1,100,000.00	8" - 42"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net	12/31/15	GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	Install Contract – 8" - 42" - 10,080 LF

$78,000.00 42" $175,000.00 12,15,18,24,36	Antonio Halaris 585-753-7734	AHalaris@monroecounty.gov	2/10/16 GC 2/28/16 GC	Rochester, NY Poughkepsee, NY	Monroe County DOT, Rochester, NY 14614 IBM 7210 Henry Clay BlvdLiverpool,	Monroe County FLOUR IBM	42" - 465 LF 12 - 36" - 1,080 LF
$20,000.00 24"	Gary Millighan (781) 828-0863	Gary Millington (gary.millington@nwm	3/31/16 sub	Utica, NY	NY 13088 7210 Henry Clay BlvdLiverpool,	Francis St Utica NY	Install 24" - 285 LF
$150,000.00	Kerry Csontos		3/31/16 GC	Albany, NY	NY 13088 7210 Henry Clay Blvd, Liverpool,	SUNY Albany	State University—320 LF
$225,000.00 24" to 36"	Jerry Maher 603-437-5387	JMaher@continentalpaving.com	3/31/16 Sub	Conway, NH	NH 13088 City Hall, Syracuse NY	Continental Paving	(11)Culvert relining 18 - 36" - 3,240 LF
$1,000,000.00 8" - 36"	Chris Ettinger 315-459-3657	Chan, Alvin (AChan@syrgov.net)	3/31/16 GC	Syracuse, NY	13210 1210 Erie Blvd, Schenectady, NY	City of Syracuse	Install Contract – 8" - 36" - 8,640 LF
$15,000.00 8"	Precision Industrial Main	skramer@pim-inc.com	4/15/16 GC	Schnectady, NY	12308 1210 Erie Blvd, Schenectady, NY	Siena College	8" - 150 LF
$30,000.00 12"	Precision Industrial Main	skramer@pim-inc.com	5/6/16 Sub	Schnectady, NY	12308 7210 Henry Clay Blvd, Liverpool,	KAPL	12" - 65 LF
$25,000.00 12"	Nick Capozza 315-435-5400	nickcapozza@ongov.net	5/17/16 GC	Syracuse, NY	NY 13088	Hillcrest Pump	12" - 325 LF
$160,000.00 24" x 36"	Mario Romania 617-364-5800	mario@pgicicso.com	5/30/16 Sub	Boston, MA	7210 Henry Clay Blvd " Liverpool, MA 13088	Ridgeway Lane	Install UV cured liner 460 LF 24" x 36" on 10' wide Boston city street
$280,000.00 21"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net	7/1/16 GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	BUTTERNUT - 21" 3,120 LF
$1,900,000.00 18" - 48"	Scott Davis 845-240-2102	scott.davis@NYSDOT.org	7/16/16 GC	Liberty, NY	NYSDOT Region 9 Binghampton, NY 13901	NYSDOT SULLIVAN	CIPP OF 18" - 48", 12,960 LF
$225,000.00 24" - 48"	James Black 518-701-0071	dcollins@lancdev.com	8/1/16 sub	Binghampton, NY	NYSDOT Region 9 Binghampton, NY 13901	NYSDOT	Install 24" - 48" 3,930 LF
$225,000.00 24"/36"	Ben Carroll	dcollins@lancdev.com	8/15/16 Sub	Binghampton, NY	NYSDOT Region 9 Binghampton, NY 13901	Oneonta I-88	Install-2,880 LF
$875,000.00 63"	Jeff Marsh 315-955-6660	Jeffrey.Marsh@obg.com	8/30/16 GC	Syracuse, NY	555 West Washington, Syracuse, NY 13210	Syracuse Fairgrounds	Install 42 - 63" - 2,800 LF
$29,000.00 24"	Warren Whitcomb 802-661-3081	Whitcomb, Warren (Pike) <wwhitcomb.	10/15/16 Sub	Barre, VT	7210 Henry Clay Blvd " Liverpool, VT 13088	Pike Industry/Vtrans	Install 150 LF 24" culvert under Route 302 Barre, VT
$433,577.00 36"	Chad Kortz 518-848-3533		10/30/16 sub	Johnstown, NY	7210 Henry Clay BlvdSiverpool, NY 13088	Johnstown, NY	West main St.— 576'
$600,000.00 18" +	Andrew Harris 860-257-5538	Whitcomb, Warren (Pike) <wwhitcomb.	10/30/16 GC	Hartford, CT	7210 Henry Clay Blvd))" oiverpool, CT 13088	Honeywell/Skinner	Install 300LF 18" UV cured liner ($46k)inside building(under floor) and outside
$2,000,000.00 8" – 48"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net	12/31/16 GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	Install contract – 8" - 48" 12,720 LF
$800,000.00 8-15"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net	2/1/17 GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	Sunnycrest 4,000 LF
$298,000.00 18-26"	Alvin Chan achan@syrgov.net	Chan, Alvin (AChan@syrgov.net)	2/15/17 GC	Syracuse, NY	City Hall, Syracuse NY 13210	City of Syracuse	Harrington and Hatherly 3,000 LF
$64,500.00 18"	Mike Daddario 860-623-0245	Mike Daddario <mdaddario@paganelli	2/28/17 sub	Hartford, CT	7210 Henry Clay BlvdLiverpool, CT 13088	MDC	Install 18" 300 LF
$297,000.00 24-26"	Alvin Chan achan@syrgov.net	Chan, Alvin (AChan@syrgov.net)	3/15/17 GC	Syracuse, NY	City Hall, Syracuse NY 13210	City of Syracuse	3,000 LF of 24 - 26"

$331,000.00	15-48"	Darren Collins 518-294-9994	dcollins@lancdev.com		5/31/17	sub	Binghampton, NY	7210 Henry Clay Blvdsiverpool, NY 13088	NYSDOT I88 Beldin Hill	2,900 LF of various sizes
$348,000.00	36 - 60"	Robert Johnston 610-444-9006	rjohnston@gilmore-assoc.com		5/31/17	GC	West Chester, PA	Boro of West Chester PA	Pine Alley	1,200 LF
$398,000.00	18-36"	Jamie Isgar 315-744-0892	Jamieisgar@ongov.net		5/31/17	GC	Syracuse, NY	7210 Henry Clay Blvd, Liverpool, NY 13088	Onondaga County	South Avenue 4,000 LF
$890,000.00	24" - 48"	James Black 518-701-0071	dcollins@lancdev.com		8/31/17	sub	Binghampton, NY	7210 Henry Clay BlvdLiverpool, NY 13088	NYSDOT	Install 24" – 48", 10,100 LF
$1,200,000.00	18-48"	Pat Johnson 315-391-7503	pat.johnson@obg.com		4/31/17	GC	Syracuse, NY	555 West Washington, Syracuse, NY 13210	Honeywell Waste Beds	4,000 LF of round and elliptical shaped pipe
$350,000.00	36 - 60"	Robert Johnston 610-444-9006	rjohnston@gilmore-assoc.com	6/31/17	GC		West Chester, PA			PINE ALLEY
$510,000.00	36 - 42	DASNY			8/15/17	GC	ELMIRA		NYS DEC	STORM WATER
$325,000.00		gary hosmer			8/15/17	gc	campbell	nysdot region	nysdot	campbell small culverts
$110,000.00	8" and 10"	Mike Daddario 860-623-0245	Mike Daddario <mdaddario@paganelli		8/3/17	sub	w hartford ct		MDC	SMALL SEWER REPAIRS
$175,000.00	8"	STEVE DARCANGELO			8/31/17	GC		BVILLE	BVILLE	yearly rehab grant
$378,000.00	8" and 10"	brad at barrett			8/31/17	sub	solvay, ny	onon cty DOT		
$50,000.00	24 and 36	Brian Carmody			8/15/17	gc	Syracuse, NY		nysdot	purdue study
$865,000.00	18-48	Ben Pearson			10/1/17	GC	Portland Maine	City of Portland	City of Portland	CIPP 18 - 48, 4,000 LF
$107,000.00	48	Glen Pederson			12/15/17	GC	Brookings Or	ODOT	ODOT	48" Storm
$795,000.00	20,24	Nick Capozza 315-435-5400			12/31/17	GC	Syracuse, NY	7210 Henry Clay,Liverpool, NY	OCWEP	20, 24" , 5,000 LF
$592,000.00	8,12	Mark Malley			4/15/18	GC	solvay, ny	Village of Solvay, NY	Village of Solvay	9700 LF of 8" and 12"
$300,000.00	18 - 20	Dennis Smith	dennis@insta-pipe.com		8/1/18	Sub	Poulsbo, WA	City of Poulsbo	City of Poulsbo	3,000 LF of 18"
$112,000.00	8	Bill Morse	engineer@townofgeddes.com			GC	Syracuse NY	Town of Geddes	Town of Geddes	2,000 lf if 8 inch CIPP
	24-48	Fred Cardillo	fcardillo@yonkerscontractingco.com		7/18/18	sub	Westchester	Westchester county	NYS DOT	CIPP of 60 culverts varing from 24" to 48"
$42,000.00	60	Dale Carlson	dpcarlson12@yahoo.com		5/18/18	sub	Syracuse NY	Ton of Van Buaren	NYS DOT Rochester	60 inch CIPP 80 foot
$335,000.00	8,27	Mike plo	Mplo@ludlowconstruction.com		6/18/18	sub	West Hartford CT	MDC CT	MDC	700' of 8" and 2000' of 27
$268,000.00	15,24,36,48	Albert Cockrell	acockrell@auburnny.gov		7/1/18	GC	Auburn NY		Town of Auburn	2,000 lf of CIPP lining in 15, 24, 36,48
	15	Casey Ganley	Casey.Ganley@obg.com		2/1/19	GC	East Syracuse NY	East Syracuse	Village of East Syracuse	1,500 LF of 15 inch CIPP 600 LF of 8 inch CIPP
$40,000.00	8,10	Nick Capozza 315-435-5400	nickcapozza@ongov.net		2/15/19	GC	Meadowbrook	Syracuse NY	Onondaga County	16,000 LF of CCTV
	10,12,15 & 24	Rodger Crandel 518 701 3615	highway@malta-town.org		3/15/19	GC	Malta, NY	Malta NY	Town of Malta	1200 lf of 10,12,15 & 24inch CIPP
	18	Nick Capozza 315-435-5400	nickcapozza@ongov.net		4/1/19	GC	Syracuse NY	Syracuse NY	Onondaga County	1500 lf of 18 inch CIPP
	21,10	Nick Capozza 315-435-5400	nickcapozza@ongov.net		4/15/19	GC	Syracuse NY	Syracuse NY	Onondaga County	4,000 lf of 10 inch anh 21 inch CIPP
	8,10	Nick Capozza 315-435-5400	nickcapozza@ongov.net		5/15/19	GC	Syracuse NY	Syracuse NY	Onondaga County	1800lf of 8 and 10 inch CIPP
	18,24,30,36	Harry Martel 518 3761678	martelhb@town.waterford.ny.us		5/15/19	GC	Waterford NY	Waterford NY	Town of Waterford	2,000 LF 18,24,30,36 inch CIPP
$120,000.00	12,18, 24	James Fletcher 585 281 7113	jfletcher@townofcanandaigua.org		6/1/19	GC	Canandaigua	Canandaigua	Town of Canandaigua	1800 LF 12,18, 24 inch CIPP

THE
PRECISION
Precision Industrial Maintenance, Inc. • Martin Environmental Services, Inc.
Precision Trenchless, LLC
GROUP

References

Jamie Isgar Onondaga County jamieisgar@ongov.net 315-744-0892

Mike Bulan Rifenburg Construction mbulan@rifenburg.com 518-365-4843

Scott Davis NYS DOT scott.davis@nydot.org 845-240-2102

Albert Cockrell City of Auburn acockrell@auburnny.gov 315-730-9618

James Fletcher Town of Canandaigua jfletcher@townofcanandaigua.org
585-281-7113

Precision Trenchless LLC has 3 experienced and certified UV crews with an additional cross-trained pool of 30 more operators and laborers. This provides us the ability to offer our customer a quick, effective response time. Currently, we are able to get all dimension liners delivered from our distributor, Omega Liner Company located in South Dakota, on average in 7-10 days. Precision Trenchless LLC will be able to be onsite in Portland in 14 days or less in most cases.

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

Current Date: June 21, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

Matthew F. Fitzgerald
PURCHASING MANAGER

Please see attached our response to several questions received related to this Bid.

Receipt of Addendum No. 1 to the City of Portland's Bid #19100, On Call Trenchless Technology Services, is hereby acknowledged.

COMPANY NAME: Precision Trenchless LLC

SIGNED BY: [signature] **DATE:** 6/21/2019

PRINT NAME & TITLE: Lawrence Curtis Project Manager

ADDRESS: 1710 Erie Blvd Schenectady N.Y.

12308

ZIP CODE

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

1. *Does the liner need to be UV cured?*

   The answer is yes, and we did look at submissions regarding thermal curing and since this is not UV cure, it would not be acceptable as part of this RFP. This RFP is specifically for a method of curing and this alternate product uses hot water/steam, which we would only consider for a much more comprehensive project.

2. *In the cost proposal can you please clarify the following:*

   a. *For the Protruding service connection removal – Are these being priced for protruding services to be removed within a pipe to be lined or in the event the city simply wants a protruding service to be removed in any pipeline?*

      It was meant for the pipe to be lined. They can provide a price for any intruding lateral in the additional items as something like "The above intruding lateral cost is for pipes to be lined, any other intruding lateral will cost "" to be removed."

   b. *Manhole lining – It appears to be requesting a per each price for any 4' manhole 0-50' in depth. These are typically priced per vertical foot (vf).*

      Put the cost of what a 4' manhole would be at their vertical foot price and then put the vertical foot price in the additional items.

Client#: 30408 PRECIIND

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 7/16/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Amsure - Albany
12 Computer Drive West
PO Box 15044
Albany, NY 12212-5044

CONTACT NAME:
PHONE (A/C, No, Ext): 518 458-1800 FAX (A/C, No): 518 458-8390
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Allied World Assurance Company Inc.	19489
INSURER B : Great Divide Insurance Company	25224
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Precision Trenchless, LLC
1710 Erie Blvd.
Schenectady, NY 12308

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	X	X	03106854	04/30/2019	04/30/2020	EACH OCCURRENCE	$1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
							MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY	X	X	BAP202606711	04/30/2019	04/30/2020	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	UMBRELLA LIAB X OCCUR	X	X	FFX202608811	04/30/2019	04/30/2020	EACH OCCURRENCE	$5,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$5,000,000
	DED RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY		X	WCA202606611	04/30/2019	04/30/2020	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
B	Pollution Liability			CPL202606811	04/30/2019	04/30/2020	$1,000,000/Occurrence $1,000,000 Aggregate	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Additional Insured/Waiver of Subrogation coverage shown above (and marked with an X)apply only when such coverage is required by written contract signed by the insured prior to a loss.
RFA #19100 On-Call Trenchless Technology Services
Certificate Holder is Primary and Non-Contributory Additional Insured for General Liability and Automobile Liability, when required by written contract. Waiver of Subrogation applies, when required by written contract. Thirty (30) days written notice, in the event of cancellation.

CERTIFICATE HOLDER

City of Portland Purchasing Office
Room 103, City Hall
389 Congress Street
Portland, ME 04101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Gary Alonze

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Client#: 30408 PRECIIND

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12 Computer Drive West
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	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	UMBRELLA LIAB X OCCUR	X	X	FFX202608811	04/30/2019	04/30/2020	EACH OCCURRENCE	$5,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$5,000,000
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	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
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AUTHORIZED REPRESENTATIVE

Guy Alonge

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – WHERE REQUIRED UNDER CONTRACT OR AGREEMENT (PRIMARY AND NON-CONTRIBUTORY WHERE REQUIRED UNDER CONTRACT)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

Section II – Who Is An Insured is amended to include any person or organization to whom you become obligated to include as an additional insured under this policy, as a result of any contract or agreement you enter into which requires you to furnish insurance to that person or organization of the type provided by this policy. However, the insurance provided will not exceed the lesser of:

a. The coverage and/or limits of this policy; or

b. The coverage and/or limits required by said contract or agreement.

Coverage afforded to these additional insured parties will be primary to, and non-contributory with, any other insurance available to that person or organization where required of you by written contract or agreement.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
Where required by written contract	**When required by written contract**
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

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C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
Where required by written contract	**Where required by written contract**
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

© Insurance Services Office, Inc., 2012

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
TED BERRY COMPANY, LLC

THIS AGREEMENT is entered into this ____ day of _____, 2019, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the "**CITY**"), and **TED BERRY COMPANY, LLC,** a Maine corporation with a mailing address of 521 Federal Road, Livermore, Maine 04253 (hereinafter the "**CONTRACTOR**").

W I T N E S S E T H:

WHEREAS, the **CITY** is in need of sewer pipe rehabilitation and did advertise a Request for Applications #19100 entitled “"On-Call" Trenchless Technology Services,” dated June 7, 2019 as amended by Addendum No. 1 dated June 21, 2019, (hereinafter, collectively, the “Request for Applications”), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the **CONTRACTOR** has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated June 25, 2019, (hereinafter, the “Proposal”), a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY did award the bid to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CONTRACTOR** will furnish the materials, supplies, equipment and labor (hereinafter the “Work”) in accordance with the specifications contained in the Request for Applications issued to the Contractors, and also in accordance with the **CONTRACTOR’s** Proposal.

The restatement in this document of any term of the Request for Applications or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between Request for Applications or the Proposal and this document, then this document shall govern; and the Request for Applications shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONTRACTOR covenants and agrees that all Work performed and furnished hereunder shall be free from all defects, and that all Work shall be performed in a good workmanlike manner. Unless a longer warranty period is specified in the Exhibits hereto, all Work provided shall be warranted by the CONTRACTOR for one (1) full year from the date of completion of all Work hereunder and acceptance thereof by the CITY. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain:

- Occurrence based Commercial General Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence-based Automobile Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence based Pollution Liability Insurance coverage in amounts of not less than Two Million Dollars ($2,000,000.00) per occurrence;
- Workers' Compensation Insurance coverage to the extent required by law, which shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees;

With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. The Workers' Compensation insurance shall include an endorsement waiving all rights of

subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions (not to exceed $10,000.00 without prior written approval of Corporation Counsel). CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement. If the CONTRACTOR maintains broader coverage and/or higher limits than the minimum shown above, the CITY requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONTRACTOR. (*In the event that the Contractor requires access to the City's network or if the Contractor will be accessing or storing any sensitive City data, the City may also require Contractor to carry cyber liability insurance).*

4. [Intentionally omitted.]

5. To the fullest extent permitted by law, the CONTRACTOR shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONTRACTOR, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY which otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

6. Prior to any payment, the CITY reserves the right to require Waivers of Lien for materials and labor from the CONTRACTOR and its subcontractors and suppliers guaranteeing One Hundred Percent (100%) performance, free and clear from all liens and encumbrances. Any mechanic's lien or any other lien which may be filed against the premises which are the subject of this Agreement by reason of the Work described herein shall be defended (by counsel reasonably acceptable to the CITY) and promptly discharged by the CONTRACTOR at its own expense. The CITY may require the CONTRACTOR to provide a bond satisfactory to the CITY to indemnify it against any lien and as a substitution in place of a lien. If the CONTRACTOR should fail either to defend the CITY against the lien or to discharge it, then the CITY may do so at the CONTRACTOR's expense. In the event of such an undertaking by the CITY, the CONTRACTOR will promptly reimburse the CITY for all its costs and expenses in so doing, including, but not limited to, reimbursement of the CITY's reasonable counsel fees, as well as costs which may be incurred by it in substituting a bond in place of a lien.

CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

7. The CONTRACTOR shall perform the work to the satisfaction of the responsible CITY official who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. CITY inspectors will have the authority to stop work in progress if such work is being done contrary to the plans, specifications or engineering practice. CONTRACTOR acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

8. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed CITY contract to the CONTRACTOR, which will commence work upon receipt. The term of this Agreement shall be for two (2) years following execution. Upon mutual agreement, this agreement may be extended for one year.

9. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director of the Department of Public Works or his or her designee (hereinafter, the "Director") will be final and binding.

10. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONTRACTOR according to the prices set forth in the Proposal.

11. The CITY shall have the right to retain ten percent (10 %) of each invoice amount as retainage until the Work is completed and accepted by the CITY.

12. The CONTRACTOR shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONTRACTOR not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director.

13. The CITY may terminate this Agreement for cause by written notice to the CONTRACTOR. In the event of such termination, the CONTRACTOR shall not be entitled to any further payment under this Agreement from the date of receipt of said notice.

14. The CITY shall have the right to terminate this Agreement at any time for its convenience upon prior written notice to the CONTRACTOR. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONTRACTOR for all Work performed and all materials purchased pursuant to this Agreement prior to receipt of such notice.

15. Out of concern for the public, CITY employees and the CONTRACTOR's employees, all work performed by the CONTRACTOR shall be in conformance with pertinent OSHA, local, state and federal government regulations.

16. CONTRACTOR agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONTRACTOR specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONTRACTOR where appropriate.

17. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

18. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONTRACTOR.

19. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

20. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an

original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

21. CONTRACTOR warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform their respective obligations under this Agreement, and that the person signing this Agreement on behalf of CONTRACTOR has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, **TED BERRY COMPANY, LLC** has caused this Agreement to be signed and sealed by Matthew Timberlake, its Regional Vice President, the day and date first above written.

WITNESS:

_____

CITY OF PORTLAND

By: _____
Jon P. Jennings
Its City Manager

WITNESS:

_____

TED BERRY COMPANY, LLC

By:_____
Name: Matthew Timberlake
Its: Regional Vice President

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

CITY OF PORTLAND, MAINE

DEPARTMENT OF PUBLIC WORKS

"ON-CALL" Trenchless Technology Services
Bid #19100

Request for Applications

The City of Portland, Maine is accepting applications from contractors to provide "On-Call" Trenchless Technology Services, as described herein. The City will accept all applications, submitted on the attached forms, until 3:00 p.m., Tuesday, June 25, 2019. These may be hand delivered or mailed to Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, Maine 04101. The envelope shall be clearly marked "On-Call Trenchless Technology Services".

All applicants are advised that the City makes no guarantee as to the amount of work to be generated by this agreement. The City will contract, at its option, with multiple firms. Contractors will be called, based on the City's specific needs and based on the amount of equipment, crews and their respective prices stated in the application. The length of the contract will be for a year from the date of its signing through.

The City reserves the right to verify applicants' qualifications, capability to perform, availability, past performance record and to verify that the applicant is current in its obligations to the City. The City further reserves the right not to award contracts based on any negative findings to the above and/or failure to promptly sign and return the contract document with all required insurance certificates as instructed. The successful applicant shall have ten calendar days to sign the contract after notification by the Corporation Counsel's Office that it is ready for signature, otherwise his application may lapse at the election of the City.

All applications shall remain open to acceptance for ninety days after they have been opened. Late applications, or those without required signatures or those faxed or those submitted electronically shall not be accepted. You are only required to submit one (1) copy of your bid. Please also submit the most recent copy of your firm's W-9.

All questions must be submitted in writing to the Purchasing Office and be received no later than five working days prior to the scheduled opening date - these may be mailed, hand delivered faxed to 207-874-8652, or e-mail jrl@portlandmaine.gov. The Purchasing Office will be the only office issuing any changes to this Invitation. All changes (addenda) will be in writing and will be sent to registered application holders. The City shall not be responsible for any oral interpretation given by other City personnel or others.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Invitation from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this bid.

The Awarded Contractor will procure and maintain Automobile Insurance and General Public Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the General Liability and Automobile Liability Insurance, The Awarded Contractor shall name the City as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available under the Maine Tort Claims Act, other Maine statutory law, judicial precedent or common law. With respect to the Liability Insurance, The Awarded Contractor will provide the City a certificate of insurance evidencing such coverage, in this way: certificate must say either: A) "the policy has been endorsed to name the City of Portland as an Additional Insured" and a copy of the endorsement must come to the City of Portland with the certificate, or B) "the policy already includes an endorsement, such as the General Liability Extension Endorsement, by which the City of Portland is automatically made an additional insured." A Certificate which merely has a box checked under "Addl Insr," or the like, or which merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. The Awarded Contractor shall furnish the City and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the City of termination of insurance from insurance provider or agent.

Where applicants are required to enter or go into the City property to inspect, deliver materials or perform work or services as a result of the Invitation, or as a result of a contract award, the applicant and his or her agents will assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance as required.

The successful applicant(s) shall be liable for any damage or loss to the City occasioned by their negligence or their agents. The successful applicant(s) shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its officers and employees, from and against all claims, losses and expenses. The City disclaims any and all responsibility for injury to contractors, their agents or others while examining the job sites or at any other time.

All materials and equipment used as well as all methods of installation shall comply at a minimum with any and all Federal, OSHA, State and/or local codes, including applicable municipal ordinances and regulations.

EQUAL EMPLOYMENT OPPORTUNITIES. Any award recipient agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. Contractor specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by the developer and its contractors where appropriate.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

June 7, 2019

Matthew F. Fitzgerald
Purchasing Manager

GENERAL REQUIREMENTS & WORK SPECIFICATIONS

The City of Portland is looking for a contractor to provide sewer rehabilitation utilizing Ultraviolet Cured Pipe Lining on an on-call basis to allow the City to rehabilitate pipe sections as needed. Trenchless services for the following:

- UV Cured Pipe Lining (8" to 24")
- CIPP Sectional Repairs (8" to 24")
- Geoploymer Manhole Lining (4' Dia)

It is the intent of the City to enter into an agreement with the firm based on the criteria included in the proposal for work as needed. There is no set amount of work for this contract.

Work must meet relevant ASTM standards including F1216, F2019, F1743, F1417, and D2990.

The finished pipe liner in place shall be fabricated from materials which when complete is chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperature of 150ºF.

Field measurements of the existing pipe diameters, ovality and length shall be taken.

The liner thickness shall be sized for a minimum hydrostatic load of 8.0 feet and maximum depth of earth cover as measured in the field. The hydrostatic load shall be increased to the manhole depth plus 1.0 foot for bury depths in excess of 8.0 feet.

The liner shall be structurally designed for a minimum service life of 50 years; fully deteriorated host pipe/direct bury condition; prism loading; 120lb/c.f. soil; factor of safety of 2.0; 2% ovality factor; maximum deflection 5%; soil modulus of 1000 psi; lining enhancement factor maximum 5, H-20 live loading, applicable long term modulus reduction factor; and an appropriate groundwater correction factor applied to the hydrostatic load only.

All UV cured-in-place fiberglass lining products shall comply with ASTM F 2019-03 or intent thereof as determined by the Owner, minimum finished liner thickness 3mm and maximum of 6MM up to 15 inch. For wall thicknesses of a minimum of 3mm to a maximum of 10mm from 18 inch to 24 inch (except for services).

The Contractor shall furnish a general purpose, polyester or vinyl ester UV Curing resin and catalyst system compatible with the Ultra Violet Light Curing. Liner material shall be manufactured with resins pre impregnated within the liner to eliminate the possibility of air bubbles and voids.

The Contractor shall carry out his operations in strict accordance with all OSHA and manufacturer's safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.

It shall be the responsibility of the Contractor to remove all internal debris and clean the existing sewer line prior to installation of the liner. Cleaning and disposal of material shall be performed by the Contractor. Disposal costs of material will be paid by the City.

Inspection of existing sewer lines shall be performed by experienced personnel NAASCO trained in locating breaks, obstacles and service connections by closed circuit television. The interior of the line shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the liner pipe into the lines, and such conditions shall be noted so they can be corrected. A video and suitable log shall be kept for later reference by the Owner. All inspection data must be available in IT Pipes format for viewing and as a deliverable.

Where practicable, liners should be installed in continuous runs where there are two or more continuous manhole segments. This is especially desirable to connect several short manhole segments with a continuous lining.

Provide all plugs, pumps, piping, hoses, and other equipment and material needed to bypass sewage.

Provide Owner with a writing plan for by pass pumping and sewer spill cleanup. Coordinate sewage bypass pumping equipment and hoses with traffic control plan.

All spills including sewage backups that occur must be taken care of in accordance with local and Federal regulations at the Contractor's expense. The Contractor shall be responsible for clean-up, repair and property damage, as well as any claims brought because of sewage spill or sewage back-up. If a spill occurs, Owner must be notified immediately. Wastewater spills into street gutters, storm drains, or open excavations are prohibited.

Maintain on site a reliable backup pump and power generator during all bypass pumping operations in the event of a pump and/or power failure.

Installation shall be in accordance with the manufacturer's recommendations, which shall be available for verification by the Owner.

The Pre-Impregnated UV Light Fiberglass Liner shall be inserted through the existing manhole or other approved access by means of a pull in place process by means of a winch in which will fully extend it to the next designated manhole or termination point.

The Fiberglass Liner shall be inflated in place slightly with air to the manufacturer’s specification for installing the UV Chain. The liner will then be inspected with a camera mounted on the UV Chain as it is pulled to the end of the liner. After inspection and complete inflation to manufacturer’s specifications, the UV light bulbs will be turned on.

The curing will commence at a rate specified by the manufacturer according to the total dimensions of the size of the liner. Initial cure shall be deemed to be complete when the UV Chain arrives at the initial entry point of insertion.

As the liner is curing the UV Curing System shall record all curing data in DVD (IT Pipes software deliverable, video file to be '.mpg') format for the viewing.

The Contractor shall apply a hydrophilic seal at the terminus of each segment. The seal shall be of a material compatible with the CIPP material.

PROPOSAL REQUIREMENTS

Interested firms are encouraged to submit copies of a proposal for services including, at a minimum, the following information:

- A description of the firm (size, experience, staff, etc.) and resumes of key personnel.
- A listing of company owned equipment expected to be available for proposed services.
- Technical competence of the firm including;
- Past record of performance on similar work.
- References, including contact information, for similar projects occurring within the last three (3) years.
- Familiarity and understanding of the required services.
- A statement of the firm's capacity to fulfill the requirements of the services and its expected response time to calls for service.
- Product documentation and submittal information for materials intended to be used for each item.
- A cost proposal covering the various methods of service using appropriate unit pricing.

The contractor(s) shall be prepared to furnish all tools and/or equipment necessary to perform the necessary work.

The services of the company may be required at any time within the City. The company shall have adequate staff available to respond to any request(s) within a reasonable time, i.e. the next business day or as may mutually be agreed.

All work shall be performed under the supervision of a Water Resources employee and will be according to all applicable codes and following the best standards of the trade.

All work and/or equipment are to be in full compliance with any and all pertinent Federal, OSHA, State of Maine and municipal regulations.

Pricing shall include all materials necessary to perform the work, including bypass pumping.

Work will be measured per lineal foot.

Payment covers all costs associated with cleaning the pipe (including roots), pre-installation video, post installation video and diverting water through bypass pumping.

Payment covers the cost of furnishing and installing the UV-CIPP per specifications and traffic control and mobilization of each segment to be lined.

All materials and equipment used as well as all methods of installation shall comply at a minimum with the following: a) National Electrical Code, latest approved edition; b) any and all Federal, State and/or local codes, including applicable municipal ordinances and regulations; c) latest approved standards of IEE, ANSI, NEMA, NFPA, NAASCO; ASTM d) Utility company regulations; e) equipment and materials utilized shall be new and UL listed, where listing is available.

The work performed and all materials utilized shall be guaranteed at a minimum for one year, and shall be corrected or replaced at the company's sole expense if they prove defective.

All waste material generated by the company's staff shall be removed daily from the work site and the area left clean and upon completion of work by that firm. Any equipment or building structure damaged by the company’s staff shall be repaired or replaced to the satisfaction of its owner.

The company’s staff shall erect, and maintain at all times, any and all safeguards necessary for the protection of life and property of the City and its staff, their workers as well as all pedestrian and vehicular traffic. If a police detail is required, Company must coordinate with Water Resources staff.

Work shall not commence earlier than 7:00 A.M., nor extend beyond 7:00 P.M., without the expressed approval of the City Administrative staff requesting the work. No work shall be performed on Saturdays, Sundays or holidays unless authorized by the Public Works Director, or comparable City agent. Bidders should include any/all costs of travel time to and from their place of business to the work-site.

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	
	15" – 18"	Each	
	21" – 24"	Each	
Protruding Service Connection Removal	4"-12"	Each	

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	

Please list any exclusions or additional items:

_____
_____
_____
_____
_____
_____
_____
_____
_____

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER: _____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: _____

STATE OF INCORPORATION, IF APPLICABLE:
_____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

Current Date: June 21, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

Matthew F. Fitzgerald
PURCHASING MANAGER

Please see attached our response to several questions received related to this Bid.

Receipt of Addendum No. 1 to the City of Portland's Bid #19100, On Call Trenchless Technology Services, is hereby acknowledged.

COMPANY NAME: _____

SIGNED BY: _____ **DATE:** _____

PRINT NAME & TITLE: _____

ADDRESS: _____

_____

ZIP CODE

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

1. *Does the liner need to be UV cured?*

   The answer is yes, and we did look at submissions regarding thermal curing and since this is not UV cure, it would not be acceptable as part of this RFP. This RFP is specifically for a method of curing and this alternate product uses hot water/steam, which we would only consider for a much more comprehensive project.

2. *In the cost proposal can you please clarify the following:*

   a. *For the Protruding service connection removal – Are these being priced for protruding services to be removed within a pipe to be lined or in the event the city simply wants a protruding service to be removed in any pipeline?*

      It was meant for the pipe to be lined. They can provide a price for any intruding lateral in the additional items as something like "The above intruding lateral cost is for pipes to be lined, any other intruding lateral will cost "" to be removed."

   b. *Manhole lining – It appears to be requesting a per each price for any 4' manhole 0-50' in depth. These are typically priced per vertical foot (vf).*

      Put the cost of what a 4' manhole would be at their vertical foot price and then put the vertical foot price in the additional items.

TED BERRY company, llc
A VORTEX COMPANY

EXHIBIT B

City of Portland Purchasing Office
Room 103 City Hall
389 Congress Street
Portland, Maine 04101

Ted Berry Company LLC.
521 Federal Road
Livermore, Maine 04253
(207) 897-3348 office

Re: **"On-Call" Trenchless Technology Services - Bid #19100**

Ted Berry Company Introduction and Qualifications: Founded in 1972 the Ted Berry Company has deep roots in the local community with its home base located in Livermore, Maine less than one hour from the City of Portland. As part of the Vortex family of companies the Ted Berry Company has national resources that can back and support its local efforts here in Maine.
https://www.vortexcompanies.com/

The Ted Berry Company has completed various projects for the City of Portland and for neighboring municipalities ranging in size and complexity and has become a trusted service provider to the City. From unplanned emergency services and comprehensive condition assessment programs to large scale planned trenchless rehabilitation projects, the Ted Berry Company has proven its reliability and resiliency. We offer industry leading technology and an extremely knowledgeable staff of over 75 local employees and a team of over 300 across our partner companies in the U.S.

The Ted Berry Company has the technology and local expertise to provide on-call services to the City of Portland in a timely and cost effective manner for rehabilitation of its aging sanitary sewer infrastructure including its pipes and manholes. No local or national company has the proximity to the City of Portland with the stock of materials to be able to respond timely to a city request. At our Livermore facility we store UV CIPP materials in a wide range of diameters and thickness configurations, Quadex GeoKrete, Hyperform, and QuadPlug for the rehabilitation of manholes and structures, CIPP sectional point repair materials for any size pipe and configuration, as well as a fleet of support equipment like CCTV trucks, combination vac trucks, and full by-pass pumping capabilities.

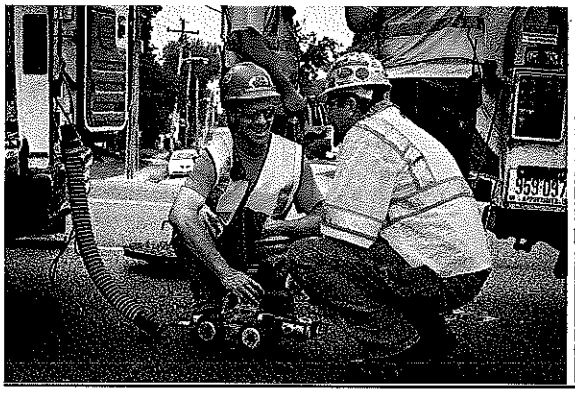
Simply put we can respond and we can respond with the right materials for the request and a highly trained team for their installation.

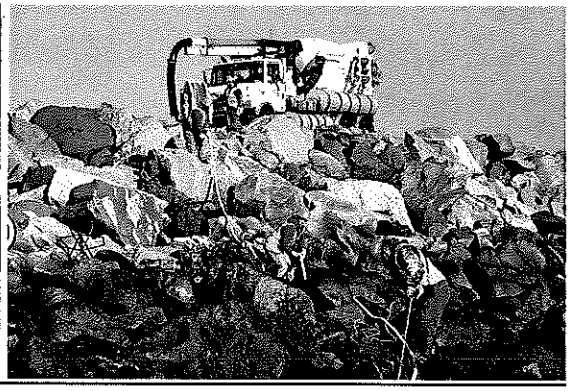
The Ted Berry Portland Project Team: additional information on attached resumes

- Matt Timberlake - Regional Vice President and Vortex National Leadership Team. 25+ years underground utility industry leadership. Matt is directly involved with day-to-day operations as a hands-on leader and resource to the project team. Matt's ability to stay in front of the ever-evolving technologies and to recognize the needs of our customer base has allowed TBC to set the standard for trenchless rehabilitation in the Northeast.
- Isaiah Bean – Trenchless Operations Manager. 15+ years' experience with progressive leadership in the constructions industry with over 6 years focused on trenchless technologies. Isaiah has supervised/managed many multi-month/year projects that include UVGRP Lining, CIPP Sectional Repairs and Geopolymer Manhole Lining.

- Dave Beauchamp – Operations Management Team. 10+ years' experience focuses on comprehensive condition assessment projects and specifically responsible for multiple year contracts in the City of Portland, Maine.
- Shawn Ready – Operations Management Team. 15+ years' experience specifically involved in the growth of the application of trenchless technologies in the Northeast with current duties focused on crew production and efficiency.
- Matt Bronish – Trenchless Field Project Manager. 8 years' experience at Ted Berry; Trenchless rehabilitation and replacement with a focus on pipe bursting, pipe lining and structure rehabilitation.
- Andy Bryant - Field Project Manager. 25+ years' experience at Ted Berry Company. Pipeline cleaning and rehabilitation with a focus on pipe lining.
- Michael Paradis - Field Project Manager. 4 years' experience at Ted Berry with increasing rehabilitation responsibilities. Mike oversees the UVGRP Lining team.
- Support staff of more than 75 local employees - http://www.tedberrycompany.com/about-us/our-team/

Allocation of Resources -The Ted Berry Company operates under a structure that allows all team members to participate in our success and are accountable for safety and project performance. This collaborative effort is not common in today's workplace; however, the camaraderie that exists within our company and the pride in work is evident throughout our crews.





Management Team - The Ted Berry Company management team consists of a mix of the ownership, operations staff and administrative staff that work collaboratively on achieving defined goals and providing a high level of service to its customers. Operating efficiencies and managing overhead are critical functions of the Management Team. There are daily, weekly, quarterly, and annual goals with KPI's that drive critical decision making all while maintaining close working relationships with our customers.

Field Operations - The Ted Berry Company Field Operations Team is made up of over 75 employees, which comprises between 12-18 daily work teams dependent on the project responsibilities of any given day. The field staff is a highly trained group who are in direct contact with their direct supervisors on a daily basis. All field staff are tracked with our internal labor utilization reports which

allows operations management to monitor real time where productivity or efficiencies can be gained, there are a number of key performance indicators (KPI's) in regard to individual and service group performance that are viewed daily by senior staff. All Ted Berry Company Field Supervisory staff has 'smart phones' and data packages so communication of critical project data and the company staffing schedule are available real time in the field. **All Field Supervisors and Project Managers are OSHA 30 certified and all technicians are OSHA 10 certified.**

On Call Approach: In the wastewater industry, our customers operate and maintain their systems 24 hours per day, 365 days per year and they occasionally require service outside normal business hours. Ted Berry welcomes the opportunity to respond to emergency requests as they arise as part of our commitment to excellent customer service.

Ted Berry Company already provides the City of Portland with On-Call Emergency Vacuum and CCTV services. TBC can also provide emergency crews to rehabilitate failing sewer pipes and structures through various measures in as little as 24 hours' notice. A stock of various materials is kept on hand to meet the needs of most emergency rehabilitation needs. The Ted Berry Company provides emergency cleaning and investigation services 24 hours per day, 7 days per week. A minimum of two people area available, with at least CDL operator. On call employees are expected to respond to emergencies by reporting to work within 2 hours of notification.

Proposed Products and Technologies (Product documentation and Reference list has been attached):

1. **Reline America UVGRP**
   a. https://www.relineamerica.com/

2. **Trelleborg Sectional CIPP Repairs**
   a. https://www.trelleborg.com/en/pipe-seals

3. **Quadex GeoKrete Manhole Lining**
   a. https://www.vortexcompanies.com/products/repair-materials/

Matthew Timberlake
Regional Vice President
Ted Berry Company LLC a Vortex Company

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: 1

COMPANY NAME: Ted Berry Company LLC

AUTHORIZED SIGNATURE: [signature]

DATE: June 25. 2019

PRINT NAME & TITLE: Matthew Timberlake, Regional Vice President

ADDRESS: 521 Federal Road Livermore, ME 04253

E-MAIL ADDRESS: matt@tedberrycompany.com

PHONE NUMBER: 207-897-3348 FAX NUMBER: 207-897-3627

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: Partnership

STATE OF INCORPORATION, IF APPLICABLE: Maine

FEDERAL TAX IDENTIFICATION NUMBER (Required): 01-0438838

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

Current Date: June 21, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

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****

Matthew F. Fitzgerald
PURCHASING MANAGER

Please see attached our response to several questions received related to this Bid.

Receipt of Addendum No. 1 to the City of Portland's Bid #19100, On Call Trenchless Technology Services, is hereby acknowledged.

COMPANY NAME: Ted Berry Company LLC

SIGNED BY: [signature] **DATE:** June 25, 2019

PRINT NAME & TITLE: Matthew Timberlake, Regional Vice President

ADDRESS: 521 Federal Road Livermore, ME 04253

ZIP CODE

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	100.00
	10"	LF	110.00
	12"	LF	120.00
	15"	LF	140.00
	18"	LF	153.00
	21"	LF	176.00
	24"	LF	190.00
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	70.00
	10"	LF	78.00
	12"	LF	86.00
	15"	LF	102.00
	18"	LF	113.00
	21"	LF	133.00
	24"	LF	145.00
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	65.00
	10"	LF	72.00
	12"	LF	80.00
	15"	LF	95.00
	18"	LF	105.00
	21"	LF	125.00
	24"	LF	135.00

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	2650.00
	15" – 18"	Each	3500.00
	21" – 24"	Each	4000.00
Protruding Service Connection Removal	4"-12"	Each	225.00

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	275.00

Please list any exclusions or additional items:

Injection of chemical grouts for water stop in pipe or manhole rehabilitation if needed.

Excavation to repair collapsed pipe or to facilitate pipe repair prior to lining.

Clarification of "Manhole Lining" item. Pricing of $275.00 is per VF (verticle foot) not per each.

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Ted Berry Company LLC

2 Business name/disregarded entity name, if different from above
Ted Berry Company, LLC

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☒ Partnership ☐ Trust/estate

☒ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ P

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
521 Federal Road

Requester's name and address (optional)

6 City, state, and ZIP code
Livermore ME 04253

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
☐☐☐ - ☐☐ - ☐☐☐☐

or

Employer identification number
01 - 0438838

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ Amanda Lyon Date ▶ 2-1-19

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

TED BERRY
company, llc
A VORTEX COMPANY

Relevant Experience List

City of Portland Bid#19100

TED BERRY company, llc
A PORTLEK COMPANY

Ted Berry Company LLC - City of Portland Maine reference list
Bid #19100

Owner/GC	Project Name	Name & Phone #	Contract Amount	Footage	Diameter	Date Completed	Type
York Sewer District:T-14-960	Church and Railroad CIPP	Tim Haskell (207) 363-4232	37,700	450	8"	2015	S
Saco, City of:T-15-205	Bear Brook Cross Country Sanitary Sewer Project	Chris Gallant	53,250	700	14"	2015	S
York Sewer District:T-15-700	UV CIPP/FELT CIPP/Point Repair Multiple Locations	Mike Tibbets (207) 651-1256	38,111	550	8"	2015	S
DeFelice Corporation:T-15-249	City of Nashua Sewer Replacement - UV-CIPP	Stew McCormick (978) 377-5044	44,916.80	700	15"	2015	S
Bangor, City of:T-15-589	Pearl St. UV CIPP Project	Jamie Brooker (207) 944-6229	28,500	185	8"	2015	S
Greater Augusta Utility District.:T-15-957	24" x 475' Old Winthrop Road UVCIPP	Andy Begin (207) 622-3701	45,001.50	450	24"	2016	S
Auburn Water & Sewerage Districts:T-16-00183	2016 Sanitary Sewer Liner Projects	Mike Broadbent (207) 754-3176	70,800.00	1300	8"	2016	S
Hillsborough NH, Town of Water & Sewer:T-16-00204	2016 CIPP Contract	Paul Dutton (603) 464-7983	98,465.00	2000	8"	2016	S
Engineered Construction Services:T-15-548	3,000' UV CIPP Lining - February 19th Bid Date	207-576-3745	330,065	2050	8"	2016	S
Engineered Construction Services:T-15-548	3,000' UV CIPP Lining - February 19th Bid Date	207-576-3745	330,065	500	12"	2016	S
Engineered Construction Services:T-15-548	3,000' UV CIPP Lining - February 19th Bid Date	207-576-3745	330,065	350	15"	2016	S
Engineered Construction Services:T-15-548	3,000' UV CIPP Lining - February 19th Bid Date	207-576-3745	330,065	600	18"	2016	S
Durham, Town of.:T-16-00350	15" x 80' UV CIPP Runaround Pond Rd.	Calvin Beaumier (207) 353-3281	12,688.11	140	12"	2016	D
Shaw Brothers:T-16-00255	MDOT - Biddeford Sliplining	Mark Barnes (207) 839-2552	128,933.54	1100	8"-14"	2016	S
Sargent Corporation:T-16-00278	MDOT Newport CIPP Bid	(207)827-4435	30,645.07	380	12"	2016	S
K.R. Youland & Son, LLC:T-16-00617	Mainland Development - Murray Hall Lining	207-225-2694	7,212.68	100	12"	2016	S
York Sewer District:T-16-00591	Combined Freeman Street	Tim Haskell (207) 363-4232	44,763.62	500	8"	2016	S
Sunset Development, Inc.:T-16-00387	Charles Street Sewer Replacement and Stillwater Interceptor Lining Project	Joe Reinzo (207) 944-9337	67,218	600	20"	2016	S
Lou Silver Construction:T-16-00729	2016 INFRASTRUCTURE IMPROVEMENTS - UV CIPP	Barney Silver (207) 745-9871	27,191.50	500	8"	2016	S
CCI Solutions, LLC:T-16-00677	PNSY Base-wide Sewer Inflow and Infiltration Repairs	(207) 620-7172	320,000.00	2340	8"	2016	S
CCI Solutions, LLC:T-16-00677	PNSY Base-wide Sewer Inflow and Infiltration Repairs	(207) 620-7172	320,000.00	1000	10"	2016	S
CCI Solutions, LLC:T-16-00677	PNSY Base-wide Sewer Inflow and Infiltration Repairs	(207) 620-7172	320,000.00	300	15"	2016	S
CCI Solutions, LLC:T-16-00677	PNSY Base-wide Sewer Inflow and Infiltration Repairs	(207) 620-7172	320,000.00	860	18"	2016	S
Weaver Brothers Construction Inc.:T-16-00903	NH Route 393 UV CIPP Project	603-228-8631	75,900.00	350	36"	2017	D
Lou Silver Construction:T-16-00729	2016 INFRASTRUCTURE IMPROVEMENTS - UV CIPP	Barney Silver (207) 745-9871	52,027.00	280	10"-15"	2017	S
Waterville Sewerage District:T-16-00878	Main St. UVCIPP Project	207-873-5191	17,131.30	300	12"	2017	S
Oakland, Town of:T-16-00869	386' UV CIPP Liner	Boyd Snowden (207) 465-7198	23,010	300	12"	2017	S
Greater Augusta Utility District.:T-16-00612	Townsend Rd. 36" CMP UVCIPP	Andy Begin (207) 622-3701	18,750	50	36"	2017	D
Laconia NH, City of:T-16-00959	UV CIPP 12" VCP x 501lf	603-524-3877	28,832.55	380	8"	2017	S
CPM Constructors:T-15-581	Camden UV CIPP Lining DOT Win 20491.00	Bruce Surek (207)865-0000	26,000.00	200	18"	2017	D
Jay, Town of:T-16-00922	UV CIPP 12" x 115' Jewell St.	(207)897-6785	10,000	120	12"	2017	S
Bangor, City of:T-17-00269	Broadway Sewer CIPP liner 2017	John Theriault (207) 992-4250	121,480.17	560	15"	2017	S
Bangor, City of:T-17-00269	Broadway Sewer CIPP liner 2017	John Theriault (207) 992-4250	121,480.17	800	24"	2017	S
Norway Savings Bank:T-15-847	Bridgton Culvert Rehab Under ATM	Michael Noble (207) 595-4617	78,400	300	36"	2017	D
Verso Corporation:T-17-00400	Cured in Place (CIPP) lining of 1 Primary Clarifier Underflow Lining	Chuck Kraske (207) 931-8636	55,842.58	240	10"	2017	S
Kittery, Town of Sewer Dept:T-17-00311	State Street Sewer and Manhole Lining	George Kathios (207) 752-0689	64,300.00	850	24"	2017	S
R.S. Audley, Inc.:T-17-00497	I-93 - Windham 24" UVCIPP Liner	Fred Kenison (603) 224-7724	66,000.00	250	24"	2017	D
Bangor, City of:T-17-00379	Line Segment DW500	Chip Swan (207) 659-4747	9,736.35	200	8"	2017	S
Bangor, City of:T-17-00471	UVCIPP Line Segment AP 203	Chip Swan (207) 659-4747	7,944.62	180	8"	2017	S
Lou Silver Construction:T-17-00050	2017 CSO Abatement Phase 3.5	207-942-8074	156,642.00	1000	15"	2017	S
Lou Silver Construction:T-17-00050	2017 CSO Abatement Phase 3.5	207-942-8074	156,642.00	450	18"	2017	S
Lou Silver Construction:T-17-00050	2017 CSO Abatement Phase 3.5	207-942-8074	156,642.00	800	22"	2017	S
Bangor, City of:T-17-00553	Columbia St. UVCIPP Bid	Chip Swan (207) 659-4747	30,676.00	200	12"	2017	S
York Sewer District:T-17-00588	Sea Turn Motel Line UVCIPP	Kevin Eaton (207) 451-7063	28,892.16	300	12"	2017	S
Saco, City of:T-17-00049	Main St. CIPP Project	207-284-6641	301,547.25	1800	36"	2017	S

TED BERRY
company, llc
A VORTEX COMPANY

Fleet Asset List

City of Portland
Bid#19100

TED BERRY company, llc
A VORTEX COMPANY

TBC 2019 Equipment List Description
Vehicles
2002 Ford F-250
2008 Ford Fusion
2000 Ford F-550 Flat Bed
2008 Chevy Van (Clear Drains of Maine)
2010 Ford Focus
2002 Chevrolet Blazer
2007 Ford Focus
2008 Ford Focus
2009 Ford Focus
2016 Ford F-150
2017 Ford F-150
2017 Ford F-150
2017 Ford F-150
2014 Ford Fusion
2010 Ford Focus
2008 Ford Fusion
2009 Ford Fusion
2012 Ford Fusion
2011 Ford Fusion
2005 GMC Sierra 3500 Dump Truck
2004 International 4300 Service Truck
2008 International 4300 Service Truck
2015 Ford F-550
2016 Ford F-550
2016 Ford F-550
2016 Ford F-550
2016 Ford F-550
2019 Ford F-250
CCTV Trucks
2013 Ford E-350 CCTV Truck ARIES with MSI capability
2014 Ford E-450 SD CCTV Truck CUES
2008 Isuzu NRR CCTV Truck ARIES
2015 Ford Transit T-150 Cargo Van
2017 Ford E450 CCTV Truck ARIES
2017 Ford F550 CCTV Truck CUES with MSI capability
2018 Ford Transit Connect Van (manhole Spider van)
Off-road Kubota inspection unit
Trucks/CDL Vactors
1996 GMC Kodiak Vac-Con CityVac
2008 Sterling 2115 L-Line C-13 Cat Vactor

2003 Sullair 185 Portable Air Compr mounted on truck #120
2017 Sure Trac Utility Trailer SN#ST8220TAT-B-100
2017 Sure Trac Utility Trailer SN#ST8220TAT-B-100
2017 Stealth C8X14S Cargo Trailer
2005 5 x 8 enclosed trailer
2005 ECTR Trailer model BP0921 DE
2014 SGAC Cargo Utility Trailer
CIPP Support Equipment
Perma-Lateral Lining Inverter - Large
Bowman Dominator 4-30 6" to 24" Cutter #240
Perma-Liner Lateral Inverter - Small
Perma-Liner Lateral Inverter - Large (2)
HDPE Equipment
McElroy #618 HDPE fusion
McElroy #618 HDPE fusion
ElectroFusion Machine Central EZ Fuse
Internal Bead Remover
Ritmo Extrusion Gun RSB 20 extrusion welding
McElroy 28 Dynamic HP 2 Jaw
Portable Pumps/Support Equipment
8" Hydraulic Pump / Sludge Boss with 8" pump head
8" Thompson Prime Assist Pump
4" Powerprime SADV100 4SAPump
6" 2000 Thompson/Deuts Self-Priming Pump
Power Prime pump model # DV-150
Daewoo Excavator
Light Tower
Hurst equipment trailer (#110)
Hyster Forklift
JD 790 4wd tractor
Easement Machine #1
Easement Machine #2 (Stanley)
2017 Mattson ML525W Mini Walk Behind Skid Steer Loader
2015 John Deere 130G Excavator

TED BERRY
company, llc
A VORTEX COMPANY

UV CIPP

Manufacturers detailed installation, maintenance, and repair instructions.

City of Portland
Bid#19100

RELINE AMERICA

Ted Berry Company, Inc.
521 Federal Road (Berry Hill / Rt# 4)
Livermore, ME 04253

TO WHOM IT MAY CONCERN:

This letter certifies that Ted Berry Company, Inc. is fully licensed by the CIPP manufacturer, Reline America, to install all Alphaliner product.

Regards,

Mike Burkhard
President

MB/rm

116 Battleground Avenue – Saltville, VA 24370
Phone 276.496.4000 – Fax 276.496.4870 – Toll Free 866.998.0808
www.RelineAmerica.com

ADVANTAGE ™
INTERNATIONAL REGISTRAR

ISO 9001:2008
CERTIFICATE OF REGISTRATION

This is to certify that

RELINE AMERICA, INC.

116 Battleground Avenue
Saltville, VA, 23470 USA

has successfully been assessed and found to conform with the ISO 9001:2008 quality management system standard.

The scope of this registration includes:

Design and manufacture of rehabilitation liner for the trenchless repair of sewers and pipes and associated laboratory support

Date of Registration: September 13, 2013
Date of Expiration: September 12, 2016

Date issued/revised : September 09, 2013

(Registered Since: September 13, 2010)

Certificate No. A-619

Steve Barfoot, President
Advantage International Registrar, Inc.

ANAB ACCREDITED

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

1320 Woodmanor Drive, Raleigh, North Carolina 27614 USA
(Form No. AI 097/05, www.advantageregistrar.com, Tele: (919) 846-6864)

Manufacturer's detailed installation, maintenance, and repair instructions

PREPATORY WORK

In preparation for the lining work, the installer must first visit the project site and confirm that the information contained in the project plans and specifications are a complete and accurate representation of the pipes to be lined; and where the information contained in these documents is inadequate, gather the information needed to prepare a wall thickness design of the individual liners to be installed, their precise dimensions (diameter of pipe and length of the reach, and the horizontal geometry of the pipes. In addition to documenting these pieces of information, the installer shall also measure and record the depth of each manhole, the diameter of the ring opening and manhole shaft, and configuration of the invert in order to plan for the equipment required to pull the liner into the subject pipe reach. This site inspection should also include gathering the information for any bypassing of the flow(s) in the pipe and/or diversion of traffic around the work area.

Restrained quality assurance samples are best obtained at an intermediate manhole provided the invert's horizontal alignment will permit the placing of the sample form in this location. Special care and planning is required if the restrained sample must be taken at either the upstream or downstream manhole of an individual reach. Reline America recommends in these cases that the installer make the sample above ground in a sample tube if restrained; or in a flat plate configuration if using the flat plate sample curing fixture. Since the same configuration of the lights, their intensity, and exposure time can be easily duplicated above ground for UV-light curing of the resin system, this procedure produces the most representative sample of the in ground cured CIPP liner.

This is also the time to locate an appropriate site to store the liner and park the construction vehicle before performing the work. The liner should be stored in a dry location at a temperature between 46°F/8°C and 76°F/24°C. If the liner is stored at a lower temperature (less than 40°F) it must be thoroughly warmed up to 40°F prior to handling. Warming a cold liner can take several days depending on the size, thickness and length of the liner. Depending on the type of vehicle, loading equipment may be required on-site. Waste receptacles should be provided for the disposal of any construction debris.

PREPARATIONS PRIOR TO INSTALLING THE LINER

A CCTV camera inspection of the pipe to be lined is required to confirm that the pipe has been cleaned and that any damaged sections requiring a point repair have been so repaired in accordance with the Owner of the piping system. This inspection will also be used by the installer to determine if the liner's installation should be made in the direction of the flow in the pipe or against the flow in the pipe.

Protruding obstructions must be removed or made smooth to prevent damage to the liner during insertion or when expanding with air. This includes, but is not limited to, the following.

A. Protruding shards (sharp objects)
B. Protruding laterals
C. Protruding roots

D. Deposits (mineral or otherwise)
E. Protruding seals
F. Offset joints (> ½ inch / 1.0 cm)
G. Collapsed areas with restricted pipe size

The cutting robot system used to remove and smooth out these obstructions needs to be equipped with at least one remote-controlled pan and tilt (axial/radial) camera that constantly monitors each step in the process and is equipped to record this on video.

Sharp objects and protrusions that cannot be completely removed from the pipe make it absolutely necessary to use a slip sheet as part of the installation process in order to minimize potential damage to the liner. A slip sheet will be most helpful when the protrusions, voids or sharp objects are between the three o'clock and nine o'clock positions.

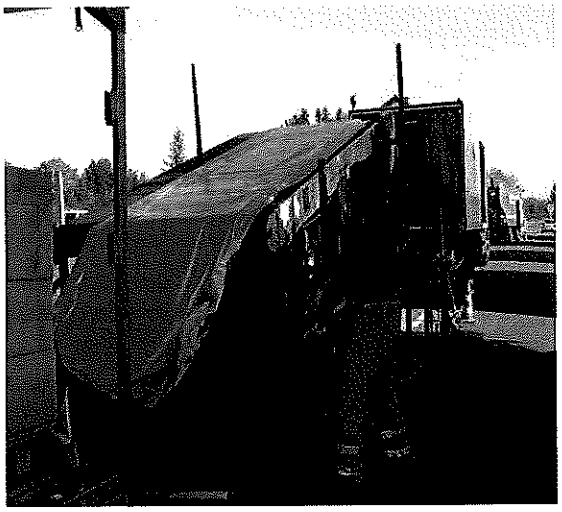
ALPHALINERs are designed to typically be expanded up to 8%. Changes in the pipe's size or diameter cannot be accommodated by this liner system. If the size change occurs between access structures a new manhole structure must be installed at this juncture.

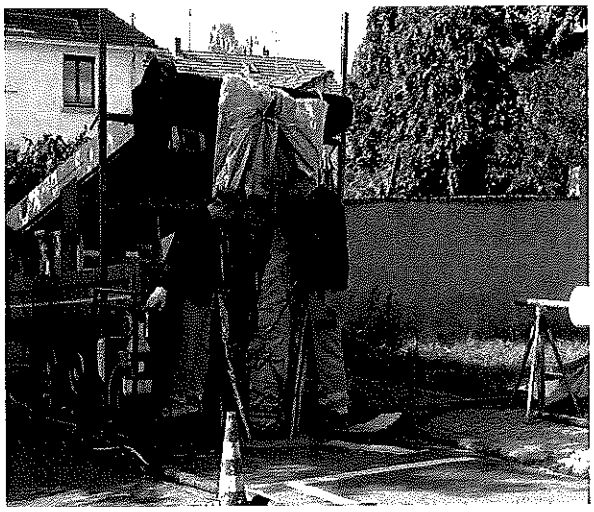
Water observed to be entering the pipe under pressure must be sealed prior to commencing the installation of the liner. External pressure exerted by such incoming water may restrain the proper expansion of the liner and cause it not to completely conform to the old pipe. *The installer should never increase the internal air pressure above the recommended level in order to overcome an external hydrostatic pressure.*

THE ALPHALINER INSTALLATION PROCESS

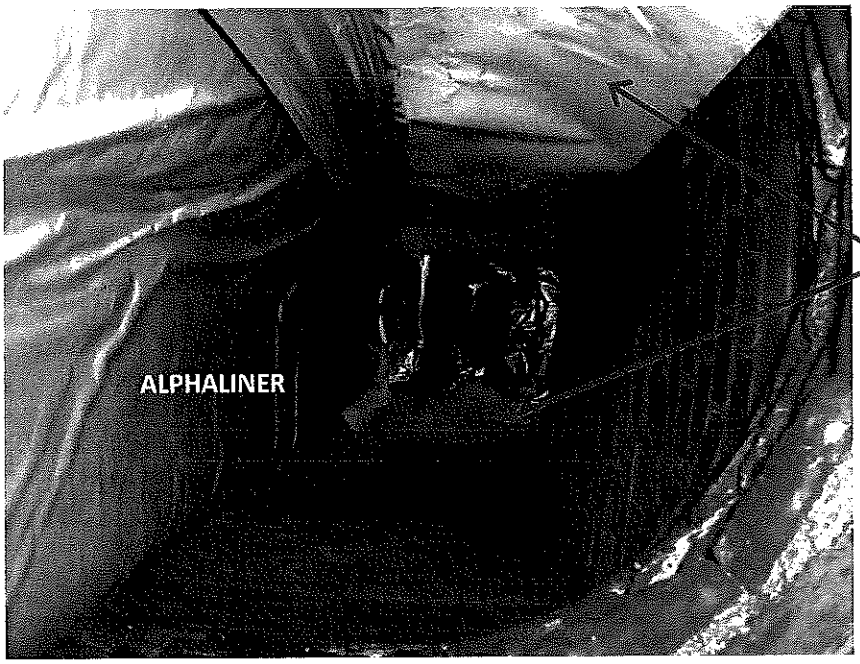
Before the installation process is started, the job site must be properly prepared as follows:

1. Position the UV Truck (or portable UV equipment with power source) and constant tension winch to the manhole with the most appropriate access (generally the downstream manhole if accessibility is the same at both manholes) and secure in place according to traffic regulations. This should be opposite of the 3rd man winch.
2. Position the Service Truck (with the blower and liner box) to the opposite manhole (generally the upstream manhole) and secure in place according to traffic regulations.
3. Usually the Service truck is at the same manhole used by the CCTV inspection.
4. Prepare the blower as the air supply.
5. If the channel in the manhole is bent, modify it to allow room for the liner and packer so that no edges or creases are created.
6. Position the slip sheet above the manhole on the same side as the constant tension winch using a steel shaft and two tripods.
7. Position the liner near the manhole opposite the constant tension winch. If using a conveyor belt (recommended for 18 inch diameters and above), place the belt between the liner box and the manhole opening (see pictures below).





Care should be taken to protect the outer foil of the liner at all times. The slip sheet used in the pipe should typically be extended all the way to the top of the manhole where the liner is being inserted (see picture below).



Slip sheet

When pulling the liner into the host pipe the installer should be careful not to exceed the maximum drawing force of the bands installed in the liner for this process (maximum speed of pull-in is limited to 20 fpm). The table below shows those forces.

Diameter of the ALPHALINER, inches	Maximum Drawing Force, lbf

6 inch	4,500
8 inch to 10 inch	9,000
12 inch to 18 inch	11,000
20 inch to 28 inch	24,000
30 inch to 54 inch	27,000

Once the final layer of liner can be seen in the shipping crate the speed of the pulling should be decreased so that the arrival of the liner at manhole 1 can be accurately drawn into its desired location. This location is determined by the size of the packer head to be attached and the length to accommodate the making of a restrained sample, if required.

Once the liner is in position in manhole 1, the installer must stop the winching process and maintain the pulling force on the liner for a minimum of 15 minutes. This allows the liner to contract longitudinally, Thus annealing any tensile stress in the bands that could possibly create radial creases in the finished liner during processing.

Once this relaxation period has been completed, the installer shall cut the excess liner from the manhole 2 end, being careful not to cut the tag line (thin rope placed inside of the liner during its construction at Reline America). The cut end shall be taped to seal the resin from coming into contact with any water that may be present in the manhole. Taping the end shut is done for two reasons; 1) resin coming into contact with standing water might emulsify and not cure properly, and 2) the inner film is kept protected from being separated from the liner risking damage due to air infiltration between the liner and the inner foil. Finally, the installer is to make a small incision at the crest of the liner near the mouth of the host pipe; which will serve as an escape hole (burp hole) for air that is in between the liner and the outer film.

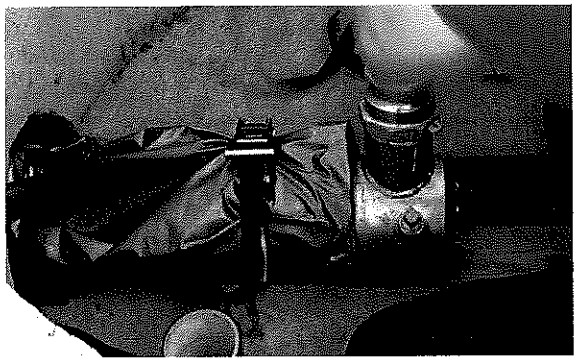
At manhole 1 the installer should now remove any excess liner and tape the end shut as was done in manhole 2. If desired, an expansion prevention sleeve is positioned onto the sealed end of the liner near the mouth of the host pipe.

The procedure for the installation of the packer heads is based upon the size of the liner being installed.

For liners in the size range 6 inch through 18 inch the steps are as follows:

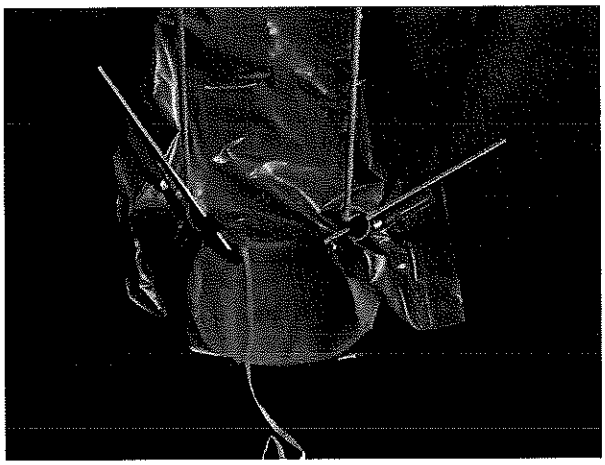
1. The liner is lifted at the apex using the palm of your hand and the creases on the base and apex are smoothed out by hand.
2. The packer is then inserted a short distance into the new opening.

3. While pushing the packer further into the liner opening, reach in and smooth out any creases in the liner and feed it in an inch at a time.
   Caution when installing the packer: Avoid damaging the inner film.
4. The packer is pushed into the liner until the stud bolts cover the liner end.
5. The packer is then securely bundled together using at least two or three clamping straps. [See picture below]



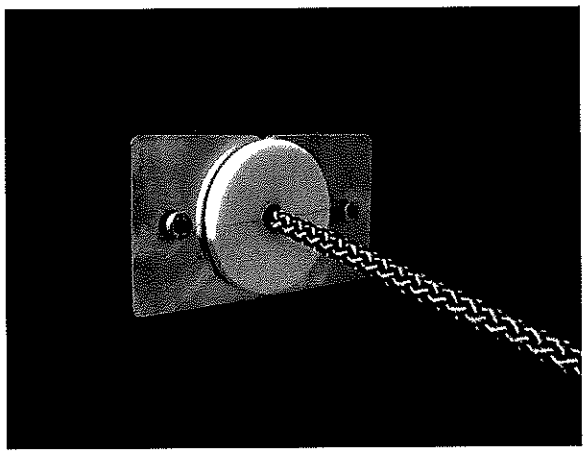
For liners in the size range 20 inches to 40 inches, the steps are revised as given below:

1. Fasten at apex of liner with 1-2 screw clamps; a cable is latched onto these. The screw clamps are pulled up from the outside the manhole (see picture below).



2. Insert and install the packer (without the face plate) according to the instructions for 6 inches to 18 inches given above.
3. As an alternative, an inflatable ball (such as an exercise ball) can first be inserted into the liner about 2 feet and inflated until the end of the liner has taken shape and is being supported by the ball. The packer (without the face plate) can then be carefully inserted into the liner according to the instructions for the size range 6 inch through 18 inch. [Note: Once the packer reaches 28 inches in size it comes split into sections so that it can fit through the manhole opening. These size packers are assembled in the manhole and installed as described above.]

At manhole 1, attach the tag line to the Kevlar rope used for pulling in the light train and seal the opening with the venture nozzle (white plastic fitting in picture below). This is an important step and the installer should make sure that the gasket is in place and in good condition. This prevents excessive air leakage which can affect the quality of the curing in small diameter liners.



The blower hose should now be connected to the packer head. The manometer hose should be connected to the packer at this time as well. [*The manometer is used to monitor the pressure in the liner during the curing process; making sure that the installer adheres to the prescribed inner pressure for the subject liner.*]

The downhole pulley for the rope should be installed.

The winch for the light chain (Kevlar rope) should now be assembled over the manhole.

Turning to manhole 2, the liner end is held shut with the tag line securely held in the installer's hand while the liner is slowly filled with air (maximum pressure at the manometer should be 2.0 psi). This task will sort out the inner film and prepare the liner to have the light train inserted into position.

Once the liner has opened fully and taken the shape of the host pipe, the tag line shall be withdrawn from the liner at manhole 2. The tag line is now untied from the light chain and the light chain fixed to the light set required for the size and thickness of the subject liner. The curing cable should now be connected to the other end of the light train. [Note: the curing cable should be threaded through the venture nozzle of the packer head.] At this time the installer should perform a complete system check of the ALPHALINER curing system.

Once the system check is complete and the technician has verified all is in proper working order, the light train can begin to be inserted into the liner. This insertion process requires careful coordination between the pulling of the rope at manhole 1 and feeding in the light train at manhole 2. *This entire in-*

sertion process should be monitored on the CCTV screen (image coming from the curing camera on the light train. It is very important that the inner film does not become torn during this process. Once this process is complete, the blower shall be turned off so that the packer head can be installed at this end of the liner.

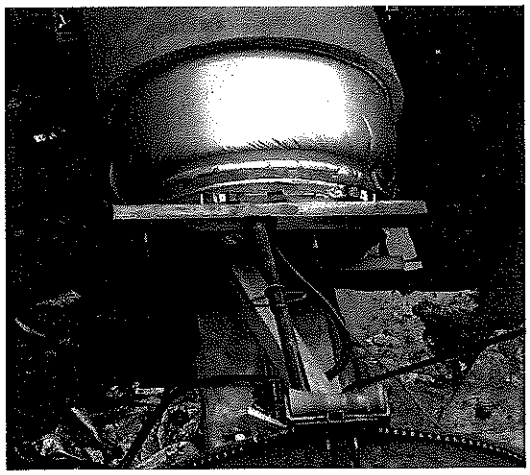
For liners being installed in pipes 20 inches in diameter and larger, the light train insertion process requires that the installer attach an 8 foot length of inner film and attach it to the outside of the packer. The first section of the larger light train is then carefully placed inside this film. The end of the film tube shall then be held shut and the liner inflated enough to open it up for the insertion of the light train. This entire process should, as stated above, be monitored to ensure that the inner film remains undamaged throughout this process.

The above process is repeated until all three sections of the larger light train are inside the liner. The 8 foot of film can now be discarded. The packer head end plate can now be assembled to the ring.

The liner should be expanded using the blower to a pressure of 2 psi. At this point t he packer heads shall be secured on both ends of the liner to prevent any further longitudinal expansion. The inflation procedure shall be staged as recommended in the next paragraph.

The inflation pressure inside the liner is brought up the recommended inflation pressure in 1 psi increment at 5 minute intervals. If the liner's temperature is below 50°F, the time at each pressure step must be increased to 10 minutes. During this inflation process, the installation crew shall be very diligent in checking for any styrene odor emanating from the liner. This is usually an indication that the inner film has been breached and a new inner film must be installed before the installation can be continued.

The picture below demonstrates the anti-twisting bracing in place.



It is recommended that a piece of colored tape be wrapped around the curing cable at a distance of 4 inches in front of the arm of the cable drum. This practice will allow the curing technician to have an additional indication of when the light train has returned fully to its starting position in manhole 2.

The light train is now winched to manhole 1. During this process the curing technician should use the curing camera to confirm that there are no potential defects in the liner's fit with the host pipe.

Once the technician is satisfied that everything is ready to commence the curing process the UV lamps can be turned on per the current ALPHALINER Cure Chart. The pulling speed for the light train shall initially be one-half of the recommended speed for the subject liner. This is to ensure that there are no dead zones to the light curing process at the start due to the spacing of the lamps. Once the prescribed distance has been reached the technician should bring the pulling speed up to the recommended curing speed.

While the curing process is underway the technician should pay careful attention to the temperatures being recorded. At no point should the temperature be allowed to surpass 275°F; as this will burn the inner film making it more difficult to remove after the curing has taken place.

In the event that the temperature during the curing process does spike and stay elevated above the 275°F, the technician shall speed up the light train's rate of travel 0.5 fpm. After 5 minutes has passed, if the temperature continues to be elevated, the technician shall again increase the rate of travel by 0.5 fpm. This process should be repeated until the temperature drops below the 275°F.

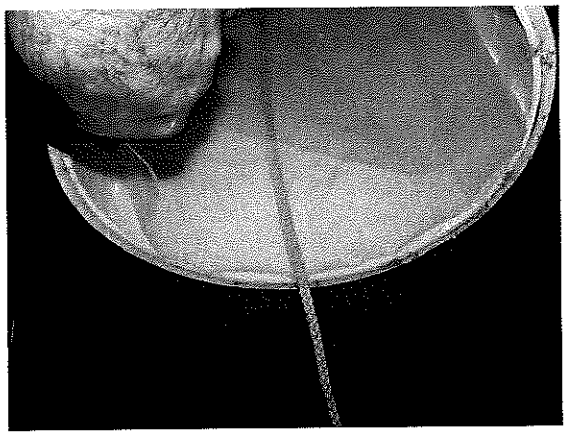
At approximately 12 feet from reaching the end of the curing process the rate of travel shall again be reduced to approximately one-half of the recommended curing speed. As the tape marking emerges from the manhole the pulling speed shall be set to 0 fpm; and the remaining processing shall be accomplished by slowly pulling the light train into the packer by hand.

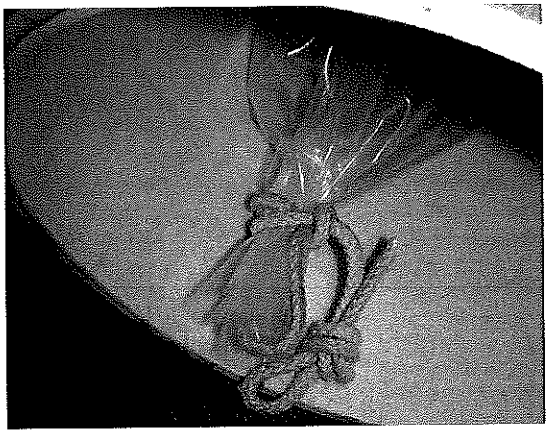
At this point the UV lamps should be turned off in the sequence currently recommended by Reline America.

After the lamps have all been turned off, the blower shall be turned off and an installation crew member shall remove the packer head from the liner at manhole 2. Once the packer head is removed and the light train extracted from the liner, the blower shall be restarted and run for approximately 30 minutes to cool the inner film so that it will be strong enough for its removal.

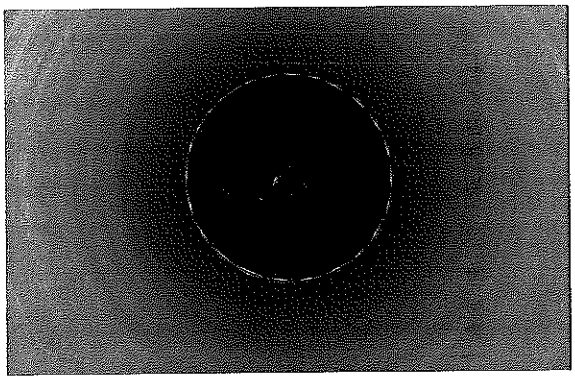
Stop the blower and remove the packer from manhole 1.

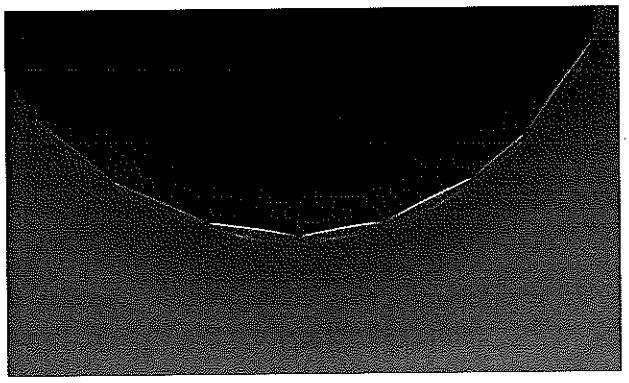
Detach the inner film from the hardened liner at manhole 2 and tie the light chain (Kevlar rope) to the end as shown in the pictures below.





Cut the hardened liner flush with the manhole wall at both ends of the liner. Samples may be taken from the restrained areas where the non-expansion sleeve was installed. Then slowly remove the inner film by a smooth steady pulling with the winch at manhole 1.





The above pictures show the inner film being retrieved.

The liner should now be inspected and the lateral reconnection process begun. A final video survey of the finished liner should be made once all the laterals are reopened; but before any bypassing of the flows in the subject reach is terminated so that a full 360° view of the finished liner can be obtained.

ALPHALINER™
By RELINE AMERICA

Properties As Installed

Quality Assurance Testing Results – Manufacturer	Alphaliner 500	Alphaliner 1500
Circumferential Flexural Modulus (psi) (DIN EN 1228)[1]	1,378,000	1,740,000
Curved Beam Flexural Modulus (psi) (ISO 178)[2]	1,218,000	1,653,000
Curved Beam Flexural Strength (psi) (ISO 178)[2]	26,110	30,460
Porosity of finished liner (APS Water Tightness Standard)[3]	Insignificant (0%)	Insignificant (0%)
Wall thickness of the finished liner (mm) [4]	"per design"	"per design"
CIPP Design Properties & Qualification Testing Results		
Chemical Resistance [5]		
Corrosion Resistance Enhanced Polyester Resin	See note 5	See note 5
Vinyl ester Resin System	See note 5	See note 5
Strain Corrosion Resistance (ISO 10952) [6]	0.68%	0.68%
Conformance with Host Pipe [7]	Excellent	Excellent
Fiber Reinforcement [8]	E-CR Fiberglass	E-CR Fiberglass
50-year Strength Retention Factor [9]	0.625	0.750
Liner rinsing performance qualification test [10]	Pass	Pass
Wicking at cuts in finished liner [11]	Insignificant (0%)	Insignificant (0%)

[1] DIN EN 1228 is a test method that determines the initial ring stiffness which is a measure of the ring's response to bending immediately upon loading. The initial ring stiffness returns a more accurate stiffness than the three-point bend test method (ISO 178 or ASTM D790) because it is measured on a complete ring, which represents a more realistic sample than a sample cut out from a ring. Modulus values obtained from complete hoops (rings) are in the range of 5-15% higher than those obtained from curved beam samples per ISO 178 (three-point bending test). This is most likely attributable to the complete hoop's ability to carry some of the loading in thrust similar to the actual in place liner's response to a bending load. DIN EN 1228 is quite similar to the ASTM D 2412 parallel plate deflection test which takes the specimen to the point of cracking. ISO 7685 appears to have replaced this test in the current version of ISO 11296-4.

[2] The ISO 178 and ASTM D 790 test methods are designed to measure the flexural strength of flat specimens using three-point bending. Because of the Alphaliner's isotropic design, a curved beam specimen must be substituted for the flat beam specimen. ISO 11296-4, Annex B, provides the specific changes necessary to use adapt the ISO 178 test method to perform the required quality assurance testing on field samples of liners with an isotropic glass fiber reinforced liners. Further, per the Note 2 therein, the engineer is advised that this modification to the testing has demonstrated that the curved specimen will generally deliver modulus values that are in the range of 10-15% lower than that of the flat beam specimen with the same matrix (resin and orientation of the glass fibers). (While the ASTM D 790 could be similarly modified for the curved beam specimen, Reline America is still investigating the wisdom of using this test method.)

[3] DIN EN 1610 is the installation standard for new pipe construction. Section 13 of this standard covers the procedures and requirements for testing gravity pipelines using either pressurized air or water. The allowable leakage rate, or drop in pressure, is based upon the diameter of the pipe being tested and the differential pressure created by the slope of the pipe. This is analogous to the ASTM F 1216 and F 1743 allowable leakage rates being based on new pipe installation standards. Reline America promotes the testing of the pipe wall itself to determine whether the liner is "tight" or "not tight".

[4] The wall thickness is calculated using an approved engineering approach. The installer should always submit the calculated minimum value and not the nominal thickness manufactured for the installation. The quality assurance testing is based upon the minimum required finished thickness. The wall thickness together with the physical properties of the finished liner establishes the factor of safety achieved by the installer in the field. Reline America previously issued a calculator to its installers which use the design appendix X.1 in ASTM D1216. Ed Kampbell has designed a new calculator for Reline America that allows one to use a more technically sound approach to this design appendix; and also contains a new and much improved design approach that takes proper advantage of the Alphaliner material properties, especially with non-circular shaped pipes.

ALPHALINER™
By RELINE AMERICA

Properties As Installed

[5] The chemical corrosion resistance performance of the enhanced orthophthalic polyester resin used by Reline America is quite superior to the standard isopthalic polyester resins used by most CIPP system manufacturers. Recent, unpublished test results done by an independent lab in accordance with Reline America's "Greenbook pickle jar testing" effort have demonstrated that this enhanced polyester resin reaches the performance levels previously only attainable with vinyl ester resins. Once Reline America has fully digested the data from this testing, it is highly likely that this will begin to blur the line between when our standard polyester resin is required versus our vinyl ester resin system. That being said, corrosion resistance performance is only part of the equation when selecting the appropriate resin system for a particular application.

[6] Strain corrosion testing must be performed on liners containing reinforcing fibers other than the standard polyester fibers. The specified ISO 10952 determines the resistance to chemical attack of a liner in deflected, or strained, condition. A range of estimated deflections is selected such that the times to failure of at least 18 test pieces will be distributed between 0.1 hours and over 10,000 hours; with 4 failures occurring between 10 and 1000 hours, 3 failures occurring between 1000 and 6000 hours, and 3 failures occurring at greater than 6000 hours (at least one of which must exceed 10,000 hours). The interior of each of these full ring test pieces is exposed to a corrosive test fluid maintained at the specified concentration while being maintained in a fixed diametrically deflected condition. The results are plotted in a graph that is used to fit a curve that can be used to calculate an extrapolated defection value for a specified period of time greater than that of the test. The greater the deflection after a set time, the better the liner is in its resistant against chemical attack. The minimum failure strain level after 50 years is set in ISO 11294-4 at 0.45%. Alphaliner came in considerably better at a 0.68% strain.

[7] Both Alphaliner 500 and 1500 are dimensioned and designed to conform to the contours of the host pipe's geometry very tightly. Alphaliner 500 and 1500 both have at least a 10% expansion capability built into their design. With the ID of the host pipe measured for each and every reach of pipe prior to its manufacture, the Alphaliner glass fiber tubes have the ability to expand differentially to the demands of any localized deviations from the pipe's global geometry (jogs, offsets, damage, etc.) making for an unrivaled fit compared with other UV cure liners.

[8] The fiberglass reinforcements in both the Alphaliner 500 and 1500 systems are of a corrosion resistant E-glass, commonly referred to as E-CR glass. The use of glass fibers meeting this class designation is essential to the finished liner's performance in the types of environments into which it can be installed. In addition to the fibers themselves, it is the sizing that is put onto the fibers to create the mechanical lock or bond between the resin and the fiber that assures the long-term composite action of this system. The selection of the fibers, the choice of the resin system, and the coordination of the type of sizing are tightly controlled by the materials design process.

[9] Sustained external hydrostatic loading on a liner can over time exact a circumferential shortening of the liner which, in turn, can lead to localized bending in the region of the liner where the radius is the greatest (most flattened). Using the test method described in the DIN EN 761 the Alphaliner systems have been subjected to a ring deformation of three percent and the amount of pressure or load to maintain this deformation is then recorded over a time period up to 10,000 hours at prescribed points along this timeline. These data points are then plotted in a graphical format where a line can be fitted to them that allow an engineer to extrapolate what the value would be at the end of the stated design life of the liner. Typically this design point is 50 years (or 438,000 hours). The value estimated at this design life point (i.e. 50 years) is compared to the initial or short-term value derived from the ISO 178.The ratio of the long-term estimated value to the initial value is the percentage retained. Given the stability of the glass fiber reinforcement, the retention factors for the Alphaliner systems are much higher than the standard felt fiber and resin CIPP.

[10] The liner firmness in rinsing is a qualifications testing process to assure that the finished liner can stand up to the powerful jetting used today to remove debris and obstructions that will be a part of the service life of the CIPP liner. The level of the cleaning pressures, the angle of the hydraulic jets, and the cleaning actions (speed of retrieval) normally used are applied to the liner to simulate the level of hydraulic action the hardened liner must endure throughout its proposed 50 year life cycle. This is used to evaluate the toughness of the liner materials in this very real world requirement.

[11] Reinstating branch connections to the new liner presents an opportunity for the fluid in the pipe to enter the liner matrix via the fibers if they have not been properly sized to hold tight to the resin matrix. If this were to happen the structural integrity of the liner wall could become compromised. Testing for the potential for wicking action of water through any cut edges in the liner is an essential part of the design validation (qualification) process.

TED BERRY
company, llc
A VORTEX COMPANY

Geopolymer MH lining

Manufacturers technical data sheet.

City of Portland Bid#19100

GEOKRETE® GEOPOLYMER
TECHNICAL DATA SHEET

Rev. 04-2018

QUADEX™ A VORTEX COMPANY | REPAIR MATERIALS

Typical Performance Characteristics

- Compressive Strength (ASTM C39)
  28-days >8,000 psi
- Flexural Strength (ASTM C78)
  28-days >800 psi
- Bond Strength (ASTM C882)
  28-days >3,000 psi
- Modulus of Elasticity (ASTM C469)
  28-days = 5.49 x 10^6 psi
- Chemical Resistance (ASTM C267)
  0% mass loss in 8 week
  sulfuric acid @ PH 1.0 immersion
- Chloride Ion Penetration Resistance (ASTM C1202)
  28-Day < 250 Coulombs (very low)
- Split Tensile Strength (ASTM C496)
  28-days >900 psi
- Shrinkage (ASTM C1090)
  28-days ≤ 0.02%
- Freeze Thaw (ASTM C666)
  No visible damage after 300 cycles
- Abrasion Resistance (ASTM C1138)
  6 Cycles at 28 Day – loss <1.0%

STRUCTURAL REHABILITATION MORTAR

DESCRIPTION

Quadex™ GeoKrete® geopolymer is designed to provide corrosion resistant protection in a high hydrogen sulfide environment, increase structural integrity and eliminate the infiltration of groundwater in deteriorated structures. GeoKrete is a factory blended, one component, fiber reinforced geopolymer mortar synthesized from pozzolanic materials of industrial byproducts, enhanced with monocrystalline quartz aggregate. The GeoKrete geopolymer reaction mechanism is polymerization which yields superior physical properties and chemical resistance. It can be applied in one pass up to several inches thick on horizontal or vertical surfaces by low pressure spraying or spin cast application process.

RECOMMENDED FOR

Structural restoration of large diameter pipe, both storm and sewer, consisting of metal, concrete, stone, masonry and others. Other structures such as manholes, wet-wells, and treatment plants also benefit from the superior strength and corrosion resistance properties of this advanced geopolymer.

FEATURES AND BENEFITS

- Quality controlled, one-component blend for uniform results.
- High early and ultimate compressive, flexural and bond strengths.
- Resistant to acid attack in wastewater streams with pH as low as 1.0 and temperature as high as 170°F for industrial effluent.
- Extremely low permeability.

PACKAGING

GeoKrete geopolymer is supplied in 60 lb. (27 kg.) poly-lined bags or 1,000 lb. (454kg) super sacks.

YIELD

One 60-lb. bag of GeoKrete geopolymer will yield approximately 0.45 cu. ft. and will cover 10.9 sq. ft. at a 1/2 inch thickness.

PROCEDURE

Prepare surface to be patched by removing unsound concrete, dirt, dust, oil and other debris using high pressure (3,500 PSI) water blasting. Then rinse with potable water to remove all remaining dirt, sand and loose debris. This will provide a clean, damp surface to allow for a good bond.

Use approximately 0.4 to 0.5 gallons of potable water per 60 lb. bag of GeoKrete geopolymer. First add water to mixer, start the mixer and add GeoKrete geopolymer until mortar is completely mixed. Once all geopolymer material and water has been added to mixer, it needs to mix for approximately 5 minutes prior to being dumped into material hopper.

Apply GeoKrete geopolymer by low pressure spraying or the spin cast application process on horizontal or vertical surfaces to a monolithic thickness of 1/2 or more inches.

CURING

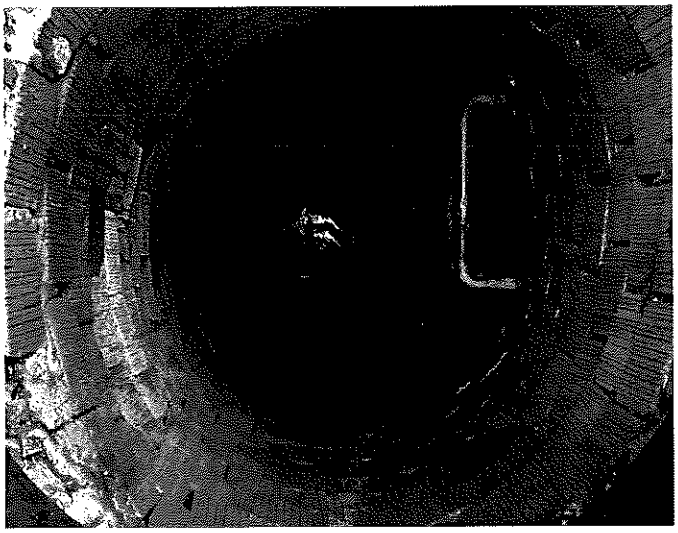
Cure in accordance with manufacturer's recommendations.

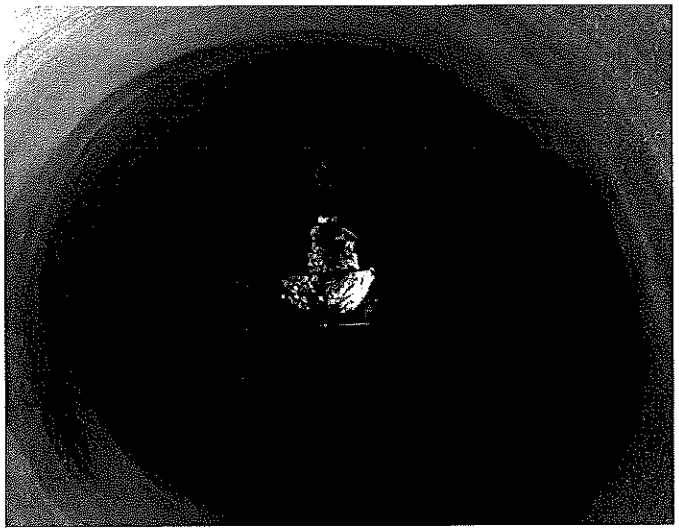
WARRANTY

Quadex warrants its products to be free of defects in material and workmanship. Quadex will replace any product proved to be defective when applied in accordance with manufacturer's instructions. Quadex's obligation shall be limited solely to such replacement. There are no other warranties by Quadex, expressed or implied.

PRECAUTIONS

Avoid eye contact or prolonged contact with skin. Wash thoroughly after use. Persons using Quadex GeoKrete geopolymer should wear necessary eye protection, dusk mask and rubber gloves. Read all product labels and technical literature.





TED BERRY
company, llc
A VORTEX COMPANY

Sectional CIPP

Manufacturers procedure manual

City of Portland Bid#19100

TRELLEBORG
ENGINEERED SYSTEMS

epros® DRAIN PACKER

Procedure Manual epros® Drainpacker
For Trenchless Repair of Damaged Buried Sewer
Lines

epros® DRAIN PACKER

Procedure Manual

Manufacturer:

TRELLEBORG

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TPSM - Simon Burke

epros® DRAIN PACKER

Procedure Manual

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TRS - Simon Burke

Procedure Manual

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epros®FibreGlassMat CRF (+) 1400 g/m²
epros®SilicateResin type W
epros®SilicateResin type W01
epros®SilicateResin type S
epros®Hardener for silicate SilicateResin types W, W01, S, L30E1 and L30E3

Technical Data Sheets

epros®FibreGlassMat CRF (+) 1050 g/m²
epros®FibreGlassMat CRF (+) 1400 g/m²

Reports

Site Visit
Preparation & Installation Report
Leakage Test

Charts

Calculation of silicate resin usage amounts and cut sizes for epros®FibreGlassMat CRF (+) 1050 g/m²
Calculation of silicate resin usage amounts and cut sizes for epros®FibreGlassMat CRF (+) 1400 g/m²

TESM - Simon Burke

Procedure Manual

Introduction

In trenchless rehabilitation methodology, a general distinction is made between sectional or part repairs by means of patch or short liners and complete renovation of sewers and pipe runs using the cured-in-place pipe lining techniques.

The sectional repair of non man-entry sewer lines with the help of short liners has established itself as a sophisticated economical and technical alternative to traditional repair techniques with digging.

This method is meanwhile a proven economical method for extending the remaining service lives of pipe runs in need of spot repairs until full-scale renovation will be required.

A basic condition is that the materials used in sectional repairs are suitable for this type of application and that the installation process meets stringent quality criteria.

TPSM - Simon Burke

I Applications

The epros®DrainPacker method is suitable for the sectional repair of buried damaged gravity sewer pipes and pressurised pipelines. The process provides structural repair with a frictional fit in sewer pipes of public and private sewage systems. Repairable pipe sizes range between DN 50 and DN 1200 (General Technical DIBt Approval for DN 100 to DN 800) and include diverse egg-shaped cross-sections.

Repair lengths are between 0.5 metres and about 5 metres, depending on the packer design (please refer to the related operation and maintenance manual of the packer).

For repair lengths exceeding 5 metres, it is possible to use the epros®DrainPacker process in an overlapping approach, but it is important not to change the at least 3-layered fibreglass mat construction.

Longer pipe segments need to be repaired from pipe joint to pipe joint. Circular and egg-shaped pipes in concrete, asbestos cement, plastics (PVC, PP, HDPE), cast iron, ductile cast iron, reinforced concrete and vitrified clay can be repaired.

Lateral junctions that will no longer be used can be blanked off.

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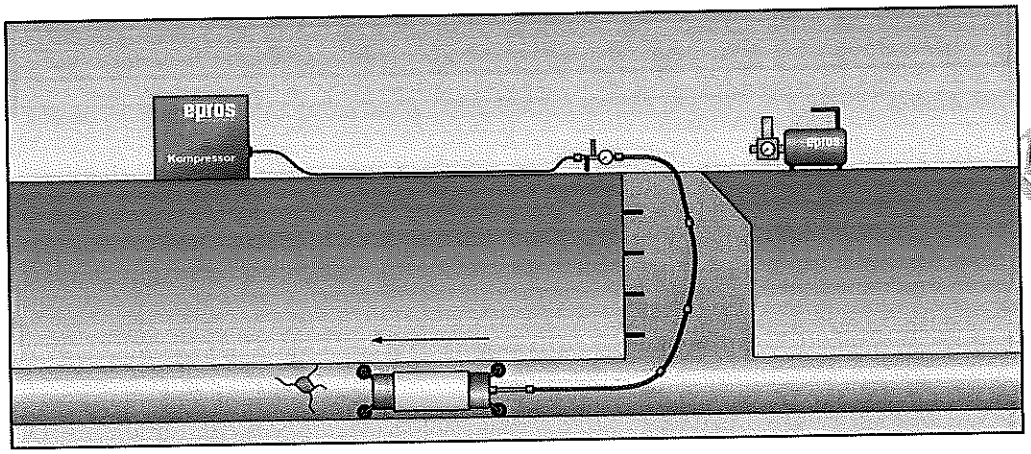
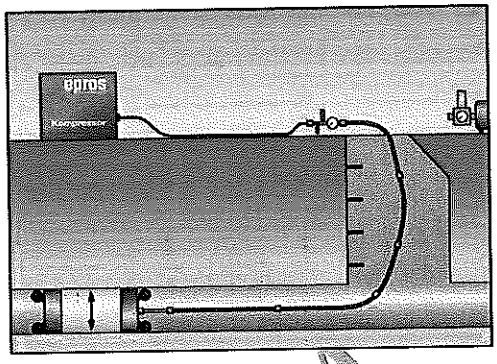
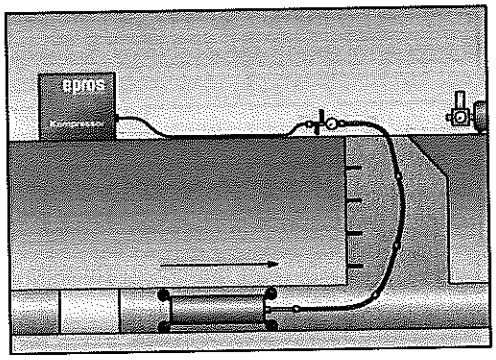
Procedure Manual

The Method at a Glance







A renovation packer carrying a wrapped-around resin-wetted fibreglass mat is pushed with the help of air push rods or pulled by means of a rope to the point of repair. The exact position of the point in need of repair is determined beforehand by TV inspection.

When the epros®DrainPacker has reached the correct position, it is gradually inflated by means of compressed air. This causes the packer to expand towards the pipe wall and press the impregnated fibreglass mat in a tight fit against the host pipe with excessive reaction Resin penetrating into the damage. This creates a permanent bond between the fibreglass mat and the host pipe wall.

The resin-impregnated fibreglass mat will be cured at ambient temperature according to the resin manufacturer's instructions. The required cure times depend on the climatic conditions in the sewer.

After complete cure of the reaction of the resin, the packer is deflated and removed from the pipe.

The cured fibreglass mat covers the full area of the repaired pipe section without obstructing the service flow. The pipe-in-pipe system thus created forms an integral system with the host pipe and fully meets the hydraulic requirements.

In the end, the repaired pipe section will be inspected and documented with a CCTV camera. The leakage test will be performed according to EN 1610.

TPSMike

Damage Evaluation

As mentioned in the beginning, the epros®DrainPacker process was designed as a trenchless sectional repair method for performing spot repairs in sewer pipes by means of short liners.

To come to a conclusion whether or not a given damage qualifies for the sectional repair process or would require a manhole-to-manhole relining job, it is necessary to pass a TV camera through the pipe run as a first method of approach.

The sectional repair method can be used for renovating damages up to a continuous length of about 5 metres in the pipe or joint area. For repair lengths exceeding 5 metres, the epros®DrainPacker process can be used in an overlapping method.

Types of Damage

The epros®DrainPacker method is suitable for the following types of damage:

- Leakage with or without groundwater infiltration or exfiltration at pipe joints, pipe walls, junctions, etc.
- Offset pipes, cracks and debris, ruptures
- Mechanical wear
- Corrosion

ATTENTION!	The epros®DrainPacker process cannot be used for repairing extreme offsets, collapsed pipes, large cross-sectional reductions in conjunction with bedding problems and longitudinal cracks of pipe connections.

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Calculation and Final Proof

If the Client requires proof of structural integrity, a preparatory structural calculation of the short/long liners according to Worksheet ATM M 127-2 will be made before starting the job. Said calculations may be submitted for verification to a generally accepted independent institute. Further proof and documentary evidence regarding the performance and result of the repair job will be generated within the scope of self-assessment and self-control (refer to page 17 -> "Self-Control").

Operating Conditions

- The leakage test will be performed according to EN 1610 and thus meet the requirements laid down therein.
- Resistant to pH range 3 to 12.
- Withstands sewage temperatures up to 85 °C.
- Abrasion resistance according to DIN 19545-1.
- Future sewer cleaning operations must always observe the instructions given in Worksheet ATV 143-7.
- Maximum cleaning pressure: 80 bar.
- Maximum cleaning speed: 0.3 m/s. Flush nozzle design with maximum 270 l/min.

TPSM - Simon Burke

II Job Preparation

Equipment / Materials

The installer must provide:

- Compressor
- Power generating set
- Equipment for service flow management
- Sewer cleaning accessories
- Sewer inspection equipment
- Cutting robot or mechanical pipe cleaning device
- Inflatable pipe plugs
- Material for sampling
- Personal protective equipment
- Usual hand tools (screwdriver etc.)
- Equipment for site safety and accident prevention according to applicable regulations

Components of the epros®DrainPacker method

Trelleborg Pipe Seals Duisburg offers various lining packers including accessories and required consumables, which are geared to the needs of a given application and designed for easiest handling with optimal lining results.

Section V gives a summary of all components for the implementation of the method.

The functional description of the packers can be found in the operation and maintenance manual of the given model.

The method description also refers to the following epros®DrainPacker materials:

TPSM - Simon Burke

CRF fibreglass matting
Trade name:
epros®FibreGlassMat CRF (+) 1050g/m²
epros®FibreGlassMat CRF (+) 1400g/m².

IMPORTANT!	Detailed information ➔ Safety Data Sheets (Appendix) epros®FibreGlassMat CRF (+) 1050 g/m² epros®FibreFlassMat CRF (+) 1400 g/m².

Hardener
Trade name:
epros®Hardener for SilicateResin types W01, W, S, L30E1, L30E3

IMPORTANT!	Detailed information ➔ Safety Data Sheet (Appendix) epros®Hardener for silicate SilicateResins W01, W, S, L30E1, L30E3 (Component A)

SilicateResins
Trade names:
a epros®SilicateResinType W01
b epros®SilicateResinType W
c epros®SilicateResinType S

IMPORTANT!	Detailed information in the Appendix ➔ Safety Data Sheet epros®SilicateResinType W01 (Component B) ➔ Safety Data Sheet epros®SilicateResinType W (Component B) ➔ Safety Data Sheet epros®SilicateResinType S (Component B)

ATTENTION!	Observe the storage temperatures and shelf lives of SilicateResins and hardeners. ➔ Safety Data Sheets in the Appendix

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Job Preparation Measures

Site Safety
Site safety measures must comply with the generally applicable rules and regulations. The installer is solely responsible for site safety.

Site Visit

1. Inspect and record the damages with a TV camera (➔ Chapter"Damage types", page 9). When doing so, also record the positions of lateral connections to be re-opened after lining. Note this in the site report ➔ Appendix

2. Define/check:

   - Length to be repaired (e.g. 0.5 m)
   - Distance of point of repair from beginning of pipe run
   - Pipe diameter (e.g. DN 150)
   - Loads and condition of the pipe
   - Temperature conditions
   - Sewer depth
   - Exact position of lateral connections

3. Diverse camera systems are equipped with length meters to determine the accurate lining position. We recommend the following procedure:

   - Position the camera at the very centre of the damaged section.
   - Read the length meter (if this option is available).
   - Use adhesive tape to mark the camera connection cable at the starting point of the pipe run.
   - Withdraw the camera from the pipe and measure the length of the cable from the adhesive tape mark to the lens of the camera.

4. Make sure the site is accessible.

5. Fix the period for the lining job. Within such period, no sewage shall be allowed to be discharged into the pipe section to be repaired. Take preparatory measures to ensure this.

6. Check the entire equipment.

7. Grind off any flow obstacles that might cause damage to the packer during installation.

TSM Simon Burke

Procedure Manual

8. For ensuring a permanent bond with the host pipe, the wall of the host pipe must be cleaned and given a preparatory treatment immediately before the installation of the short or long liner. Take care to remove any grease or other residues from the pipe wall surface.

   For smooth-walled pipes such as vitrified clay pipes, it is important to prepare the walls by scuffing the surface. Concrete pipes and pipes with similar surface structure must be prepared by milling. Said preparatory grinding or milling operation should be performed at least in the two end regions of the short or long liner as follows: Nominal diameter (DN) divided by two – but in any case no less than 300 mm (according to Worksheet ATV-DVWK-M 143 Part 7 Section 4.4.1)

9. The complete pipe section to be repaired must be properly cleaned before the lining operation is started.

TPSM - Simon Burke

AGREEMENT BETWEEN THE
CITY OF PORTLAND
AND
NATIONAL WATER MAIN CLEANING COMPANY

THIS AGREEMENT is entered into this 15th day of July, 2019, by and between the **CITY OF PORTLAND,** a body politic and corporate, (hereinafter the "**CITY**"), and **NATIONAL WATER MAIN CLEANING COMPANY,** a New Jersey corporation with a mailing address of 25 Marshall Street, Canton, Massachusetts 02021 (hereinafter the "**CONTRACTOR**").

W I T N E S S E T H:

WHEREAS, the **CITY** is in need of sewer pipe rehabilitation and did advertise a Request for Applications #19100 entitled ""On-Call" Trenchless Technology Services," dated June 7, 2019 as amended by Addendum No. 1 dated June 21, 2019, (hereinafter, collectively, the "Request for Applications"), a copy of which is attached as Exhibit A and made a part hereof; and

WHEREAS, the **CONTRACTOR** has the requisite knowledge and technical ability to perform the required services and has submitted a proposal for the provision of such services dated June 24, 2019, (hereinafter, the "Proposal"), a copy of which is attached as Exhibit B and made a part hereof; and

WHEREAS, after due consideration, the CITY did award the bid to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CONTRACTOR** will furnish the materials, supplies, equipment and labor (hereinafter the "Work") in accordance with the specifications contained in the Request

for Applications issued to the Contractors, and also in accordance with the **CONTRACTOR's** Proposal.

The restatement in this document of any term of the Request for Applications or Proposal shall not be deemed to waive any term not so restated. If any disagreement is found between Request for Applications or the Proposal and this document, then this document shall govern; and the Request for Applications shall govern over the Proposal, to the extent they disagree; provided, however, that this document and its attachments shall be construed to be supplemental to one another to the extent possible.

2. The CONTRACTOR covenants and agrees that all Work performed and furnished hereunder shall be free from all defects, and that all Work shall be performed in a good workmanlike manner. Unless a longer warranty period is specified in the Exhibits hereto, all Work provided shall be warranted by the CONTRACTOR for one (1) full year from the date of completion of all Work hereunder and acceptance thereof by the CITY. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. Prior to the execution of this Agreement, the CONTRACTOR will procure and maintain:

- Occurrence based Commercial General Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence-based Automobile Liability Insurance coverage in amounts of not less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury, death and property damage;
- Occurrence based Pollution Liability Insurance coverage in amounts of not less than Two Million Dollars ($2,000,000.00) per occurrence;
- Workers' Compensation Insurance coverage to the extent required by law, which shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees;

With respect to the Automobile and Commercial General Liability Insurance, the CONTRACTOR shall name the CITY as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available to the CITY under the Maine Tort Claims Act, other Maine statutory law, judicial precedent, common law, or any other defenses, immunities or limitations of liability available to the CITY. Prior to execution of this Agreement, the CONTRACTOR shall furnish the CITY and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the CITY of termination of insurance from

the insurance provider or agent. CONTRACTOR shall also provide a copy of any endorsement naming the CITY as additional insured. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. Upon CITY'S request, CONTRACTOR shall provide CITY with a complete copy of any of the above-referenced policies. CONTRACTOR shall be responsible for any and all deductibles and/or self-insured retentions (not to exceed $10,000.00 without prior written approval of Corporation Counsel). CITY's acceptance or lack of acceptance of CONTRACTOR's Certificate of Insurance or other evidence of insurance shall not be construed as a waiver of the CONTRACTOR's obligation to obtain and maintain such insurance as required by this agreement. If the CONTRACTOR maintains broader coverage and/or higher limits than the minimum shown above, the CITY requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONTRACTOR. (*In the event that the Contractor requires access to the City's network or if the Contractor will be accessing or storing any sensitive City data, the City may also require Contractor to carry cyber liability insurance).*

4. [Intentionally omitted.]

5. To the fullest extent permitted by law, the CONTRACTOR shall defend, indemnify and hold harmless the CITY, its officers and employees, from and against all claims, damages, losses, and expenses, just or unjust, including, but not limited to, the costs of defense and attorney's fees arising out of or resulting from the performance of this Agreement, provided that any such claims, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use therefrom, and (2) is caused in whole or in part by any act or omission of the CONTRACTOR, anyone directly or indirectly employed by it, or anyone for whose act it may be liable. Such obligation of indemnification shall not be construed to negate or abridge any other obligation of indemnification running to the CITY which otherwise exists. The extent of the indemnification provision shall not be limited by the provision for insurance in this Agreement. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

6. Prior to any payment, the CITY reserves the right to require Waivers of Lien for materials and labor from the CONTRACTOR and its subcontractors and suppliers guaranteeing One Hundred Percent (100%) performance, free and clear from all liens and encumbrances. Any mechanic's lien or any other lien which may be filed against the premises which are the subject of this Agreement by reason of the Work described herein shall be defended (by counsel reasonably acceptable to the CITY) and promptly discharged by the CONTRACTOR at its own expense. The CITY may require the CONTRACTOR to provide a bond satisfactory to the CITY to indemnify it against any lien and as a substitution in place of a lien. If the CONTRACTOR should fail either to defend the CITY against the lien or to discharge it, then the CITY may do so at the CONTRACTOR's expense. In the event of such an undertaking by the CITY, the

CONTRACTOR will promptly reimburse the CITY for all its costs and expenses in so doing, including, but not limited to, reimbursement of the CITY's reasonable counsel fees, as well as costs which may be incurred by it in substituting a bond in place of a lien. CONTRACTOR's obligations under this paragraph shall survive termination of this Agreement.

7. The CONTRACTOR shall perform the work to the satisfaction of the responsible CITY official who will have the right of inspection at all times, and whose approval and acceptance of the work will be a condition precedent to payments by the CITY under this Contract. CITY inspectors will have the authority to stop work in progress if such work is being done contrary to the plans, specifications or engineering practice. CONTRACTOR acknowledges and agrees that such inspection is for purposes of approving payment alone and such inspection shall not be deemed to impose any duty or liability upon the CITY to supervise any aspect of or approve the quality of the Work.

8. Time is of the essence in the performance of this Agreement. Upon receipt of executed contracts and insurance as required, the CITY will promptly send an executed CITY contract to the CONTRACTOR, which will commence work upon receipt. The term of this Agreement shall be for two (2) years following execution. Upon mutual agreement, this agreement may be extended for one year.

9. In the event of any dispute as to the amount, nature or scope of the work required under this Contract, the design and judgment of the Director of the Department of Public Works or his or her designee (hereinafter, the "Director") will be final and binding.

10. For performance of all the terms and conditions of this Agreement, the CITY will pay the CONTRACTOR according to the prices set forth in the Proposal.

11. The CITY shall have the right to retain ten percent (10 %) of each invoice amount as retainage until the Work is completed and accepted by the CITY.

12. The CONTRACTOR shall keep accurate records of all services performed under this Agreement and shall submit such information to the CITY on a monthly basis. Payment for such Work shall be made to the CONTRACTOR not more than thirty (30) days after receipt of an invoice and acceptance of the Work by the Director.

13. The CITY may terminate this Agreement for cause by written notice to the CONTRACTOR. In the event of such termination, the CONTRACTOR shall not be entitled to any further payment under this Agreement from the date of receipt of said notice.

14. The CITY shall have the right to terminate this Agreement at any time for its convenience upon prior written notice to the CONTRACTOR. If the Agreement is terminated by the CITY for convenience, the CITY shall pay the CONTRACTOR for all

Work performed and all materials purchased pursuant to this Agreement prior to receipt of such notice.

15. Out of concern for the public, CITY employees and the CONTRACTOR's employees, all work performed by the CONTRACTOR shall be in conformance with pertinent OSHA, local, state and federal government regulations.

16. CONTRACTOR agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. CONTRACTOR specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by CONTRACTOR where appropriate.

17. No waiver of any breach of any one or more of the conditions of this Agreement by the CITY shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

18. This Agreement and its attachments represents the entire and complete agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the subject matter of this Agreement. This Agreement cannot be amended except by written instrument executed by the CITY and CONTRACTOR.

19. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court.

20. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement. A signature in a pdf or electronic document shall be considered the equivalent of an original signature.

21. CONTRACTOR warrants and represents that it has the full right and authority to enter into this Agreement, that there is no impediment that would inhibit its ability to perform their respective obligations under this Agreement, and that the person signing this Agreement on behalf of CONTRACTOR has the authority to do so.

IN WITNESS WHEREOF, the said **CITY OF PORTLAND** has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, **NATIONAL WATER MAIN CLEANING COMPANY** has caused this Agreement to be signed and sealed by Dennis P. Sullivan its Exec. Vice President the T day and date first above written.

WITNESS:

_____

CITY OF PORTLAND

By: Jon P. Jennings
Jon P. Jennings
Its City Manager

WITNESS:

_____

NATIONAL WATER MAIN CLEANING COMPANY

By: _____
Name: Dennis P. Sullivan
Its: Executive Vice President

Approved as to form:

_____
City Corporation Counsel's Office

Approved as to funds:

_____
City Finance Director

CITY OF PORTLAND, MAINE

DEPARTMENT OF PUBLIC WORKS

"ON-CALL" Trenchless Technology Services
Bid #19100

Request for Applications

The City of Portland, Maine is accepting applications from contractors to provide "On-Call" Trenchless Technology Services, as described herein. The City will accept all applications, submitted on the attached forms, until 3:00 p.m., Tuesday, June 25, 2019. These may be hand delivered or mailed to Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, Maine 04101. The envelope shall be clearly marked "On-Call Trenchless Technology Services".

All applicants are advised that the City makes no guarantee as to the amount of work to be generated by this agreement. The City will contract, at its option, with multiple firms. Contractors will be called, based on the City's specific needs and based on the amount of equipment, crews and their respective prices stated in the application. The length of the contract will be for a year from the date of its signing through.

The City reserves the right to verify applicants' qualifications, capability to perform, availability, past performance record and to verify that the applicant is current in its obligations to the City. The City further reserves the right not to award contracts based on any negative findings to the above and/or failure to promptly sign and return the contract document with all required insurance certificates as instructed. The successful applicant shall have ten calendar days to sign the contract after notification by the Corporation Counsel's Office that it is ready for signature, otherwise his application may lapse at the election of the City.

All applications shall remain open to acceptance for ninety days after they have been opened. Late applications, or those without required signatures or those faxed or those submitted electronically shall not be accepted. You are only required to submit one (1) copy of your bid. Please also submit the most recent copy of your firm's W-9.

All questions must be submitted in writing to the Purchasing Office and be received no later than five working days prior to the scheduled opening date - these may be mailed, hand delivered faxed to 207-874-8652, or e-mail jrl@portlandmaine.gov. The Purchasing Office will be the only office issuing any changes to this Invitation. All changes (addenda) will be in writing and will be sent to registered application holders. The City shall not be responsible for any oral interpretation given by other City personnel or others.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Invitation from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this bid.

The Awarded Contractor will procure and maintain Automobile Insurance and General Public Liability Insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, naming the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law. With respect to the General Liability and Automobile Liability Insurance, The Awarded Contractor shall name the City as an additional insured for coverage only in those areas where government immunity has been expressly waived by 14 M.R.S. A. § 8104-A, as limited by § 8104-B, and § 8111. This provision shall not be deemed a waiver of any defenses, immunities or limitations of liability or damages available under the Maine Tort Claims Act, other Maine statutory law, judicial precedent or common law. With respect to the Liability Insurance, The Awarded Contractor will provide the City a certificate of insurance evidencing such coverage, in this way: certificate must say either: A) "the policy has been endorsed to name the City of Portland as an Additional Insured" and a copy of the endorsement must come to the City of Portland with the certificate, or B) "the policy already includes an endorsement, such as the General Liability Extension Endorsement, by which the City of Portland is automatically made an additional insured." A Certificate which merely has a box checked under "Addl Insr," or the like, or which merely states the City of Portland is named as an Additional Insured, will not be acceptable. The Workers' Compensation insurance shall include an endorsement waiving all rights of subrogation against the City of Portland, its officers or employees. The Awarded Contractor shall furnish the City and thereafter maintain certificates evidencing all such coverages, which certificates shall guarantee thirty (30) days' notice to the City of termination of insurance from insurance provider or agent.

Where applicants are required to enter or go into the City property to inspect, deliver materials or perform work or services as a result of the Invitation, or as a result of a contract award, the applicant and his or her agents will assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance as required.

The successful applicant(s) shall be liable for any damage or loss to the City occasioned by their negligence or their agents. The successful applicant(s) shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its officers and employees, from and against all claims, losses and expenses. The City disclaims any and all responsibility for injury to contractors, their agents or others while examining the job sites or at any other time.

All materials and equipment used as well as all methods of installation shall comply at a minimum with any and all Federal, OSHA, State and/or local codes, including applicable municipal ordinances and regulations.

EQUAL EMPLOYMENT OPPORTUNITIES. Any award recipient agrees to adhere to a policy of non-discrimination in all employment actions, practices, policies, procedures, phases, and conditions of employment. This shall include compliance with the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment. Contractor specifically agrees that all employment-related decisions (including but not limited to hiring, discharge, transfers, promotions, discipline, training, job opportunities, and wage and salary levels) will be made without discrimination based on an individual's race or color, religion, age, sex (including pregnancy), sexual orientation, gender identity or expression, ancestry or national origin, physical or mental disability, veteran status, genetic information, previous assertion of a claim or right under Maine's Workers' Compensation Act, previous actions taken protected under Maine's Whistleblowers' Protection Act, or any other protected group status as defined by applicable law. Provisions in applicable laws providing for bona fide occupational qualifications, business necessity, or age limitations will be adhered to by the developer and its contractors where appropriate.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

June 7, 2019

Matthew F. Fitzgerald
Purchasing Manager

GENERAL REQUIREMENTS & WORK SPECIFICATIONS

The City of Portland is looking for a contractor to provide sewer rehabilitation utilizing Ultraviolet Cured Pipe Lining on an on-call basis to allow the City to rehabilitate pipe sections as needed. Trenchless services for the following:

- UV Cured Pipe Lining (8" to 24")
- CIPP Sectional Repairs (8" to 24")
- Geoploymer Manhole Lining (4' Dia)

It is the intent of the City to enter into an agreement with the firm based on the criteria included in the proposal for work as needed. There is no set amount of work for this contract.

Work must meet relevant ASTM standards including F1216, F2019, F1743, F1417, and D2990.

The finished pipe liner in place shall be fabricated from materials which when complete is chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperature of 150°F.

Field measurements of the existing pipe diameters, ovality and length shall be taken.

The liner thickness shall be sized for a minimum hydrostatic load of 8.0 feet and maximum depth of earth cover as measured in the field. The hydrostatic load shall be increased to the manhole depth plus 1.0 foot for bury depths in excess of 8.0 feet.

The liner shall be structurally designed for a minimum service life of 50 years; fully deteriorated host pipe/direct bury condition; prism loading; 120lb/c.f. soil; factor of safety of 2.0; 2% ovality factor; maximum deflection 5%; soil modulus of 1000 psi; lining enhancement factor maximum 5, H-20 live loading, applicable long term modulus reduction factor; and an appropriate groundwater correction factor applied to the hydrostatic load only.

All UV cured-in-place fiberglass lining products shall comply with ASTM F 2019-03 or intent thereof as determined by the Owner, minimum finished liner thickness 3mm and maximum of 6MM up to 15 inch. For wall thicknesses of a minimum of 3mm to a maximum of 10mm from 18 inch to 24 inch (except for services).

The Contractor shall furnish a general purpose, polyester or vinyl ester UV Curing resin and catalyst system compatible with the Ultra Violet Light Curing. Liner material shall be manufactured with resins pre impregnated within the liner to eliminate the possibility of air bubbles and voids.

The Contractor shall carry out his operations in strict accordance with all OSHA and manufacturer's safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.

It shall be the responsibility of the Contractor to remove all internal debris and clean the existing sewer line prior to installation of the liner. Cleaning and disposal of material shall be performed by the Contractor. Disposal costs of material will be paid by the City.

Inspection of existing sewer lines shall be performed by experienced personnel NAASCO trained in locating breaks, obstacles and service connections by closed circuit television. The interior of the line shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the liner pipe into the lines, and such conditions shall be noted so they can be corrected. A video and suitable log shall be kept for later reference by the Owner. All inspection data must be available in IT Pipes format for viewing and as a deliverable.

Where practicable, liners should be installed in continuous runs where there are two or more continuous manhole segments. This is especially desirable to connect several short manhole segments with a continuous lining.

Provide all plugs, pumps, piping, hoses, and other equipment and material needed to bypass sewage.

Provide Owner with a writing plan for by pass pumping and sewer spill cleanup. Coordinate sewage bypass pumping equipment and hoses with traffic control plan.

All spills including sewage backups that occur must be taken care of in accordance with local and Federal regulations at the Contractor's expense. The Contractor shall be responsible for clean-up, repair and property damage, as well as any claims brought because of sewage spill or sewage back-up. If a spill occurs, Owner must be notified immediately. Wastewater spills into street gutters, storm drains, or open excavations are prohibited.

Maintain on site a reliable backup pump and power generator during all bypass pumping operations in the event of a pump and/or power failure.

Installation shall be in accordance with the manufacturer's recommendations, which shall be available for verification by the Owner.

The Pre-Impregnated UV Light Fiberglass Liner shall be inserted through the existing manhole or other approved access by means of a pull in place process by means of a winch in which will fully extend it to the next designated manhole or termination point.

The Fiberglass Liner shall be inflated in place slightly with air to the manufacturer's specification for installing the UV Chain. The liner will then be inspected with a camera mounted on the UV Chain as it is pulled to the end of the liner. After inspection and complete inflation to manufacturer's specifications, the UV light bulbs will be turned on.

The curing will commence at a rate specified by the manufacturer according to the total dimensions of the size of the liner. Initial cure shall be deemed to be complete when the UV Chain arrives at the initial entry point of insertion.

As the liner is curing the UV Curing System shall record all curing data in DVD (IT Pipes software deliverable, video file to be '.mpg') format for the viewing.

The Contractor shall apply a hydrophilic seal at the terminus of each segment. The seal shall be of a material compatible with the CIPP material.

PROPOSAL REQUIREMENTS

Interested firms are encouraged to submit copies of a proposal for services including, at a minimum, the following information:

- A description of the firm (size, experience, staff, etc.) and resumes of key personnel.
- A listing of company owned equipment expected to be available for proposed services.
- Technical competence of the firm including;
- Past record of performance on similar work.
- References, including contact information, for similar projects occurring within the last three (3) years.
- Familiarity and understanding of the required services.
- A statement of the firm's capacity to fulfill the requirements of the services and its expected response time to calls for service.
- Product documentation and submittal information for materials intended to be used for each item.
- A cost proposal covering the various methods of service using appropriate unit pricing.

The contractor(s) shall be prepared to furnish all tools and/or equipment necessary to perform the necessary work.

The services of the company may be required at any time within the City. The company shall have adequate staff available to respond to any request(s) within a reasonable time, i.e. the next business day or as may mutually be agreed.

All work shall be performed under the supervision of a Water Resources employee and will be according to all applicable codes and following the best standards of the trade.

All work and/or equipment are to be in full compliance with any and all pertinent Federal, OSHA, State of Maine and municipal regulations.

Pricing shall include all materials necessary to perform the work, including bypass pumping.

Work will be measured per lineal foot.

Payment covers all costs associated with cleaning the pipe (including roots), pre-installation video, post installation video and diverting water through bypass pumping.

Payment covers the cost of furnishing and installing the UV-CIPP per specifications and traffic control and mobilization of each segment to be lined.

All materials and equipment used as well as all methods of installation shall comply at a minimum with the following: a) National Electrical Code, latest approved edition; b) any and all Federal, State and/or local codes, including applicable municipal ordinances and regulations; c) latest approved standards of IEE, ANSI, NEMA, NFPA, NAASCO; ASTM d) Utility company regulations; e) equipment and materials utilized shall be new and UL listed, where listing is available.

The work performed and all materials utilized shall be guaranteed at a minimum for one year, and shall be corrected or replaced at the company's sole expense if they prove defective.

All waste material generated by the company's staff shall be removed daily from the work site and the area left clean and upon completion of work by that firm. Any equipment or building structure damaged by the company's staff shall be repaired or replaced to the satisfaction of its owner.

The company's staff shall erect, and maintain at all times, any and all safeguards necessary for the protection of life and property of the City and its staff, their workers as well as all pedestrian and vehicular traffic. If a police detail is required, Company must coordinate with Water Resources staff.

Work shall not commence earlier than 7:00 A.M., nor extend beyond 7:00 P.M., without the expressed approval of the City Administrative staff requesting the work. No work shall be performed on Saturdays, Sundays or holidays unless authorized by the Public Works Director, or comparable City agent. Bidders should include any/all costs of travel time to and from their place of business to the work-site.

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	
	10"	LF	
	12"	LF	
	15"	LF	
	18"	LF	
	21"	LF	
	24"	LF	

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	
	15" – 18"	Each	
	21" – 24"	Each	
Protruding Service Connection Removal	4"-12"	Each	

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	

Please list any exclusions or additional items:

_____

_____

_____

_____

_____

_____

_____

_____

_____

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

PRINT NAME & TITLE: _____

ADDRESS: _____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER: _____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: _____

STATE OF INCORPORATION, IF APPLICABLE:

_____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

EXHIBIT B

Addendum 1

City of Portland, Maine

On Call Trenchless Technology Services
Bid #19100

Current Date: June 21, 2019

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

****

ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.

****

Matthew F. Fitzgerald
PURCHASING MANAGER

Please see attached our response to several questions received related to this Bid.

Receipt of Addendum No. 1 to the City of Portland's Bid #19100, On Call Trenchless Technology Services, is hereby acknowledged.

COMPANY NAME: National Water Main Cleaning Co.

SIGNED BY: _____ **DATE:** June 24, 2019

PRINT NAME & TITLE: Dennis P. Sullivan, Executive Vice President

ADDRESS: 25 Marshall Street Canton, MA 02021

ZIP CODE

Cost Proposal

UV Cured Pipe

Length Range	Diameter	Unit	Price/Unit
100' – 200'	8"	LF	81.56
	10"	LF	85.50
	12"	LF	110.30
	15"	LF	116.03
	18"	LF	178.71
	21"	LF	226.10
	24"	LF	236.34
Length Range	**Diameter**	**Unit**	**Price/Unit**
200' – 300'	8"	LF	61.56
	10"	LF	65.50
	12"	LF	78.30
	15"	LF	84.03
	18"	LF	133.71
	21"	LF	151.10
	24"	LF	161.34
Length Range	**Diameter**	**Unit**	**Price/Unit**
300'+	8"	LF	61.56
	10"	LF	65.50
	12"	LF	70.30
	15"	LF	76.03
	18"	LF	108.71
	21"	LF	126.10
	24"	LF	136.34

Point/Sectional Repair

Length Range	Diameter	Unit	Price/Unit
4'	6" – 12"	Each	2040.00
	15" – 18"	Each	3693.33
	21" – 24"	Each	6480.00
Protruding Service Connection Removal	4"-12"	Each	500.00

Manhole Lining

Length Range	Diameter	Unit	Price/Unit
0' – 50'	4' Diameter MH	Each	3200.00

Please list any exclusions or additional items:

Manhole lining $225.00/VF

PROPOSAL FORM

"ON-CALL" Trenchless Technology Services
BID # 19100

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: 1

COMPANY NAME: National Water Main Cleaning Co.

AUTHORIZED SIGNATURE:

DATE: June 24, 2019

PRINT NAME & TITLE: Dennis P. Sullivan, Executive Vice President

ADDRESS: 25 Marshall Street Canton, MA 02021

E-MAIL ADDRESS: dennis@nwmcc-bos.com

PHONE NUMBER: 781-828-0863 FAX NUMBER: 781-828-2473

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER: Corporation

STATE OF INCORPORATION, IF APPLICABLE: New Jersey

FEDERAL TAX IDENTIFICATION NUMBER (Required): 22-1753261

NOTE: Proposals must bear the handwritten signature of a duly authorized member or employee of the organization submitting a proposal.

CERTIFICATE OF CORPORATE AUTHORITY

At a duly authorized meeting of the Board of Directors of **National Water Main Cleaning Co.**
(name of corporation)

held on **October 31, 2018** Directors were present or waived notice, it was voted that **Dennis P. Sullivan**
(date)

Executive Vice President of this company be and hereby is authorized to execute contracts and bonds
(name and title)

in the name and behalf of said company, and affix its Corporate Seal thereto, and such execution

of any contract or bond of obligation in this company's name on its behalf of such **Executive Vice President**
(OFFICER)

under seal of the company shall be valid and binding upon this company.

A TRUE COPY,
ATTEST: _____

Place of Business:

25 Marshall Street

Canton, MA 02021

I, Jonathan Reynolds hereby certify that I am the **Assistant Secretary/Treasurer** of **National Water Main Cleaning Co.**
(Title) (Name of Corporation)

that **Dennis P. Sullivan** is the duly elected **Executive Vice President** of said
(Name of Officer) (Title)
company, and the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

Signature: _____
Jonathan Reynolds

Name/Title: **Assistant Secretary/Treasurer**

Date: **June 24, 2019**

(Corporate Seal)

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REQUEST FOR PROPOSAL
"On Call" Trenchless Technology Services Bid # 19100

SUBMITTED BY:

NATIONAL WATER MAIN CLEANING CO.

NATIONAL WATER MAIN CLEANING CO.
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3. TRENCHLESS SHORT LINERS
4. MANHOLE REHABILITATION (CEMENTITIOUS)
5. CONCRETE RESTORATION (EPOXY)
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II. EXPERIENCE WITH SIMILAR PROJECTS (See Appendix A for a complete list of all CIP lining projects)

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QUALIFICATION AND EXPERIENCE

To serve as a background for National Water Main Cleaning Company, we offer the following:

National Water Main Cleaning Company (NWMCC) is a member of the nationwide network of the Carylon Corporation, an organization with 60 years of experience in the environmental and industrial service industries. Carylon is made up of 20 companies, which provide environmental, industrial, pipeline, dewatering, waste treatment, and emergency response services. Along with Carylon's qualifications and experience comes a guarantee, which is unmatched in the industry: You must be satisfied, or you pay absolutely nothing.

Since 1949, the nationwide network of Carylon Companies has provided specialized environmental services to industries, municipalities and utilities. Today, the Carylon Corporation is the largest environmental contractor in the industry, and we are widely known for our comprehensive services, professional expertise, state-of-the-art equipment and sophisticated technology. Our projects range in size from those requiring a single man and a single piece of equipment to the use of multi-company, multi-disciplinary crews and a fleet of specialized equipment.

National Water Main Cleaning Company, with locations in Kearney, NJ, Canton, MA, Hartford, CT and Utica, NY and offers an extensive line of specialized equipment and experienced personnel to meet your needs. Our line of services and experience is summarized as follows.

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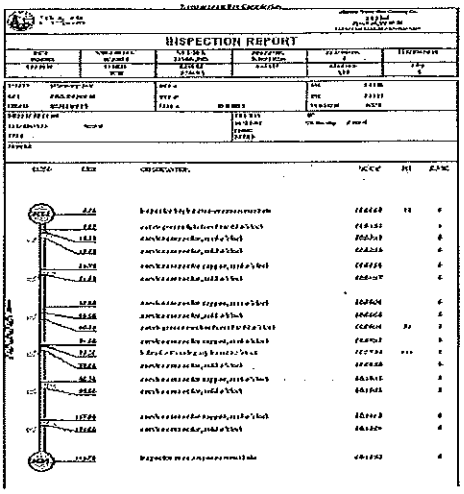
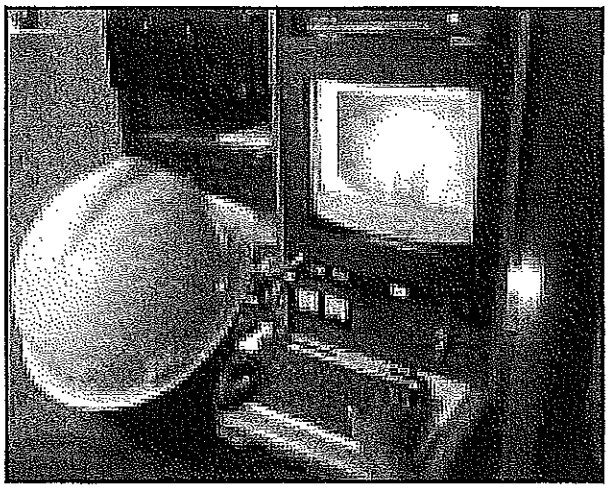
1. Cleaning and Internal CCTV Inspection:





From 4-inch ductile iron pipe to 24-foot wide outfall tunnels, cleaning, internal CCTV inspection and rehabilitation of sewer collection systems and drain lines is the major focus for NWMCC. The company owns and operates 15 mobile television studio trucks, 24 combination jet vacuum machines along with an assortment of specialized collection system equipment.

NWMCC's fleet of combination vactor jet rodders average 2,500 psi @ 125 gpm, 5,000 cfm @ 16" Hg. Each unit is equipped with vacuum tubes for removal of solids, rotating jet hose reel, up to 12 cubic yard debris box, hand guns for pressure washing manhole walls and inverts, hydraulic cutters for grease and root removal, and various size angle nozzles for sewer cleaning. A clean pipe makes for a precise inspection.

Every mobile television studio truck is equipped with specifically designed camera equipment and computerized software to capture and record observations into an easily accessible electronic database. The program is designed to capture digital video and data of pipeline inspection findings through licensed software called WinCan®. Video inspection observations are also recorded on videotape, with audio commentary. Incorporating infiltration rates for individual line segments and establishing structural category rating for line segments are also customizable features available through the WinCan® software. Capturing the data within an access database makes it easy to incorporate and build a system wide management tool whose features are available through the WinCan® software.

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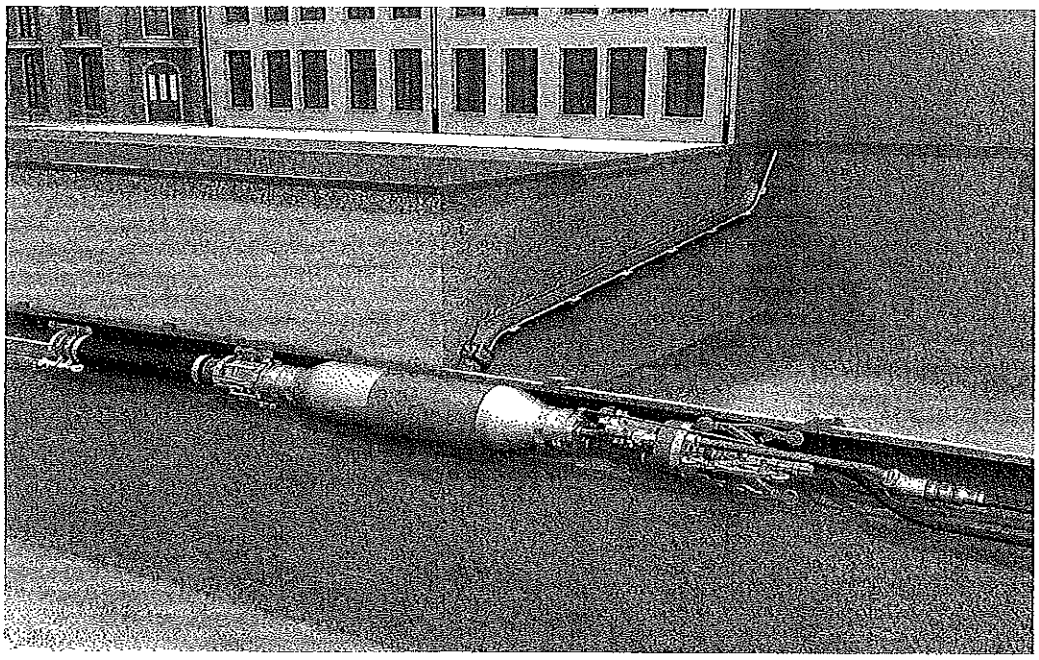
2. Service Lateral CIP Lining



The integration of lateral lining technology within an infiltration reduction rehabilitation program is a new and more effective approach to reducing infiltration in an aging sanitary sewer infrastructure. As a result of this new comprehensive approach, an aging sewer system can be made nearly "watertight". The Environmental Protection Agency is interested in the approach, particularly for its advantage in keeping wastewater flow in its place, preventing exfiltration from the collection system, and protecting ground water from bacterial contaminates. In order to integrate lateral lining technology with mainline CIPP lining and manhole rehabilitation, project managers must thoroughly understand each technology and must be able to carry out each step with precision and care.
National Water Main Cleaning Company has partnered with Trelleborg corporation, the developer of the Epros Main to House "MTH" lateral lining system. The Epros "MTH" lateral lining system is installed from the mainline with no need for a cleanout or secondary means or access. All TV inspection, cleaning and lateral lining installation is performed from the mainline sewer. Lateral liner can be installed up to 90' in length.

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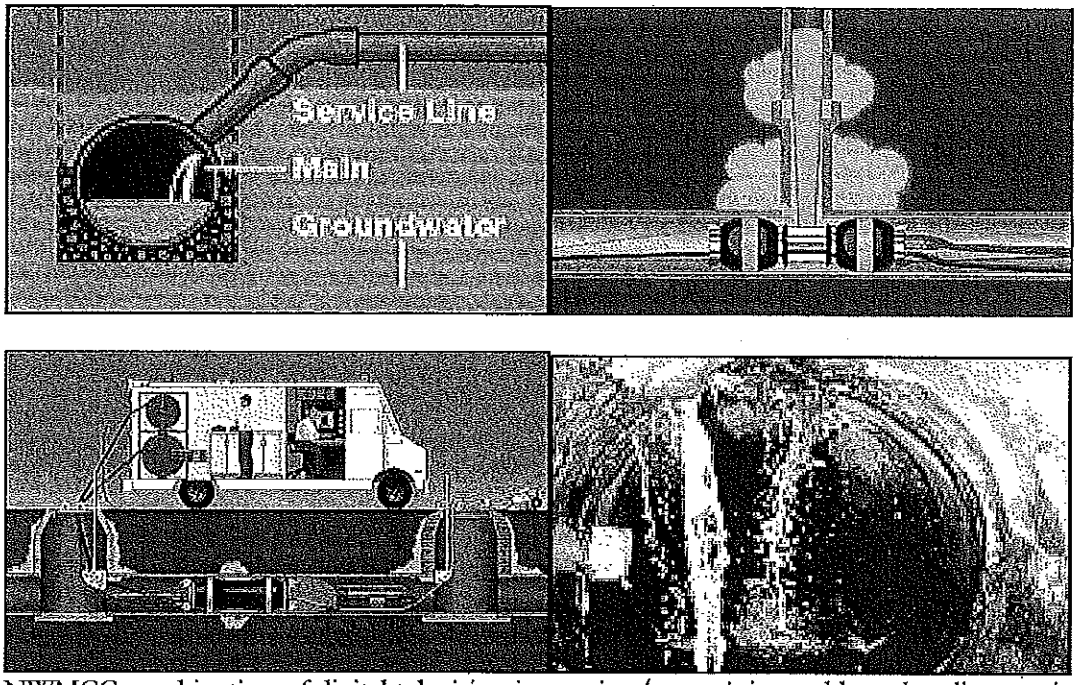
3. Service Lateral and Pipe Joints Grouting



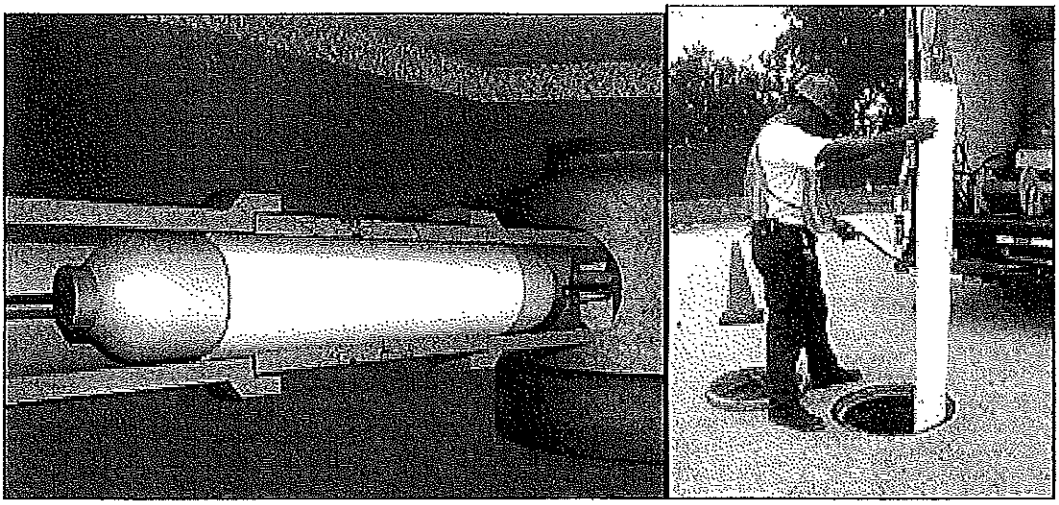
NWMCC combination of digital television inspection/sewer joint and lateral sealing services provides a guaranteed solution to the problem of excessive infiltration, without costly excavation, disruption of traffic, or by-pass pumping of sewage. When a leak is located by the television camera, our technician stationed in a mobile laboratory at the job-site can isolate and seal the leak, usually in less than a minute. Proportioning, blending and injection of the grout is varied to meet the specific conditions and requirements of each individual job. The operation is handled entirely from above ground without any excavation, blockage of sewers or bypassing of sewage. All seals are fully guaranteed. Service laterals are often a source of significant infiltration, and most infiltration into these lines occurs within a few feet of the main. There are two primary reasons for this; all except the last few feet of service lines are usually above the water table, and groundwater flows easily in the backfill of a mainline trench because of the French drain effect. Using pressure chemical grouting we can quickly and effectively seal leaks in service laterals, and because chemical grout is economical, a positive return on investment can soon be realized.

NWMCC grouting work is integrated within the WinCan® rehabilitation portion of the software. Pipe type, the number of joints and the number of gallons used to seal each joint is data captured within the investigation/rehabilitation database. Video capture of the actual grouting work is also available if required.

Our "find it, fix it" capabilities are a unique turnkey feature we offer customers. Each grouting truck is equipped with the inspection equipment and computerized software found within our typical mobile television studio trucks. During our investigation work, if

immediate sealing/grouting work is desired our crews have the capabilities to seamlessly insert the rehabilitation equipment and begin rehabilitation work at a moments notice.

4. Trenchless Short Liners:



Trenchless short liners are a practical, fast and economical "no dig" solution for pipes with partial structural deterioration and/or distortion, interior corrosion, settling, misalignment and cracking. It provides jointless renovation, improves flow characteristics, adds to the structural integrity of the pipe and virtually eliminates all exfiltration and infiltration at the repaired area.

Our cured-in-place-pipe (CIPP) lining consists of an epoxy-based, impregnated polyurethane-coated felt tubing that is installed by experienced technicians using trenchless "pull in, inflate and cure" methods. It is used for sectional pipe repairs and can reconstruct pipe segments from 6 inches to 5 feet in diameter, and 1 foot to 30 feet in length.

Our methods exceed all ASTM minimum strength requirements, and the epoxies can be formulated for job specific applications.

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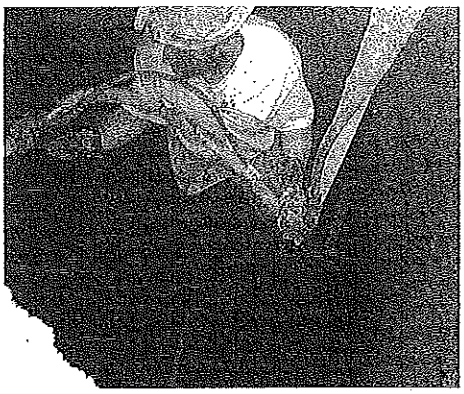
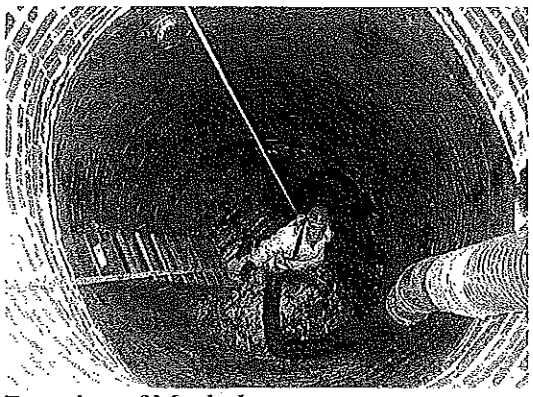
5. Manhole Rehabilitation (Cementitious Application)



Spraying of Cementitious Mixture



Prepping of Manhole

Manhole rehabilitation can solve manhole infiltration/inflow problems and restore a structure to "better than new" condition in less time than it would take to replace and for a fraction of the cost. Pressure washing the existing manhole wall, infiltration/exfiltration elimination through chemical sealing of manhole wall, joint and pipe penetrations and application of a monolithic cementitous coating of ½" to act as a permanent seal to future infiltration/inflow are utilized in the rehabilitation process.

National Water Main Cleaning Company is a certified applicator of Quadex. Quadex is a leading cementitious product used for sewer manhole rehabilitation.

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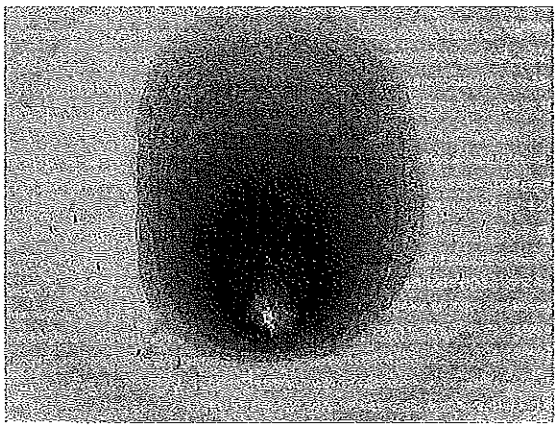
6. Concrete Restoration (Epoxy Application)

Hydrogen Sulfide Erosions


Epoxy Coated Manhole

Where hydrogen sulfide levels are high, concrete deterioration usually follows. Typically encountered within wet wells and force main discharge points if left unchecked, an unprotected concrete surface can deteriorate to a point where emergency and costly repair will be required. Detecting these sensitive areas within your collection system and addressing them before it becomes an emergency is a preventive maintenance step that is essential.

Epoxy coating, when applied correctly, is a system that lives a long life. NWMCC is a licensed applicator of the Raven Lining System, a 100 % solid epoxy system, which is the premier coating system in the sewer industry. NWMCC has been applying epoxy in the most severe environments and giving prolonged life to structures that would have collapsed if left unchecked.

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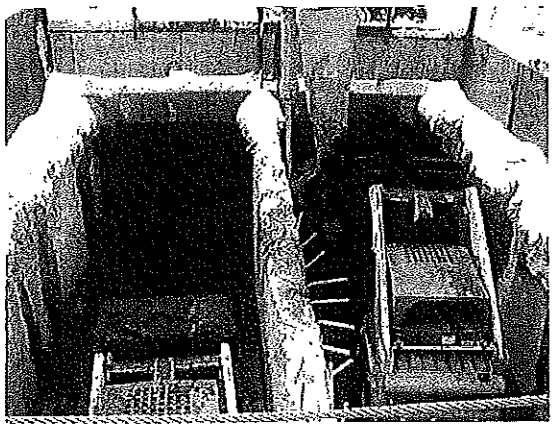
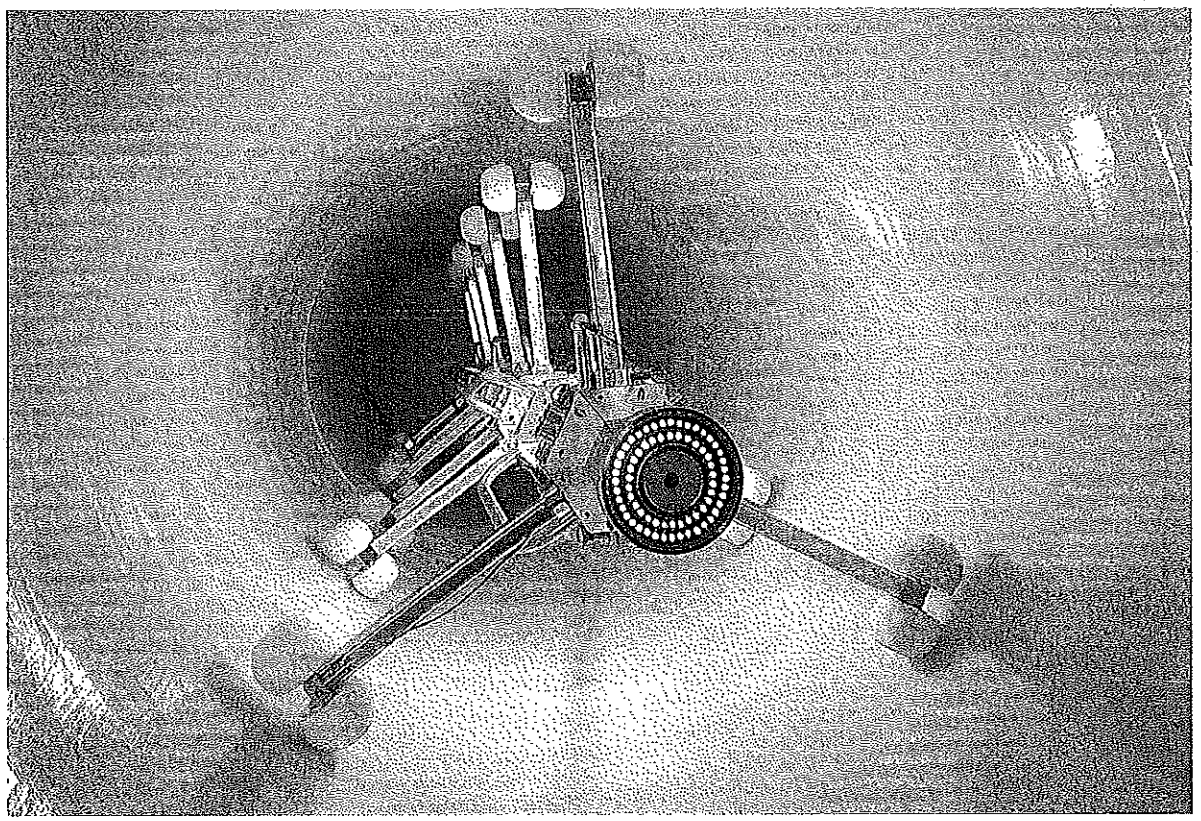
6. Large Diameter Pipe Cleaning



NWMCC has a variety of experience performing large diameter pipe cleaning projects. Numerous large diameter pipe cleaning projects range from 6-foot diameter to 26-foot diameter has been a specialty focus for NWMCC. Pipe sediment removal using mechanical equipment and/or man entry vacuum method has been our methods of choice.

8. MTM (Manhole to Manhole CIPP Lining)



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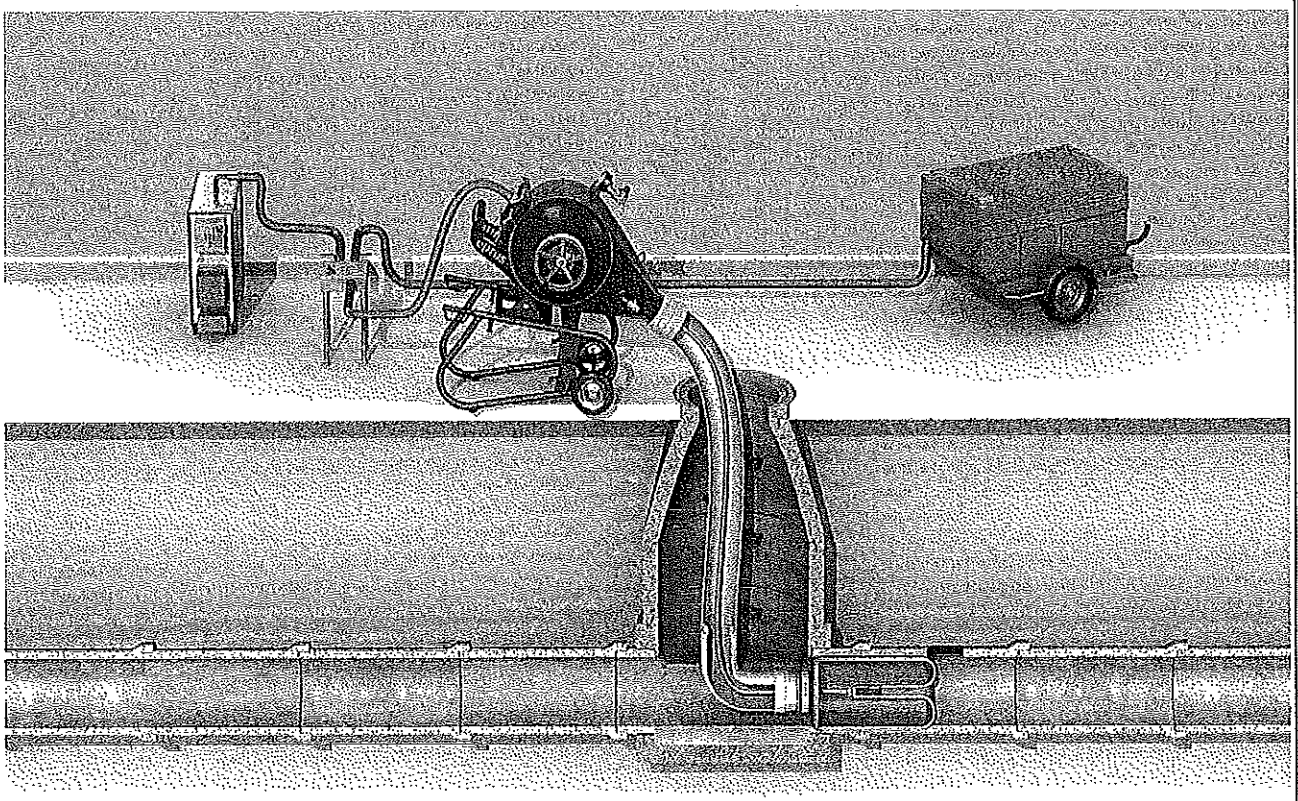
UV LINING PROCESS

The UVCIPP lining method uses a flexible tube (liner) of corrosion-proof synthetic and/or glass fibers, which is wetted inside with UV reactive resin and introduced into the host pipe through a manhole with the aid of a pulling winch unit. Air pressure is used to inflate the liner against the host pipe. During this process the liner tube is winched into place and its thicken-able resin system is unable to wash out of the liner prior to or during the installation process. The air pressure traveling through the liner keeps the liner tightly secured up against the pipe wall while it is pre-inspected prior to curing and then UV light cured. The resin-impregnated liner in the section of pipe is cured with UV light; once the curing process is complete the liner forms a tight and frictional fit with the host pipe.



CIPP LINING PROCESS

The CIPP Lining method uses a flexible tube (liner) of corrosion-proof synthetic and/or glass fibres, which is wetted inside with reaction resins and introduced into the

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host pipe through a manhole with the help of an inversion unit. Air pressure is used to transport the liner down the pipe to the downstream manhole. During this process the liner tube is inverted, so the resin wetted liner side is turned outside and pressed against the pipe. The air pressure traveling through the pipe keeps the liner tightly secured up against the wall while it is cured. The resin-Impregnated liner in the section of pipe is cured with steam; once the curing process is complete the liner forms a tight and frictional fit with the host pipe.

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II. EXPERIENCE ON SIMILAR PROJECTS

NWMCC has performed projects of a similar nature to this proposal. These specific projects are as follows:

See Appendix A

III. IN HOUSE RESOURCES: SKILLS AND EXPERTISE

As previously stated, National Water Main Cleaning Company is a part of the nationwide network of the Carylon Corporation, an organization with 55 years of experience in the environmental and industrial service industries. Carylon is made up of 20 companies, which provide environmental, industrial, pipeline, dewatering, waste treatment, and emergency response services. Since 1949, the nationwide network of Carylon Companies has provided specialized environmental services to industries, municipalities and utilities. Today, the Carylon Corporation is the largest environmental contractor in the industry, and we are widely known for our comprehensive services, professional expertise, state-of-the-art equipment and sophisticated technology.

Our executives, trained from the field through management, have an average of 15 years of experience, managers average of 10 years' experience, supervisors and field supervisors an average of 15 years' experience, foremen and average of 10 years' experience, and labor an average of 5 years' experience. NWMCC possesses one Massachusetts registered engineer, several unregistered engineers and a vast expanse of practical field knowledge unmatched by anyone in our industry.

NWMCC in house resource of equipment is unmatched. The Carylon Corporation is the single largest owner of Mobile Television studio trucks and combination jet vacuum trucks in the world.

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IV. PROJECT MANAGEMENT: SUPERVISION, QUALITY AND COST CONTROL

Quality control is a priority of National Water Main Cleaning Company. Quality control of our final product can be segregated into fieldwork and office work.

Field Work: From the top of our organization to the field personnel, it is well understood that the quality of the fieldwork makes or breaks a company. To keep the customer satisfied and execute a quality job is the goal each day. The Carylon motto "You must be satisfied, or you pay absolutely nothing!" is a phrase advertised in our brochures and on our corporate web site. Our organization takes pride in the satisfaction of our customers. This can be easily ascertained when our references are verified.

The majority of our fieldwork is cumulative. In order to provide a quality video inspection and assess the condition of the existing pipe, the pipe needs to be clean. In order to install the joint packer and lateral packers, the pipe needs to be clean. In order to install a quality point repair system, the pipe needs to be clean. To apply a high quality coating product, the manhole needs to be prepared and clean. Much of the work we perform is cumulative and promotes teamwork within our work force.

The level of trained supervisors in our organization is great. Our supervisors check in with each jobsite on a daily basis to troubleshoot any field problems that may be occurring.

The NWMCC training and continuing education we supply to our work force is a corporate commitment. NWMCC issues a training and coordination calendar at the beginning of each year. This commitment to training and coordination is a mindset that shows our workforce we are committed to quality and excellence.

NWMCC is committed to safety. Safety is our #1 priority. Safety training is the central focus to our ongoing safety program.

Lastly, the Carylon Corporation has recently established and implemented an Employee Stock Ownership Program (ESOP) meaning a portion of the company is owned by the employees. NWMCC employees share in the success of the organization. This collaboration encourages quality performance and generates an excitement unparalleled in our industry. We are all very proud of our work and the finalized work is our best proof.

Office Work: Our work produces data, lots of data. Having an office staff that can accumulate and organize the data in a professional manner is essential to our work. We take great pride in our system to organize our work. At the end of each week, each crew burns a DVD and submits weekly updates to the database of television inspection work. For each job, this data is merged together and is organized on our server located in the Boston office. Once the job is complete, the merged

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database goes under a thorough quality control check to identify any potential data entry mistakes. The digital videos are randomly checked to verify video quality. Once the QA/QC process is complete, a hard copy is printed and reviewed once again by our data manager before the final report is bound and delivered to the customers. All DVD burning and labeling is performed in house in our Boston office. National Water Main Cleaning Company maintains control over our final product from start to finish.

A Digital copy of the work is maintained on our server up to six months following final submittal to the customer. Following this six-month period, the merged database and digital clips are archived on a removable hard drive for a period of three years. We cannot count the number of times a customer has called looking for inspection data from a project that is two to three years old. It is pleasant to hear our customer's response when this data is collected and regenerated.

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V. PERSONNEL QUALIFICATIONS AND AVAILABILITY

The members of the managing team involved in this project are:

1. Salvatore Perri:	President, NWMCC
2. Dennis P. Sullivan, P.E.:	Executive Vice President, NWMCC
3. Hercules Anastasiadis "Herc":	Operation Manager/ Vice President
4. James Fleming	Project Engineer
5. Andrew Flanagan	Project Engineer
6. Tarek Radwan	Project Engineer
7. Liam Collin	Project Engineer
8. Eric Phippen	Project Engineer
9. Peter Ferreira	Superintendent
10. Anibal Paz	Superintendent
11. Gary Millington	Superintendent
12. Fabio Leet	Superintendent
13. Jose Cunha	Superintendent

A prerequisite qualification of being employed with National Water Main Cleaning Company is the ability to multi task. The multi task functions of NWMCC personnel are the balance of office/field work. Each person is involved in some manner with existing projects. Whether it is scheduling multiple crews on a daily basis or developing a work plan for an individual contract, management is deeply rooted in existing contracts. A productive overlap is typically found on each job. Management and Superintendent level communication is typically maintained with the customer. Maintaining seamless communication with the client guarantees success with each job.

Management meeting and personnel training is a weekly routine practiced by National Water Main Cleaning Company.

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Appendix A.

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UV LINING REFERENCES

1. Town of Riverhead

200 Howell Avenue
Riverhead, New York 11901

Contact: Mr. George Woodson, Highway Superintendent
Office Number: (631) 727-3200
Cell Phone: (631) 466-0141

Project: Cleaning, Inspection and Lining of 80 Linear Feet of and 18-inch CMP Storm Water Line
Status: Completed

2. Village of Tarrytown

Municipal Building – One Depot Plaza
Tarrytown, New York 10591

Contact: Mr. Howard D. Wessells, Jr. – Superintendent of Public Works
Office Number: (914) 631-7873

Project: Cleaning, Inspection and Lining of 650 Linear Feet of 36-inch CMP Storm Water Lines
Status: Completed
Contract Amount: $ 210,781

3. Valley Stream, NY

Green Acres Mall - 2034 Green Acres Mall
Valley Stream, New York 11581

Contact: Ralph Sergio - Brady Risk Environmental
Office Number: 631 875 6890

Project: Cleaning, Inspection and Lining of 1,200 Linear Feet of 8-inch VCP Sanitary Sewer Lines
Status: Completed

4. East Bangor, PA

East Bangor Borough, 204 bray street
East Bangor, PA 18013

Contact: Joseph Markulics – Ott Consulting, Inc
Office Number: 610 928 4690

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Project: Cleaning, Inspection and Lining of 1,097 Linear Feet of 30-inch Corrugated Metal Storm Lines and 133 Linear Feet of 15-inch Corrugated Metal Storm Lines
Status: Completed

5. Boston, MA(Logan Airport)

One Harborside Drive
East Boston, MA 02128

Contact: Kevin Garrity Senior Project Manager
Office phone: 617-837-3400

Project: Cleaning, Inspection and Lining of 175 LF of 60-inch Reinforced Concrete Pipe
Status:Complete

6. Salem, NH

33Geremonty Drive
Salem, NH 03073

Contact: Daniel Hudson, P.E., Deputy of Municipal Services-Engineering Division
Office Number: 603-890-2033

PROJECT: Cleaning, Inspection and Lining of 1030 Linear Feet of 15-inch Vitrified Clay Pipe Sewer
Status: Ongoing

7. Westerly, RI

Town of Westerly-45 Broad Street
Westerly, RI 02891

Contact: Kyle Zalaski-Town Engineer
Office Phone: 401-348-2562

Project: Cleaning, Inspection, and Lining of 700 Linear Feet of 24-inch Reinforced Concrete Pipe, 300 Linear Feet of 30-inch Reinforced Concrete Pipe, and 100 Linear Feet of 15-inch to 18-inch Reinforced Concrete Pipe
Status: Ongoing

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8. Greenwich CT

Stallion Trail
Greenwich, CT 06831

Contact: Dan Huse-Project Manager
Northern Construction
Palmer, MA 01069
508-335-9862

Project: Cleaning, Inspection and Lining on 320 Linear Feet of 16-inch Ductile Iron Drain Pipe
Status:Scheduled for 6/24/19

9: Buffalo NY

Northland Avenue
Buffalo, NY14201

Contact: Catherine H. Knab, P.E. Principal Sanitary Engineer
Buffalo Sewer Authority 716-851-4664

Project: Cleaning, Inspection, and Lining of 310 Linear Feet of 18-inch Vitrified Clay Sewer Pipe and 250 Linear Feet of 20-inch Vitrified Clay Sewer Pipe
Status:Scheduled for 7/1/19

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Lateral Connection Repair Experience Summary Table (*References and Experience*)

Dates	Work Location (City/Town)	State	System Owner	Engineer/Client Contact(s)	Project Description	CIPP Lateral Lining System Used	LCR Style (Brim, Full, MtH)	Quantity Installed	Est. Footage Installed
2008	Newton	MA	Town of Newton	Weston & Samspon Engineering David Elmer: (978) 532-1900 ext. 2280	Lateral Connection Repairs	Trelleborg Epros System	Brim	10	12
2008	Yonkers	NY	City of Yonkers, NY	City of Yonkers Engineering Bill Finn: (914) 450-7785	Lateral Connection Repairs & Lateral Lining	Trelleborg Epros System	Full Wrap	8	10
2009	Boston	MA	Boston Water & Sewer Commission	Jay Cashman, Inc. Brendan Campbell: (617) 513-0885 bcampbell@jaycashman.com	Lateral Connection Repairs in 24" pipe	Trelleborg Epros System	Brim	8	12
2009	Brookline	MA	Town of Brookline	Marc Besio: (617) 730-2142 marc_besio@town.brookline.ma.us	Lateral Connection Repairs	Trelleborg Epros System	Brim	19	38
2009	Concord	MA	Town of Concord	Elena Proakis: (978) 318-3250 eproakis@concordma.gov	Lateral Connection Repairs	Trelleborg Epros System	Brim	12	18
2009	Waltham	MA	Town of Waltham, MA	Mark Beddard: (508) 889-5900 mark@drlcorp.com	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	24	36
2009	Waterford	CT	Waterford MUA	Water, Wastewater & Infrastructure Engineers Dennis A. Dieve: (860) 343-8297 ext. 2223	Lateral Connection Repairs & Lateral Lining	Trelleborg Epros System	Brim	18	30
2011	Middletown	RI	Town of Middletown, RI Engineering Department	Warren Hall, Town Engineer: (401) 846-2119 whall@middletownri.com	Lateral Connection Repairs	Trelleborg Epros System	Brim	72	108
2011	Milford	NH	Town of Milford, NH Water Utilities Department	David Boucher: (603) 249-0661 dboucher@milford.nh.gov	Lateral Connection Repairs	Trelleborg Epros System	Brim	10	20
2011	New Haven, CT	CT	City of New Haven, CT	Insituform Technologies, Inc. Mark Szela: (508) 248-7628 mszela@insituform.com	Sewer Rehabilitation	Trelleborg Epros System	Brim	46	77
2012	Framingham	MA	Town of Framingham DPW	John Dehica: (505) 532-6061 jmd@framinghamma.gov	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	10	15
2012	Waltham	MA	Town of Waltham, MA	Carlco Construction, Inc. Peter Carlson: (978) 342-5445 pcarlson@carlcoconstruction.com	Lateral Connection Repairs	Trelleborg Epros System	Brim	10	15
2012	Waltham	MA	Town of Waltham, MA	Carlco Construction, Inc. Peter Carlson: (978) 342-5445 pcarlson@carlcoconstruction.com	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	52	78

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Lateral Connection Repair Experience Summary Table (*References and Experience*)

Dates	Work Location (City/Town)	State	System Owner	Engineer/Client Contact(s)	Project Description	CIPP Lateral Lining System Used	LCR Style (Brim, Full, MtH)	Quantity Installed	Est. Footage Installed
2013	Bridgewater Township	NJ	Bridgewater Township	Lee T. Purcell Leo Purcell: (973) 227-7200	Lateral Connection Repairs and 20' Lateral Lining	Trelleborg Epros System	MtH	50	200
2013	Cranford	NJ	Township of Cranford	Township of Cranford Engineering Dpt. Sandra Caceres-Cardenas: (908) 709-7218	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	55	110
2013	Hartford	CT	Metropolitan Sewer District	MDC Jason Waterbury: (860) 278-7850 jwaterbury@themdc.com; Paganelli Construction John MacLean: (860) 623-0245 jmaclean@paganelliconstruction.com	Tower Avenue Sewer Seperation MDC# 2011-29	Trelleborg Epros System	Brim	41	60
2013	Hartford	CT	Metropolitan Sewer District	MDC Jason Waterbury: (860) 278-7850 jwaterbury@themdc.com	Sanitary Sewer Improvements-West Hartford, Newington CT. MDC# 2011-10	Trelleborg Epros System	Brim	600	900
2015-2016	Middletown	RI	Town of Middletown, RI Engineering Department	Warren Hall Engineering Warren Hall: (401) 846-2119 whall@middletownri.com	JH Dwyer, Tuckerman and Esplanade Lateral Rehab	Trelleborg Epros System	MtH	19	700
2013	Middletown	RI	Town of Middletown, RI Engineering Department	Warren Hall Engineering Warren Hall: (401) 846-2119 whall@middletownri.com	Lateral Connection Repairs and 20' Lateral Liners	Trelleborg Epros System	MtH	82	1,640
2016	Oneida County	NY	Quality & Water Pollution Control	John Waters, 315.724.4300	Oneida County Contract #11 Phase VI	Trelleborg Epros System	Brim	24	48
2013	West Hartford	CT	Metropolitan Sewer District	MDC Jason Waterbury: (860) 278-7850 jwaterbury@themdc.com	West Hartford Sewer Rehabilitation MDC# 2011-49	Trelleborg Epros System	MtH	175	200
2016	Kansas City	MO	KC Water Services Department	Ace Pipe Cleaning Glen Dobson 314-531-4585	Blue River South Areas 1 & 2 Inflow and Infiltration Reduction Project	Trelleborg Epros System	MTH	219	4,570
2015-2016	Shelton	CT	Town of Shelton, CT Water Pollution Control Authority	Water Pollutionj Control Authority, Tom Sym 230.924.1555	Long Hill Ave/Brewster Lane Sanitary Sewer CIPP	Trelleborg Epros System	Brim	136	200
2016	Hamden, New Haven	CT	Greater New Haven Water Pollution Control	Arcadis, Scott Haynes 781.213.4905 Scott.Haynes@arcadis.com	Greater New Haven Infiltration/Inflow Rehabilitation Program (Area 10)	Trelleborg Epros System	Full Wrap	42	60

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Lateral Connection Repair Experience Summary Table (*References and Experience*)

Dates	Work Location (City/Town)	State	System Owner	Engineer/Client Contact(s)	Project Description	CIPP Lateral Lining System Used	LCR Style (Brim, Full, MtH)	Quantity Installed	Est. Footage Installed
2016	Hartford	CT	Metropolitan Sewer District	MDC Jason Waterbury: (860) 278-7850 jwaterbury@themdc.com; Paramount Construction LLC. Steven C Reilly 860.233.6333. Steve@pconstructionllc.com	Hartford MDC - Capitol Avenue Contract #2014B-30	Trelleborg Epros System	MtH	8	155
2016	Farmington	CT	Town of Farmington	Paramount Construction LLC. Steven C Reilly 860.233.6333. Steve@pconstructionllc.com	Sanitary Sewer Replacement - Farmington Ave.	Trelleborg Epros System	MtH	11	450
2015-2016	Wallingford	CT	Town of Wallingford. CT	Twon of Wallingford Sewer Superintendent. Terry Smith 203.949.2677	Town of Wallingford Lateral Rehabilitation Fiscal Year 2015-2015	Trelleborg Epros System	Brim	35	60
2014	Franklin Township	NJ	Franklin Township DPW	Lucas Construction Bob Reiss: (732) 955-8300 robertreiss@lucascg.com	Lateral Connection Repairs with 90' Lateral Lining	Trelleborg Epros System	MtH	125	215
2014	Franklin Township	NJ	Franklin Township DPW	Insituform Technologies Brian Berger: (410) 762-5898	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	38	48
2014-2015	Hingham	MA	Town of Hingham DPW	Sewer Supervisor Steve Dempsey (781) 741-1430	On Call Sewer Services	Trelleborg Epros System	MtH	8	240
2014	Long Hill	NJ	Long Hill Township	DeMaio Electrical Co Sal DeMaio: 908-231-8282	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	130	215
2014	Needham	MA	Needham Public Works	Needham Public Works Steve Nadeau (781) 455-7550 x319	Sewer System Rehabilitation	Trelleborg Epros System	Full Wrap	30	45
2007 - 2008, 2009-2009, 2009-2010, 2010 - 2011, 2014	Saugus	MA	Saugus Dept. of Public Works	CDM Smith Steve Callahan: (617) 452-6000 callahansr@cdm.com; Jonathon Kunay: (617) 452-6583 kunayje@cdm.com	Saugus, MA Comprehensive Sewer System Rehab - Service Lateral Connection Lining	Trelleborg Epros System	Brim	1,165	1,748
2015, 2016	Saugus	MA	Saugus Dept. of Public Works	CDM Smith Steve Callahan: (617) 452-6000 callahansr@cdmsmith.com; Jonathon Kunay: (617) 452-6583 kunayje@cdmsmith.com	Saugus, MA Comprehensive Sewer System Rehab - Service Lateral Connection Lining	Trelleborg Epros System	Full Wrap & MTH	245	775
2011 - 2012	Boston	MA	Boston Water & Sewer Commission	Boston Water & Sewer Commission Adam Horst: (617) 989-7433 horstaf@bwsc.org	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	160	240

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2011 - 2012	Danvers	MA	Town of Danvers	Moriarty & Sons, Inc. Peter Carlson: (978) 804-9369	Lateral Connection Repairs	Trelleborg Epros System	Brim	18	27
2011 - 2012	Sea Isle City	NJ	Sea Isle City	Maser Consulting Tom Roguski: (732) 383-1950	Phase I Rehabilitaion Lateral Connection Repairs	Trelleborg Epros System	Full Wrap	50	75
2015-2016	Dedham	MA	Town oif Dedham, MA	Jason Mammone, Town Enginser 781.751.9350 jmammone@dedham-ma.gov	Sewer on call Services	Trelleborg Epros System	Full Wrap	157	157
2011-21012, 2012-2013 2014-2015	Revere	MA	City of Revere, MA Department of Public Works	CDM Smith Steve Callahan: (617) 799-8838 callahansr@cdmsmith.com; Jonathon Kunay:(617) 452-6583 kunayje@cdmsmith.com	Comprehensive Sewer Rehabilitation, Phase I, II, IV	Trelleborg Epros System	Full Wrap & MTH	1,610	2,415
2016	Revere	MA	City of Revere, MA Department of Public Works	CDM Smith Steve Callahan: (617) 799-8838 callahansr@cdmsmith.com; Jonathon Kunay:(617) 452-6583 kunayje@cdmsmith.com	Comprehensive Sewer Rehabilitation, Phase VI	Trelleborg Epros System	Full Wrap & MTH	1,104	3,600
2015	Revere	MA	City of Revere, MA Department of Public Works	CDM Smith Steve Callahan: (617) 799-8838 callahansr@cdmsmith.com; Jonathon Kunay:(617) 452-6583 kunayje@cdmsmith.com	Comprehensive Sewer Rehabilitation, Phase V	Trelleborg Epros System	Full Wrap & MTH	1,426	4,900
2012-2013 2013-2014 2014-2015	Norwood	MA	City of Norwood, MA	CDM Smith Nathan Desrosiers: (617) 452-6690	Sewer Rehabilitation, 30'-75' long MTH	Trelleborg Epros System	MtH	570	855
2013, 2014	Hampden Township	PA	Hampden Township	Hampden Township Enginnering Dept. 230 South Sporting Hill Road Mechanicsburg, PA 17050-3097	Sanitary Sewer System Mainline and Lateral Lining Project	Trelleborg Epros System	MTH	125	2,500
2013-2014	Scituate	MA	Town of Scituate, MA Department of Public Works	Tighe & Bond Inc. Michael Schrader (508) 564-7285	Sanitary Sewer Lateral and Main Line Rehabilitation	Trelleborg Epros System	MtH	66	98
2014-2015	Belmont	MA	Town of Belmont	Fay Spofford & Thorndike Bobby Descheneau III, PE (781) 221-1248	Sewer Rehabilitation, 30' long MTH	Trelleborg Epros System	MtH	41	1,230
2014-2015	Cambridge	MA	City of Cambridge	Barletta Heavy Highway Construction Daniel Deacon (781) 821-6222	Huron B Sewer Separation & Surface Improvements	Trelleborg Epros System	MtH	12	18
2016	Rockland	MA	Town of Rockland	AECOM Water, Mark Meserve 781.224.6094, mark.meserve@aecom.com	Sewer System Rehabilitation Contract 15-1A	Trelleborg Epros System	MtH	16	900

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2016	Marblehead	MA	Town of Marblehead, MA	Haley and Ward Inc. Bethany J. Ordung 978.648.6025x106. bordung@haleyward.com	Sewer Rehabilitation Contract 165	Trelleborg Epros System	Brim	100	200
2016	Manchester	NH	City of Manchester, NH	R.D.Edmunds & Sons. Ron Butler 603.934.4929. Engineer CDM-Smith. Neal Campbell 603.494.7591 Campbell;NM@cdmsmith.com	Chestnut Street Area Sewer Separation Project Contract 2	Trelleborg Epros System	Brim	38	38
2016	Beverly	MA	City of Beverly, MA	Mike Collins - City Engineer, 978.921.6053. mcollins@beverly.gov	Sewer Subsystem M Sewer Rehabilitation Bid #15-011	Trelleborg Epros System	MtH	186	5,200
2014	Toms River	NJ	Township of Toms River	T&M Associates Stephen Bagadinski: 732-865-9534	Lateral Connection Repairs	Trelleborg Epros System	Full Wrap & MtH	107	164
2013	Oswego	NY	SUNY Oswego Campus	Tyler R. McDonald, Engineer II	Lateral Liners	Trelleborg Epros System		15	23
2017-2018	City of Revere	MA	City of Revere, MA Department of Public Works	Jonathan Kunay-CDM Smith	Lateral Liners(MTH and LCR)	Trelleborg Epros System	Full Wrap & MTH	600	350
2018-2019	City of Saugus	MA	City of Saugus	Jonathan Kunay-CDM Smith	Subsystem 4B-Sewer System Rehabilitation	Trelleborg Epros System	Full Wrap & MTH	650	1,200
2017	City of Waltham	MA	City of Waltham	John Martino-City of Waltham	Sanitary Sewer Rehab	Trelleborg Epros System	Full Wrap	40	80
2018	City of Watertown	MA	Watertown MA Sewer Dept	Michael Diplma-Weston & Sampson 978-587-4187	Sanitary Sewer Rehab	Trelleborg Epros System	MTH	10	300
2019	City of Cheektowaga	NY	Cheektowaga Sewer	Mark Christel-Engineer 716-583-3270	Sewer Rehab	Trelleborg Epros System	MTH	45	450
2017-2019	Middletown	RI	Middletown Water and Sewer DEPARTMENT	Warren Hall-Town Engineer 401-418-0413	Sewer Rehab	Trelleborg Epros System	MTH	500	12,000
							Totals	11,183	50,128

Carylon Corporation

The Environmental Protection Specialist

Specializing in today's needs for environmental protection

NATIONAL WATER MAIN CLEANING COMPANY

Manhole to Manhole(Steam Cured) Experience Summary Table (*References and Experience*)

Dates	Work Location (City/Town)	State	System Owner	Engineer/Client Contact(s)	Size of Sewer	Length
2017	Salem MA	MA	City of Salem	William Ross, City of Salem	8"-12"	800
2018	Bio Nomic Servcies	SC	Berkeley County WS	Berekeley County Water and Sewer	8"	10000
2018, 2019	Oneida County(001-9)	NY	Sanitary Sewer Mainline Rehab-Phase 7	Karl Schrantz(OBG)-315-956-6951	8"-15"	600
7/11/1905	Somerville MA(CRL)	MA	City of Somerville	Mike Ruggiero	8"	101
2018	Greenwich CT	CT	City of Greenwich CT(For Kaali Nagy)	Rich Feminella	8"	700
2018	Providence RI	RI	City of Providence	Meg Gulet	8"-12"	500
2018	Fairfield CT	CT	Town of Fairfield	Bill Norton-Town of Fairfield	12"	815
7/10/1905	Dedham MA	MA	City of Dedham	A Dimartino-Petruzzielo Properties LLC	6"-8"	400
7/10/1905	Hartford CT	CT	Village of New Hartford	Chris Morant-Town of New Hartford	8"	350
7/10/1905	Southington CT	CT	Southington CT	Scott Brickey-Calco Construction	6"	370
7/10/1905	Buffalo NY	NY	City of Buffalo NY	Destro & Bros concrete Co	15"	300

Carylon Corporation

The Environmental Protection Specialist

Specializing in today's needs for environmental protection

NATIONAL WATER MAIN CLEANING COMPANY

Manhole to Manhole(Steam Cured) Experience Summary Table (*References and Experience*)

Dates	Work Location (City/Town)	State	System Owner	Engineer/Client Contact(s)	Size of Sewer	Length
2018, 201	Hingham MA	MA	Town of Hingham	Steve Dempsey-Sewer Supervisor(Hingham)	8"-12"	2200
Jul-05	Wakefield	MA	City of Wakefield	Emily Sadoway	5"-15"	6000
					Totals	23,136

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/17/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Arthur J. Gallagher Risk Management Services, Inc.
2850 Golf Road
Rolling Meadows IL 60008

CONTACT NAME: Christina Zumrick, Client Service Manager
PHONE (A/C, No, Ext): 630.694.5458 FAX (A/C, No):
E-MAIL ADDRESS: Christina_zumrick@ajg.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Zurich American Insurance Company	16535
INSURER B : American Zurich Insurance Company	40142
INSURER C : Lexington Insurance Company	19437
INSURER D : Indian Harbor Insurance Company	36940
INSURER E : Zurich American Ins. Co.	
INSURER F :	

INSURED CAROCOR-04
National Water Main Cleaning Company
25 Marshall Street
Canton, MA 02021-2479

COVERAGES **CERTIFICATE NUMBER:** 2117232835 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	Y		GLO 9377201-15	10/31/2018	10/31/2019	EACH OCCURRENCE	$ 2,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
	X Contractual Incl						MED EXP (Any one person)	$ 0
	X XCU Cov Included						PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY	Y		BAP 9377199-15	10/31/2018	10/31/2019	COMBINED SINGLE LIMIT (Ea accident)	$ 5,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$
	DED / RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WC 9377202-15	10/31/2018	10/31/2019	X PER STATUTE / OTH-ER	
E	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH)	N / A		WC0122619-02 (WI)	10/31/2018	10/31/2019	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Pollution Liability			CPO15012758	10/31/2016	10/31/2019	Pollution Liability	10,000,000
D	Professional Liability			CEO7446379	7/3/2018	10/31/2019	Prof Liab	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The City of Portland is shown as an additional insured solely with respect to General Liability, Auto Liability and pollution liability coverage as evidenced herein as required by written contract with respect to work performed by the named insured.

CERTIFICATE HOLDER

City of Portland
389 Congress Street Room 211
Portland ME 04101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Additional Insured – Owners, Lessees Or Contractors – Ongoing Operations – Scheduled

ZURICH

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 9377201-15	10/31/2018	10/31/2019	10/31/2018	24059000		

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

SCHEDULE

Name of Person or Organization:	Location and Description of Ongoing Operations:	Additional Premium:
ANY PERSON OR ORGANIZATION, BUT ONLY WHEN YOU ARE REQUIRED TO PROVIDE ADDITIONAL INSURED STATUS IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT EXECUTED PRIOR TO LOSS AND WHERE THAT CONTRACT SPECIFICALLY REQUIRES THE ISO CG2010 10/2001 EDITION FORM OR THE EQUIVALENT OF SAME	ANY LOCATION OR PROJECT, OTHER THAN A WRAP-UP OR OTHER CONSOLIDATED INSURANCE PROGRAM LOCATION OR PROJECT FOR WHICH INSURANCE IS OTHERWISE SEPARATELY PROVIDED TO YOU BY A WRAP-UP OR OTHER CONSOLIDATED INSURANCE PROGRAM	

A. **Section II – Who Is An Insured** is amended to include as an insured any person or organization shown in the Schedule of this endorsement, but only with respect to liability arising out of your ongoing operations performed for that insured at or from the corresponding location designated and described in the Schedule.

However, if you have entered into a construction contract with an additional insured person or organization shown in the Schedule of this endorsement, the insurance afforded to such additional insured only applies to the extent permitted by law.

B. With respect to the insurance afforded to any additional insured shown in the Schedule of this endorsement, the following additional exclusion applies:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

All other terms and conditions of this policy remain unchanged.

Includes copyrighted material of Insurance Services Office, Inc., with its permission.

Additional Insured – Owners, Lessees Or Contractors – Completed Operations – Scheduled

ZURICH

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 9377201-15	10/31/2018	10/31/2019	10/31/2018	24059000		

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

SCHEDULE

Name of Person or Organization:	Location and Description of Completed Operations:	Additional Premium:
ANY PERSON OR ORGANIZATION, BUT ONLY WHEN YOU ARE REQUIRED TO PROVIDE ADDITIONAL INSURED STATUS IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT EXECUTED PRIOR TO LOSS AND WHERE THAT CONTRACT SPECIFICALLY REQUIRED THE ISO CG2037 10/2001 EDITION FORM OR THE EQUIVALENT OF SAME	ANY LOCATION OR PROJECT, OTHER THAN A WRAP-UP OR OTHER CONSOLIDATED INSURANCE PROGRAM LOCATION OR PROJECT FOR WHICH INSURANCE IS OTHERWISE SEPARATELY PROVIDED TO YOU BY A WRAP-UP OR OTHER CONSOLIDATED INSURANCE PROGRAM	

Section II – Who Is An Insured is amended to include as an insured any person or organization shown in the Schedule of this endorsement, but only with respect to liability arising out of "your work" at or from the corresponding location designated and described in the Schedule performed for that insured and included in the "products-completed operations hazard".

However, if you have entered into a construction contract with an additional insured person or organization shown in the Schedule of this endorsement, the insurance afforded to such additional insured only applies to the extent permitted by law.

All other terms and conditions of this policy remain unchanged.

Includes copyrighted material of Insurance Services Office, Inc., with its permission.

Purchase Order

City of Portland, Maine
City Hall, 389 Congress Street
Portland, Maine 04101
207-874-8654

BILL TO
Accounts Payable
City Hall, Room 104
389 Congress Street
Portland, ME 04101

THIS NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.

Purchase Order # 55048

VENDOR
PRECISION INDUSTRIAL MAINTENANCE INC
1710 ERIE BLVD
SCHENECTADY, NY 12308
Fax: 518-346-6077

SHIP TO
Public Works Admin.
212 Canco Road
Suite B
Portland, ME 04103

Date Ordered	Deliver By	Requisition Number	Vendor Contact Name
09/25/2019		30389	TODD KILBURN

Vendor Number	Date Required	Freight Method/Terms	Department Contact
13525		net 30	Public Works

Item#	Description/PartNo	QTY	UOM	Unit Price	Extended Price
	The Above Purchase Order Number Must Appear On All Correspondence - Packing Sheets And Bills Of Lading				
1	On-Call Trenchless Technology Services	1.0	EACH	$214,460.00	$214,460.00
	********** GL SUMMARY **********				
	0370-50-31-3100-31000-0000-403500- $214,460.00				

By: Matthew Rogers
Authorized Signature

PO Total **$214,460.00**

CITY OF PORTLAND, MAINE
PURCHASE ORDER TERMS AND CONDITIONS

ACKNOWLEDGE RECEIPT OF THIS ORDER AND CONFIRM SHIPMENT DATE.

BY ACCEPTANCE OF THIS ORDER THE CONTRACTOR AGREES TO COMPLY WITH THE STATE OF MAINE CODE OF FAIR PRACTICES AND AFFIRMATIVE ACTION.

THIS ORDER MUST NOT BE FILLED in greater quantities or at prices higher than shown without written approval of the Purchasing Department. If price is not shown on the order, it is agreed that you will ship the items ordered at a price no higher than when last purchased or you will notify the Purchasing Department before proceeding with the order.

SALES AND EXCISE TAXES. The City is exempt from the payment of any sales, excise or federal transportation taxes. The price must be net, exclusive of taxes and will be so construed.

SALES AND USE TAX LAW AND REGULATIONS References: Title 36, Section 1760 Bureau of Taxation
1. Sales made directly to the federal government, this State or any political subdivision of this State, or to any agency of the above, are exempt from sales tax. In addition to the federal government, the State of Maine, and any county, **city**, town, or plantation in the State of Maine, this exemption covers sales to:

School Districts in Maine;
Water, Power, Parking and other Districts in Maine established by legislative Act as quasi-municipal corporations; Village Corporations;
Maine Turnpike Authority.

In the case of the above no evidence of exemption in the case of a sale at retail will be required other than the invoice of the seller indicating sales to such exempt entity.

ITEMIZED INVOICES IN DUPLICATE showing the Purchase Order number must be sent to the ordering department, at the time of each shipment, accompanied by a copy of bill of lading, and on all prepaid shipments chargeable to us attach transportation receipt to invoice.

QUANTITY ON THIS ORDER CANNOT BE EXCEEDED. All overruns will be furnished at your expense unless approval is obtained from Purchasing Agent before delivery is made.

NO SUBSTITUTION OF MATERIAL will be permitted on this order unless authorized by Purchasing Department. The City reserves the right to reject all material not in accordance with specifications.
Separate packing slips must be included in each shipment showing the purchase order number, quantity, part number and a description of goods. No charge for packing will be allowed.
In the event this order is not filled in each particular as specified, we reserve the right to do any one or more of the following:

To cancel this order.
To recover all loss, damage and expense caused by such failure.
To require delivery by any means, seller to pay any increased transportation expense. To procure from another source, charging seller for any excess costs.

Charges for extras must be approved in writing by the Purchasing Department before being incurred.

Buyer recognizes that seller may for operating convenience, desire to utilize its own form of sale note in acknowledging this order, or otherwise acknowledge it than by simple acceptance. Therefore, it is agreed that any provisions in the form of acceptance used which modify, conflict with, or contradict any provision of this order, shall be deemed to be waived, and that the provisions of this order, by such acceptance, constitute the whole contract between the parties.

Seller guarantees that the goods herein described do not infringe any patent and agrees to defend any suit that may arise in respect thereto and to indemnify and save buyer harmless form any loss and expense which may be incurred by the assertion of any patent rights therein.

Cancellation on account of insolvency. Either party shall have the right to cancel the order in the event that the other party becomes bankrupt or insolvent or makes an assignment for benefit of creditors.

Anti-Discrimination. Seller shall not, in performing the work required by this order, discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, or sexual orientation.

In addition to the above terms and conditions, this order shall be subject to any and all provisions required by any federal, state or local law in effect at the time this order is placed, including all price regulations, and seller agrees that in filling this order it has complied with such laws and regulations, and will furnish buyer with written proof of such compliance upon request in writing from buyer.

Precision Trenchless, LLC

1710 Erie Boulevard
Schenectady, NY 12308
Phone: 518-346-5800 Fax: 528-346-6077

Invoice: # 362
Date: 11/30/2019

BILL TO
City of Portland
212 Canco Road
Suite B
Portland, ME 04103

SITE ADDRESS
Elm Street
Portland, ME 04106

ACCOUNT NO	PO NUMBER	REP	TERMS	JOB #	PAGE
PORTLAND		LC	Net 30	19-03039	1

CCTV inspection and CIPP rehabilitation services of Elm Street for the City of Portland

ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED
	1	Mobilization	10,000.00	10,000.00
	1	Performance Bond	2,250.00	2,250.00
	168	4789-4788 - CIPP rehabilitation services, 168 LF, 10" diameter	70.00	11,760.00
	1	Lateral reinstatement	250.00	250.00
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	89.5	2085-2084 - CIPP rehabilitation services, 89.5 LF, 12" diameter	53.00	4,743.50
	4	Lateral reinstatement	250.00	1,000.00
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	88.9	4795-4794 - CIPP rehabilitation services, 88.9 LF, 12" diameter	53.00	4,711.70
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	28.2	4794-4793 - CIPP rehabilitation services, 28.2 LF, 12" diameter	53.00	1,494.60
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	90.4	5911-4795 - CIPP rehabilitation services, 90.4 LF, 12" diameter	53.00	4,791.20
	2	Lateral reinstatement	250.00	500.00
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	41.6	2084-5911 - CIPP rehabilitation services, 41.6 LF, 12" diameter	53.00	2,204.80
	1	Bypass pumping services during operations	750.00	750.00
	1	Traffic control	2,500.00	2,500.00
	74.6	2073-5912 - CIPP rehabilitation services, 74.6 LF, 15" diameter	64.00	4,774.40
	2	Lateral reinstatement	250.00	500.00
	1	Bypass pumping services during operations	5,000.00	5,000.00

Precision Trenchless, LLC

1710 Erie Boulevard
Schenectady, NY 12308
Phone: 518-346-5800 Fax: 528-346-6077

Invoice: # 362
Date: 11/30/2019

BILL TO
City of Portland
212 Canco Road
Suite B
Portland, ME 04103

SITE ADDRESS
Elm Street
Portland, ME 04106

ACCOUNT NO	PO NUMBER	REP	TERMS	JOB #	PAGE
PORTLAND		LC	Net 30	19-03039	2

ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED
	1	Traffic control	2,500.00	2,500.00
	159.5	2081-2074 - CIPP rehabilitation services, 159.5 LF, 15" diameter	64.00	10,208.00
	8	Lateral reinstatement	250.00	2,000.00
	1	Bypass pumping services during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	157	2074-2073 - CIPP rehabilitation services, 157 LF, 15" diameter	64.00	10,048.00
	6	Lateral reinstatement	250.00	1,500.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	179.4	0392-2077 - CIPP rehabilitation services, 179.4 LF, 15" diameter	64.00	11,481.60
	3	Lateral reinstatement	250.00	750.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	102.3	4793-4788 - CIPP rehabilitation services, 102.3 LF, 15" diameter	64.00	6,547.20
	3	Lateral reinstatement	250.00	750.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	183.8	4788-0395 - CIPP rehabilitation services, 183.8 LF, 15" diameter	64.00	11,763.20
	3	Lateral reinstatement	250.00	750.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	156.3	0395-0394 - CIPP rehabilitation services, 156.3 LF, 15" diameter	64.00	10,003.20
	5	Lateral reinstatement	250.00	1,250.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00
	23.4	0393-0394 - CIPP rehabilitation services, 23.4 LF, 15" diameter	64.00	1,497.60
	1	Bypass pumping during operations	5,000.00	5,000.00

Precision Trenchless, LLC

1710 Erie Boulevard
Schenectady, NY 12308
Phone: 518-346-5800 Fax: 528-346-6077

Invoice: # 362
Date: 11/30/2019

BILL TO
City of Portland
212 Canco Road
Suite B
Portland, ME 04103

SITE ADDRESS
Elm Street
Portland, ME 04106

ACCOUNT NO	PO NUMBER	REP	TERMS	JOB #	PAGE
PORTLAND		LC	Net 30	19-03039	3

ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED
	1	Traffic control	2,500.00	2,500.00
	175.8	0394-0392 - CIPP rehabilitation services, 175.8 LF, 15" diameter	64.00	11,251.20
	2	Lateral reinstatement	250.00	500.00
	1	Bypass pumping during operations	5,000.00	5,000.00
	1	Traffic control	2,500.00	2,500.00

A 1 ½% per month late charge will be assessed on past due amounts over 30 days.

BALANCE DUE 216,280.20

DUE DATE: 12/30/2019

Purchase Order

City of Portland, Maine
City Hall, 389 Congress Street
Portland, Maine 04101
207-874-8654

BILL TO
Accounts Payable
City Hall, Room 104
389 Congress Street
Portland, ME 04101

THIS NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.

Purchase Order # 55715

VENDOR
TED BERRY COMPANY INC
521 FEDERAL ROAD
LIVERMORE, ME 04253
Email: karin.ashmore@tedberrycompany.com

SHIP TO
Public Works Admin.
212 Canco Road
Suite B
Portland, ME 04103

Date Ordered	Deliver By	Requisition Number	Vendor Contact Name
11/27/2019	11/01/2019	32292	KARIN ASHMORE

Vendor Number	Date Required	Freight Method/Terms	Department Contact
2665	11/01/2019	net 30	Public Works

Item#	Description/PartNo	QTY	UOM	Unit Price	Extended Price
	The Above Purchase Order Number Must Appear On All Correspondence - Packing Sheets And Bills Of Lading				
1	On Call Trenchless Technology Services	121,800.0	EACH	$1.00	$121,800.00
	********** GL SUMMARY **********				
	0370-50-31-3100-31000-0000-407010- $121,800.00				

By: _____
Authorized Signature

PO Total **$121,800.00**

CITY OF PORTLAND, MAINE
PURCHASE ORDER TERMS AND CONDITIONS

ACKNOWLEDGE RECEIPT OF THIS ORDER AND CONFIRM SHIPMENT DATE.

BY ACCEPTANCE OF THIS ORDER THE CONTRACTOR AGREES TO COMPLY WITH THE STATE OF MAINE CODE OF FAIR PRACTICES AND AFFIRMATIVE ACTION.

THIS ORDER MUST NOT BE FILLED in greater quantities or at prices higher than shown without written approval of the Purchasing Department. If price is not shown on the order, it is agreed that you will ship the items ordered at a price no higher than when last purchased or you will notify the Purchasing Department before proceeding with the order.

SALES AND EXCISE TAXES. The City is exempt from the payment of any sales, excise or federal transportation taxes. The price must be net, exclusive of taxes and will be so construed.

SALES AND USE TAX LAW AND REGULATIONS References: Title 36, Section 1760 Bureau of Taxation
1. Sales made directly to the federal government, this State or any political subdivision of this State, or to any agency of the above, are exempt from sales tax. In addition to the federal government, the State of Maine, and any county, **city**, town, or plantation in the State of Maine, this exemption covers sales to:

School Districts in Maine;
Water, Power, Parking and other Districts in Maine established by legislative Act as quasi-municipal corporations; Village Corporations;
Maine Turnpike Authority.

In the case of the above no evidence of exemption in the case of a sale at retail will be required other than the invoice of the seller indicating sales to such exempt entity.

ITEMIZED INVOICES IN DUPLICATE showing the Purchase Order number must be sent to the ordering department, at the time of each shipment, accompanied by a copy of bill of lading, and on all prepaid shipments chargeable to us attach transportation receipt to invoice.

QUANTITY ON THIS ORDER CANNOT BE EXCEEDED. All overruns will be furnished at your expense unless approval is obtained from Purchasing Agent before delivery is made.

NO SUBSTITUTION OF MATERIAL will be permitted on this order unless authorized by Purchasing Department. The City reserves the right to reject all material not in accordance with specifications.
Separate packing slips must be included in each shipment showing the purchase order number, quantity, part number and a description of goods. No charge for packing will be allowed.
In the event this order is not filled in each particular as specified, we reserve the right to do any one or more of the following:

To cancel this order.
To recover all loss, damage and expense caused by such failure.
To require delivery by any means, seller to pay any increased transportation expense. To procure from another source, charging seller for any excess costs.

Charges for extras must be approved in writing by the Purchasing Department before being incurred.

Buyer recognizes that seller may for operating convenience, desire to utilize its own form of sale note in acknowledging this order, or otherwise acknowledge it than by simple acceptance. Therefore, it is agreed that any provisions in the form of acceptance used which modify, conflict with, or contradict any provision of this order, shall be deemed to be waived, and that the provisions of this order, by such acceptance, constitute the whole contract between the parties.

Seller guarantees that the goods herein described do not infringe any patent and agrees to defend any suit that may arise in respect thereto and to indemnify and save buyer harmless form any loss and expense which may be incurred by the assertion of any patent rights therein.

Cancellation on account of insolvency. Either party shall have the right to cancel the order in the event that the other party becomes bankrupt or insolvent or makes an assignment for benefit of creditors.

Anti-Discrimination. Seller shall not, in performing the work required by this order, discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, or sexual orientation.

In addition to the above terms and conditions, this order shall be subject to any and all provisions required by any federal, state or local law in effect at the time this order is placed, including all price regulations, and seller agrees that in filling this order it has complied with such laws and regulations, and will furnish buyer with written proof of such compliance upon request in writing from buyer.

TED BERRY
COMPANY LLC.
A VORTEX COMPANY

Portland Department of Public Works
212 Canco Rd, Suite B
Portland, ME 04103

November 15, 2019

RE: Portland Trenchless Technologies Services - 2019

Greetings,

Thank you for giving us the opportunity to provide you with the following proposal to rehabilitate various sewer segments throughout the City of Portland.

Scope of work:
Pre clean, prep and install UVGRP liners in various segments of failing sewer main throughout the City of Portland. The list of pipes in question have been included under the Billable Units section of this proposal.

Trenchless Rehabilitation- Methodology:
The Cured In place/ UV GRP procedure is a cost effective trenchless method that will add longevity to your existing system with minimal to no disturbance on the surface and reduced impact on nearby abutters.

- **Ultraviolet Cured In Place Pipe – (UV CIPP) -** We are proposing the installation of a spirally wound UV cured CIPP liner. A reinforced UV CIPP lining material, with pull in place installation, and UV light curing technologies meshed seamlessly into an integrated system that results in a high-grade, quality curing on the project site. The glass-fiber reinforced plastic (GFRP) materials manufactured by Reline America® in our liner system offers enhanced corrosion resistance properties, superior mechanical characteristics and a larger finished pipe ID.

  The ability to control and document the cure of the Alphaliner™ materials using the quality-tracker-system allows the Ted Berry Company to deliver to you a finished end product with documentation proving the parameters in which it was installed and cured. Using the built-in CCTV camera, the UV light train provides the certified installation technician with a live video feed from inside the liner before the cure is initiated and throughout the curing process.

Project Responsibilities

City of Portland: To help achieve a smooth and successful project, you will be considered the owner of the project and it will be your responsibility to perform the following:

- Provide permitting or waive fees associated with project.
- Provide water access permission through Hydrants or any other source for cleaning purpose.

- Approve site access and adequate setup area for equipment at either end of the sewer lines including coordination with affected property owners (TBC will submit traffic control plans for each segment for approval indicating areas needed).
- Provide offsite laydown area where TBC can leave some equipment off hours and weekends.
- Provide or compensate for police details (if needed) on any of the installs.

Ted Berry Company, Inc.

- Provide a designated project manager
- Provide a written work plan prior to start of work.
- Provide all required materials, to complete the scope.
- Bypass Pumping up to 300gpm
- Traffic Control per MUTCD – (Basic sign package and lane/parking closures as needed).
- Provide a CIPP Installation crew with all labor, materials, and equipment required to complete the scope of work.
- Provide Post Inspection camera.

Ted Berry Company, Inc. Employees

- Project Manager (Offsite)
- Project Crew Supervisor
- UV Cure Truck Operator/Cutter Truck Operator
- Blower Truck Operator
- (2) Technicians

Ted Berry Company Inc. Equipment

- UV CIPP Cure Truck and Blower Truck
- Robotic Cutter Truck
- Trailer Jet
- (2) Service Trucks
- Confined space entry equipment and various tools of the trade

Proposed Work Plan (Daily/Per Segment)

Project Commencement:

- Setup Traffic,
- Pre inspection and stringing of sewer line (Clean line – cut roots – cut intruding taps and pre-mark sewer services)
- Setup UV CIPP equipment
- Pull Winch Cable to Cure Truck
- Pull Liner into place
- Place UV Light Train into liner and perform pre-inspection
- Activate light train and pull back – CCTV line and monitor curing
- Remove light train and inner film from the line, finish pipe ends at manholes

- Reinstate Service Laterals
- Final inspection of cured pipe by CCTV
- Rehabilitate manhole invert where necessary
- Site Restoration
- QC/QA with customer
- Demobilize

Billable Units
See Attached Price chart

We appreciate the opportunity to provide you with this estimate and we look forward to the chance to work with you.

Sincerely,

Isaiah Bean
Senior Project Manager

No job is so important and no service is so urgent that we cannot take the time out to perform or work safely.

Facility ID	US Manhole	DS Manhole	Diameter	Length	Cost	Type	Street
ssgm-04902	ssmh-5794	ssmh-5795	8	200	**$14,000**	Vitrified Clay Pipe	Murray
ssgm-04902	ssmh-5795	ssmh-1421	8	250	**$17,500**	Vitrified Clay Pipe	Murray
ssgm-00004	ssmh-1421	ssmh-1422	10	150	**$16,500**	Vitrified Clay Pipe	Murray
ssgm-04904	ssmh-1422	ssmh-5796	12	150	**$18,000**	Vitrified Clay Pipe	Murray
ssgm-00367	ssmh-4577	ssmh-4575	8	240	**$16,800**	Vitrified Clay Pipe	Kenwood Street
ssgm-00368	ssmh-4575	ssmh-4574	8	250	**$17,500**	Vitrified Clay Pipe	Kenwood Street
ssgm-00369	ssmh-4574	ssmh-0228	12	250	**$21,500**	Vitrified Clay Pipe	Kenwood Street
				Project Total	**$121,800**		

Appendix B – Sanitary Sewer Overflow Reports

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Sewer Collection System **Municipality:** Portland

Date of Incident/Exceedence: January 18, 2019

Verbal Notification Date: 1/18/2019 **To Whom:** S. Rose/Alex Rosenberg

Caller: John Emerson **Phone #:** 207-318-0239

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Sanitary sewage. No estimate on quantity. Two commercial property cellars (#2 and #10 Exchange Street) and a Central Maine Power vault in the Exchange Street right of way.

Specific Location and Duration of Release/Exceedence:

Commercial properties at #10 and #2 Exchange Street (minor cellar and foundation flooding). A Central Maine Power electrical vault in the sidewalk of Exchange Street (flooded vault). No information with regard to duration of the problem. It appears to have been ongoing for a couple of days prior to Water Resources' notification. There was no discernable release to the environment or the public way.

Observed Environmental Effects:

No damage to the environment. A CMP vault was flooded and minor flooding was experienced at the #2 and #10 Exchange Street commercial properties.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

On Water Resources was called by the property management company for #10 Exchange Street. Sewage was not draining from their property and attempts to correct the problem were proving fruitless. City records were incomplete or nonexistent as the sewer system in the area is 120 years old. Absent any detailed records, the management company of #10 Exchange Street contracted Les Wilson and Son Excavators to perform a investigative/corrective excavation. The investigative excavation (performed on 1/22/19) revealed that #10 Exchange Street was connected to an undocumented city 8" drain line. The drain line was inaccessible due to the absence of upstream and downstream manholes. As such, Ecoclean Sewer and Drain was contracted to televise the 8" drain and confirm possible other lateral connections. As it turns out, there were two more buildings connected to the system.

Remedial Actions Taken and Times When Taken:

Number 10 Exchange Street was pumped on a twice daily basis (septic hauler) until the corrective excavation was performed. The collapsed drain line was repaired, a cleanout riser was installed and the system was returned to service on 10/22/19.

Specific Measures Needed to Prevent Recurrence:

The installed cleanout riser will be inspected monthly and the Water Resources Engineering group will work on a corrective action plan that may include relining or replacement of the 120 year old system.

Implementation Schedule:

Action Item Description	Projected Completion Date
Inspect the cleanout riser in Exchange monthly	Immediately
Water Resources to develop capital repair plans	7/1/19
Reline or replace impacted main segments as necessary	11/15/19
Prepared By: John Emerson	**Date:** 1/29/2019

Non-compliance/Discharge Incident Report Form

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As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

Date of Entrance Apr. 7, 1911

Connected by J. K. Synch

Size and kind of pipe 8" Vit.

Inspected by A. H. Sange

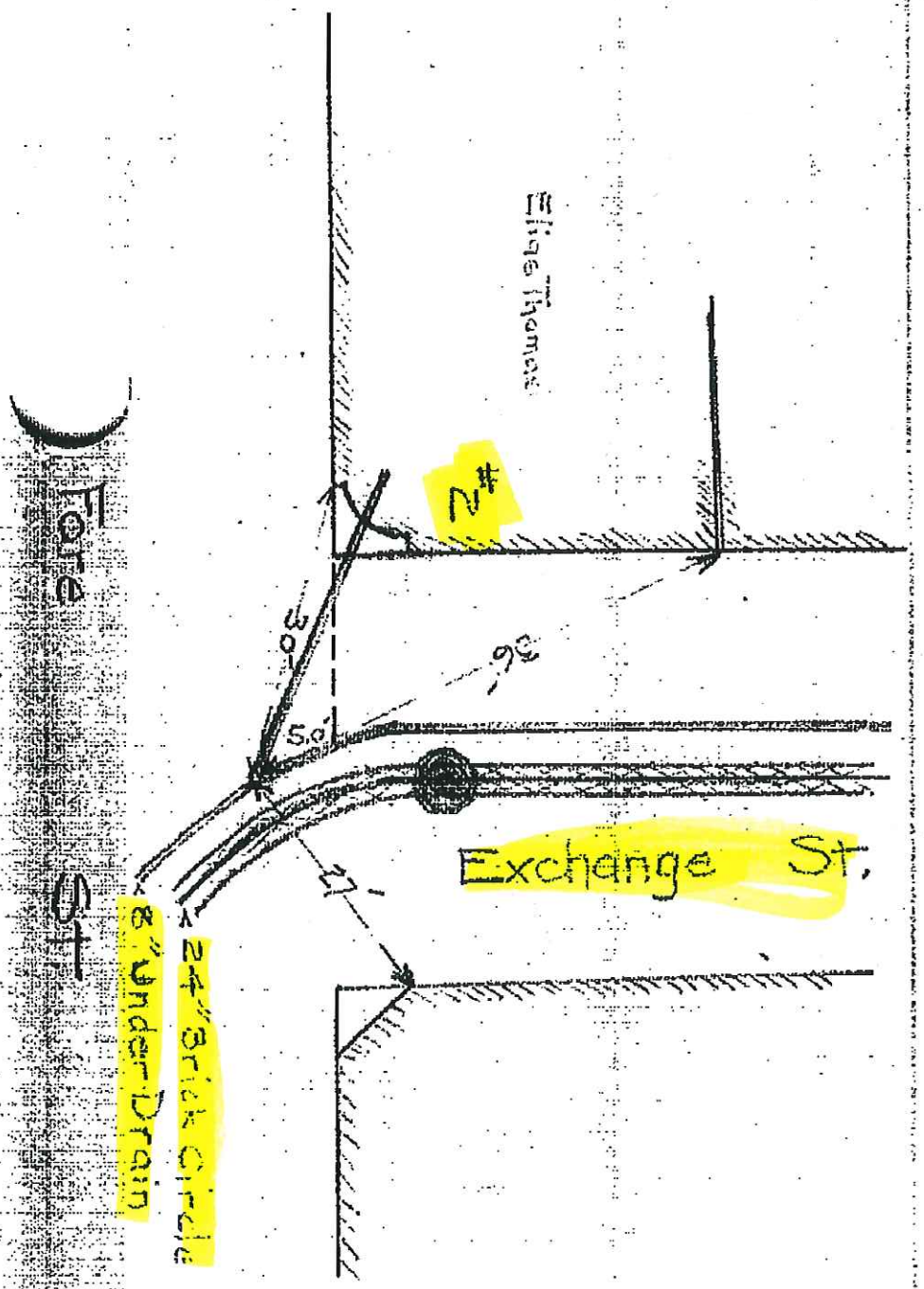
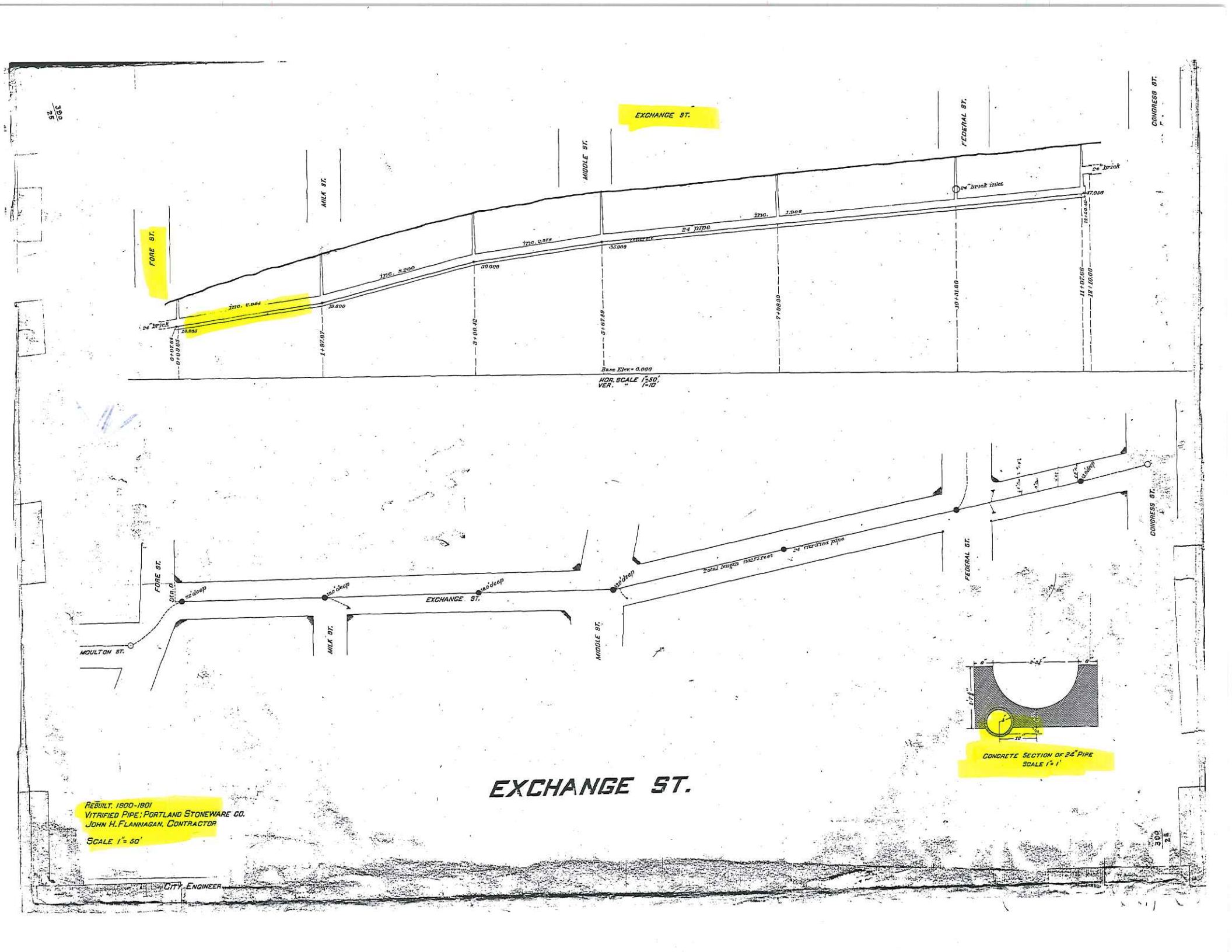


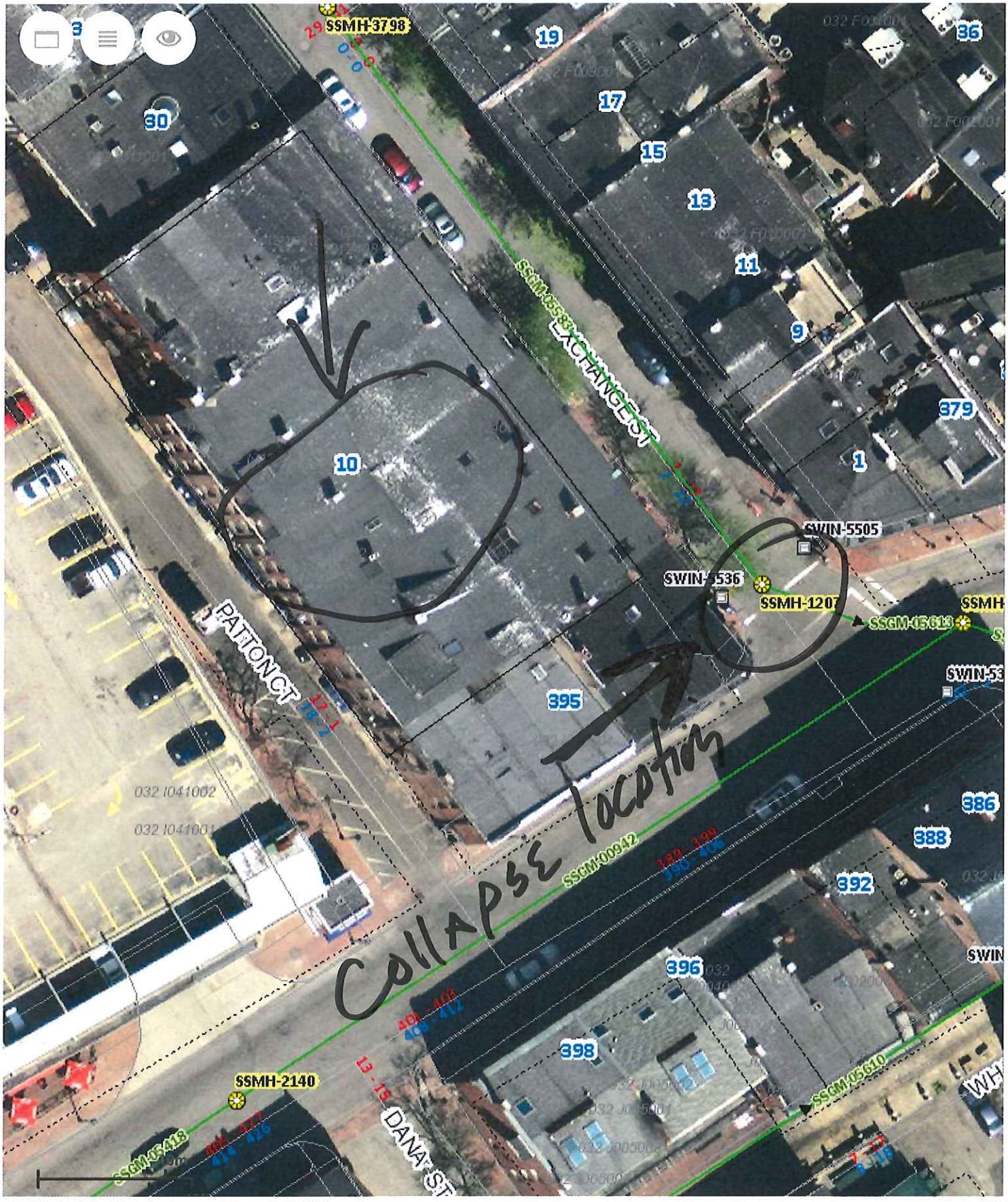
Plate 4


EXCHANGE ST.
FORE ST.
MILK ST.
MIDDLE ST.
FEDERAL ST.
CONGRESS ST.
24" brick
24" brick inlet
24" pipe
inc. 2.044
inc. 2.200
inc. 2.074
inc. 1.900
19.800
30.000
32.000
47.058
Base Elev = 0.000
HOR. SCALE 1"=50'
VER. " 1"=10'
MOULTON ST.
EXCHANGE ST.
22' deep
18' deep
30' deep
Total length 1100 feet
24" vitrified pipe
CONCRETE SECTION OF 24" PIPE
SCALE 1" = 1'
EXCHANGE ST.
REBUILT. 1900-1901
VITRIFIED PIPE; PORTLAND STONEWARE CO.
JOHN H. FLANNAGAN, CONTRACTOR
SCALE 1" = 50'
CITY ENGINEER

Tools | Legend | Selection | Locate | Printing | Bookmarks | Base Maps | Data View

Editor | Measure | Layer Search | Split Line Tool | Heat Maps | Create Activity

Redline



Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Sewer Collection System **Municipality:** Portland

Date of Incident/Exceedence: February 6, 2019

Verbal Notification Date: 2/7/2019 **To Whom:** S. Rose/Alex Rosenberg

Caller: John Emerson **Phone #:** 207-318-0239

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Sanitary sewage. No estimate on quantity.

Specific Location and Duration of Release/Exceedence:

Sewage backed up in to the cellar of #19 Concord Street. The cellar of #19 Concord was partially flooded for a period of approximately 6 hours. No discharge to the environment.

Observed Environmental Effects:

No damage to the environment. There was damage to personal items in the cellar of #19 Concord Street.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The resident of #19 called to report a partially flooded cellar. They had called a plumber who determined that the cause appeared to be a problem in the city's 8" sewer main. Water Resources personnel responded and confirmed that the city sewer main was surcharged. Subsequent cleaning and TV investigation revealed a damaged and partially collapsed city sewer main. It appears that broken pipe and debris blocked flow and caused the system backup. The entire main segment was found to be at or near catastrophic failure.

Remedial Actions Taken and Times When Taken:

Water Resources crews used a Vactor unit to hydraulically unplug the city sewer main. Main was unplugged between 6:00 and 7:00 PM on 2/6/2019.

Specific Measures Needed to Prevent Recurrence:

In the immediate we will inspect the system on a weekly basis to ensure problems do not reoccur. Schedule the installation of a Smart Cover monitoring device by April 1, 2019. The sewer main in Concord Street will need to be replaced and, as such, we will need to look at replacement strategies that are either addressed immediately or rise to the top of our planned capital improvement work.

Implementation Schedule:

Action Item Description	Projected Completion Date
Inspect the Concord Street system on a weekly basis	Immediately
Install a Smart Cover monitoring device	4/1/19
Develop plans for emergency of scheduled sewer main replacement.	5/1/19
Prepared By: John Emerson	**Date:** 2/14/19

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

N

120 60 0 120 Feet

Gravity Sewer Backup at 19 Concord Street

Legend

- Located Issues
- Manholes
- Gravity
- Roads

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Sewer Collection System **Municipality:** Portland

Date of Incident/Exceedence: April 5, 2019

Verbal Notification Date: 4/5/2019 **To Whom:** S. Rose/Alex Rosenberg

Caller: John Emerson **Phone #:** 207-318-0239

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Sanitary sewage. 200 to 250 gallons.

Specific Location and Duration of Release/Exceedence:

Curtis Road pumping station at the intersection of Alice Street and Clapboard Road. Intermittent release over a 2 to 3 hour period.

Observed Environmental Effects:

The lawn and grounds of the pumping station were coated in sanitary sewage. No other environmental effects observed.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

Curtis Road pumping station is in the midst of a full rehabilitation and replacement T Buck Construction/ Woodard Curran Engineers). Contractor bypassing pumping is being employed while the existing station is demolished. The SSO event occurred when a hose coupling off the bypass pump became disconnected. Flows were extremely with a system low level alarm triggering response by a Water Resources on call operator. A photograph of the bypass pump unit and coupling (to the units left side) is attached.

Remedial Actions Taken and Times When Taken:

The disconnected hose was reconnected by a Water Resources on call operator with the entire event occurring between 3:00 AM and 6:00 AM on 4/5/19. T Buck Construction fully cleaned the site grounds.

Specific Measures Needed to Prevent Recurrence:

The contractor secured the coupling and reinforced connection such that disconnection would not reoccur. VPN access was granted to the contractor such that all alarms flow directly to them for the duration of the project. Water Resources will continue to serve as a secondary respondent during the project. Contractor maintained 24 hour on site inspection until VPN access was secured 4/8/19.

Implementation Schedule:

Action Item Description	Projected Completion Date
Doubly secure all bypass couplings	Immediately
Provide VPN SCADA access to contractor T Buck Construction	4/8/19
Prepared By: John Emerson	**Date:** 4/11/19

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

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- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

126
ALICE ST
89
123
129
SSFT-0410
SWFT-0735
77
SSNS-0014
186
SWFT-0736
86
SSFT-0435
68
73
58
52
174
SWFT-0741
SWFT-0742
61
SWFT-0733
59
168
CURTIS RD
SWFT-0425
53
158
163
44
33
45
10

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 7/6/2019

Verbal Notification Date: 7/7/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Overflows occurred at the manholes Maple at Commercial, Maple at Commercial and York at High. The duration of the overflow event was less than 15 minutes as a rainfall event of short duration and high intensity hit the area around 17:00. The covers were replaced by Water Resources crews immediately after the event. Overflows are indicated on the attached graphs. Rainfall duration and intensity is also plotted. Data gaps reflect damaged sensors or sensor wiring. All units repaired and recalibrated on 7/8/2019

Observed Environmental Effects:

Overflow ran down Maple, York and High Streets and found its way its way to the flooded area of Commercial at Maple Street. Several downstream catch basins collected most of the flow. The quick high flow rainfall overwhelmed the system's carrying capacity. No floatables or debris were observed.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The intense rainfall event surcharged the upstream system and caused the covers to pop at Maple Street, York at Park and York at High Street. Attached graphics indicate duration and intensity with system response.
The attached Smart Cover graphic indicates the rapidity at which the system responded to the rainfall event. Sensing devices are located at all three referenced sites. I've enclosed graphics indicating location of the SSO's and system response to the rainfall event. The sudden drop in the Maple Street graphic is due to the fact that the sensor was blown out of the manhole and therefore not seeing level. The sensor York at Park sustained a broken sonic sensor cable due to a passing car running over the exposed cable.

Remedial Actions Taken and Times When Taken:

Covers were replaced and the downstream system was inspected for in pipe restrictions. No restrictions were evidenced.

Specific Measures Needed to Prevent Recurrence:

The in progress integrated plan development will assist in identifying mitigating strategies and priorities. Once identified, potential mitigating measures can be crafted. The on going I/I analysis is concentrating on separate storm and sewer systems and, as such, data gleaned will not (as previously reported) in form as to system response and capacity in the High, York, Maple area (combined system).

Implementation Schedule:

Action Item Description	Projected Completion Date
Integrated Plan completion and subsequent recommendations.	In progress

Prepared By: John Emerson **Date:** 7/12/19

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

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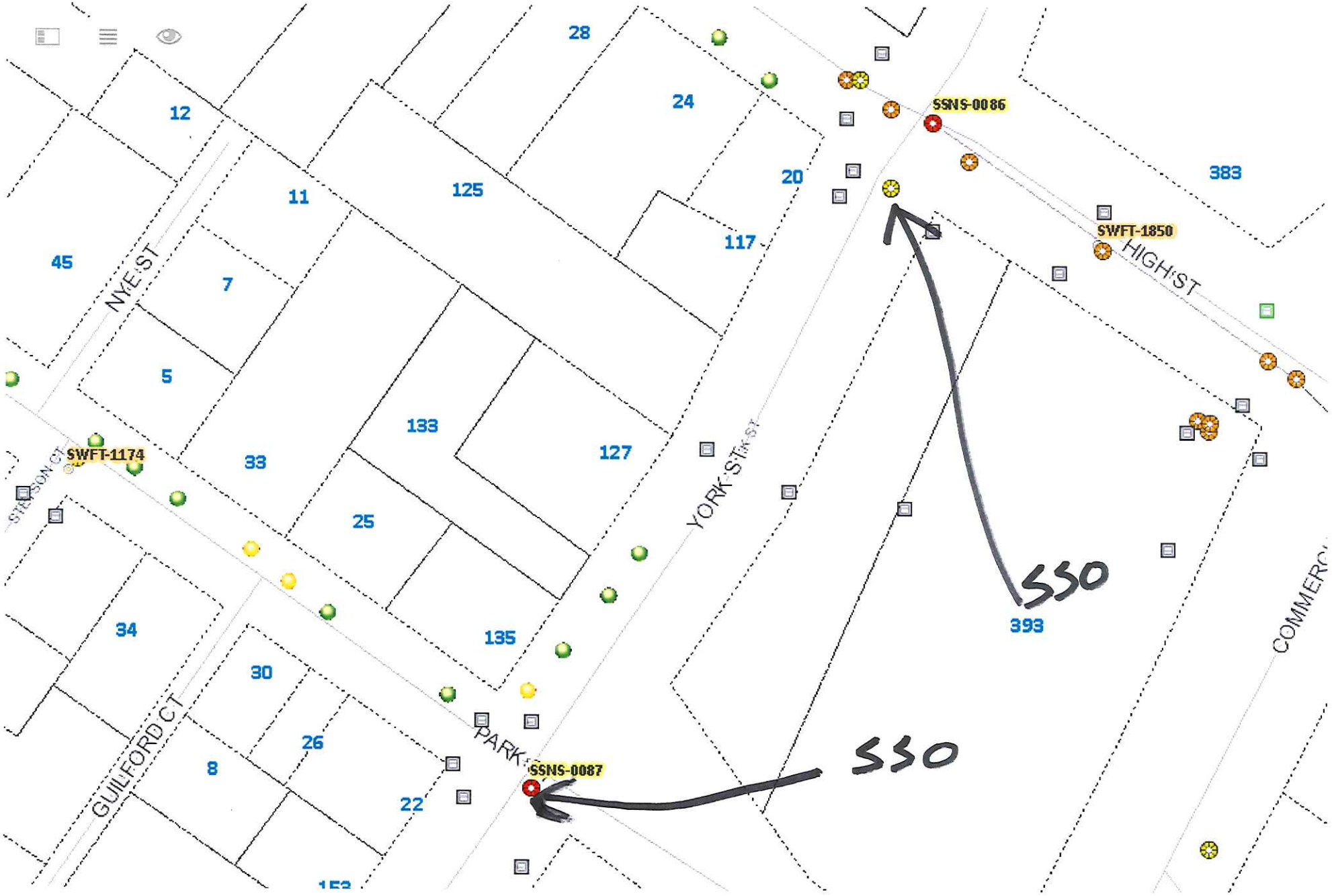
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

Tools Legend Selection Locate Printing Bookmarks Base Maps Data View Editor Measure Layer Search

Split Line Tool Heat Maps Create Activity Redline Navigation



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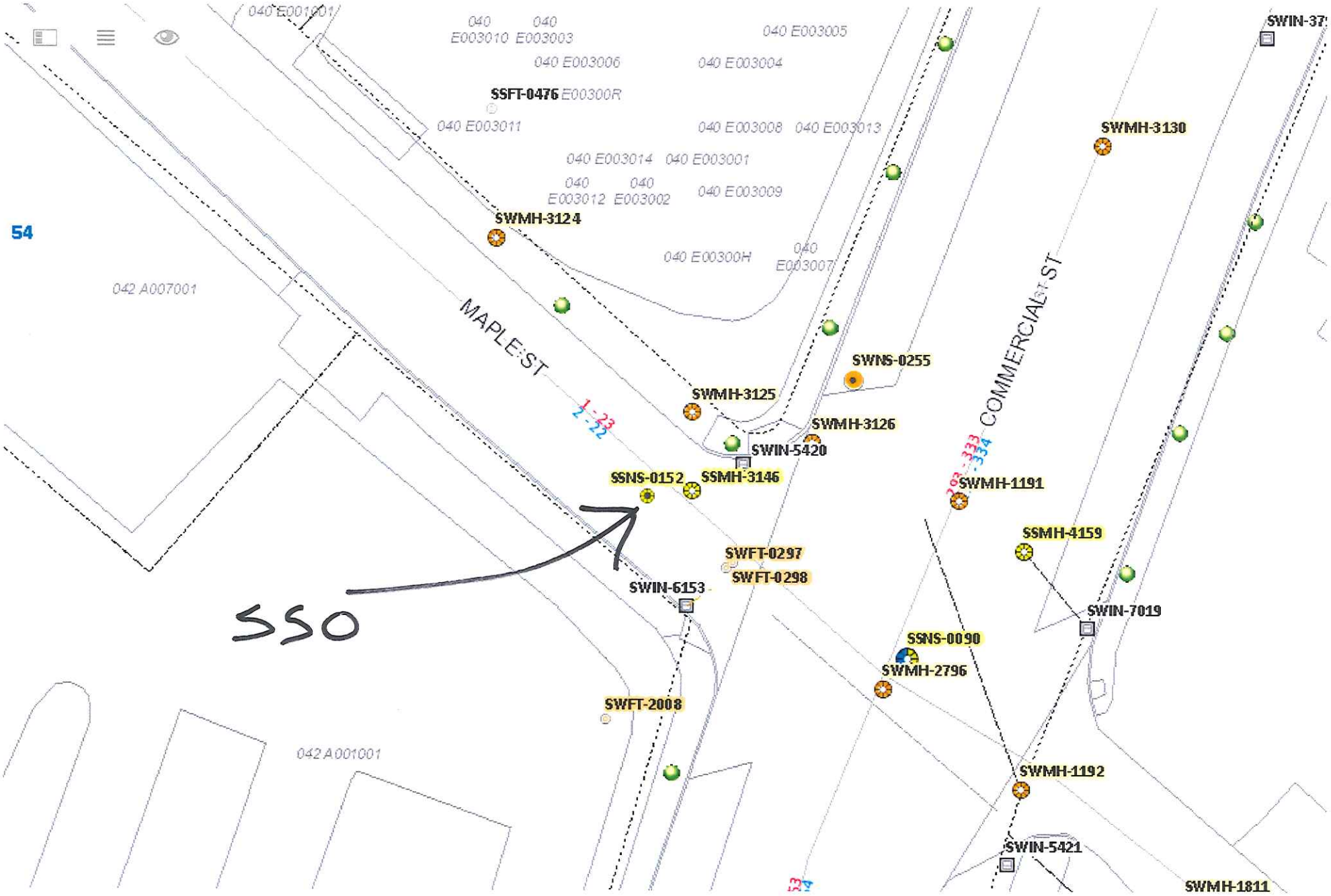

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 8/21/2019

Verbal Notification Date: 8/22/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Overflows occurred at the manholes Maple at Commercial, High at York and York at High. The duration of the overflow event was less than 30 minutes as a rainfall event of short duration and high intensity hit the area around 15:00. The covers were replaced by Water Resources crews immediately after the event.

Observed Environmental Effects:

Overflow ran down Maple, York and High Streets and found its way its way to the flooded area of Commercial at Maple Street. Several downstream catch basins collected most of the flow. The quick high flow rainfall overwhelmed the system's carrying capacity. No floatables or debris were observed.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The intense rainfall event surcharged the upstream system and caused the covers to pop at Maple Street, High at York and York at High Street. Attached graphics indicate duration and intensity with system response.

Remedial Actions Taken and Times When Taken:

Covers were replaced and the downstream system was inspected for in pipe restrictions. No restrictions were evidenced.

Specific Measures Needed to Prevent Recurrence:

Completion of the integrated plan should inform us as to mitigating approaches and priorities.

Implementation Schedule:

Action Item Description	Projected Completion Date
Integrated Plan completion and subsequent recommendations.	In progress

Prepared By: John Emerson **Date:** 8/29/19

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

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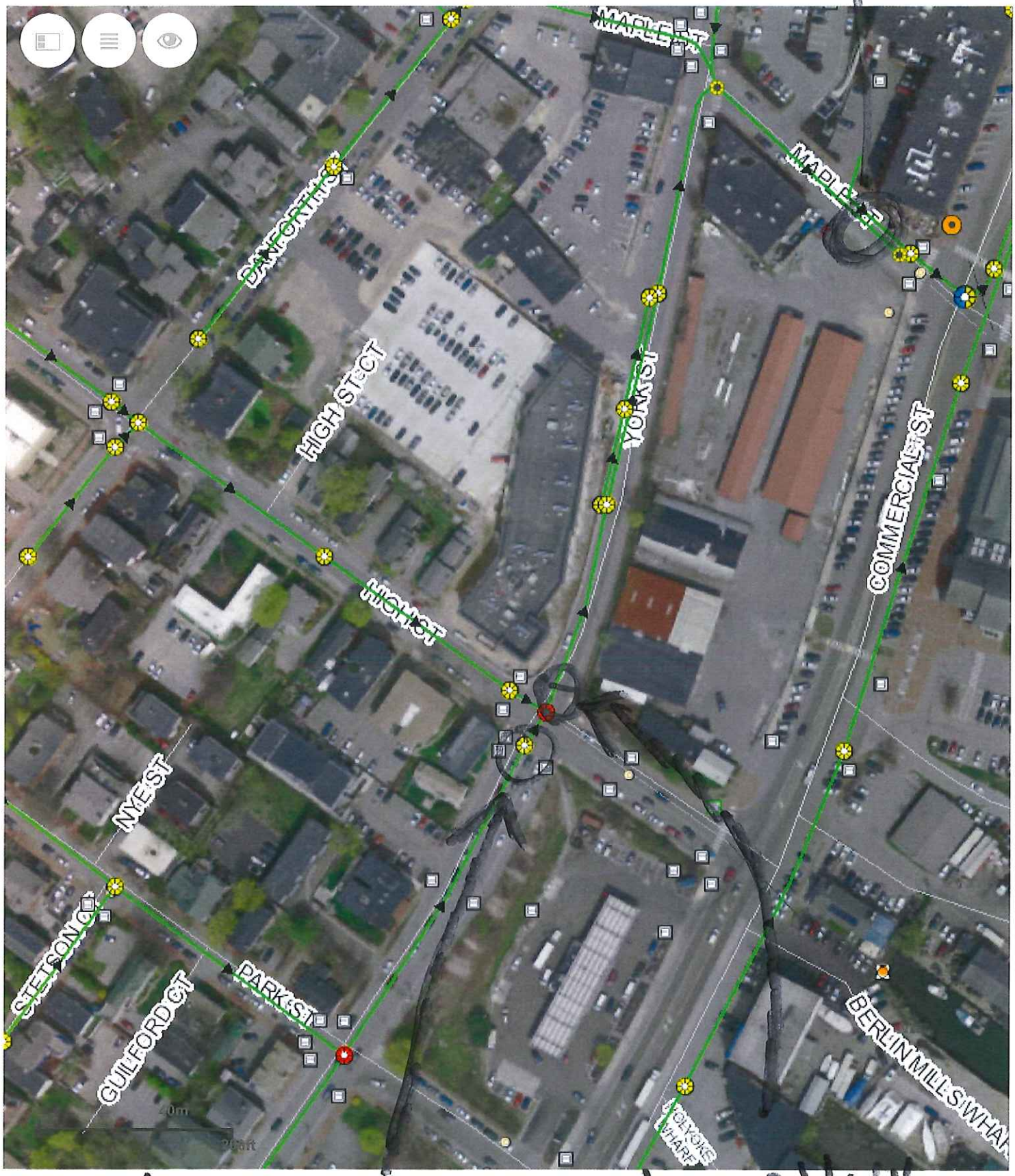
Tools Legend Selection Locate Printing Bookmarks Base Map Data View

Editor Measure Layer Search Split Line Tool Heat Maps Create Activity

Redline Navigation

MAPLE ST



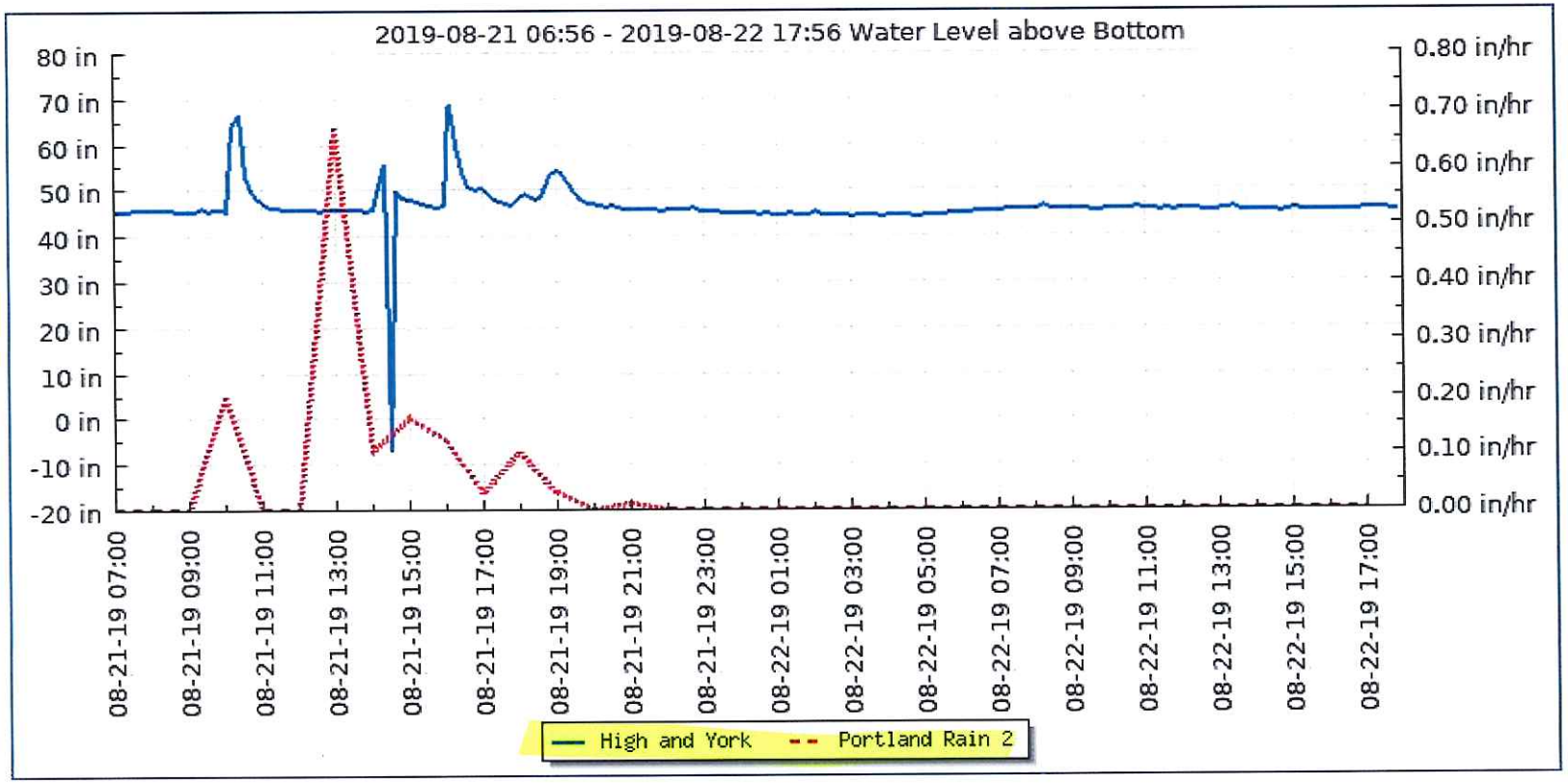
YORK @ HIGH HIGH @ YORK

Portland ME

SMARTCOVER® SEWER INTELLIGENCE®

You are logged in as: johnemerson :: Super Admin :: Logout

Map SmartTrend® Alarms and Alerts System Operations Multi Graphs Super Admin Support Contact



- (•) Level / Rain / Tide
- ( ) PowerPack Voltage
- ( ) Signal Quality

Time Period: Last Week

From: 2019-08-21 06:56

To: 2019-08-22 17:56

Change Graph

Adjust Scale - Reset

Max Y:

Min Y:

Download Data

Long Filter
- ( ) Gaps
- ( ) Fill Gaps
- (•) No Filter

Locations

[RAIN] Portland Rain 2

High and York

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SMARTCOVER® SEWER INTELLIGENCE®

Portland ME

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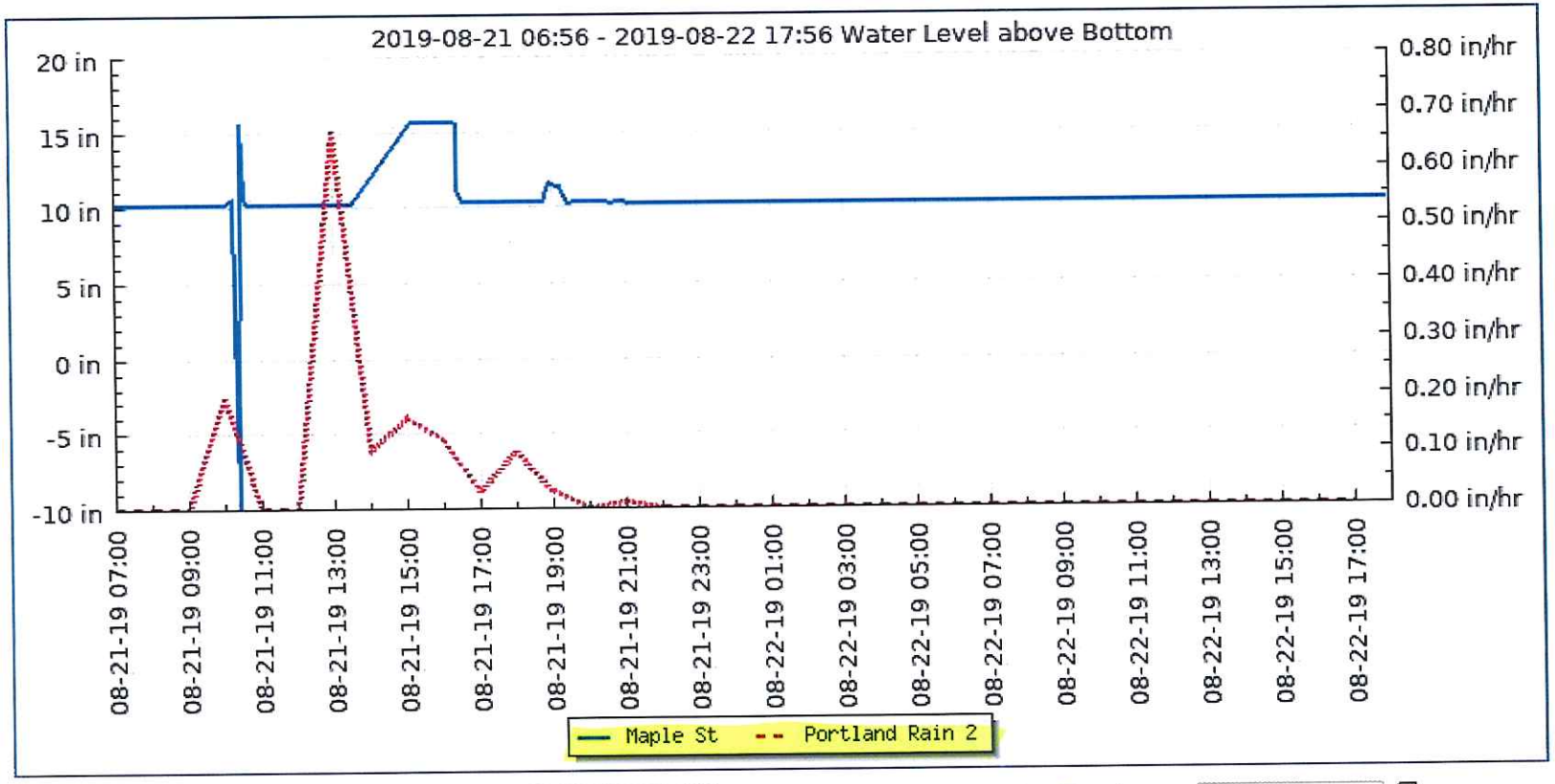
Map SmartTrend® Alarms and Alerts System Operations Multi Graphs Super Admin Support Contact



- (•) Level / Rain / Tide
- ( ) PowerPack Voltage
- ( ) Signal Quality

Time Period: Last Week

From: 2019-08-21 06:56

To: 2019-08-22 17:56

Change Graph

Adjust Scale - Reset

Max Y:

Min Y:

Download Data

Long Filter
- ( ) Gaps
- ( ) Fill Gaps
- (•) No Filter

Locations

[RAIN] Portland Rain 2

Maple St

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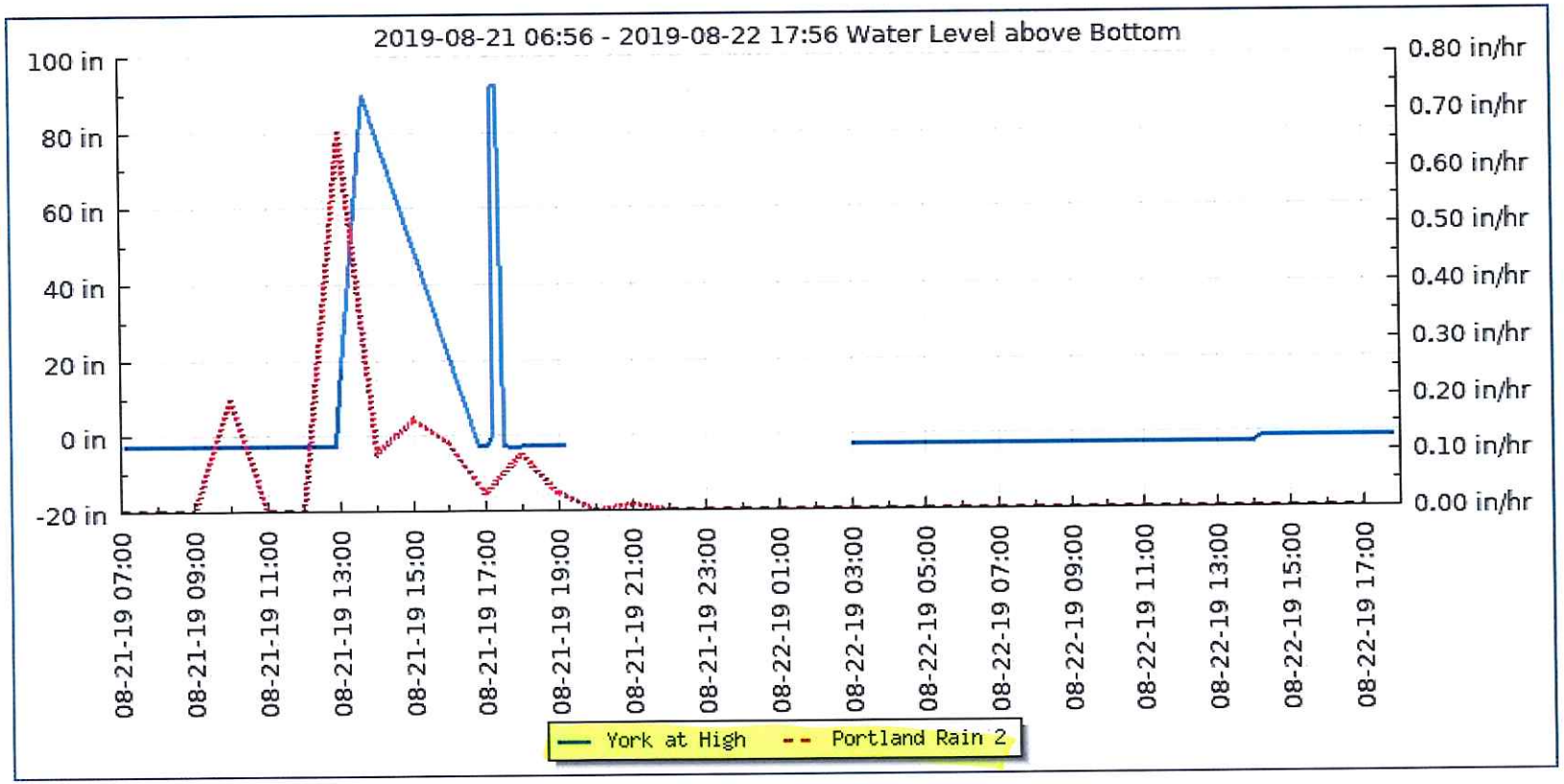
SMARTCOVER® SEWER INTELLIGENCE®

Portland ME

You are logged in as: johnemerson :: Super Admin :: Logout

Map SmartTrend® Alarms and Alerts System Operations Multi Graphs Super Admin Support Contact



- (•) Level / Rain / Tide
- ( ) PowerPack Voltage
- ( ) Signal Quality

Time Period: Last Week

From: 2019-08-21 06:56

To: 2019-08-22 17:56

Change Graph

Adjust Scale - Reset

Max Y: 97.2

Min Y: -8.1

Download Data

Long Filter
- ( ) Gaps
- ( ) Fill Gaps
- (•) No Filter

Locations

York at High

[RAIN] Portland Rain 2

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Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 8/21/2019

Verbal Notification Date: 8/22/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Overflow occurred at a Franklin Street system network that, to date has never experienced an SSO event. The release was less than ½ hour and overflow volumes found their way in to downstream system catch basins.

Observed Environmental Effects:

The rainfall event was of short duration and high intensity. Sheet flows in the immediate area resulted in no observed environmental effects at or downstream from the overflow manhole.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The intense event surcharged the system and caused the manhole cover to lift. The manhole sits over a 72" main, a system that, in turn feeds a 36" main downstream. Once surcharged, the system overflows at CSO #17. The tide was a modest 9.0 at its high point with that high point not occurring until 3:42 PM. The SSO overflow occurred around the 3:00 PM time frame and, as such, is a bit of a mystery as to why the cover flipped. The downstream Franklin Street pump Station is currently in bypass mode so there is a possibility that flood flow rates were less that normal. Even so, the downstream CSO should have provided a measure of relief sufficient to prevent the SSO.

Remedial Actions Taken and Times When Taken:

Covers were replaced and the downstream system was inspected for in pipe restrictions. No restrictions were evidenced other than the Franklin Street Pump Station being in bypass mode (due to reconstruction activities at the station).

Specific Measures Needed to Prevent Recurrence:

We will purchase and install a Smart Cover system to better understand upstream system performance during high flow events.

Implementation Schedule:

Action Item Description	Projected Completion Date
Install Smart Cover System	10/1/19
Back Cove South Storage Tank may provide first flush relief	TBD

Prepared By: John Emerson **Date:** 8/29/19

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

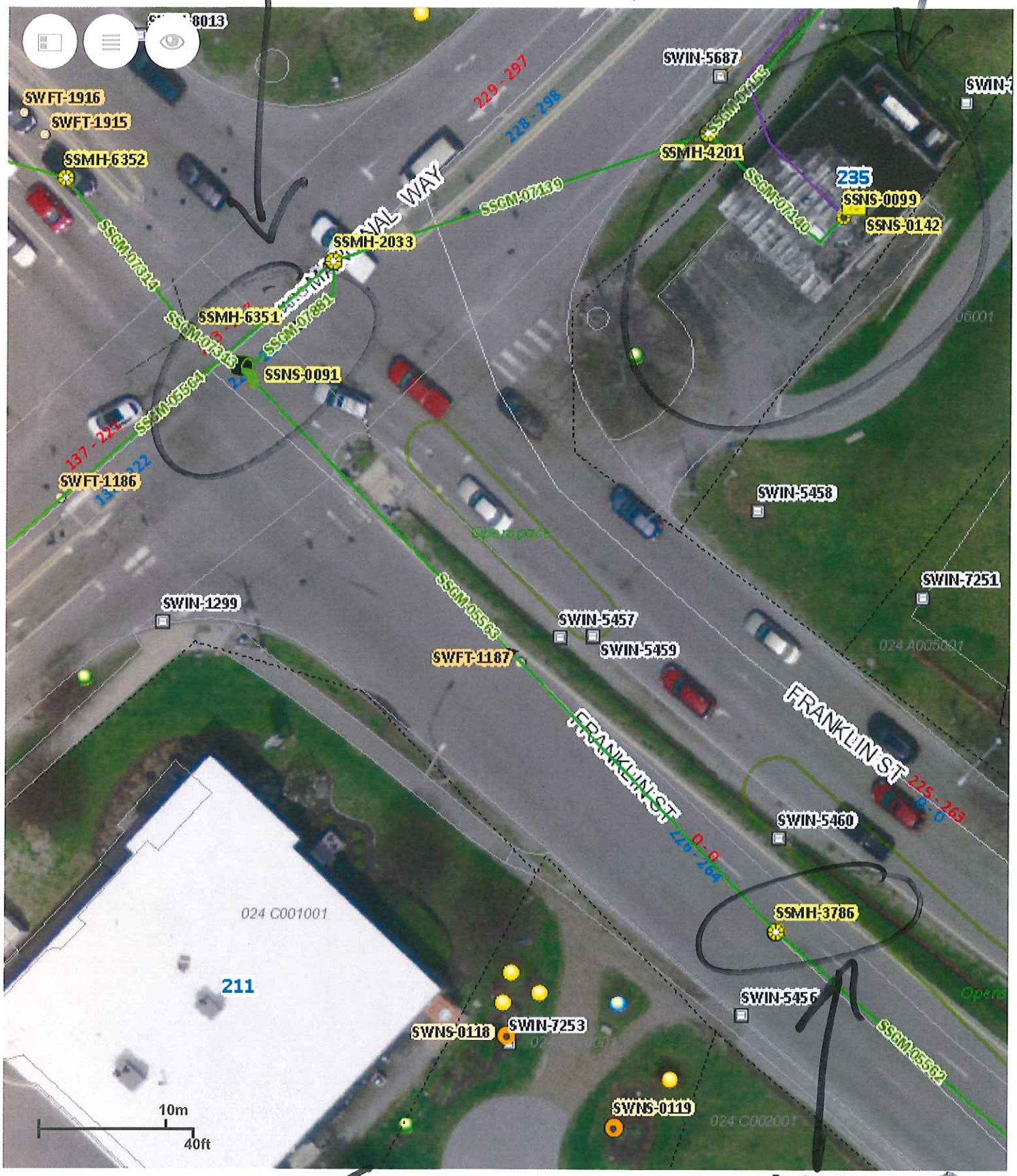
Tools Legend Selection Locate Printing Bookmarks Base Maps Data View

Editor Measure Layer Search Split Line Tool Heat Maps Create Activity

Redline Navigation

CSO 17

FRANKLIN PS



FRANKLIN ST OVERFLOW

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 8/21/2019

Verbal Notification Date: 8/22/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Overflow occurred at control manhole on the Bruno's Restaurant property at around 3:00 PM. The duration of the overflow event was between 30 and 45 minutes.

Observed Environmental Effects:

The Allen Avenue system surcharged during heavy rains with the result being an overflow at the Bruno's Restaurant control manhole.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The intense event surcharged the system and caused the manhole cover to lift. The manhole feeds an 8" VC system that flows toward Morrill's Corner. Once at Morrill's Corner the system increases to 15" VC. From Morrill's Corned the system flows to Morrill Street and then to a 10" system in Bell Street. The catchment area in question is fed by a number of catch basins that feed the combined system. As such, the system surcharges very quickly and can (if events are intense enough) lead to surcharges. Piping a 15" system in to a 10" system is also problematic in light of the flow contribution from the catch basins.

Remedial Actions Taken and Times When Taken:

The Bruno's Cover was replaced and the system drained immediately afterward.

Specific Measures Needed to Prevent Recurrence:

We have a Smart Cover in the system (Morrill at Bell). The rainfall was so intense that the system could not adequately maintain flow even after the Smart Cover alarm was tripped. We will install a redundant pressure sensor and lower alarm set points to better maximize response time. We will also continue capital efforts to eliminate the connected catch basins (separate storm water infrastructure will be required).

Implementation Schedule:

Action Item Description	Projected Completion Date
Install Smart Cover Pressure/Sonic Sensor System. Lower alarm sets	10/1/19
Determine a defined schedule for removing catch basins from the collection system.	10/19 CIP planning
Prepared By: John Emerson	**Date:** 8/29/19

Non-compliance/Discharge Incident Report Form

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- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

Tools Legend Selection Locate Printing Bookmarks Base Maps Data View

Editor Measure Layer Search Split Line Tool Heat Maps Create Activity

Redline Navigation

Bruno's overflow

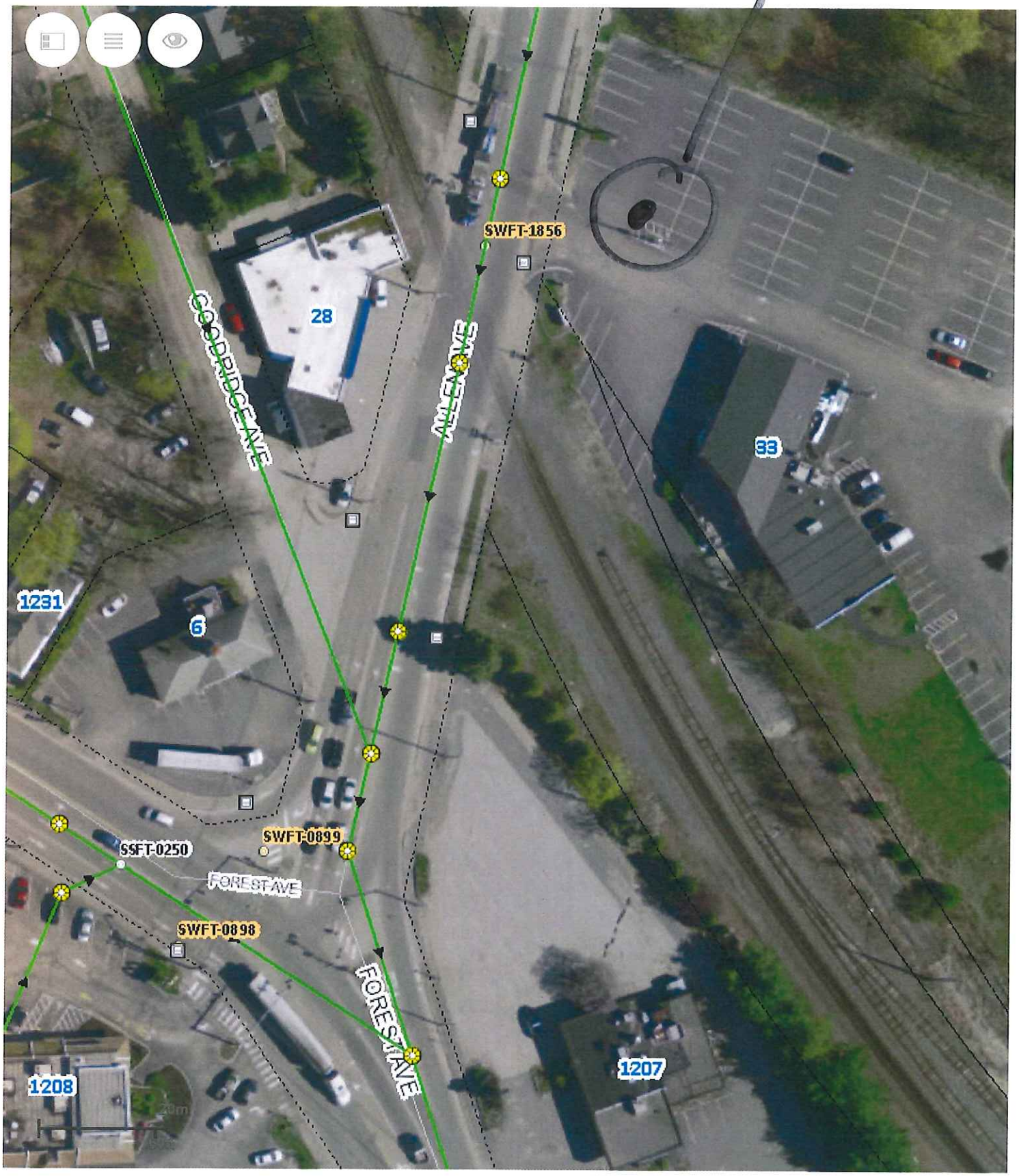
Merrill / Bell SMART COVER

Tools Legend Selection Locate Printing Bookmarks Base Maps Data View

Editor Measure Layer Search Spot Line Tool Heat Map Create Path

Redline Navigation

Bruno's overflow



Portland ME

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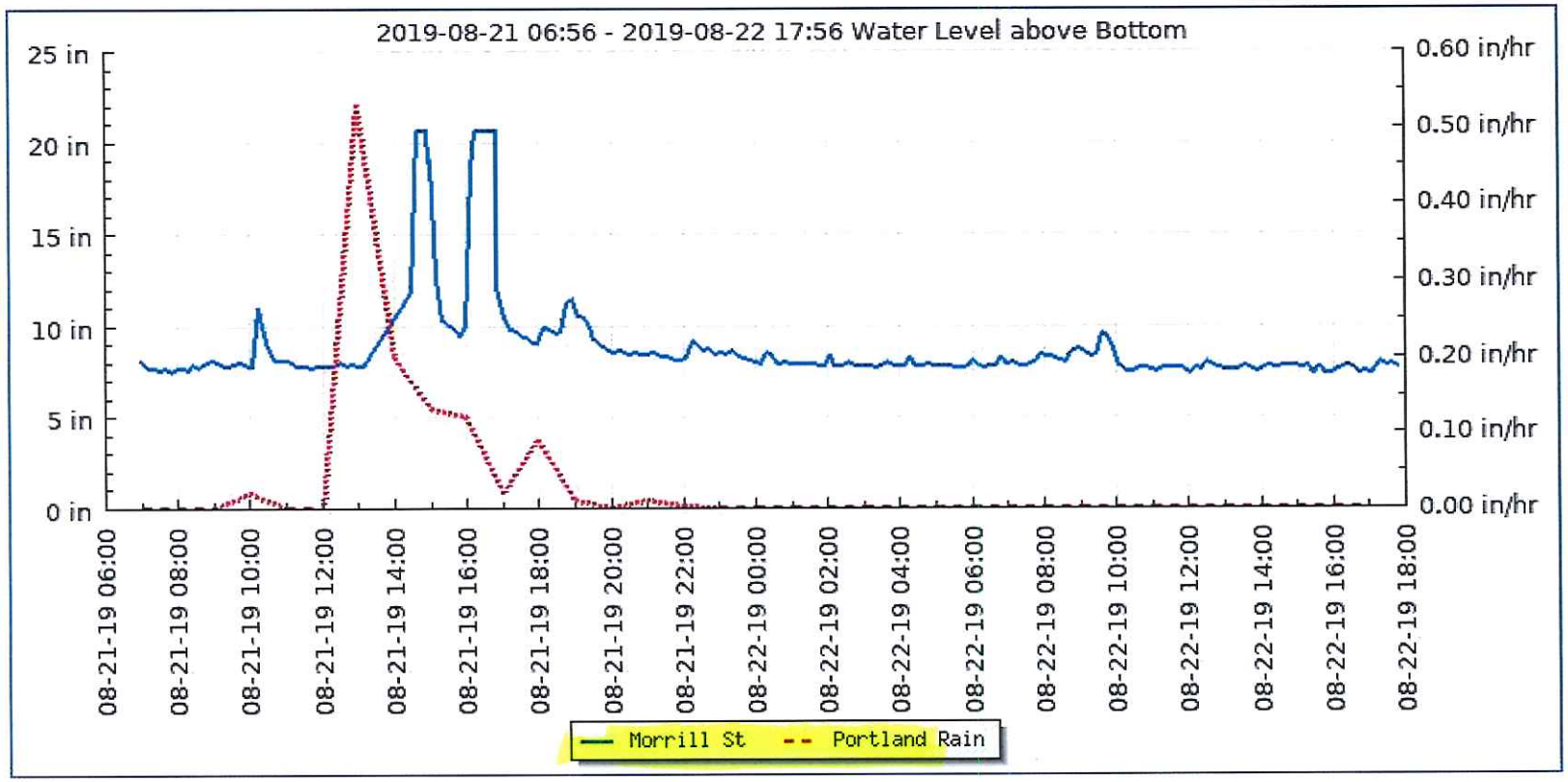

- (•) Level / Rain / Tide
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Time Period: Last Week

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Change Graph

Adjust Scale - Reset

Max Y:

Min Y:

Download Data

Long Filter
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- ( ) Fill Gaps
- (•) No Filter

Locations

[RAIN] Portland Rain

Morrill St

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Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 10/29/2019

Verbal Notification Date: 10/29/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Sewage backed up in to the cellar of #19 Pembroke Street. Volume was enough to cover the cellar floor. Drain has been sluggish for at least 24 hours prior to the incident response.

Observed Environmental Effects:

No environment impact other than the cellar flooding and resultant damage.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

A massive root ball plugged the Pembroke main approximately 100' upstream of the last accessible manhole on the system. The terminus of the sewer is only a cap (labeled as SSFT on attached map) and, as such, cleaning and televising was performed from the first downstream manhole on the system. Initially, we were unsure as to the cause. As a result, we contracted the Ted Berry Company to televise the main segment. Unable to get past the blockage, Berry had to return and televise once we used hydraulic root cutters to free up the blockage.

Remedial Actions Taken and Times When Taken:

Hydraulic jetting was used to free up the blockage relieve the surcharge. Follow up cleaning and televising took place on 10/30/19.

Specific Measures Needed to Prevent Recurrence:

The main segment will need to be relined or replaced. Relining cannot be performed until a terminus manhole is installed at the end of the system. Relining looks to be the quickest and most cost effective solution to the problem. Provisions will be made to install an upstream terminus manhole. Once installed, a Smart Cover can be installed to monitor system condition until relining takes place.

Implementation Schedule:

Action Item Description	Projected Completion Date
Install a terminus manhole at the end of Pembroke Street	12/1/19
Install Smart cover monitoring system in the installed manhole	TBD
Schedule relining of the root intruded main segment	TBD
Prepared By: John Emerson	**Date:** 11/5/19

Non-compliance/Discharge Incident Report Form

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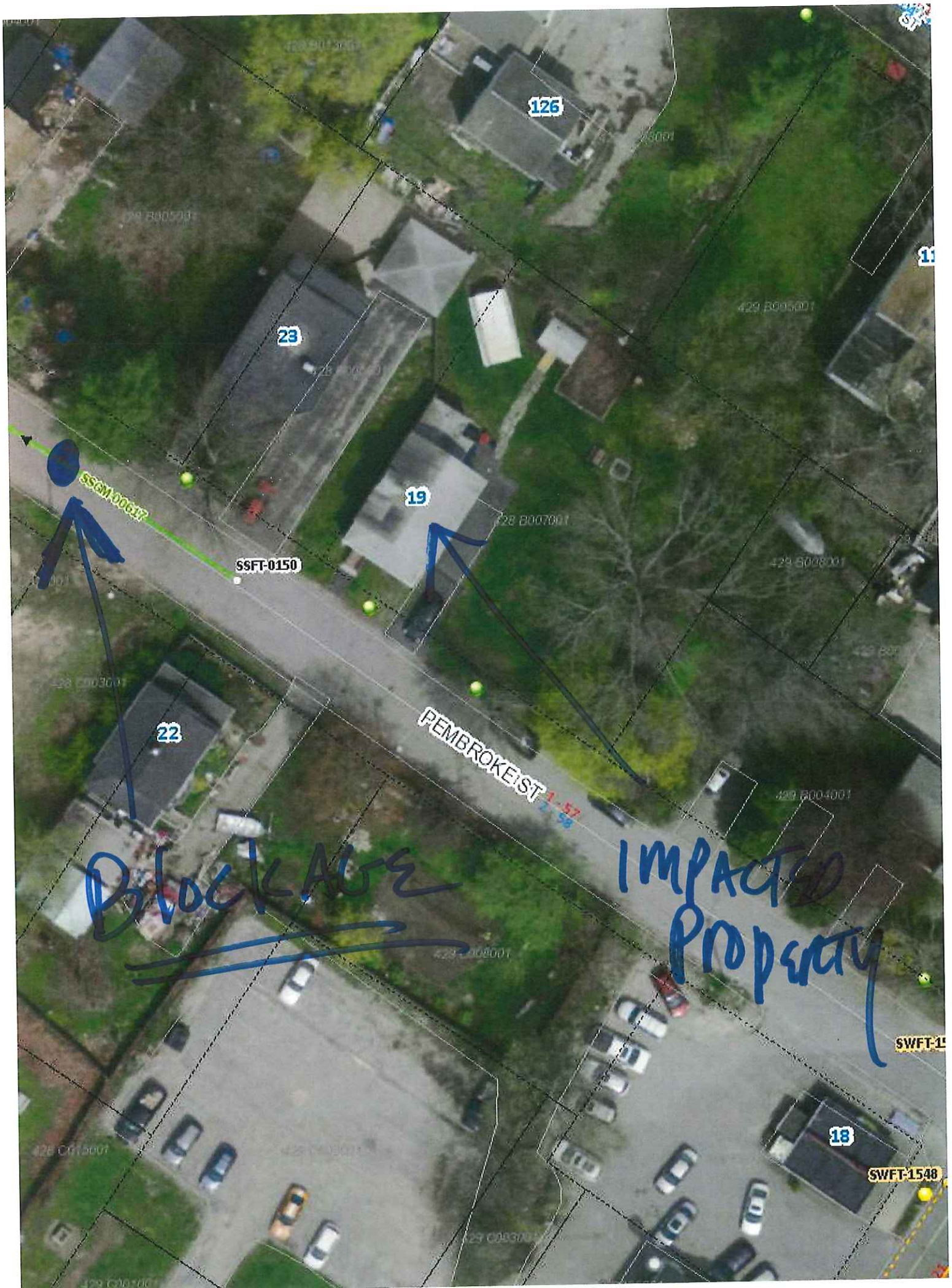
126
23
19
22
18
SSGM-0017
SSFT-0150
PEMBROKE ST
1.57
2.58
SWFT-1548
BLOCKAGE
IMPACTED PROPERTY

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 11/12/2019

Verbal Notification Date: 11/13/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468 / 207-318-0239 (cell)

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Sewage backed up in to the cellar of # 55 Kenwood Street. Volume was enough to cover a small part of the cellar floor. Kenwood Street is a short dead end street off Brighton Avenue near the USM campus (area map attached).

Observed Environmental Effects:

No environment impact other than the cellar flooding and resultant damage.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

A root ball plugged the Kenwood Street main segment approximately 120 upstream of SSMH (sewer system manhole) 4575. Specific location is indicated on the attached map. Unsure of the cause of the problem, we hired the Ted Berry Company to televise the sewer main in Kenwood Street. It was after the TV analysis that we determined the root ball cause.

Remedial Actions Taken and Times When Taken:

Hydraulic jetting was used to free up the blockage relieve the surcharge. Follow up cleaning and televising took place on 11/13/19.

Specific Measures Needed to Prevent Recurrence:

The main segment will need to be relined and, as such, has been added to the lining list. A Smart Cover will be installed to monitor system condition until relining takes place.

Implementation Schedule:

Action Item Description	Projected Completion Date
Install Smart Cover monitoring system	11/22/19
Schedule relining of the root intruded main segment	TBD
Prepared By: John Emerson	**Date:** 11/22/19

Non-compliance/Discharge Incident Report Form

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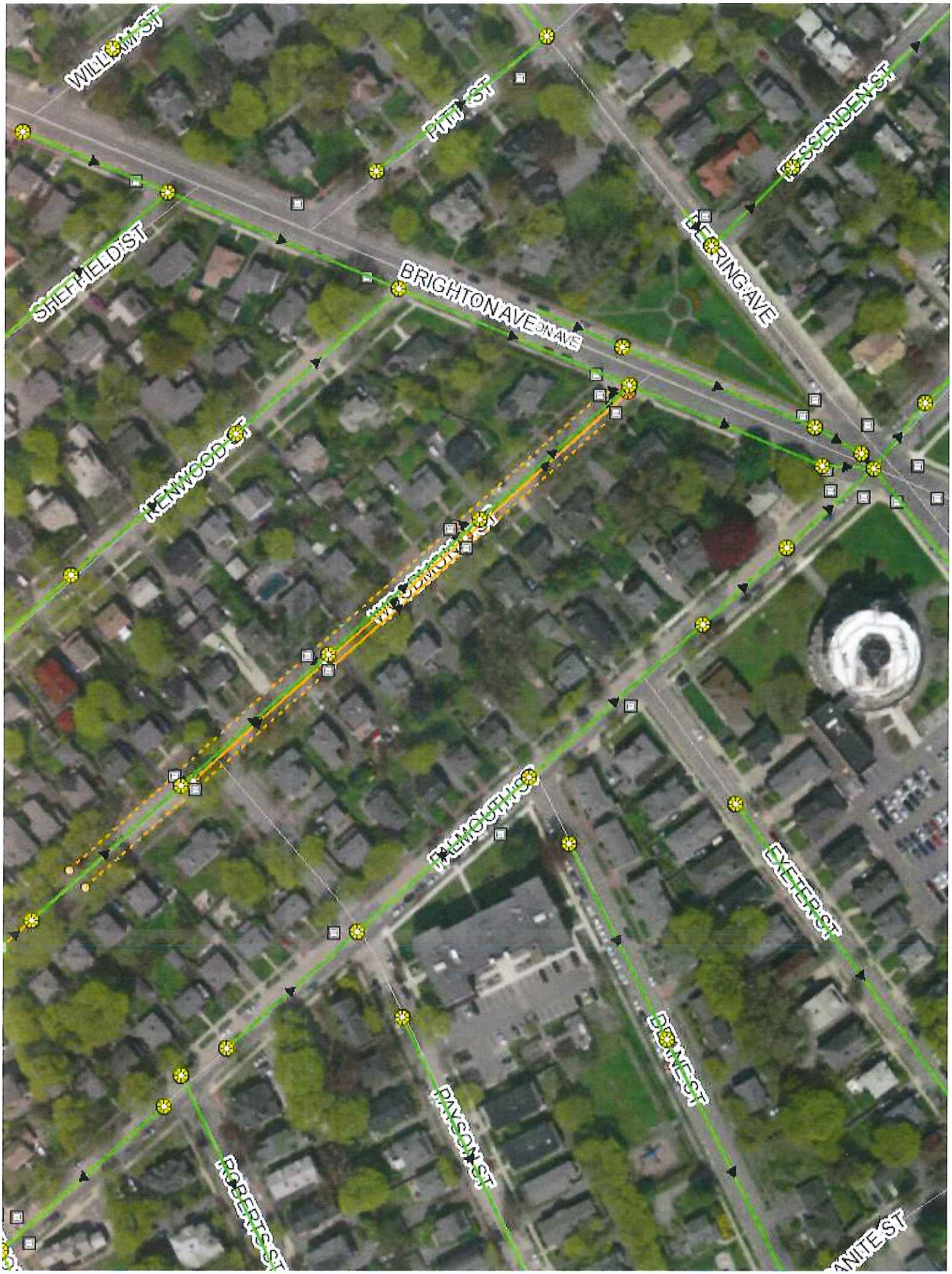
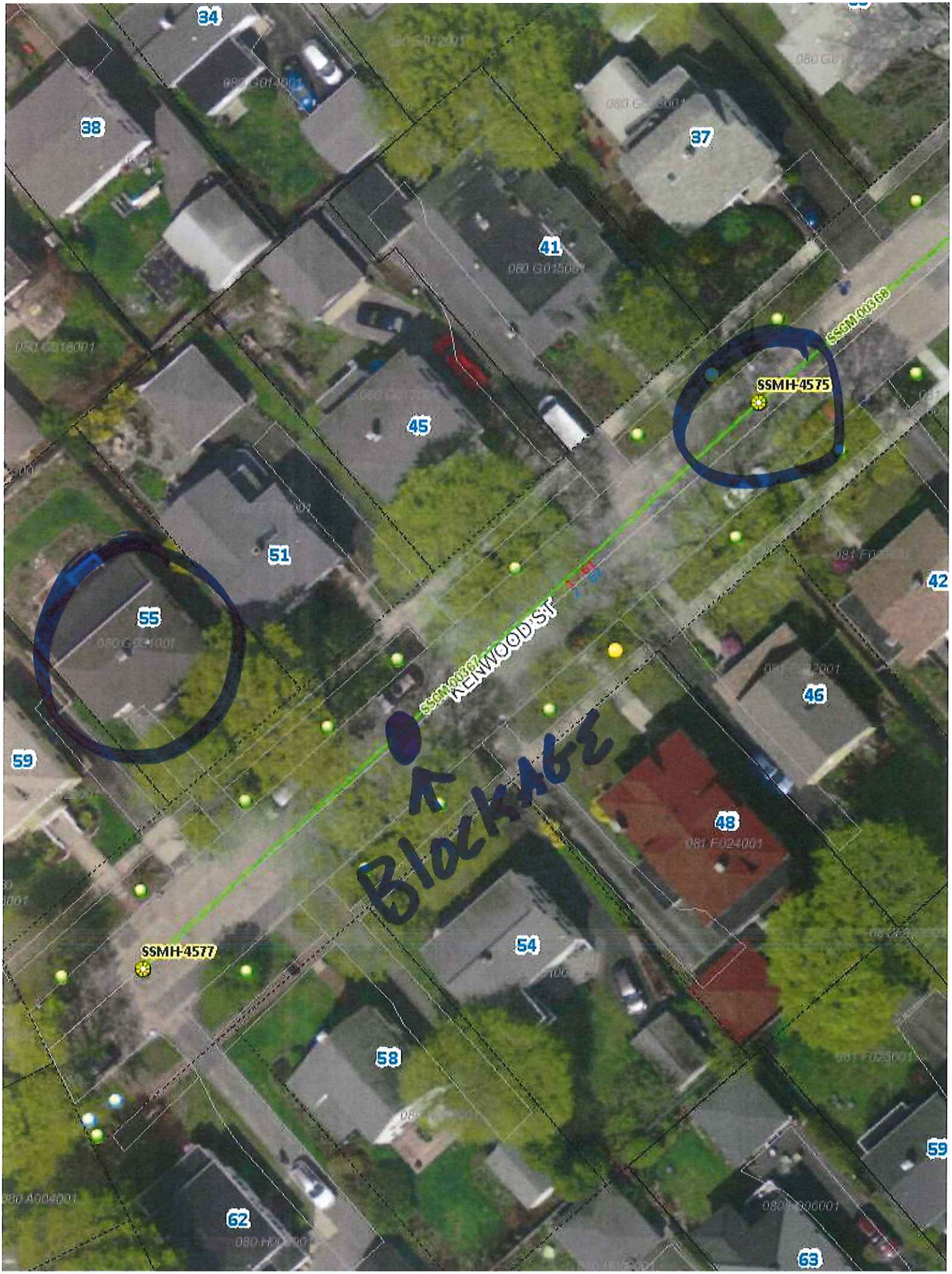

WILLIAM ST
PITT ST
PASSENDEN ST
SHEFFIELD ST
BRIGHTON AVE
BERING AVE
KENWOOD ST
FALMOUTH ST
EXETER ST
DENNIS ST
PAYSON ST
ROBERTS ST


34
38
37
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48
54
58
62
63
59
SSMH-4575
SSMH-4577
KENWOOD ST
Blockage

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Combined sewer system **Municipality:** Portland

Date of Incident/Exceedence: 12/14/2019

Verbal Notification Date: 12/17/2019 **To Whom:** Stuart Rose/Alex Rosenberg via email

Caller: John Emerson **Phone #:** 874-8468

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Combined sewage. No quantity or concentration data.

Specific Location and Duration of Release/Exceedence:

Sewage backed up in to the cellar of #16 Mayer Road . Volume was enough to cover the cellar floor. Resident reported that this has happened in the past.

Observed Environmental Effects:

No environmental impact other than the cellar flooding and resultant damage.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

The system that #16 Mayer ties in to has capacity issues in that a 15" collector line ties in to an 8" collector line that in turn ties in to a 24" interceptor running along the Capisic Brook. To compound matters, the 8" pipe section was root intruded further limiting system capacity. These two factors resulted in a back up at #16 Mayer Road. The attached graphs indicate the duration and intensity of the 12/14/19 rainfall event as well as the flow pattern of the newly installed Smart Cover. As the Mayer Road data suggests, the system fluctuates in dry weather conditions due to the down stream restriction.

Remedial Actions Taken and Times When Taken:

Hydraulic jetting and mechanical root cutting was used to free up the blockage relieve the surcharge. Follow up cleaning and televising took place on 12/17/19 and 12/18/19.

Specific Measures Needed to Prevent Recurrence:

A Smart over monitoring system was immediately installed and provisions are being made to have a contractor repair the 15" to 8" restriction in the collection system.

Implementation Schedule:

Action Item Description	Projected Completion Date
Install a Smart Cover in Mayer Road	Complete
Make provisions to repair the restricted collector system	In progress
Schedule repair of the restricted system (early January 20 hopefully)	TBA
Prepared By: John Emerson	**Date:** 12/24/19

Non-compliance/Discharge Incident Report Form

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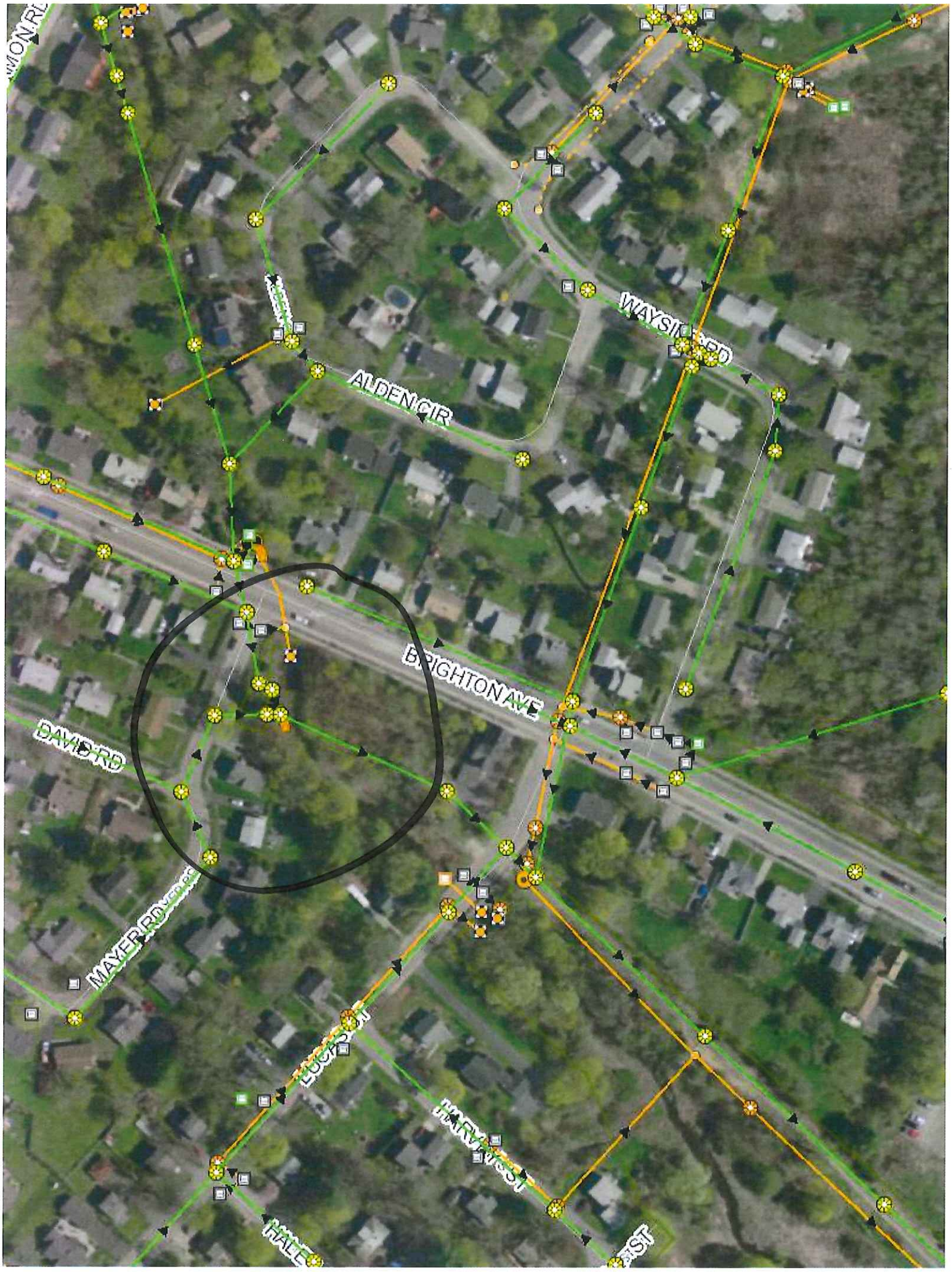
ALDEN CIR
BRIGHTON AVE
DAVID RD
MAYER RD
HALE

SSMH-0781
SSMH-0782
SSMH-2900
SSMH-2901
SSMH-2902
SWDF-1170
Mayer Rd
MAYER RD
16
8" Section Restricted
SSO ADDRESS

Portland ME

SMARTCOVER® MONITORING SYSTEM

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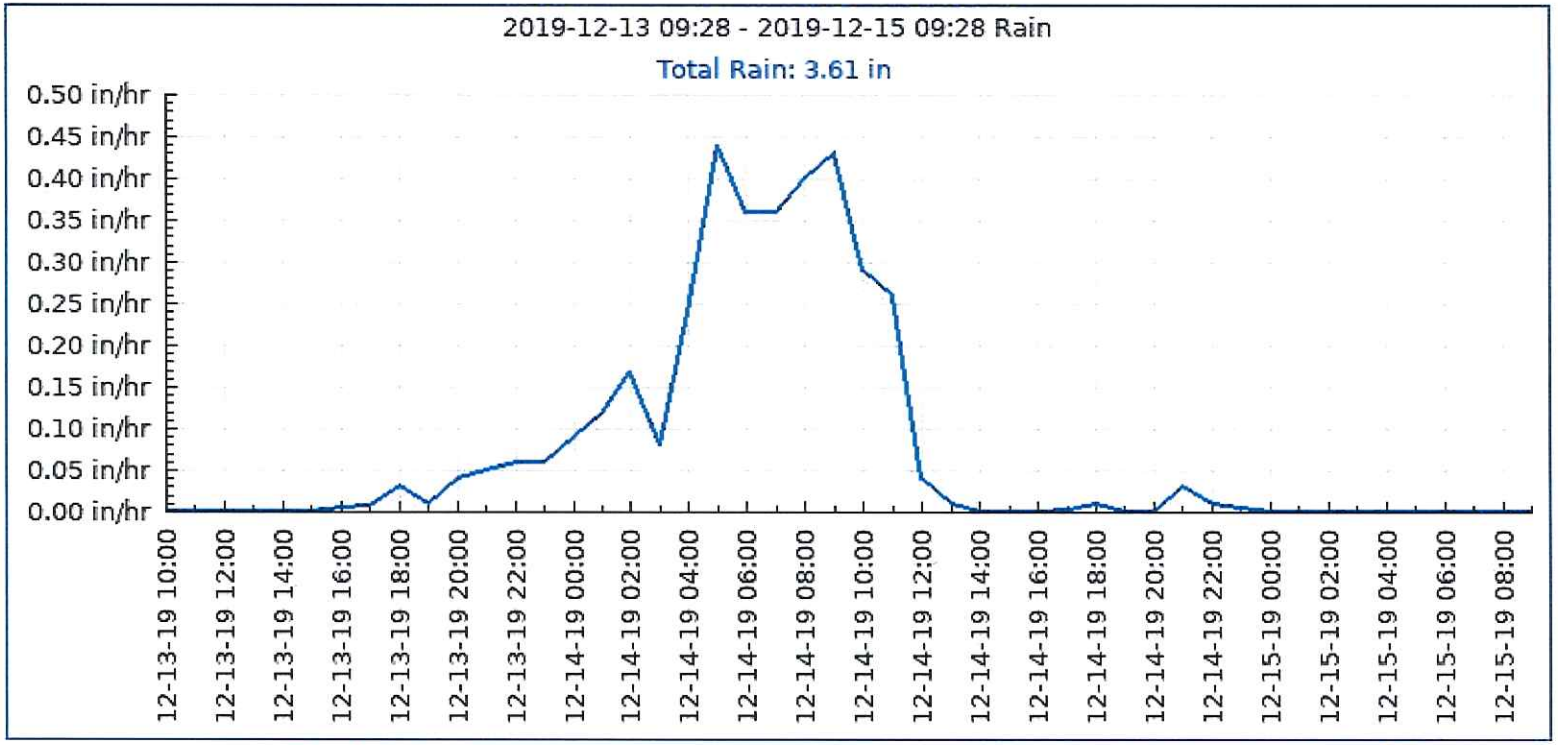
Map SmartTrend® Alarms and Alerts System Operations Multi Graphs Super Admin Support Contact

SmartCover® Unit Location [RAIN] Portland Rain 2 Application: Rain

Charts Management Status Alarm Settings Info Maintenance

Portland Rain 2

Try the New Charts!



- (•) Rain
- ( ) Temperature
- ( ) Pressure

Time Period: Last Month

From: 2019-12-13 09:28

To: 2019-12-15 09:28

Adjust Scale

Max Y: 0.5

Min Y: 0

Reset Zoom

Long Filter

- ( ) Gaps
- ( ) Fill Gaps
- (•) No Filter

Change Graph

Download Data

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Portland ME

SMARTCOVER® MONITORING SYSTEM

You are logged in as: johnemerson :: Super Admin :: Logout

Map SmartTrend® Alarms and Alerts System Operations Multi Graphs Super Admin Support Contact

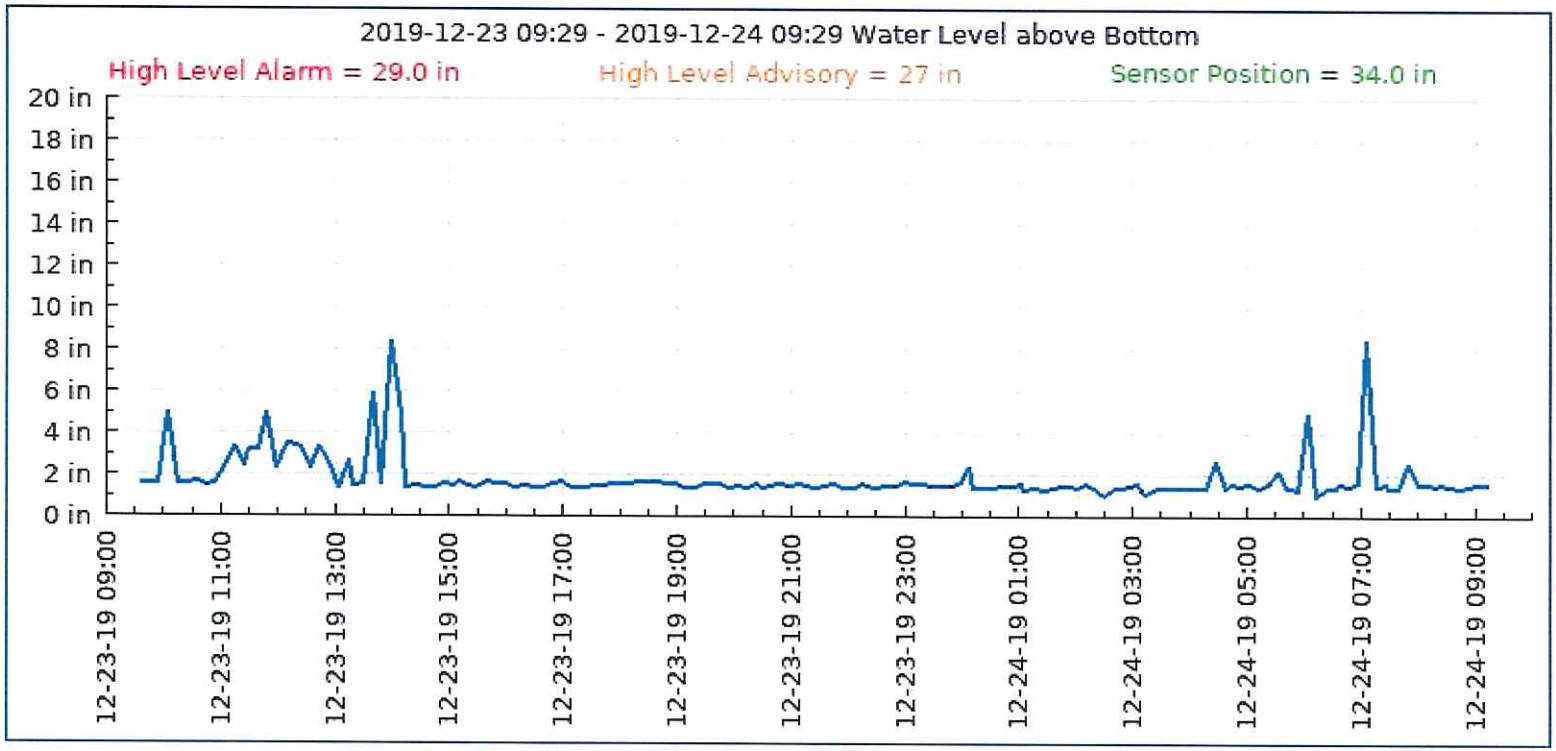
SmartCover® Unit Location: Mayer Rd

Application: Collection Level

Charts Management Status Alarm Settings Info Maintenance

Mayer Rd

Try the New Charts!



- (•) Level
- ( ) PowerPack Voltage
- ( ) Signal Strength
- ( ) Signal Quality

Time Period: Last 24 hours

From: 2019-12-23 09:29

To: 2019-12-24 09:29

Adjust Scale

Max Y: 20.0

Min Y: 0.0

Reset

Zoom

Long Filter

- ( ) Gaps
- ( ) Fill Gaps
- (•) No Filter

Change Graph

Download Data

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Appendix C – Municipal Budget Documents

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
Public Works 31						
57031100 400110 Salaries & Wages	$606,531	$606,531	$641,359	$648,546	$42,015	6.93%
57031100 400140 Overtime Payments	$2,781	$2,000	$4,381	$4,381	$1,600	57.54%
* **Payroll**	$609,312	$608,531	$645,740	$652,927	$43,615	7.16%
57031100 400271 Wearing Apparel	$1,260	$1,000	$1,260	$1,260	$0	0.02%
57031100 400274 Cellular Phones	$4,320	$2,000	$1,932	$1,932	($2,388)	-55.28%
* **Benefits**	$5,580	$3,000	$3,192	$3,192	($2,388)	-42.79%
57031100 402000 Administrative Services	$1,675	$1,000	$1,540	$1,540	($135)	-8.06%
57031100 402010 Postage & Freight	$150	$150	$150	$150	$0	0.00%
57031100 402020 Travel / Training / Meetings	$22,095	$22,000	$30,605	$25,505	$3,410	15.43%
57031100 402039 NSF Check Chargebacks	$0	$0	$0	$0	$0	---
57031100 402040 Taxes & Licenses	$18,100	$13,100	$7,600	$7,600	($10,500)	-58.01%
* **Administrative Svcs**	$42,020	$36,250	$39,895	$34,795	($7,225)	-17.19%
57031100 403500 Contractual Services	$40,000	$35,000	$25,000	$25,000	($15,000)	-37.50%
57031100 403510 Advertising	$2,000	$1,000	$2,000	$2,000	$0	0.00%
57031100 403550 Lab & Medical Services	$6,250	$4,500	$3,550	$3,550	($2,700)	-43.20%
57031100 403560 Printing	$200	$150	$200	$200	$0	0.00%
* **Contractual Services**	$48,450	$40,650	$30,750	$30,750	($17,700)	-36.53%
57031100 404015 M&R Computer Equipment	$51,833	$57,195	$85,607	$85,607	$33,774	65.16%
57031100 404020 M&R Other Equipment	$1,250	$1,200	$1,250	$1,250	$0	0.00%
* **Maintenance & Repair**	$53,083	$58,395	$86,857	$86,857	$33,774	63.62%
57031100 404510 Land & Bldg Rental	$0	$0	$0	$18,617	$18,617	---
57031100 404530 Office Equipment Rental	$1,008	$1,008	$1,060	$1,060	$52	5.16%
* **Rentals**	$1,008	$1,008	$1,060	$19,677	$18,669	1852.03%
57031100 405560 Minor Equipment	$2,700	$2,700	$3,250	$3,250	$550	20.37%
57031100 405565 Computers & Technology	$17,250	$17,250	$5,850	$5,850	($11,400)	-66.09%
57031100 405570 Office Supplies	$1,250	$2,000	$1,250	$1,250	$0	0.00%
* **Supplies**	$21,200	$21,950	$10,350	$10,350	($10,850)	-51.18%
57031100 405600 Minor Capital Items	$0	$0	$0	$0	$0	---
* **Minor Capital Items**	$0	$0	$0	$0	$0	---
57031100 407030 Capital-Computer Equip/Soft	$0	$0	$0	$0	$0	---
* **Capital Outlay**	$0	$0	$0	$0	$0	---
**** **Public Works**	**$780,653**	**$769,784**	**$817,844**	**$838,548**	**$57,895**	**7.42%**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
Sewer Utility Fund						
Public Works	**Sewer Utility PW Admin 57031100**				**Org Total:**	**$838,548.00**
57031100 400110	**PW Adm Salaries & Wages**					**$648,546.12**
	10)	$47,375	1.00	VACANT001693 POSITIONWATER QUALITY TECH 102783 4000 4211 4036	$47,375.00	
	20)	$54,637	1.00	MOORE, CHARLES WATER QUALITY TECH 100752 4000 4211 4036 14 10763	$54,637.00	
	30)	$43,431	1.00	ELLIS, CATHERINE WTER RES SUP SVCS SP 100713 4000 4155 4024 11 10947	$43,431.00	
	40)	$81,916	1.00	PEARSON, BENJAMIN COMP SECTION COORD 100183 3000 3119 3014 5 11351	$81,916.00	
	50)	$71,189	1.00	GOOCH, JESSICA ASSET MANAGER 100293 3000 3115 3012 5 11369	$71,189.00	
	60)	$99,606	1.00	GALLINARO, NANCY WATER RES MANAGER 100048 2000 2245 2040 6 11400 CM Level Increase (04/02/19): +$5,752 *From 93,854 to $99,606 a) FY20 Reclass from D61 to D62 b) FY20 @ Control Point (Step 7): Rvw 05/12/19	$99,606.00	
	70)	$0.00 U_NY	0.00	FISHER, ALLISON ASSET MGMT TECH 100753 4000 4213 4038 4 11714 FY20 Upgrade Request to Asset Management Specialist	$0.00	
	80)	$52,291	1.00	HEATH, JORDAN ASSET MGMT TECH 100754 4000 4213 4038 3 11980	$52,291.00	
	90)	$51,189	1.00	REYNOLDS, SCOTT SR WATER RESOURC TEC 102521 4000 4227 4038 2 12381	$51,189.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	100)	$92,370 EACH	1.00	a) CM Reduction (04/01/19): (-$4,201.06) *From $96,571.18 to $92,370.12 Safety Officer Share w/ Parks & Rec b) CM Level Increase (03/29/19): +$5,636.30 PW Deputy Dir (5% of $112,726) *From $90,934.88 to $96,571.18 ---------- *GF REVENUE 10031100 395000 Offset FY20 DR: CHARGES FROM GF ADMIN: (GF REVENUE 10031100 395000) a) SAFETY & TRAINING $8402.13 (12.5%) b) DIRECTOR $32,241.00) (25%) c) PAO II $19,271.00 (25%) d) FA $20,270.25 (25%) e) ACCOUNTANT $10,750.50 (25%)	$92,370.12	
	110)	$54,542 U_NY	1.00	4000 Classification N FY20 Upgrade Request: Alison Fisher from Asset Management Tech to Asset Management Specialist (18M)	$54,542.00	
57031100 400140	**PW Adm Overtime Payments**					**$4,381.10**
	10)	$32.21 HRS	10.00	CUSTOMER SERVICE	$322.10	
	20)	$42.95 HRS	20.00	ASSET MANAGEMENT	$859.00	
	30)	$40.00 HRS	80.00	SANITARY SEWER PROG ENFORCEMENT	$3,200.00	
57031100 400271	**PW Adm Wearing Apparel**					**$1,260.28**
	10)	$160 EACH	4.00	CEBA BOOT ALLOWANCE AF, JH, MM, SR	$640.00	
	20)	$300 YR	1.00	GLOVES, HATS, REFLECTIVE GEAR ETC Org Round (04/03/19)	$300.28	
	30)	$160 EACH	2.00	PROTECH BOOT ALLOWANCE BP, JG	$320.00	
57031100 400274	**PW Adm Cellular Phones**					**$1,932.00**
	10)	$30.00 MOS	12.00	WATER RESOURCES MGR NG	$360.00	
	20)	$30.00 MOS	12.00	SR WATER RESOURCES TECH (SR)	$360.00	
	30)	$81.00 MOS	12.00	DATA PLANS JH, JG, NG	$972.00	
	40)	$20.00 MOS	12.00	DATA PLANS AF, BP	$240.00	
57031100 402000	**PW Adm Administrative Svcs**					**$1,540.00**
	10)	$100 YR	1.00	REFERENCE BOOKS	$100.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	20)	$185 EACH	5.00	WEF/NEWEA DUES NG, JG, BP, AF, JH	$925.00	
	30)	$270 EACH	1.00	ASCE DUES (BP)	$270.00	
	40)	$245 YR	1.00	MEWEA DUES $125 for the group, + $15 per person (NG,JG,BP,AF,JH,CM,SR,CE)	$245.00	
57031100 402010	**PW Adm Postage & Freight**					**$150.00**
	10)	$150 YR	1.00	SEWER UTILITY ADMIN MAILINGS (DEP/EPA/INDUSTRY)	$150.00	
57031100 402020	**PW Adm Travel/Train/Mtgs**					**$25,505.00**
	10)	$2,800.00 PCT	0.25	AWARDS CELEBRATION : $2,800 * 25% SPLIT WITH GENERAL FUND	$700.00	
	20)	$2,800.00 PCT	0.25	HOLIDAY MEAL: $2,800 * 25% SPLIT WITH GENERAL FUND	$700.00	
	30)	$300 YR	1.00	MEETINGS/REFRESHMENTS	$300.00	
	40)	$200 EACH	1.00	COLLECTION LICENSE RENEWAL NG	$200.00	
	50)	$3,000 EACH	2.00	WEF CONFERENCE (NG)(BP)	$6,000.00	
	60)	$2,500 EACH	1.00	STORMWATER OR UTILITY MGT CONFERENCE (NG)	$2,500.00	
	70)	$120 EACH	3.00	EPA REGION 1 IPP CONF $120/day (CM, SR, BP)	$360.00	
	80)	$300 EACH	2.00	EPA/DEP SEMINARS	$600.00	
	90)	$300 EACH	4.00	MEWEA COURSES	$1,200.00	
	100)	$1,250 EACH	1.00	CM Level Reduction (03/22/19): ($2,500) *to $1,250 NEARC FALL CONF (THREE DAY) *Reduce to 1 EE FY20 DR: 3 EE * $1,250 (JG, AF, JH)	$1,250.00	
	110)	$345 EACH	1.00	NEWEA CONF (1 DAY) (BP)	$345.00	
	120)	$1,300 EACH	2.00	CM Level Reduction (03/22/19): (-$2,600) *to $2,600 NEWEA CONF *Reduce to 2 EEs FY20 DR: Added NG (AF)(JH)(JG)(NG) 4 EE * $1.3k/ea - $5,200	$2,600.00	
	130)	$675 EACH	3.00	ASSET MGT/GIS TRAINING (JG)(AF)(JH)	$2,025.00	
	140)	$125 EACH	1.00	ASCE TECHNICAL SEMINAR (BP)	$125.00	
	150)	$125 YR	1.00	MEWEA SPRING CONF (SR,CM,BP,JG,AF,JH)	$125.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	160)	$325 EACH	6.00	MEWEA FALL CONF (SR,CM,BP,JG,AF,JH)	$1,950.00	
	170)	$300 EACH	1.00	OSHA REFRESHER (CM)	$300.00	
	180)	$3,000 EACH	1.00	CITYWORKS CONFERENCE (EVERY 18 MOS) Classification N (JG)	$3,000.00	
	190)	$175 EACH	7.00	MAINE STORMWATER CONFERENCE (BP, SR, NG, MM, CE, JG, JH) Classification N THIS IS EVERY OTHER YEAR. FY20 "ON" YEAR. $500 PER 3 PUBLIC OFFICIALS	$1,225.00	
57031100 402040	**PW Adm Taxes & Licenses**					**$7,600.00**
	10)	$1,200 YR	1.00	MDEP FEE: WASTE DISCHARGE LIC CSO (MEPDES)	$1,200.00	
	20)	$6,400 YR	1.00	MDEP FEE: MAINE DEP WATER QUALITY IMPROV FUND	$6,400.00	
57031100 403500	**PW Adm Contractual Svcs**					**$25,000.00**
	10)	$25,000 YR	1.00	BUSINESS LICENSING FOG INSPECTOR CHG	$25,000.00	
57031100 403510	**PW Adm Advertising**					**$2,000.00**
	10)	$1,500 YR	1.00	NEWSPAPER/PROFESSIONAL JOURNALS FOR POSITION	$1,500.00	
	20)	$500 YR	1.00	RULES AND REGULATIONS UPDATES - NEWSPAPER PUBLICATIONS	$500.00	
57031100 403550	**PW Adm Lab & Medical Svcs**					**$3,550.00**
	10)	$10.00 EACH	20.00	QUESTIONNAIRES (RESPIRATOR FIT TESTING)	$200.00	
	20)	$300 YR	1.00	FIT TEST SUPPLIES (PURCHASED BY CITY HALL) (RESIPRATOR FIT TESTING)	$300.00	
	30)	$1,200 YR	1.00	ADDITIONAL MEDICAL TESTING (RESPIRATOR FIT TESTING)	$1,200.00	
	40)	$100 EACH	3.00	PRE-EMPLOYMENT PHYSICALS	$300.00	
	50)	$250 EACH	3.00	HEPATITIS SHOTS FOR NEW EMPLOYEES	$750.00	
	60)	$200 EACH	4.00	MEDICAL EVALUATION: FIT FOR DUTY	$800.00	
57031100 403560	**PW Adm Printing**					**$200.00**
	10)	$200 YR	1.00	OUTSIDE PRINTING SERVICES	$200.00	
57031100 404015	**PW Adm M&R Computer Equip**					**$85,607.00**
	10)	$71,753.03 PCT	0.66	CITYWORKS MAINTENANCE 2/3% SEWER & 1/3% GENERAL ADMIN ($71,000 / 3)	$47,357.00	
	20)	$6,000 EACH	1.00	CITYWORKS INSIGHTS LICENSE	$6,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	30)	$1,300 EACH	1.00	LINKO RENEWAL LINKO FOG 1 user only	$1,300.00	
	40)	$29,000 Each	1.00	ITPipes MOBILE WEB IMPLEMENTATION Classification N Transition to Web services rather than the stand alone.	$29,000.00	
	50)	$1,950 YR	1.00	COMPUTER HARDWARE REPLACEMENTS: MOUSE, KEYBOARD, MONITORS, UPGRADES	$1,950.00	
57031100 404020	**PW Adm M&R Other Equip**					**$1,250.00**
	10)	$250 YR	1.00	COMPUTER,FAX MACHINE,COLOR PRINTER REPAIRS	$250.00	
	20)	$500 YR	1.00	ANNUAL MAINTENANCE & REPAIR OF: SAMPLERS, FLOWMETERS...ETC	$500.00	
	30)	$500 YR	1.00	2 WAY RADIO REPAIR	$500.00	
57031100 404510	**PW Adm Land & Bldg Rental**					**$18,616.50**
	10)	$18,617 YR	1.00	CM Level Increase (03/27/19): +$18,616.50 212 Canco Road Rent *Reimb GF PW Admin (10031100 363000) Classification N	$18,616.50	
57031100 404530	**PW Adm Office Equip Rental**					**$1,060.00**
	10)	$1,060 YR	1.00	OFFICE COPIER RENTAL BASED ON FY19	$1,060.00	
57031100 405560	**PW Adm Minor Equipment**					**$3,250.00**
	10)	$800 YR	1.00	EMPLOYEE AWARDS/PLAQUES	$800.00	
	20)	$2,000 YR	1.00	MISC MINOR EQUIPMENT CHAIRS ETC	$2,000.00	
	30)	$450 EACH	1.00	PH METER Classification N REPLACEMENT	$450.00	
57031100 405565	**PW Adm Computers & Tech**					**$5,850.00**
	10)	$2,500 EACH	2.00	COMPUTERS (2) REPLACEMENTS One laptop (NG) , one desktop	$5,000.00	
	20)	$850 EACH	1.00	IPAD (BP) REPLACEMENT	$850.00	
57031100 405570	**PW Adm Office Supplies**					**$1,250.00**
	10)	$500 YR	1.00	CALENDARS,BINDERS,GENERAL SUPPLIES	$500.00	
	20)	$30.00 EACH	25.00	PAPER	$750.00	
Sewer Utility PW Admin 57031100 Org Total						**$838,548.00**

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
Public Works 31						
57031202 400110 Salaries & Wages	$993,141	$993,141	$1,116,801	$1,078,113	$84,972	8.56%
57031202 400130 Temporary Help	$0	$0	$0	$0	$0	---
57031202 400140 Overtime Payments	$55,504	$57,000	$74,952	$59,952	$4,448	8.01%
* **Payroll**	$1,048,645	$1,050,141	$1,191,753	$1,138,065	$89,420	8.53%
57031202 400271 Wearing Apparel	$17,305	$12,500	$16,345	$16,345	($960)	-5.55%
57031202 400274 Cellular Phones	$5,436	$5,436	$5,436	$5,436	$0	0.00%
* **Benefits**	$22,741	$17,936	$21,781	$21,781	($960)	-4.22%
57031202 402000 Administrative Services	$1,485	$1,350	$535	$535	($950)	-63.97%
57031202 402010 Postage & Freight	$3,000	$1,750	$1,000	$1,000	($2,000)	-66.67%
57031202 402020 Travel / Training / Meetings	$11,560	$13,000	$16,410	$16,410	$4,850	41.96%
57031202 402040 Taxes & Licenses	$45,500	$35,000	$10,750	$10,750	($34,750)	-76.37%
* **Administrative Svcs**	$61,545	$51,100	$28,695	$28,695	($32,850)	-53.38%
57031202 403500 Contractual Services	$974,539	$800,000	$995,452	$515,452	($459,087)	-47.11%
57031202 403510 Advertising	$500	$100	$500	$500	$0	0.00%
57031202 403560 Printing	$2,000	$500	$2,300	$2,300	$300	15.00%
* **Contractual Services**	$977,039	$800,600	$998,252	$518,252	($458,787)	-46.96%
57031202 404010 M&R Buildings	$270,000	$270,000	$85,000	$85,000	($185,000)	-68.52%
57031202 404020 M&R Other Equipment	$139,500	$160,000	$154,501	$154,501	$15,001	10.75%
57031202 404030 M&R Vehicles	$17,000	$17,000	$15,000	$15,000	($2,000)	-11.76%
57031202 404031 M&R Vehicle Commercial Repairs	$18,000	$17,000	$5,000	$5,000	($13,000)	-72.22%
57031202 404032 M&R Vehicle Labor (Internal)	$10,000	$9,000	$10,000	$10,000	$0	0.00%
57031202 404033 M&R Vehicle Tires	$2,000	$4,000	$2,000	$2,000	$0	0.00%
* **Maintenance & Repair**	$456,500	$477,000	$271,501	$271,501	($184,999)	-40.53%
57031202 404510 Land & Bldg Rental	$13,608	$13,608	$14,160	$14,160	$552	4.06%
57031202 404520 Vehicle / Equipment Rental	$51,000	$70,000	$79,800	$79,800	$28,800	56.47%
* **Rentals**	$64,608	$83,608	$93,960	$93,960	$29,352	45.43%
57031202 405510 Agricultural Supplies	$19,000	$7,500	$19,000	$19,000	$0	0.00%
57031202 405520 Supplies - All Other	$23,700	$35,000	$27,700	$27,700	$4,000	16.88%
57031202 405530 Construction Supplies	$117,100	$115,000	$123,100	$123,100	$6,000	5.12%
57031202 405535 Cleaning Supplies	$5,000	$5,000	$500	$500	($4,500)	-90.00%
57031202 405540 Fuel - Vehicles	$25,800	$20,000	$25,400	$25,400	($400)	-1.55%
57031202 405560 Minor Equipment	$22,000	$25,000	$38,501	$38,501	$16,501	75.00%
57031202 405565 Computers & Technology	$11,000	$11,000	$11,100	$11,100	$100	0.91%
57031202 405570 Office Supplies	$8,700	$9,100	$7,700	$7,700	($1,000)	-11.49%
* **Supplies**	$232,300	$227,600	$253,001	$253,001	$20,701	8.91%

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
57031202 406310 Gas Service	$0	$0	$0	$0	$0	---
57031202 406315 Heating Fuel	$25,105	$40,000	$31,785	$31,785	$6,680	26.61%
57031202 406320 Electricity	$54,265	$54,265	$54,265	$54,265	$0	0.00%
57031202 406330 Water & Sewer	$7,300	$7,300	$7,300	$7,300	$0	0.00%
57031202 406335 Stormwater Charges	$18,674	$0	$18,674	$18,674	$0	0.00%
57031202 406340 Telephone	$15,484	$11,000	$0	$0	($15,484)	-100.00%
* **Utilities**	$120,828	$112,565	$112,024	$112,024	($8,804)	-7.29%
57031202 407030 Capital-Computer Equip/Soft	$0	$0	$0	$0	$0	---
57031202 407040 Capital-Other Equipment	$35,000	$35,000	$450,000	$200,000	$165,000	471.43%
* **Capital Outlay**	$35,000	$35,000	$450,000	$200,000	$165,000	471.43%
**** **Public Works**	**$3,019,206**	**$2,855,550**	**$3,420,967**	**$2,637,279**	**($381,927)**	**-12.65%**
***** **Sewer Utility Fund**	**$3,019,206**	**$2,855,550**	**$3,420,967**	**$2,637,279**	**($381,927)**	**-12.65%**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
Public Works	**Sewer Utility Districting 57031202**				**Org Total:**	**$2,637,279.00**
57031202 400110	**Districtng Salaries & Wages**					**$1,078,113.00**
	10)	$58,372	1.00	SLOAN, JAMES WATER RES MWIII - F1 100806 5000 5141 5026 8 10108	$58,372.00	
	20)	$48,166	1.00	PESCE, ROCCO WATER RES MWIII - F3 100908 5000 5099 5018 8 10149	$48,166.00	
	30)	$57,114	1.00	DAY, DAVID WATER RES MWIII - F3 100802 5000 5141 5026 8 10176	$57,114.00	
	40)	$58,372	1.00	GRAY, WALTER WATER RES MWIII - F2 100803 5000 5141 5026 8 10181	$58,372.00	
	50)	$58,372	1.00	RUBINO, FRANK WATER RES MWIII - F2 100805 5000 5141 5026 8 10182	$58,372.00	
	60)	$58,372	1.00	GILMOUR, PAUL WATER RES MWIII - F1 100801 5000 5141 5026 8 10190	$58,372.00	
	70)	$58,889	1.00	LAMB, JEFFREY WATER RES SPVR - F3 100975 5500 5563 5550 12 10193	$58,889.00	
	80)	$58,889	1.00	KELTON, RONALD WATER RES SPVR - F1 100974 5500 5563 5550 12 10244	$58,889.00	
	90)	$48,166	1.00	KRYSINSKI, MIROSLAW WATER RES MWIII - F3 100904 5000 5099 5018 8 10335	$48,166.00	
	100)	$48,166	1.00	DAIGLE, ADAM WATER RES MWIII - F1 100903 5000 5099 5018 8 10375	$48,166.00	
	110)	$44,800	1.00	HIGGINS, JOSEPH WATER RES MWII - F1 102844 5000 5099 5018 3 10521	$44,800.00	
	120)	$57,114	1.00	COTE, DUANE WATER RES MWIII - F3 100804 5000 5141 5026 8 10596	$57,114.00	
	130)	$48,166	1.00	SHAW, DAVID WATER RES MWIII - F1 100910 5000 5099 5018 8 10603	$48,166.00	
	140)	$48,166	1.00	COGILL, BRIAN WATER RES MWIII - F2 100901 5000 5099 5018 8 10624	$48,166.00	
	150)	$58,889	1.00	JOHNS, GEORGE WATER RES SPVR - F2 100976 5500 5563 5550 12 10777	$58,889.00	
	160)	$77,839	1.00	EMERSON, JOHN WASTEWATER FAC COORD 100309 3000 3155 3012 12 10914	$77,839.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	170)	$47,001	1.00	SULLIVAN, RYAN WATER RES MWIII - F3 100905 5000 5099 5018 7 11275	$47,001.00	
	180)	$44,769	1.00	WATERHOUSE, COLBY 5000 5100 5016 6 11302	$44,769.00	
	190)	$44,644	1.00	PENNEY, DONALD WATER RES MWII - FAC 102677 5000 5099 5018 2 12037	$44,644.00	
	200)	$11,451	1.00	STAND BY PAY: PRIMARY BEEPER 249 DAYS @ $27.07 116 DAYS @ $40.61 (@7.07 * 1.5)	$11,451.00	
	210)	$7,614	1.00	STAND BY PAY: SECONDARY BEEPER 249 DAYS * $18.00 116 DAYS * $27.00	$7,614.00	
	220)	$7,614	1.00	STAND BY PAY : PUMP STATIONS 249 DAYS @ $18.00 116 DAYS @ $27.00	$7,614.00	
	230)	$7,200	1.00	WINTER STIPENDS 15 EE * $.60 *40HRS *20WKS ALL WINTER STIPENDS REIMBURSED BY WINTER BUDGET (10031206 400110)	$7,200.00	
	240)	($18,720)	1.00	ADJUST OVERSTATED WINTER STIPENDS 6 MWIII, 8MWII, 1 MWI 15*$.60 * 40HRS*52WKS	($18,720.00)	
	250)	$38,688 N_NY	1.00	5100 Classification N FY20 New Position Request	$38,688.00	
	260)	$38,688 N_NY	0.00	CM Level Reduction (03/25/19): (-1.0) / (-$38,688)5100 Classification N FY20 DR New Position Request: $38,688	$0.00	
57031202 400140	**Districtng Overtime Payments**					**$59,952.00**
	1)	($15,000) YR	1.00	CM Level Reduction (03/25/19): (-$15,000) from $74,952.30 to $59,952.30 *General OT Reduction Org Round (04/03/19)	($15,000.30)	
	10)	$34.23 HRS	180	WEEKEND INSPECTIONS WRMIII	$6,161.40	
	20)	$34.23 HRS	100	PUMP STATION/SEWER EMERGENCY MWIII	$3,423.00	
	30)	$38.48 HRS	100	PUMP STATION/SEWER EMERGENCY WW COORDINATOR	$3,848.00	
	40)	$34.23 HRS	390	INSPECTIONS, DIG SAFES, EMERGENCIES 3EE * 130HRS	$13,349.70	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	50)	$34.23 HRS	620	SWEEPING AND INFRASTRUCTURE CLEANING (NIGHTS) INCREASED SERVICE LEVEL	$21,222.60	
	60)	$34.23 HRS	620	INFRASTRUCTURE CLEANING (SEWER BACKUPS)	$21,222.60	
	70)	$37.50 HRS	150	SUPERVISOR MISC	$5,625.00	
	80)	$10.00 EACH	10.00	MEAL ALLOWANCES: NON WINTER	$100.00	
57031202 400271	**Districtng Wearing Apparel**					**$16,345.00**
	10)	$375 EACH	19.00	CONTRACTURAL CLOTHING	$7,125.00	
	20)	$150 EACH	19.00	NON-CONTRACTUAL CLOTHING: SAFETY GEAR HIP WADERS, HIP BOOTS, GLOVES, SAFETY GLASSES, TYVEK SUITS	$2,850.00	
	30)	$1,000 YR	1.00	EMERGENCY UNIFORM REPLACEMENTS	$1,000.00	
	40)	$1,200 YR	1.00	FOUL WEATHER GEAR	$1,200.00	
	50)	$200 EACH	15.00	SAFETY STIPEND (L&T)	$3,000.00	
	60)	$65.00 EACH	18.00	PPE (L&T)	$1,170.00	
57031202 400274	**Districtng Cellular Phones**					**$5,436.00**
	10)	$90.00 MOS	12.00	CELL PHONE REIMBURESEMENT PLAN JE, RK, GJ	$1,080.00	
	20)	$180 MOS	12.00	VERIZON WIRELESS AIRCARD (TRUCKS) 6EE * $30 * 12	$2,160.00	
	30)	$63.00 MOS	12.00	VERIZON IPADS 6EE * $10.50 * 12	$756.00	
	40)	$120 MOS	12.00	VERIZON CITY CELL PHONES 4EE * $30 * 12MOS	$1,440.00	
57031202 402000	**Districtng Administrative Svcs**					**$535.00**
	10)	$250 EACH	1.00	WATER ENVIRONMENT FEDERATION JE	$250.00	
	20)	$15.00 EACH	19.00	MEWEA PART OF GROUP RATE	$285.00	
57031202 402010	**Districtng Postage & Freight**					**$1,000.00**
	10)	$500 YR	1.00	EQUIPMENT REPAIRS	$500.00	
	20)	$500 YR	1.00	CAMERA REPAIRS	$500.00	
57031202 402020	**Districtng Travel/Train/Mtgs**					**$16,410.00**
	10)	$150 EACH	9.00	CONFINED SPACE COMPETENT PERSON/TRENCHING SAFETY WRMW III	$1,350.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	20)	$260 EACH	11.00	RECERTIFICATION WW LICENCES THROUGH JETCC....INCLUDES STORMWATER PERSONNEL	$2,860.00	
	30)	$1,200 EACH	4.00	NASSCO TRAINING (PIPELINE ASSMT)	$4,800.00	
	40)	$1,000 EACH	3.00	WEF/NEWEA CONFERENCE GJ, RK, JE	$3,000.00	
	50)	$1,000 EACH	2.00	MANAGEMENT CANDIDATE SCHOOL	$2,000.00	
	60)	$600 EACH	4.00	NASSCO CERTIFICATIONS Classification N	$2,400.00	
57031202 402040	**Districtng Taxes & Licenses**					**$10,750.00**
	10)	$65.00 YDS	150	PERMANENT STREET OPENING REPAIRS: OFFSET 24731000-321060	$9,750.00	
	20)	$1,000 YR	1.00	MUTCD WORKZONE SOFTWARE (USERS LICENSE) Classification N	$1,000.00	
57031202 403500	**Districtng Contractual Svcs**					**$515,452.00**
	10)	$8,000 YR	1.00	RAT CONTROL EMPHASIS ON PENINSULA	$8,000.00	
	20)	$20,000 YR	1.00	ELECTRICAL SYSTEM REPAIRS (CONTRACTED OUT)	$20,000.00	
	30)	$2,450 MOS	12.00	SCADA MONITORING	$29,400.00	
	40)	$720 EACH	12.00	GAS DETECTION DEVICE MONITORING SERVICE: RIVERSIDE ST, FRANKLIN ST	$8,640.00	
	50)	$48,000.00 PCT	0.75	ECOMAINE VACTOR TRUCK DISPOSAL (75%) 25% IN STORMWATER 57131500 400 TONS @ $120.00	$36,000.00	
	60)	$12,000.00 PCT	0.50	DIG SAFE (50%) 50% IN STORMWATER 57131500 APPROX $1,000 PER MONTH	$6,000.00	
	70)	$4,800.00 PCT	0.50	ANSWERING SERVICE (50%) 50% IN STORMWATER 57131500 STERICYCLE COMMUNICATIONS	$2,400.00	
	80)	$2,000 EACH	50.00	CM Level Reduction (03/22/19): (-$50,000) *to $100,000 Qty from 75 to 50 CONTRACTED MANHOLE ADJUSTMENTS FY20 DR: 75 * $2,000/ea	$100,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	90)	$80,000 YR	1.00	CM Level Increase (03/25/19): +$10,000 *to $80k (From $70k) CONFINED SPACE RESCUE OSHA MANDATED-PFD FY20 DR: FLAT FEE TO PORTLAND FD RESCUE TEAM: $70k	$80,000.00	
	100)	$60,000 YR	1.00	RIGHT-OF-WAY SURVEY FOR INCREASED R-O-W WORK	$60,000.00	
	110)	$500 EACH	4.00	DEFECTIVE SEWER LATERAL INVESTIGATION	$2,000.00	
	120)	$340,000 YR	0.00	CM Level Reduction (03/22/19): (-$340,000) *to $0 COLLAPSE SEWER REPAIRS	$0.00	
	130)	$150,000 YR	1.00	CM Level Reduction (03/25/19): (-$100,000) *to $150k SEWER INSPECTIONS TED BERRY, PRIVATIZED TV WORK	$150,000.00	
	140)	$70.00 WKS	52.00	FLOOR MAT SERVICES CINTAS	$3,640.00	
	150)	$425 MOS	12.00	JANITORIAL SERVICES Classification N FACILITIES DOES NOT SERVICE DISTRICT RD LOCATIONS - PRICE IS AN ESTIMATE	$5,100.00	
	160)	$356 MOS	12.00	CONSOLIDATED COMMUNICATIONS (DARK FIBER) PROCESSED BY IT VIA JOURNAL TRANSFER. PRIOR YR BUDGETED IN 406340	$4,272.00	
57031202 403510	**Districtng Advertising**					**$500.00**
	10)	$500 YR	1.00	RFPs & RFQs	$500.00	
57031202 403560	**Districtng Printing**					**$2,300.00**
	10)	$1,200 YR	1.00	MAILINGS & DOOR HANGERS/NOTICES INCREASE NOTICES DUE TO INCREASED R-O-W WORK	$1,200.00	
	20)	$200 YR	1.00	BUSINESS CARDS	$200.00	
	30)	$900 YR	1.00	OTHER	$900.00	
57031202 404010	**Districtng M&R Buildings**					**$85,000.00**
	10)	$15,000 YR	1.00	PUMP STATIONS (9) : ELECTRICAL REPAIRS AND LOCAL ALARM SYSTEMS	$15,000.00	
	20)	$50,000 YR	1.00	STRUCTURAL STEEL	$50,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	30)	$20,000 YR	1.00	PLUMBING AND HEATING IMPROVEMENTS AT BLUE BUILDING (DISTRICT RD) Classification N	$20,000.00	
57031202 404020	**Districtng M&R Other Equip**					**$154,501.00**
	10)	$10,000 YR	1.00	PUMP STATION CONTROLS, RELAYS, PLC I/O CARDS, SCADA UPGRADES, REPLACEMENT SOFTWARE	$10,000.00	
	20)	$11,667 EACH	3.00	PUMP STATION REPLACEMENTS PARTS, MOTOR, SHAFT, IMPELLER ETC	$35,001.00	
	30)	$9,000 YR	1.00	CONFINED SPACE AIR BLOWERS/SAFETY EQUIPMENT REPLACEMENT	$9,000.00	
	40)	$10,000 YR	1.00	PORTABLE PUMP & GENERATOR REPLACEMENTS (NEW PURCAHSES)	$10,000.00	
	50)	$20,000.00 PCT	0.75	VACTOR ANNUAL FACTORY SERVICE (75%) 25% IN STORMWATER 57131500 (CN WOOD)	$15,000.00	
	60)	$50,000 YR	1.00	CSO CONDUIT MAINTENANCE: BACK COVE NORTH, BACK COVE WEST	$50,000.00	
	70)	$6,000 YR	1.00	CONFINED ENTRY MAN LIFT - RECERTIFICATION AND REHABILITATION	$6,000.00	
	80)	$2,000 YR	1.00	ROOT CUTTER RECERT & INSPECTION	$2,000.00	
	90)	$5,000 YR	1.00	CHAIN, CABLE, AND LIFTING DEVICE RECERTIFICATION BOL REQUIREMENT	$5,000.00	
	100)	$1,500 YR	1.00	SMALL ENGINE PARTS, EQUIP	$1,500.00	
	110)	$2,000 YR	1.00	PORTABLE PUMP REPAIR	$2,000.00	
	120)	$1,500 YR	1.00	GENERATOR REPAIRS: CAT GENERATOR RIVERSIDE ST	$1,500.00	
	130)	$1,500 YR	1.00	GENERATOR REPAIRS: CAT GENERATOR FRANKLIN ST	$1,500.00	
	140)	$1,500 YR	1.00	GENERATOR REPAIRS: CAT GENERATOR HOPE LANE	$1,500.00	
	150)	$1,500 YR	1.00	GENERATOR REPAIRS: ONAN GENERATOR CLAPBOARD RD	$1,500.00	
	160)	$1,500 YR	1.00	GENERATOR REPAIRS: CAT GENERATOR CASTINE	$1,500.00	
	170)	$1,500 YR	1.00	GENERATOR REPIARS: GENERATOR AT BNC CONTROL BLDG	$1,500.00	
57031202 404030	**Districtng M&R Vehicles**					**$15,000.00**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	10)	$15,000 YR	1.00	FLEET SERVICE CHARGES REVENUE OFFSET 10031400 395000	$15,000.00	
57031202 404031	**Districtng M&R Veh Commer Rpr**					**$5,000.00**
	10)	$10,000.00 PCT	0.50	COMMERCIAL REPAIRS (50%) 50% IN STORMWATER 57131500 REVENUE OFFSET 10031400 395000	$5,000.00	
57031202 404032	**Districtng M&R Veh Labor (Int)**					**$10,000.00**
	10)	$10,000 YR	1.00	FLEET SERVICES LABOR REVENUE OFFSET 10031400 395000	$10,000.00	
57031202 404033	**Districtng M&R Vehicle Tires**					**$2,000.00**
	10)	$2,000 YR	1.00	FLEET SERVICE CHARGES REVENUE OFFSET 10031400 395000	$2,000.00	
57031202 404510	**Districtng Land & Bldg Rental**					**$14,160.00**
	10)	$14,160 YR	1.00	JETPORT LAND LEASE (OUTER CONGRESS ST) *DATA COMES FROM JETPORT (PB)	$14,160.00	
57031202 404520	**Districtng Veh / Equip Rental**					**$79,800.00**
	10)	$1,000 YR	1.00	TOOLS,PUMPS,OXYGEN & ACETYLENE TANK RENTALS	$1,000.00	
	20)	$30,000 YR	1.00	MOWERS, BACKHOE RENTALS - R-O-W MAINTENANCE, EXCAVATOR, TRAILER, CHIPPER, FORKLIFT.	$30,000.00	
	30)	$20,000 YR	1.00	SHORING RENTALS FOR CONSTRUCTION ACTIVITY	$20,000.00	
	40)	$1,400 MOS	12.00	12 FT RACK BODY TRUCK WITH LIFT GATE Classification N	$16,800.00	
	50)	$1,000 MOS	12.00	PORTABLE TOILET RENTALS CONSTRUCTION SITES Classification N	$12,000.00	
57031202 405510	**Districtng Agricultural Supply**					**$19,000.00**
	10)	$7,000 YR	1.00	GRASS SEED, SOD,FERTILIZER, LOAM	$7,000.00	
	20)	$500 YR	24.00	EROSION CONTROL MATS (ROW REPAIR BMP'S)	$12,000.00	
57031202 405520	**Districtng Supplies-All Other**					**$27,700.00**
	10)	$80.00 GAL	100	SEWER GREASE REMOVER	$8,000.00	
	20)	$1,500 YR	1.00	ACETYLENE, OXYGEN, NITROGEN	$1,500.00	
	30)	$300 YR	1.00	TRACING DYE, TESTING CHEMICALS	$300.00	
	40)	$1,200 YR	1.00	INDUSTRIAL DETERGENT & VEHICLE WASH	$1,200.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	50)	$1,200 YR	1.00	OIL PADS	$1,200.00	
	60)	$1,000 EACH	4.00	MAGNETIC COVER LIFTING DEVICES	$4,000.00	
	70)	$2,000 YR	1.00	SEWER INSPECTOR MARKING PAINT	$2,000.00	
	80)	$1,500 YR	1.00	STEAM CLEANER SUPPLIES	$1,500.00	
	90)	$4,000 YR	1.00	BARRICADES, GRADE STAKES, LUMBER	$4,000.00	
	100)	$2,000 YR	1.00	MISC SUPPLIES Classification N	$2,000.00	
	110)	$2,000 YR	1.00	TRUE FUEL Classification N FOR THE EQUIPMENT THAT CAN'T USE ETHANOL	$2,000.00	
57031202 405530	**Districtng Construction Supply**					**$123,100.00**
	10)	$500 YR	1.00	DRIVEWAY REPAIRS & SEALER PUMP STATIONS	$500.00	
	20)	$75.00 TONS	115	HOT TOP	$8,625.00	
	30)	$125 TONS	35.00	COLD PATCH	$4,375.00	
	40)	$10.00 BAGS	50.00	MORTAR & CEMENT	$500.00	
	50)	$10.00 YDS	50.00	MORTAR SAND	$500.00	
	60)	$16.00 YDS	300	CRUSHED STONE	$4,800.00	
	70)	$14.00 YDS	150	GRAVEL	$2,100.00	
	80)	$20,000.00 PCT	0.60	PRECAST TUBS & CONES (60%) 40% IN STORMWATER 57131500	$12,000.00	
	90)	$7,500.00 PCT	0.60	MANHOLE/CATCH BASIN FRAMES AND COVERS: REPLACEMENT COVERS (60%) 40% IN STORMWATER 57131500 50 * $150.00 =	$4,500.00	
	100)	$27,000.00 PCT	0.60	MANHOLE/CATCH BASIN FRAMES AND COVERS FRAME & COVERS (60%) 40% IN STORMWATER 57131500 30 * $900 = $27,000	$16,200.00	
	110)	$105,000.00 PCT	0.60	CASCO TRAPS (60%) 40% IN STORMWATER 57131500 300 * $350.00 = $105.00	$63,000.00	
	120)	$30.00 YDS	200	LOAM	$6,000.00	
57031202 405535	**Districtng Cleaning Supplies**					**$500.00**
	10)	$500 YR	1.00	JANITORIAL SUPPLIES 3 BUILDINGS	$500.00	
57031202 405540	**Districtng Fuel - Vehicles**					**$25,400.00**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	10)	$2.35 GAL	4,000	DIESEL REVENUE OFFSET 10031400 395000	$9,400.00	
	20)	$2.00 GAL	8,000	UNLEADED REVENUE OFFSET 10031400 395000	$16,000.00	
57031202 405560	**Districtng Minor Equipment**					**$38,501.00**
	10)	$10,000 YR	1.00	RODDING & JETTING EQUIP REPLACEMENT HOSES/ASSORTED CLEANING NOZZLES	$10,000.00	
	20)	$10,000 YR	1.00	REFLECTIVE CONES & SIGNS	$10,000.00	
	30)	$6,000.00 PCT	0.60	HAND TOOLS, MASON TOOLS (60%) 40% IN STORMWATER	$3,600.00	
	40)	$1,500.00 PCT	0.60	JACK HAMMER HOSES AND EQUIPMENT (60%) 40% IN STORMWATER	$900.00	
	50)	$12,500.00 PCT	0.60	REPLACE VACTOR HOSE/BOOM PIPING (60%) 40% IN STORMWATER 57131500	$7,500.00	
	60)	$2,017 EACH	3.00	PORTABLE RADIO REPLACEMENTS Classification N One Time Y	$6,051.00	
	70)	$75.00 EACH	6.00	BATTERIES FOR PORTABLE RADIOS Classification N	$450.00	
57031202 405565	**Districtng Computers & Tech**					**$11,100.00**
	10)	$2,000 EACH	3.00	LAPTOPS WITH TRUCK MOUNTS	$6,000.00	
	20)	$850 EACH	6.00	TABLETS ADDITIONAL STAFFING	$5,100.00	
57031202 405570	**Districtng Office Supplies**					**$7,700.00**
	10)	$2,000 YR	1.00	OFFICE SUPPLIES, PENS, PAPER, ETC	$2,000.00	
	20)	$1,700 YR	1.00	COMPUTER SUPPLIES	$1,700.00	
	30)	$400 YR	1.00	DATA STORAGE	$400.00	
	40)	$100 YR	1.00	PLASTIC SAMPLING BOTTLES	$100.00	
	50)	$500 YR	1.00	SEWER INSPECTOR FIELD BOOKS & MAP BOOKS	$500.00	
	60)	$3,000 YR	1.00	PRINTER SUPPLIES/COLOR PRINTER INK SETS	$3,000.00	
57031202 406315	**Districtng Heating Fuel**					**$31,785.00**
	10)	$3.35 GAL	800	FRANKLIN PUMP STATION GENERATOR AND HEATING: NO 2 FUEL OIL	$2,680.00	
	20)	$3.35 GAL	100	HOPE LANE EMERGENCY GENERATOR: DIESEL	$335.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	30)	$3.35 GAL	100	FRANKLIN ST EMERGENCY GENERATOR: DIESEL	$335.00	
	40)	$3.35 GAL	100	PORTABLE 40KW EMERGENCY GENERATOR	$335.00	
	50)	$500 YR	1.00	BCN CONTROL GENERATOR DIESEL	$500.00	
	60)	$100 MOS	12.00	NATURAL GAS UNITIL # 5120189-5034712 1222 Riverside St ASSUMED LAST YEAR'S PRICING	$1,200.00	
	70)	$100 MOS	12.00	PROPANE CURTIS RD PUMP STATION ENERGY USA ACCT # 13425L	$1,200.00	
	80)	$100 MOS	12.00	PROPANE CASTINE	$1,200.00	
	90)	$24,000 YR	1.00	DISTRICT RD PROPANE	$24,000.00	
57031202 406320	**Districtng Electricity**					**$54,265.00**
	10)	$26,400 YR	1.00	3501-1636-509 FRANKLIN/MARGINAL WAY(MED)	$26,400.00	
	20)	$20,200 YR	1.00	3501-1717-887 RIVERSIDE STREET (MED)	$20,200.00	
	30)	$1,000 YR	1.00	3501-4031-849 CONDUIT BACK COVE	$1,000.00	
	40)	$740 YR	1.00	3501-1714-157 011 CASTINE AVE	$740.00	
	50)	$2,900 YR	1.00	3501-1727-738 CLAPBOARD LANE (CURTIS RD)	$2,900.00	
	60)	$290 YR	1.00	3501-1759-905 PARTRIDGE ROAD	$290.00	
	70)	$275 YR	1.00	3501-2859-613 LINDEN ST	$275.00	
	80)	$700 YR	1.00	3501-7174-141 PENNELL AVE	$700.00	
	90)	$1,460 YR	1.00	3501-2110-496 HOPE LANE	$1,460.00	
	100)	$300 YR	1.00	3501-2232-522 GOWEN RD	$300.00	
57031202 406330	**Districtng Water & Sewer**					**$7,300.00**
	10)	$500 MOS	12.00	126552-01 1222 RIVERSIDE ST PUMP STATION	$6,000.00	
	20)	$25.00 MOS	12.00	145856-01 335 FRANKILIN ST PUMP STATION	$300.00	
	30)	$1,000 YR	1.00	109 DISTRICT RD NO SEWER CHARGE	$1,000.00	
57031202 406335	**Districtng Stormwater Charges**					**$18,674.00**
	10)	$18,674 YR	1.00	109 DISTRICT RD STORMWATER	$18,674.00	
57031202 407040	**Districtng Capital-Other Equip**					**$200,000.00**
	10)	$30,000 EACH	1.00	PAVING AT DISTRICT RD Classification E One Time Y DRIVEWAY	$30,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	20)	$20,000 EACH	1.00	LATERAL PUSH CAMERA REPLACEMENT	$20,000.00	
	30)	$150,000 EACH	1.00	PUMP STATION FORCE GRAVITY MAIN AND GRAVITY SEWER AT 109 Classification N One Time Y	$150,000.00	
	40)	$250,000 EACH	0.00	CM Level Reduction (03/25/19): (-$250,000) *to $0 ABOVE GROUND FUEL TANK Classification N One Time Y FY20 DR: $250k	$0.00	
Sewer Utility Districting 57031202 Org Total						**$2,637,279.00**

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
Public Works 31						
57031204 400110 Salaries & Wages	$56,213	$56,213	$56,852	$56,852	$639	1.14%
57031204 400140 Overtime Payments	$6,217	$2,850	$2,970	$2,970	($3,247)	-52.23%
* **Payroll**	$62,430	$59,063	$59,821	$59,822	($2,608)	-4.18%
57031204 400271 Wearing Apparel	$615	$375	$442	$442	($173)	-28.19%
* **Benefits**	$615	$375	$442	$442	($173)	-28.19%
57031204 402000 Administrative Services	$0	$0	$83	$83	$83	---
57031204 402020 Travel / Training / Meetings	$100	$0	$333	$333	$233	233.30%
* **Administrative Svcs**	$100	$0	$417	$417	$317	316.62%
57031204 403500 Contractual Services	$0	$0	$250	$250	$250	---
57031204 403560 Printing	$0	$0	$733	$733	$733	---
* **Contractual Services**	$0	$0	$983	$983	$983	---
57031204 404020 M&R Other Equipment	$0	$0	$167	$167	$167	---
* **Maintenance & Repair**	$0	$0	$167	$167	$167	---
57031204 404520 Vehicle / Equipment Rental	$0	$0	$2,278	$2,278	$2,278	---
57031204 404530 Office Equipment Rental	$1,500	$1,200	$400	$400	($1,100)	-73.34%
* **Rentals**	$1,500	$1,200	$2,678	$2,678	$1,178	78.56%
57031204 405520 Supplies - All Other	$0	$0	$100	$100	$100	---
57031204 405550 Medical Supplies	$0	$0	$200	$200	$200	---
57031204 405560 Minor Equipment	$2,542	$2,300	$500	$500	($2,042)	-80.33%
57031204 405565 Computers & Technology	$0	$0	$0	$0	$0	---
57031204 405570 Office Supplies	$500	$500	$500	$500	$0	-0.01%
* **Supplies**	$3,042	$2,800	$1,300	$1,300	($1,742)	-57.27%
**** **Public Works**	**$67,687**	**$63,438**	**$65,808**	**$65,808**	**($1,879)**	**-2.78%**
***** **Sewer Utility Fund**	**$67,687**	**$63,438**	**$65,808**	**$65,808**	**($1,879)**	**-2.78%**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
Public Works	**Sewer Communications 57031204**				**Org Total:**	**$65,808.00**
57031204 400110	**Sewer Comm Salaries & Wages**					**$56,851.92**
	10)	$56,851.92 PCT	1.00	Split Cost w/ GF Communications (10031204): 1/3 $ Represent Transfer to Credit GF Communications (10031204 395000) to be Processed Monthly Org Round (04/03/19)	$56,851.92	
57031204 400140	**Sewer Comm Overtime Payments**					**$2,969.70**
	10)	$8,999.09 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$2,969.70	
57031204 400271	**Sewer Comm Wearing Apparel**					**$441.62**
	10)	$1,338.24 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $REPRESENT TRANSFER CREDIT GR COMMUNICATIONS(10031204 395000) TO BE PROCESSED MONTHLY	$441.62	
57031204 402000	**Sewer Comm Administrative Svcs**					**$83.32**
	10)	$252.48 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$83.32	
57031204 402020	**Sewer Comm Travel/Train/Mtgs**					**$333.30**
	10)	$1,010.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$333.30	
57031204 403500	**Sewer Comm Contractual Svcs**					**$249.97**
	10)	$757.48 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$249.97	
57031204 403560	**Sewer Comm Printing**					**$733.26**
	10)	$2,222.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$733.26	
57031204 404020	**Sewer Comm M&R Other Equip**					**$166.65**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	10)	$505.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$166.65	
57031204 404520	**Sewer Comm Veh / Equip Rental**					**$2,278.43**
	10)	$6,904.33 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$2,278.43	
57031204 404530	**Sewer Comm Office Equip Rental**					**$399.96**
	10)	$1,212.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$399.96	
57031204 405520	**Sewer Comm Supplies-All Other**					**$99.99**
	10)	$303.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$99.99	
57031204 405550	**Sewer Comm Medical Supplies**					**$199.98**
	10)	$606.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REORESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$199.98	
57031204 405560	**Sewer Comm Minor Equipment**					**$499.95**
	10)	$1,515.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$499.95	
57031204 405570	**Sewer Comm Office Supplies**					**$499.95**
	10)	$1,515.00 PCT	0.33	SPLIT COST W/GF COMMUNICATIONS (10031204) 1/3 $ REPRESENT TRANSFER CREDIT GF COMMUNICATIONS (10031204 395000) TO BE PROCESSED MONTHLY	$499.95	
Sewer Communications 57031204 Org Total						**$65,808.00**

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
Public Works 31						
57031303 400110 Salaries & Wages	$330,399	$312,000	$316,522	$316,522	($13,877)	-4.20%
57031303 400130 Temporary Help	$0	$7,250	$10,000	$10,000	$10,000	---
57031303 400140 Overtime Payments	$6,427	$16,000	$32,407	$17,407	$10,980	170.84%
* **Payroll**	$336,826	$335,250	$358,929	$343,929	$7,103	2.11%
57031303 400271 Wearing Apparel	$1,040	$1,040	$1,040	$1,040	$0	0.00%
57031303 400274 Cellular Phones	$3,840	$1,920	$1,920	$1,920	($1,920)	-50.00%
* **Benefits**	$4,880	$2,960	$2,960	$2,960	($1,920)	-39.34%
57031303 402000 Administrative Services	$1,560	$1,560	$2,140	$2,140	$580	37.18%
57031303 402010 Postage & Freight	$300	$150	$150	$150	($150)	-50.00%
57031303 402020 Travel / Training / Meetings	$25,450	$20,000	$16,950	$16,950	($8,500)	-33.40%
57031303 402040 Taxes & Licenses	$450	$450	$810	$810	$360	80.00%
* **Administrative Svcs**	$27,760	$22,160	$20,050	$20,050	($7,710)	-27.77%
57031303 403500 Contractual Services	$208,350	$208,000	$200,900	$100,900	($107,450)	-51.57%
57031303 403510 Advertising	$1,500	$500	$5,000	$5,000	$3,500	233.33%
57031303 403520 Arch & Engineering	$22,000	$15,000	$21,998	$21,998	($2)	-0.01%
57031303 403530 Auto Expense Reimbursed	$200	$50	$100	$100	($100)	-50.00%
57031303 403560 Printing	$500	$500	$500	$500	$0	0.00%
* **Contractual Services**	$232,550	$224,050	$228,498	$128,498	($104,052)	-44.74%
57031303 404020 M&R Other Equipment	$0	$0	$0	$0	$0	---
57031303 404030 M&R Vehicles	$200	$200	$300	$300	$100	50.00%
57031303 404031 M&R Vehicle Commercial Repairs	$100	$100	$0	$0	($100)	-100.00%
57031303 404032 M&R Vehicle Labor (Internal)	$395	$300	$395	$395	$0	0.00%
57031303 404033 M&R Vehicle Tires	$0	$0	$0	$0	$0	---
* **Maintenance & Repair**	$695	$600	$695	$695	$0	0.00%
57031303 404530 Office Equipment Rental	$1,000	$1,000	$750	$750	($250)	-25.00%
* **Rentals**	$1,000	$1,000	$750	$750	($250)	-25.00%
57031303 405510 Agricultural Supplies	$0	$0	$0	$0	$0	---
57031303 405520 Supplies - All Other	$200	$200	$200	$200	$0	0.00%
57031303 405540 Fuel - Vehicles	$50	$100	$50	$50	$0	0.00%
57031303 405550 Medical Supplies	$200	$200	$200	$200	$0	0.00%
57031303 405560 Minor Equipment	$1,350	$1,350	$750	$750	($600)	-44.44%
57031303 405565 Computers & Technology	$6,000	$6,000	$3,500	$3,500	($2,500)	-41.67%
57031303 405570 Office Supplies	$6,700	$6,000	$1,500	$1,500	($5,200)	-77.61%
* **Supplies**	$14,500	$13,850	$6,200	$6,200	($8,300)	-57.24%
57031303 406500 Contributions	$0	$0	$0	$0	$0	---

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
* **Contributions**	$0	$0	$0	$0	$0	---
57031303 407030 Capital-Computer Equip/Soft	$0	$0	$100,000	$100,000	$100,000	---
* **Capital Outlay**	$0	$0	$100,000	$100,000	$100,000	---
**** **Public Works**	**$618,211**	**$599,870**	**$718,082**	**$603,082**	**($15,129)**	**-2.45%**
***** **Sewer Utility Fund**	**$618,211**	**$599,870**	**$718,082**	**$603,082**	**($15,129)**	**-2.45%**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
Public Works	**Sewer Engineering 57031303**				**Org Total:**	**$603,082.00**
57031303 400110	**Sewer Eng Salaries & Wages**					**$316,521.74**
	10)	$89,971	1.00	ROLAND, BRADLEY SR ENGINEER - SWRENG 100186 3000 3145 3014 12 10358	$89,971.00	
	20)	$80,174	1.00	SMITH, NATHANIEL PROJECT ENG-SWR ENG 100303 3000 3137 3012 12 10940	$80,174.00	
	30)	$56,643	1.00	TILAS, KATELYNN WATER RESOURCES ENG 102354 3000 3112 3010 1 11084	$56,643.00	
	40)	$74,356	1.00	REMSEN, GERARD PROJECT ENG-SWR ENG 100302 3000 3137 3012 5 12160	$74,356.00	
	50)	$15,378 YR	1.00	CHARGEBACKS FROM GENERAL FUND ENGINEERING: OFFSET 10031303 395000	$15,377.74	
57031303 400130	**Sewer Eng Temporary Help**					**$10,000.00**
	10)	$400 WKS	25.00	SEASONAL EMPLOYEE - SPLIT W/ STORMWATER Classification N SPLIT 50/50 WITH STORMWATER	$10,000.00	
57031303 400140	**Sewer Eng Overtime Payments**					**$17,406.96**
	1)	($15,000) YR	1.00	CM Level Reduction (03/25/19): (-$15,000) from $32,407.44 to $17,407.44 *General OT Reduction Classification N Org Round (04/03/19)	($15,000.48)	
	10)	$39.00 HRS	60.00	NON-PROJECT EMERGENCIES 4EE * 15HRS * $39.00	$2,340.00	
	20)	$39.78 HRS	96.00	POLICE DETAIL TRAFFIC CONTROL	$3,818.88	
	30)	$39.00 HRS	416	CWSRF PROJECT RELATED OVERTIME Classification N PREVIOUSLY CHARGED TO SRF LOAN	$16,224.00	
	40)	$39.78 HRS	252	POLICE DETAILS FOR SEWER COMPLIANCE I/I, CCTV WORK - PREVIOUSLY CAHRGED TO 57031202 403500	$10,024.56	
57031303 400271	**Sewer Eng Wearing Apparel**					**$1,040.00**
	10)	$160 EACH	4.00	BOOT ALLOWANCE PROTECH BR, NS, KT, GR	$640.00	
	20)	$100 EACH	4.00	NON-CONTRACTUAL CLOTHING HATS, GLOVES, VESTS.....	$400.00	
57031303 400274	**Sewer Eng Cellular Phones**					**$1,920.00**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	10)	$120 MOS	12.00	PHONE REIMBURSEMENTS BR, NS, GR, KT ($30.00 EACH MONTH)	$1,440.00	
	20)	$40.00 MOS	12.00	DATA PLANS FOR IPADS BR, NS, GR, KT	$480.00	
57031303 402000	**Sewer Eng Administrative Svcs**					**$2,140.00**
	10)	$270 EACH	4.00	A.S.C.E.	$1,080.00	
	20)	$15.00 EACH	4.00	MEWEA: BR, NS, GR, KT - PART OF GROUP MEMBERSHIP	$60.00	
	30)	$250 EACH	4.00	WEF MEMBERSHIP Classification N (BR, KT, GR, NS)	$1,000.00	
57031303 402010	**Sewer Eng Postage & Freight**					**$150.00**
	10)	$150 YR	1.00	MISC MINOR CHARGES	$150.00	
57031303 402020	**Sewer Eng Travel/Train/Mtgs**					**$16,950.00**
	10)	$200 EACH	4.00	EPA/DEP SEMINARS: BR, KT, NS, GR	$800.00	
	20)	$3,000 EACH	4.00	NATIONAL CONFERENCE BR, NS, KT, GR	$12,000.00	
	30)	$300 EACH	4.00	MEWEA COURSES:	$1,200.00	
	40)	$250 EACH	1.00	OSHA HAZ. WASTE (BR)	$250.00	
	50)	$350 EACH	4.00	NEWEA BR, KT, NS, GR	$1,400.00	
	60)	$150 EACH	4.00	ASCE TECHNICAL SEMINAR BR, KT, NS, GR	$600.00	
	70)	$175 EACH	4.00	MAINE STORMWATER CONFERENCE Classification N THIS IS EVERY OTHER YEAR. THIS IS AN ON YEAR. 3 PUBLIC OFFICIALS FOR $500	$700.00	
57031303 402040	**Sewer Eng Taxes & Licenses**					**$810.00**
	10)	$300 YR	1.00	PAN AM: YEARLY LICENSE FEE FOR RAND ROAD DRAIN	$300.00	
	20)	$150 YR	1.00	SEWER AND DRAINAGE MAINE DOT LOCATED OFF PRESUMSCOT STREET WHERE THE SEWER RUNS BELOW THE RAILROAD	$150.00	
	30)	$90.00 EACH	4.00	PE LICENSE FEES Classification N	$360.00	
57031303 403500	**Sewer Eng Contractual Svcs**					**$100,900.00**
	10)	$300 EACH	1.00	LIM/ SURVEY: CUMBERLAND COUNTY OF DEEDS RESEARCH	$300.00	
	20)	$600 YR	1.00	VAULT FIRE PROTECTION ANNUAL INSPECTION SHARED WITH GF ENGINEERING	$600.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	30)	$100,000 YR	1.00	CM Level Reduction (03/25/19): (-$100,000) * to $100k FLOW ASSESSMENT - SEWER FLOW MONITORING	$100,000.00	
57031303 403510	**Sewer Eng Advertising**					**$5,000.00**
	10)	$5,000 YR	1.00	NOTICES IN NEWSPAPER OF PROJECTS PREVIOUSLY CHARGED TO SRF LOANS	$5,000.00	
57031303 403520	**Sewer Eng Arch & Engineering**					**$21,998.30**
	10)	$51,510.00 PCT	0.33	LIM MAPPING SERVICES: (3 WAY SPLIT) SHARED WITH 10031303-403520 & 57131500 403520 GF ENGINEERING AND STORMWATER	$16,998.30	
	20)	$5,000 YR	1.00	CONSULTANT SURVEY OF IN-HOUSE DESIGNED PROJECTS	$5,000.00	
57031303 403530	**Sewer Eng Auto Expense Reimb**					**$100.00**
	10)	$100 YR	1.00	MILEAGE REIMBURSEMENT ($.58 PER MILE AS OF 1/1/19)	$100.00	
57031303 403560	**Sewer Eng Printing**					**$500.00**
	10)	$500 YR	1.00	GENERAL BUSINESS CARDS, LETTERHEAD	$500.00	
57031303 404030	**Sewer Eng M&R Vehicles**					**$300.00**
	10)	$300 YR	1.00	CHARGES FROM FLEET OFFSET REVENUE 10031400 395000	$300.00	
57031303 404032	**Sewer Eng M&R Veh Labor (In)**					**$395.00**
	10)	$395 YR	1.00	CHARGES FROM FLEET OFFSET REVENUE 10031400 395000	$395.00	
57031303 404530	**Sewer Eng Office Equip Rental**					**$750.00**
	10)	$750 YR	1.00	212 CANCO SHARED COPIER	$750.00	
57031303 405520	**Sewer Eng Supplies-All Other**					**$200.00**
	10)	$200 YR	1.00	TRACING DYE, TESTING CHEMICALS	$200.00	
57031303 405540	**Sewer Eng Fuel - Vehicles**					**$50.00**
	10)	$2.00 GAL	25.00	UNLEADED OFFSET REVENUE 10031400 395000	$50.00	
57031303 405550	**Sewer Eng Medical Supplies**					**$200.00**
	10)	$200 YR	1.00	FIRST AID KIT REFILLS	$200.00	
57031303 405560	**Sewer Eng Minor Equipment**					**$750.00**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	10)	$750 YR	1.00	VARIOUS HAND & MASON TOOLS, REFLECTIVE CONES & SIGNS, PAINT, LAB SUPPLIES ETC	$750.00	
57031303 405565	**Sewer Eng Computers & Tech**					**$3,500.00**
	10)	$3,500 EACH	1.00	LAPTOP (GR) Classification N One Time Y LAPTOP FOR SITE USE/MEETINGS	$3,500.00	
57031303 405570	**Sewer Eng Office Supplies**					**$1,500.00**
	10)	$1,500 YR	1.00	GENERAL OFFICE SUPPLIES, DATA STORAGE	$1,500.00	
57031303 407030	**Sewer Eng Capital-Comp/Soft**					**$100,000.00**
	10)	$100,000	1.00	INFOSWMM SERVICE Classification N One Time Y MODELING SERVICE. SUBSEQUENT ANNUAL CHARGES WILL APPLY	$100,000.00	
Sewer Engineering 57031303 Org Total						**$603,082.00**
Public Works 0570 31 Dept Total						**$4,144,717.00**
Sewer Utility Fund 0570 Fund Total						**$4,144,717.00**
Report Total						**$4,144,717.00**

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ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
Public Works 31						
57131500 400110 Salaries & Wages	$735,588	$735,588	$741,107	$742,542	$6,954	0.95%
57131500 400130 Temporary Help	$0	$0	$10,000	$10,000	$10,000	---
57131500 400140 Overtime Payments	$31,612	$61,600	$81,384	$61,384	$29,772	94.18%
* **Payroll**	$767,200	$797,188	$832,491	$813,926	$46,726	6.09%
57131500 400271 Wearing Apparel	$1,980	$2,100	$2,700	$2,700	$720	36.36%
57131500 400274 Cellular Phones	$720	$600	$720	$720	$0	0.00%
* **Benefits**	$2,700	$2,700	$3,420	$3,420	$720	26.67%
57131500 402000 Administrative Services	$250	$750	$0	$0	($250)	-100.00%
57131500 402020 Travel / Training / Meetings	$13,485	$11,500	$11,295	$11,295	($2,190)	-16.24%
57131500 402040 Taxes & Licenses	$37,095	$37,095	$52,120	$52,120	$15,025	40.50%
* **Administrative Svcs**	$50,830	$49,345	$63,415	$63,415	$12,585	24.76%
57131500 403500 Contractual Services	$384,719	$380,000	$483,472	$268,472	($116,247)	-30.22%
57131500 403510 Advertising	$0	$0	$0	$0	$0	---
57131500 403520 Arch & Engineering	$104,000	$95,000	$138,998	$108,998	$4,998	4.81%
57131500 403530 Auto Expense Reimbursed	$50	$50	$50	$50	$0	0.00%
* **Contractual Services**	$488,769	$475,050	$622,520	$377,520	($111,249)	-22.76%
57131500 404030 M&R Vehicles	$25,000	$20,000	$25,000	$25,000	$0	0.00%
57131500 404031 M&R Vehicle Commercial Repairs	$45,000	$40,000	$45,000	$45,000	$0	0.00%
57131500 404032 M&R Vehicle Labor (Internal)	$11,000	$11,000	$11,000	$11,000	$0	0.00%
57131500 404033 M&R Vehicle Tires	$1,500	$1,500	$1,500	$1,500	$0	0.00%
* **Maintenance & Repair**	$82,500	$72,500	$82,500	$82,500	$0	0.00%
57131500 404510 Land & Bldg Rental	$0	$0	$0	$18,617	$18,617	---
57131500 404520 Vehicle / Equipment Rental	$25,000	$35,000	$46,000	$46,000	$21,000	84.00%
* **Rentals**	$25,000	$35,000	$46,000	$64,617	$39,617	158.47%
57131500 405520 Supplies - All Other	$0	$0	$0	$0	$0	---
57131500 405530 Construction Supplies	$73,550	$70,000	$85,120	$85,120	$11,570	15.73%
57131500 405540 Fuel - Vehicles	$28,050	$25,000	$27,150	$27,150	($900)	-3.21%
57131500 405560 Minor Equipment	$16,400	$12,000	$19,600	$19,600	$3,200	19.51%
57131500 405565 Computers & Technology	$6,000	$6,000	$3,500	$3,500	($2,500)	-41.67%
57131500 405570 Office Supplies	$1,500	$3,000	$2,500	$2,500	$1,000	66.67%
* **Supplies**	$125,500	$116,000	$137,870	$137,870	$12,370	9.86%
57131500 407005 Capital-Land Purchase	$0	$0	$0	$0	$0	---
57131500 407010 Capital-Land/Land Improvement	$275,000	$332,149	$100,000	$0	($275,000)	-100.00%
57131500 407090 Capital-Sewer Lines	$0	$0	$0	$0	$0	---

CITY OF PORTLAND, ME
FY20 DEPARTMENT LINE SUMMARY EXPENDITURE REPORT

	ACCOUNT DESCRIPTION	FY19 REVISED APPRO (01/31/19)	FY19 TOTAL PROJECTION	FY20 DEPT REQUEST	FY20 MGR RECOMM	INCR / (DECR) FY20 / FY19	APPRO % CHG FY20 / FY19
*	**Capital Outlay**	$275,000	$332,149	$100,000	$0	($275,000)	-100.00%
****	**Public Works**	**$1,817,499**	**$1,879,932**	**$1,888,217**	**$1,543,268**	**($274,231)**	**-15.09%**
*****	**Stormwater Fund**	**$1,817,499**	**$1,879,932**	**$1,888,217**	**$1,543,268**	**($274,231)**	**-15.09%**

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
Stormwater Fund						
Public Works	**Stormwater Management 57131500**				**Org Total:**	**$1,543,268.00**
57131500 400110	**Stormwater Salaries & Wages**					**$742,542.20**
	10)	$48,166	1.00	DOBSON, GARY WATER RES MWII - SW 100907 5000 5101 5018 8 10178	$48,166.00	
	20)	$48,166	1.00	KING, ROBERT WATER RES MWII - SW 100906 5000 5101 5018 8 10368	$48,166.00	
	30)	$70,820	1.00	RONCARATI, DOUGLAS STORMWATER COORD 100290 3000 3111 3010 12 10614	$70,820.00	
	40)	$48,166	1.00	RAGUE, J SCOT WATER RES MWII - SW 100909 5000 5101 5018 8 10894	$48,166.00	
	50)	$45,370	1.00	SPAULDING, COREY WATER RES MWI - SW 102676 5000 5098 5016 6 11327	$45,370.00	
	60)	$71,237	1.00	PELLERIN, JUSTIN PROJ ENG- STORMWATER 100304 3000 3139 3012 3 11546	$71,237.00	
	70)	$62,437	1.00	SMITH, RACHEL STORMWATER COORD 100289 3000 3111 3010 4 11588	$62,437.00	
	80)	$247,667 YR	1.00	TRANSFERS FROM SEWER FUND: WR MANAGER $93,854.00 (50%) WATER QUALITY TECH $54,637.00 (50%) COMPLIANCE SEC COORD $81,916.00 (50%) ASSET MANAGER $71,189.00 (50%) ASSET MGT TECH $52,577.00 (50%) SENIOR WR TECH $51,189.00 (50%) SR ENGINEER $89,971 (50%)	$247,666.50	
	90)	$11,216 YR	1.00	TRANSFER FROM GF ENGINEERING: OFFSET 10031303 395000	$11,215.95	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	100)	$92,370 YR	1.00	a) CM Reduction (04/01/19): (-$4,201.06) *From $96,571.18 to $92,370.12 Safety Officer Share w/ Parks & Rec b) CM Level Increase (03/29/19): +$5,636.30 PW Deputy Dir (5% of $112,726) *From $90,934.88 to $96,571.18 ---------- *GF REVENUE 10031100 395000 Offset Classification N FY20 DR: Charges from GF Admin a) SAFETY & TRAINING $67,217.00 (12.5%) b) DIRECTOR $128,964.00 (25%) c) PAO II ($77,084.00) (25%) d) FA (81,081.00) (25%) e) ACCOUNTANT (43,002.00) (25%)	$92,370.12	
	110)	($4,992)	1.00	ADJUST OVERAGE FOR WINTER STIPENDS 4EE * 40HRS * 52WKS * $.60 Org Round (04/03/19)	($4,992.37)	
	120)	$1,920 YR	1.00	WINTER STIPENDS Classification N 4EE * 40HRS *20WKS* $.60	$1,920.00	
57131500 400130	**Stormwater Temporary Help**					**$10,000.00**
	10)	$400 WKS	25.00	SEASONAL EMPLOYEE - SPLIT W/SEWER ENGINEERING Classification N	$10,000.00	
57131500 400140	**Stormwater Overtime Payments**					**$61,384.00**
	1)	($20,000)	1.00	CM Level Reduction (04/02/19): (-$20,000) *Object Line from $81,384 to $61.384	($20,000.00)	
	10)	$33.00 HRS	96.00	SWEEPING: PARADES, SPECIAL EVENTS 4 EE * 6 EVENTS * 4 HOURS	$3,168.00	
	20)	$33.00 HRS	160	OSHA TRAINING: 4 EE * 5 DAYS * 8 HOURS	$5,280.00	
	30)	$33.00 HRS	720	SICK & VACATION SWEEPING FILL INS: 1 EE * 8 HOURS * 90 DAYS	$23,760.00	
	40)	$33.00 HRS	1,152	SWEEPING (NIGHTTIME) Classification N 6EE * 8HRS * 24NIGHTS SEASON SHORTENED (OCTOBER & MAY ONLY)	$38,016.00	
	50)	$37.00 HRS	192	SWEEPING (SUPERVISOR) Classification N 1EE * 8HRS * 24NIGHTS (OCTOBER & MAY ONLY)	$7,104.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	60)	$39.00 HRS	104	CWSRF PROJECT RELATED Classification N 1EE * 2HRS * 52WKS PREVIOUSLY CHARGED TO SRF LOANS	$4,056.00	
57131500 400271	**Stormwater Wearing Apparel**					**$2,700.00**
	10)	$160 EACH	3.00	BOOTS (PROTECH) RS, DR, JP	$480.00	
	20)	$375 EACH	4.00	UNIFORMS	$1,500.00	
	30)	$18.00 EACH	4.00	EAR PROTECTION	$72.00	
	40)	$12.00 EACH	4.00	SAFETY GLASSES	$48.00	
	50)	$200 EACH	3.00	NON-CONTRACTUAL CLOTHING/SAFETY EQUIP	$600.00	
57131500 400274	**Stormwater Cellular Phones**					**$720.00**
	10)	$30.00 MOS	12.00	DATA PLANS JP, DR, RS	$360.00	
	20)	$30.00 MOS	12.00	CELL PHONE REIMBURSEMENT (JP)	$360.00	
57131500 402020	**Stormwater Travel/Train/Mtgs**					**$11,295.00**
	10)	$3,000 YR	1.00	EPA/DEP, NEIWPCC CONFERENCE, DEP EROSION & SEDIMENTATION RECERTIFICATION	$3,000.00	
	20)	$1,500 YR	1.00	POLLUTION TRAINING (DEPT WIDE)	$1,500.00	
	30)	$200 EACH	3.00	EPA/DEP SEMINARS JP, RS, DR	$600.00	
	40)	$175 EACH	3.00	MEWEA SPRING CONF DR, JP, RS	$525.00	
	50)	$315 EACH	3.00	NEWEA CONF/ONE DAY JP, DR, RS	$945.00	
	60)	$200 EACH	1.00	ASCE TECHNICAL SEMINAR JP	$200.00	
	70)	$3,000 EACH	1.00	NATIONAL SEMINAR JP	$3,000.00	
	80)	$500 EACH	2.00	NEIWPCC CONFERENCE RS, DR	$1,000.00	
	90)	$175 EACH	3.00	MAINE STORMWATER CONFERENCE Classification N EVERY OTHER YEAR (FY20 ON) DR, RS, JP	$525.00	
57131500 402040	**Stormwater Taxes & Licenses**					**$52,120.00**
	10)	$250 YR	1.00	ANNUAL MS4 LICENSE	$250.00	
	20)	$21,000 YR	1.00	LONG CREEK WATERSHED RESTORATION FEE	$21,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	30)	$30,000 YR	1.00	MS4-ISWG DUES: Existing cost of MCM, additional permit negotiations, support for potential new permit requirements. Also, due to potential legal battle with DEP regarding new permit, additional money is requested. CCSWCD no longer can provide services.	$30,000.00	
	40)	$15.00 EACH	3.00	MEWEA DUES GROUP MEMBERSHIP (DR, JP, RS)	$45.00	
	50)	$185 EACH	3.00	WEF/NEWEA DUES DR, JP, RS	$555.00	
	60)	$270 EACH	1.00	ASCE DUES JP	$270.00	
57131500 403500	**Stormwater Contractual Svcs**					**$268,472.00**
	10)	$48,000.00 PCT	0.25	ECOMAINE VACTOR DISPOSAL Other 75% in 57031202 400 TONS @ $120.00	$12,000.00	
	20)	$12,000.00 PCT	0.50	DIGSAFE 50% IN SEWER 57031202 APPROX $1000 PER MONTH	$6,000.00	
	30)	$2,400.00 PCT	0.50	ANSWERING SERVICE 50% IN SEWER 57031202 STERICYCLE COMMUNICATIONS	$1,200.00	
	40)	$25,000 EACH	1.00	CM Level Reduction (04/02/19) (-$15,000) *From $40,000 to $25,000 FY20 DR: REBUILD FAILED CATCH BASINS SUPPLEMENTAL CONTRACTUAL WORK 40 * $1,000	$25,000.00	
	50)	$50.00 EACH	1,200	CM Level Reduction (04/02/19) (-$40,000) *From $100,000 to $60,000 ---------- FY20 DR: UNIT CLEANING CATCH BASINS/STORMWATER TREATMENT 2,000 * $50	$60,000.00	
	60)	$100,000 YR	1.00	CM Level Reduction (04/02/19) (-$150,000) *From $250,000 to $100,000 ---------- FY20 DR: GREEN INFRASTRUCTURE MAINTENANCE New contract/RFP to go out. Increased costs due to additional maintenance and increased BMPs: $250k	$100,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	70)	$5,000 YR	1.00	EMERGENCY STORMWATER STABLILZATION	$5,000.00	
	80)	$5,000 YR	1.00	VACTOR ANNUAL FACTORY SERVICE 75% in 57031202 TOTAL COST $20,000 TENCO	$5,000.00	
	90)	$10,000 YR	1.00	SWEEPER GPS ANNUAL HOSTING CHARGE	$10,000.00	
	100)	$40,000 YR	1.00	CM Level Reduction (04/02/19) (-$10,000) *From $50,000 to $40,000 ---------- Classification N FY20 DR: WATERSHED ASSESSMENTS DUE TO MS4 PERMIT REQUIREMENTS, THESE WILL NEED TO BE COMPLETED OR UPDATED TO REMAIN COMPLIANT	$40,000.00	
	110)	$356 MOS	12.00	CONSOLIDATED COMMUNICATIONS (DARK FIBER) Classification N 50%	$4,272.00	
57131500 403520	**Stormwater Arch & Engineering**					**$108,998.30**
	10)	$1,000 YR	1.00	SPILL CONTROL CONTAINMENT & COUNTERMEASURE	$1,000.00	
	20)	$40,000 EACH	1.00	CM Level Reduction (04/02/19) (-$30,000) *From $70,000 to $40,000 ---------- FY20 DR: ONGOING EDUCATIONAL PROGRAM - CAPISIC BROOK WATERSHED MGT INCREASED FROM 5 TO 7 SCHOOLS 7 * $10k	$40,000.00	
	30)	$15,000 YR	1.00	COLLECT & ASSESS WATERSHED DATA INCLUDING COLLECTION OF FLOW DATA FROM CAPISIC BROOK MONITORING STATIONS	$15,000.00	
	40)	$1,000 YR	1.00	DOLE BROOK STREAM BUFFER INSPECTION, MARKERS, SIGNS 3RD PARTY INSPECTION REQUIRED UNDER EPA SUPPLEMENTAL ENVIRONMENTAL PROJECT	$1,000.00	
	50)	$5,000 YR	1.00	ILLICIT DISCHARGE INVESTIGATION	$5,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	60)	$51,510.00 PCT	0.33	LIM MAPPING SERVICES: (3 WAY SPLIT) SHARED 10031303-403520 & 57031303 403520 GF ENGINEERING AND SEWER ENGINEERING	$16,998.30	
	70)	$30,000 YR	1.00	STORMWATER PROJECT SURVEY WORK For Right-of-way clearings and neighborhood drainage projects, which the City Surveyors cannot do	$30,000.00	
57131500 403530	**Stormwater Auto Expense Reimb**					**$50.00**
	10)	$50.00 YR	1.00	AUTO MILEAGE REIMBURSEMENTS NEW STANDARD RATE EFF. 1/1/2019 $0.58/MILE	$50.00	
57131500 404030	**Stormwater M&R Vehicles**					**$25,000.00**
	10)	$25,000 YR	1.00	FLEET CHARGES REVENUE OFFSET 10031400-395000	$25,000.00	
57131500 404031	**Stormwater M&R Veh Commer Rpr**					**$45,000.00**
	10)	$40,000 YR	1.00	FLEET SERVICE CHARGES OFFSET 10031400 395000	$40,000.00	
	20)	$5,000 YR	1.00	SHARED FLEET CHARGES WITH SEWER OFFSET 10031400-395000	$5,000.00	
57131500 404032	**Stormwater M&R Veh Labor (Int)**					**$11,000.00**
	10)	$11,000 YR	1.00	FLEET SERVICES LABOR CHARGES REVENUE OFFSET 10031400-395000	$11,000.00	
57131500 404033	**Stormwater M&R Vehicle Tires**					**$1,500.00**
	10)	$1,500 YR	1.00	TIRES REVENUE OFFSET 10031400 395000	$1,500.00	
57131500 404510	**Stormwater Land & Bldg Rental**					**$18,616.50**
	10)	$18,617 YR	1.00	CM Level Increase (03/27/19): +$18,616.50 212 Canco Road Rent *Reimb GF PW Admin (10031100 363000) Classification N	$18,616.50	
57131500 404520	**Stormwater Veh / Equip Rental**					**$46,000.00**
	10)	$1,000 MOS	12.00	TRACK SKID STEER THIS IS FOR RIGHT-OF-WAY WORK	$12,000.00	
	20)	$1,000 MOS	5.00	CHIPPER	$5,000.00	
	30)	$2,000 MOS	5.00	BUSH HOG	$10,000.00	
	40)	$1,000 MOS	5.00	MULCHER	$5,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	50)	$1,000 MOS	2.00	LIGHT TOWER FOR NIGHT WORK 2 MOS * $1000 Classification N	$2,000.00	
	60)	$1,500 MOS	8.00	ALL WHEEL DRIVE ATV Classification N NEEDED TO BRING SUPPLIES AND PEOPLE TO ACCESS R-O-WS	$12,000.00	
57131500 405530	**Stormwater Construction Supply**					**$85,120.00**
	10)	$20,000.00 PCT	0.40	PRECAST TUBS & CONES 60% IN 57031202.	$8,000.00	
	20)	$34,500.00 PCT	0.40	MANHOLE & CATCH BASIN FRAMES & COVERS 60% PAID IN 57031202	$13,800.00	
	30)	$105,000.00 PCT	0.40	CASCO TRAPS 60% PAID IN 57031202 300 @ $350.00 = $105,000	$42,000.00	
	40)	$72.00 TON	60.00	HOT TOP	$4,320.00	
	50)	$1,000 YR	1.00	MOTAR & CEMENT	$1,000.00	
	60)	$10.00 YDS	100	MORTAR SAND	$1,000.00	
	70)	$5,000 YR	1.00	CRUSHED STONE	$5,000.00	
	80)	$5,000 YR	1.00	GRAVEL	$5,000.00	
	90)	$5,000 YR	1.00	SPILL CONTROL MATERIALS	$5,000.00	
57131500 405540	**Stormwater Fuel - Vehicles**					**$27,150.00**
	10)	$2.35 GAL	9,000	DIESEL REVENUE OFFSET 10031400-395000	$21,150.00	
	20)	$2.00 GAL	3,000	2) UNLEADED REVENUE OFFSET 10031400-395000	$6,000.00	
57131500 405560	**Stormwater Minor Equipment**					**$19,600.00**
	10)	$6,000.00 PCT	0.40	HAND & MASON TOOLS 60% IN 57031202	$2,400.00	
	20)	$1,500.00 PCT	0.40	JACK HAMMER HOSES & EQUIPMENT 60% IN 57031202	$600.00	
	30)	$12,500.00 PCT	0.40	VACTOR HOSE/BOOM PIPING 60% IN 57031202	$5,000.00	
	40)	$600 YR	1.00	SHOVELS, BROOMS, HYDRANT WRENCHES	$600.00	
	50)	$3,000 YR	1.00	HOSES, NOZZLES, SWEEPER MAINT SUPPLIES	$3,000.00	
	60)	$1,000 YR	1.00	STORMWATER SAMPLING EQUIPMENT/SUPPLIES	$1,000.00	
	70)	$2,500 EACH	2.00	VACTOR HOSE	$5,000.00	

Account Desc	Ln/S	Item Req $	Qty	Detail Request	Line Total	Total
	80)	$2,000 YR	1.00	RESPIRATORS	$2,000.00	
57131500 405565	**Stormwater Computers & Tech**					**$3,500.00**
	10)	$3,500 EACH	1.00	DESKTOP COMPUTER (DR REPLACEMENT)	$3,500.00	
57131500 405570	**Stormwater Office Supplies**					**$2,500.00**
	10)	$2,500 YR	1.00	BASIC OFFICE SUPPLIES	$2,500.00	
57131500 407010	**Stormwater Capital-Land/Impr**					**$0.00**
	10)	$50,000 YR	0.00	CM Level Reduction: (-$50,000) *to $0 Use Existing CIP or FY19 Funds FY20 DR: ILLICIT DISCHARGE ELIMINATION: REMOVALS SANITARY CONNECTIONS FROM STORM DRAINS: $50K	$0.00	
	20)	$50,000 YR	0.00	CM Level Reduction: (-$50,000) *to $0 Use Existing CIP or FY19 Funds FY20 DR: REPAIR DETENTION PONDS: BASINS NEED REPAIR: PALMER AVE, 250 GRAVEL WETLAND: $50k	$0.00	
Stormwater Management 57131500 Org Total						**$1,543,268.00**
Public Works 0571 31 Dept Total						**$1,543,268.00**
Stormwater Fund 0571 Fund Total						**$1,543,268.00**
Report Total						**$1,543,268.00**

CITY OF PORTLAND, MAINE
COMPARATIVE BUDGET PLAN FY2020
July 1, 2018 - June 30, 2019
July 1, 2019 - June 30, 2020
Final Allowance

		FY 19*	FY 20	$ +/( )	%
ENTERPRISE FUND REVENUES					
31	Property Taxes, Current Year	$ -	$ -	$ -	
32	Licenses & Permits	22,850	17,950	(4,900)	-21.4%
33	Intergovernmental	116,800	117,968	1,168	1.0%
34	Charges for Services	33,567,185	34,701,607	1,134,422	3.4%
36	Use of Money and Property	23,747,326	26,228,136	2,480,810	10.4%
39	Other Sources	374,196	405,874	31,678	8.5%
	Fund Balance	(4,236,256)	(4,683,172)	(446,916)	10.5%
	Total Enterprise Fund Revenues	53,592,101	56,788,363	3,196,262	6.0%
ENTERPRISE FUND EXPENDITURES					
530	Fish Pier	398,213	388,679	(9,534)	-2.4%
570	Finance Administration	134,810	141,938	7,128	5.3%
	Public Works Administration	780,653	838,548	57,895	7.4%
	Districting	3,019,206	2,637,279	(381,927)	-12.6%
	Communications	67,687	65,808	(1,879)	-2.8%
	Engineering	618,211	603,082	(15,129)	-2.4%
	Debt Service	7,745,068	8,088,788	343,720	4.4%
	Fringe Benefits	1,493,120	1,519,490	26,370	1.8%
	PWD Assessment	12,462,772	13,137,639	674,867	5.4%
	Total Sewer	26,321,527	27,032,572	711,045	2.7%
571	Finance Administration	265,463	275,145	9,682	3.6%
	Stormwater Management	1,817,499	1,543,268	(274,231)	-15.1%
	Debt Service	389,797	685,421	295,624	75.8%
	Fringe Benefits	286,855	285,003	(1,852)	-0.6%
	Total Stormwater	2,759,614	2,788,837	29,223	1.1%
583	Jetport Administration	1,047,618	1,221,479	173,861	16.6%
	Marketing	501,890	598,640	96,750	19.3%
	Fringe, Indirects & Chargebacks	3,960,802	4,084,313	123,511	3.1%
	Field	4,091,912	4,577,799	485,887	11.9%
	General Aviation	17,168	17,168	-	0.0%
	Jetport Operations	2,595,898	2,702,802	106,904	4.1%
	Terminal	5,970,545	6,992,649	1,022,104	17.1%
	Parking	4,447,615	4,907,020	459,405	10.3%
	Airfield Deicing	700,661	674,781	(25,880)	-3.7%
	Jetport Anticipated Surplus	778,638	801,624	22,986	3.0%
	Total Jetport	24,112,747	26,578,275	2,465,528	10.2%
Total Enterprise Fund Expenditures		53,592,101	56,788,363	3,196,262	6.0%
TOTAL CITY EXPENDITURES		$ 251,178,512	$ 263,520,934	$ 12,342,422	4.9%

CITY OF PORTLAND, MAINE
COMPARATIVE BUDGET PLAN FY2020
July 1, 2018 - June 30, 2019
July 1, 2019 - June 30, 2020
Final Allowance

	FY 19*	FY 20	$ +/( )	%
SCHOOL DEPARTMENT REVENUES				
Property Taxes	88,003,431	93,345,139	5,341,708	6.1%
Local Revenue	5,455,679	6,629,939	1,174,260	21.5%
State Subsidy	16,339,336	16,644,909	305,573	1.9%
Surplus Use	780,270	769,283	(10,987)	-1.4%
Total School Revenues	$ 110,578,716	$ 117,389,270	$ 6,810,554	6.2%
SCHOOL DEPARTMENT EXPENDITURES				
Public Schools	$110,578,716	$117,389,270	$6,810,554	6.2%
TOTAL CITY AND SCHOOL EXPENDITURES	**$ 361,757,228**	**$ 380,910,204**	**$ 19,152,976**	**5.3%**

FOR 01/01/2015 - 12/31/2020

				LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3130318501 - CMOM Inflow/Infiltration								
TOTALS for Project: 3130318501 - CMOM Inflow/Infiltration								
0.00	0.00	0.00	0.00		260,000.00	0.00	0.00	-260,000.00
Project: 3130318509 - Warren Ave Storm Drain								
TOTALS for Project: 3130318509 - Warren Ave Storm Drain				990,000.00	21,012.48	0.00	0.00	968,987.52
Project: 3130318P01 - Capisic Pond Improvements								
TOTALS for Project: 3130318P01 - Capisic Pond Improvements								
0.00	0.00	0.00		565,000.00	297,924.32	8,585.00	0.00	258,490.68
Project: 3130319B05 - Landfill Remed/Pre-solar								
TOTALS for Project: 3130319B05 - Landfill Remed/Pre-solar				540,000.00	540,684.02	26,115.98	0.00	-26,800.00
Project: 3137000001 - CMOM Pump Station Rehab								
TOTALS for Project: 3137000001 - CMOM Pump Station Rehab				3,790,000.00	3,778,806.91	30,392.18	0.00	-19,199.09
Project: 3137009502 - Moody/Wilson Storm Drain								
TOTALS for Project: 3137009502 - Moody/Wilson Storm Drain				175,000.00	151,840.14	0.00	0.00	23,159.86
Project: 3137009505 - Somerset Sewer Elm/Hanover								
TOTALS for Project: 3137009505 - Somerset Sewer Elm/Hanover								
0.00	0.00	0.00		160,000.00	0.00	0.00	0.00	160,000.00

FOR 01/01/2015 - 12/31/2020

				LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137009506 - Baxter Woods Detention Pond								
TOTALS for Project: 3137009506 - Baxter Woods Detention Pond				80,000.00	41,879.69	0.00	0.00	38,120.31
Project: 3137009507 - Penrith Road Erosion Rep								
TOTALS for Project: 3137009507 - Penrith Road Erosion Rep				60,000.00	58,994.37	0.00	0.00	1,005.63
Project: 3137013501 - Deering St Wastewater (13)								
TOTALS for Project: 3137013501 - Deering St Wastewater (13)	0.00	0.00	0.00	690,000.00	117,929.53	0.00	0.00	572,070.47
Project: 3137013502 - Sewer Sys Assessment (13)								
TOTALS for Project: 3137013502 - Sewer Sys Assessment (13)	0.00	0.00	0.00	713,000.00	717,957.41	0.00	0.00	-4,957.41
Project: 3137013504 - Riverside Pump St (13)								
TOTALS for Project: 3137013504 - Riverside Pump St (13)	0.00	0.00	0.00	12,000.00	0.00	0.00	0.00	12,000.00
Project: 3137014503 - Sewer Re-lining (14)								
TOTALS for Project: 3137014503 - Sewer Re-lining (14)				1,000,000.00	1,000,000.00	0.00	0.00	0.00
Project: 3137014504 - Stormwater Outfall Rockland								
TOTALS for Project: 3137014504 - Stormwater Outfall Rockland				315,000.00	306,758.16	0.00	0.00	8,241.84

FOR 01/01/2015 - 12/31/2020

	LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137014505 - Culvert replace Washington					
TOTALS for Project: 3137014505 - Culvert replace Washington	200,000.00	29.08	0.00	0.00	199,970.92
Project: 3137015502 - Capisic Bk Storm Trtmt					
TOTALS for Project: 3137015502 - Capisic Bk Storm Trtmt	1,000,000.00	831,402.14	0.00	0.00	168,597.86
Project: 3137016502 - Capisic Pond Improv (16)					
TOTALS for Project: 3137016502 - Capisic Pond Improv (16)	414,527.00	243,393.27	0.00	0.00	171,133.73
Project: 3137016503 - CMOM Sewer Sys Renewal (16)					
TOTALS for Project: 3137016503 - CMOM Sewer Sys Renewal (16)	1,100,000.00	852,511.35	247,588.65	0.00	-100.00
Project: 3137016504 - CMOM Pump Station Rehab					
TOTALS for Project: 3137016504 - CMOM Pump Station Rehab	0.00	0.00	0.00	0.00	0.00
Project: 3137016505 - Rowe Ave Sewer Sep					
TOTALS for Project: 3137016505 - Rowe Ave Sewer Sep	326,514.00	285,071.35	0.00	0.00	41,442.65
Project: 3137016507 - Gravel Wetland Capisic					
TOTALS for Project: 3137016507 - Gravel Wetland Capisic	175,000.00	8,250.00	0.00	0.00	166,750.00

FOR 01/01/2015 - 12/31/2020

	LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137017501 - CSO Comp Madison Walnut					
TOTALS for Project: 3137017501 - CSO Comp Madison Walnut	2,714,425.00	1,815,937.00	227,562.15	0.00	670,925.85
Project: 3137017502 - CSO Comp Marginal/Forest					
TOTALS for Project: 3137017502 - CSO Comp Marginal/Forest	4,200,000.00	6,255,454.67	0.00	0.00	-2,055,454.67
Project: 3137017503 - CSO Comp Deering Oaks					
TOTALS for Project: 3137017503 - CSO Comp Deering Oaks	300,000.00	438.05	0.00	0.00	299,561.95
Project: 3137017505 - CSO Backflow Prevention					
TOTALS for Project: 3137017505 - CSO Backflow Prevention 0.00 0.00 0.00	25,000.00	0.00	0.00	0.00	25,000.00
Project: 3137017506 - CMOM Sewer System Renewal					
TOTALS for Project: 3137017506 - CMOM Sewer System Renewal	1,100,000.00	30,389.70	581,933.18	67,575.00	420,102.12
Project: 3137017507 - CMOM Pump Station Rehab FY17					
TOTALS for Project: 3137017507 - CMOM Pump Station Rehab FY17	1,100,000.00	0.00	0.00	0.00	1,100,000.00
Project: 3137017508 - CMOM I&I FY17					
TOTALS for Project: 3137017508 - CMOM I&I FY17	750,000.00	750,000.00	0.00	0.00	0.00

FOR 01/01/2015 - 12/31/2020

						LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137017511 - Rand Rd Culvert Emery Drive										
TOTALS for Project: 3137017511 - Rand Rd Culvert Emery Drive						90,000.00	15,293.76	32,806.24	0.00	41,900.00
Project: 3137017512 - PACTS Danforth ST Paving										
TOTALS for Project: 3137017512 - PACTS Danforth ST Paving	0.00	0.00	0.00			14,000.00	7,599.88	0.00	0.00	6,400.12
Project: 3137017513 - MDOT Art Pav Riverside										
TOTALS for Project: 3137017513 - MDOT Art Pav Riverside						41,000.00	6,086.82	0.00	0.00	34,913.18
Project: 3137018105 - CSO - SRF Ineligible (18)										
TOTALS for Project: 3137018105 - CSO - SRF Ineligible (18)						600,000.00	311,993.17	255,020.31	0.00	32,986.52
Project: 3137018502 - CMOM FY18 Sewer System										
TOTALS for Project: 3137018502 - CMOM FY18 Sewer System						1,100,000.00	29,946.00	9,739.00	0.00	1,060,315.00
Project: 3137018504 - Engineering - Water Resources										
TOTALS for Project: 3137018504 - Engineering - Water Resources						300,000.00	279,509.32	11,488.77	0.00	9,001.91
Project: 3137018505 - Morrill's Corner Sewer										
TOTALS for Project: 3137018505 - Morrill's Corner Sewer	0.00	0.00	0.00			250,000.00	0.00	0.00	0.00	250,000.00

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137018506 - East Waterfront Extension							
TOTALS for Project: 3137018506 - East Waterfront Extension			154,850.00	149,420.54	30,811.77	0.00	-25,382.31
Project: 3137018507 - Intergrated Planning LTCP							
TOTALS for Project: 3137018507 - Intergrated Planning LTCP			1,000,000.00	1,000,053.48	0.00	0.00	-53.48
Project: 3137018511 - Peaks Isl Green Infrastructure							
TOTALS for Project: 3137018511 - Peaks Isl Green Infrastructure							
0.00	0.00	0.00	50,000.00	0.00	0.00	0.00	50,000.00
Project: 3137018512 - Green Infrastructure (18)							
TOTALS for Project: 3137018512 - Green Infrastructure (18)			200,000.00	0.00	49,295.00	0.00	150,705.00
Project: 3137018513 - Smart Cover Sys							
TOTALS for Project: 3137018513 - Smart Cover Sys							
0.00	0.00	0.00	45,000.00	46,461.00	0.00	0.00	-1,461.00
Project: 3137018514 - Pole Camera (18)							
TOTALS for Project: 3137018514 - Pole Camera (18)							
0.00	0.00	0.00	20,000.00	0.00	0.00	0.00	20,000.00
Project: 3137018515 - Veranda Pav Ineligibles							
TOTALS for Project: 3137018515 - Veranda Pav Ineligibles							
0.00	0.00	0.00	18,000.00	0.00	0.00	0.00	18,000.00

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137019201 - CSO SRF Ineligibles (19)							
TOTALS for Project: 3137019201 - CSO SRF Ineligibles (19)			600,000.00	27,885.28	0.00	572,114.72	0.00
Project: 3137019501 - Bedford St Sewer Sep							
TOTALS for Project: 3137019501 - Bedford St Sewer Sep							
0.00	0.00	0.00	8,500,000.00	0.00	0.00	0.00	8,500,000.00
Project: 3137019503 - CMOM I & I Prog (19)							
TOTALS for Project: 3137019503 - CMOM I & I Prog (19)							
0.00	0.00	0.00	790,000.00	390,311.51	399,688.49	0.00	0.00
Project: 3137019504 - CMOM Sewer Sys Renewal							
TOTALS for Project: 3137019504 - CMOM Sewer Sys Renewal							
0.00	0.00	0.00	1,100,000.00	0.00	0.00	0.00	1,100,000.00
Project: 3137019505 - CSO - Close CSO #42							
TOTALS for Project: 3137019505 - CSO - Close CSO #42							
0.00	0.00	0.00	100,000.00	0.00	0.00	0.00	100,000.00
Project: 3137019506 - Warren-Hicks/Hemingwy Sep (19)							
TOTALS for Project: 3137019506 - Warren-Hicks/Hemingwy Sep (19)							
0.00	0.00	0.00	400,000.00	0.00	0.00	0.00	400,000.00
Project: 3137019507 - Forest-Avalon/Warren Sep							
TOTALS for Project: 3137019507 - Forest-Avalon/Warren Sep							
0.00	0.00	0.00	250,000.00	0.00	0.00	0.00	250,000.00

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137019508 - Int Plan LTCP/Monitoring							
TOTALS for Project: 3137019508 - Int Plan LTCP/Monitoring							
0.00	0.00	0.00	400,000.00	400,000.00	0.00	0.00	0.00
Project: 3137019509 - Brighton-Dorset/Lomond So							
TOTALS for Project: 3137019509 - Brighton-Dorset/Lomond So							
			1,000,000.00	5,910.08	0.00	0.00	994,089.92
Project: 3137019510 - Thames SW Outfall C19510							
TOTALS for Project: 3137019510 - Thames SW Outfall C19510							
0.00	0.00	0.00	150,000.00	150,000.00	0.00	0.00	0.00
Project: 3137019511 - Thames SW/Sew ext C19511							
TOTALS for Project: 3137019511 - Thames SW/Sew ext C19511							
0.00	0.00	0.00	225,000.00	224,426.50	573.50	0.00	0.00
Project: 3137019512 - Pavement Preservation Utility							
TOTALS for Project: 3137019512 - Pavement Preservation Utility							
0.00	0.00	0.00	200,000.00	29,260.00	8,740.00	0.00	162,000.00
Project: 3137019514 - Street Rehab Utility Cost							
TOTALS for Project: 3137019514 - Street Rehab Utility Cost							
0.00	0.00	0.00	800,000.00	0.00	0.00	0.00	800,000.00
Project: 3137019515 - PACTS Paving Ineligible Utilit							
TOTALS for Project: 3137019515 - PACTS Paving Ineligible Utilit							
0.00	0.00	0.00	30,000.00	0.00	0.00	0.00	30,000.00

FOR 01/01/2015 - 12/31/2020

				LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137019516 - Pump St 109 District Rd								
TOTALS for Project: 3137019516 - Pump St 109 District Rd				120,000.00	22,346.00	2,000.00	95,654.00	0.00
Project: 3137019517 - Storm Retro - Riverside Street								
TOTALS for Project: 3137019517 - Storm Retro - Riverside Street	0.00	0.00	0.00	185,000.00	0.00	0.00	0.00	185,000.00
Project: 3137019518 - Bell St Sewer Repl								
TOTALS for Project: 3137019518 - Bell St Sewer Repl				350,000.00	6,102.75	0.00	0.00	343,897.25
Project: 3137118508 - Stormwater Infrastructure (18)								
TOTALS for Project: 3137118508 - Stormwater Infrastructure (18)				200,000.00	30,704.44	28,054.06	169,526.50	-28,285.00
Project: 3137118510 - Franklin St Storm Drain								
TOTALS for Project: 3137118510 - Franklin St Storm Drain				300,000.00	147,920.26	116,823.53	0.00	35,256.21
Project: 3137119519 - Stormwater Infrastructure Impr								
TOTALS for Project: 3137119519 - Stormwater Infrastructure Impr	0.00	0.00	0.00	272,000.00	13,618.00	890.00	124,365.18	133,126.82
Project: 3137517503 - CSO Comp Deering Oaks								
TOTALS for Project: 3137517503 - CSO Comp Deering Oaks	0.00	0.00	0.00	300,000.00	0.00	0.00	0.00	300,000.00

FOR 01/01/2015 - 12/31/2020

	LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3137517504 - CSO Comp Woodfords/Hershey					
TOTALS for Project: 3137517504 - CSO Comp Woodfords/Hershey	3,600,000.00	2,171,723.20	36,388.20	0.00	1,391,888.60
Project: 31375M1009 - CSO Prelim Eng (10)					
TOTALS for Project: 31375M1009 - CSO Prelim Eng (10)	871,684.00	876,225.27	0.00	0.00	-4,541.27
Project: 31375M1108 - CSO Prelim Eng MM1108					
TOTALS for Project: 31375M1108 - CSO Prelim Eng MM1108	1,738,358.00	1,738,648.99	0.00	0.00	-290.99
Project: 31375M1205 - Prelim Engineering (MM12)					
TOTALS for Project: 31375M1205 - Prelim Engineering (MM12)	418,848.00	418,849.69	0.00	0.00	-1.69
Project: 31375M1301 - Back Cove So Storage					
TOTALS for Project: 31375M1301 - Back Cove So Storage	0.00	0.00	0.00	24,000,000.00	-24,000,000.00
Project: 31375M1302 - MM1302 Back Cove Storage					
TOTALS for Project: 31375M1302 - MM1302 Back Cove Storage	0.00	0.00	0.00	0.00	0.00
Project: 31375M1307 - Morse St Sewer					
TOTALS for Project: 31375M1307 - Morse St Sewer	2,550,000.00	1,965,849.27	0.00	0.00	584,150.73

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 31375M1308 - Anderson St Sewer							
TOTALS for Project: 31375M1308 - Anderson St Sewer			2,600,000.00	1,683,139.53	0.00	0.00	916,860.47
Project: 31375M1309 - Deering St Sewer							
TOTALS for Project: 31375M1309 - Deering St Sewer			1,650,000.00	1,095,920.53	0.00	0.00	554,079.47
Project: 31375M1310 - Bedford St Sewer							
TOTALS for Project: 31375M1310 - Bedford St Sewer			6,500,000.00	5,180,400.94	754,256.61	0.00	565,342.45
Project: 31375M1311 - Preble St Sewer							
TOTALS for Project: 31375M1311 - Preble St Sewer			4,800,000.00	4,219,471.60	1,261,930.41	0.00	-681,402.01
Project: 31375M1312 - Preliminary Engineering CSO Pr							
TOTALS for Project: 31375M1312 - Preliminary Engineering CSO Pr	0.00	0.00	0.00 2,057,021.42	669,082.51	962,142.07	0.00	425,796.84
Project: 3137Y19513 - C19513							
TOTALS for Project: 3137Y19513 - C19513	0.00	0.00	0.00 127,050.00	21,250.00	0.00	0.00	105,800.00
Project: 3157015501 - CMOM SS RENEWAL							
TOTALS for Project: 3157015501 - CMOM SS RENEWAL			923,453.92	1,086,642.68	0.00	0.00	-163,188.76

FOR 01/01/2015 - 12/31/2020

				LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: 3157017514 - MPI Paving fy17 Sewer								
TOTALS for Project: 3157017514 - MPI Paving fy17 Sewer								
0.00	0.00	0.00		51,750.00	0.00	0.00	0.00	51,750.00
Project: 3157018114 - CSO Inel fy13								
TOTALS for Project: 3157018114 - CSO Inel fy13				500,000.00	444,674.00	55,326.00	0.00	0.00
Project: 3157018570 - SEWER ENGINEER PAYROLL								
TOTALS for Project: 3157018570 - SEWER ENGINEER PAYROLL				0.00	27,674.10	0.00	0.00	-27,674.10
Project: 3157116506 - Stormwater Storage Sagamore								
TOTALS for Project: 3157116506 - Stormwater Storage Sagamore				120,000.00	51,910.70	-23,932.50	0.00	92,021.80
Project: 3157117510 - SW Infra Failure repairs								
TOTALS for Project: 3157117510 - SW Infra Failure repairs				200,000.00	200,000.00	0.00	0.00	0.00
Project: 3157118571 - STORMWATER ENGINEER PAYRO								
TOTALS for Project: 3157118571 - STORMWATER ENGINEER PAYRO								
0.00	0.00	0.00		0.00	3,261.63	0.00	0.00	-3,261.63
Project: 3157C18502 - CMOM FY18 SS Renew								
TOTALS for Project: 3157C18502 - CMOM FY18 SS Renew								
0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00

City of Portland, ME

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: C20303 - Compass Park Pile/Pier Work							
TOTALS for Project: C20303 - Compass Park Pile/Pier Work							
0.00	0.00	0.00	100,000.00	0.00	100,000.00	0.00	0.00
Project: C20304 - Stroudwater Dam							
TOTALS for Project: C20304 - Stroudwater Dam							
0.00	0.00	0.00	50,000.00	0.00	0.00	0.00	50,000.00
Project: C20504 - Sagamore Village Green Infrast							
TOTALS for Project: C20504 - Sagamore Village Green Infrast							
0.00	0.00	0.00	40,000.00	0.00	0.00	0.00	40,000.00
Project: C20505 - Thames St Stormwater Outfall							
TOTALS for Project: C20505 - Thames St Stormwater Outfall							
			950,000.00	796,865.87	56,976.93	0.00	96,157.20
Project: C20506 - Riverton Culvert Replacement							
TOTALS for Project: C20506 - Riverton Culvert Replacement							
			900,000.00	4,240.97	0.00	0.00	895,759.03
Project: C20507 - Stormwater Infrastructure Impr							
TOTALS for Project: C20507 - Stormwater Infrastructure Impr							
0.00	0.00	0.00	750,000.00	0.00	0.00	550,000.00	200,000.00
Project: C20508 - CWSRF Back Cove South Storage							
TOTALS for Project: C20508 - CWSRF Back Cove South Storage							
0.00	0.00	0.00	3,500,000.00	0.00	0.00	0.00	3,500,000.00

City of Portland, ME

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: C20509 - CWSRF Mackworth & Ocean Ave							
TOTALS for Project: C20509 - CWSRF Mackworth & Ocean Ave							
0.00	0.00	0.00	6,000,000.00	0.00	0.00	5,702,660.00	297,340.00
Project: C20510 - CWSRF Preble & Somerset Sewer							
TOTALS for Project: C20510 - CWSRF Preble & Somerset Sewer							
0.00	0.00	0.00	4,800,000.00	0.00	0.00	0.00	4,800,000.00
Project: C20511 - CMOM Pump Station Rehab							
TOTALS for Project: C20511 - CMOM Pump Station Rehab							
			2,000,000.00	1,109,387.24	0.00	210,746.00	679,866.76
Project: C20512 - CMOM Sewer System Renewal							
TOTALS for Project: C20512 - CMOM Sewer System Renewal							
0.00	0.00	0.00	1,100,000.00	0.00	0.00	0.00	1,100,000.00
Project: C20513 - Close CSO 42							
TOTALS for Project: C20513 - Close CSO 42							
0.00	0.00	0.00	250,000.00	0.00	0.00	0.00	250,000.00
Project: C20514 - PACTS USM Roundabout Sewer Sep							
TOTALS for Project: C20514 - PACTS USM Roundabout Sewer Sep							
0.00	0.00	0.00	500,000.00	0.00	0.00	500,000.00	0.00
Project: C20515 - Monument Way & Square Sewer/St							
TOTALS for Project: C20515 - Monument Way & Square Sewer/St							
0.00	0.00	0.00	100,000.00	0.00	0.00	0.00	100,000.00

City of Portland, ME

FOR 01/01/2015 - 12/31/2020

			LTD Revised Budget	LTD Actual Expenditures	Encumbrances	Requisitions	LTD Available Budget
Project: C20516 - Integrated Plan LTCP & Post Co							
TOTALS for Project: C20516 - Integrated Plan LTCP & Post Co							
0.00	0.00	0.00	1,100,000.00	395,905.70	704,094.30	0.00	0.00
Project: C20517 - Fore Street Sewer Separation							
TOTALS for Project: C20517 - Fore Street Sewer Separation			100,000.00	61,140.00	38,860.00	0.00	0.00
Project: C20518 - Pearl Street Sewer Repl							
TOTALS for Project: C20518 - Pearl Street Sewer Repl			200,000.00	0.00	0.00	175,000.00	25,000.00
Project: C20519 - Non-SRF Sewer/Storm Consulting							
TOTALS for Project: C20519 - Non-SRF Sewer/Storm Consulting			500,000.00	225,499.61	49,695.81	0.00	224,804.58
Project: C20B01 - Fire Station Rehab							
TOTALS for Project: C20B01 - Fire Station Rehab			300,000.00	233,621.45	89,984.50	0.00	-23,605.95
Project: C20B02 - Bramhall Station Sprinkler Fee							
TOTALS for Project: C20B02 - Bramhall Station Sprinkler Fee							
0.00	0.00	0.00	160,000.00	45,299.15	12,626.10	0.00	102,074.75
Project: C20B06 - Spring St Garage Steel Beam Re							
TOTALS for Project: C20B06 - Spring St Garage Steel Beam Re			290,000.00	55,261.70	299,444.50	0.00	-64,706.20

Appendix D – Inflow and Infiltration Program Reports

TECHNICAL MEMO

Arcadis U.S., Inc.
500 Edgewater Drive
Suite 511
Wakefield
Massachusetts 01880
Tel 781 224 4488
Fax

To:

Benjamin Pearson, PE
Compliance Coordinator
Department of Public Works
City of Portland, ME

Copies:

Scott Haynes, PE, Arcadis

From:

Amy Anderson, Arcadis

Date:

Thursday, January 9, 2020

Arcadis Project No.:

26980001.0000

Subject:

City of Portland, Maine – Department of Public Works
Planning and Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System –Progress Report

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This progress report summarizes the work completed to date on the Planning and Engineering Services for the Infiltration and Inflow Program of the Sanitary Sewer System for the City of Portland, Maine. This progress report also includes information on the project budget and schedule.

Overall, the project is on schedule and within budget. While the contract duration is approximately 78% expired, through December 2019, we have billed approximately 79% of the Total Contract Fee.

Task 1 – Project Management

Task 1 includes project management throughout the three-year contract duration and includes: coordination and meetings with the City of Portland and other City entities, stakeholders, staff and subcontractors, presentations to the City at the completion of each task or key milestone, scheduling and management of staff resources, quality assurance/quality control, budgeting, cost controls and monthly billing, progress reports and development and enforcement of a project-specific Health and Safety Plan. Task 1 deliverables include meeting agendas and meeting minutes, Health and Safety Plan, progress reports, schedules and budget updates, presentation to the City annually or at the completion of key milestone tasks, and updates and suggested budgets for anticipated, related work and costs to be incurred as required to complete the services under the I/I program. ***Task 1 is ongoing and currently on schedule and on budget. Through December 2019, we have billed approximately 45% of this Task's original budget.***

Task 2 – Kickoff Workshop, Data Gathering, Public Participation

Task 2 includes a Kickoff Workshop, data gathering and public participation meetings and coordination over the three-year contract term. Task 2 key deliverables include a meeting agenda and goals for the Kickoff Workshop, summary of Kickoff Workshop discussions, notifications and other coordination with the public or with private property owners, public participation agendas and sample public information notices and bulletins for the City to disseminate through the City website.

At the project Kickoff Workshop on May 16, 2017, all facets of the project were discussed, including establishment of project goals and schedule for initiation and completion of all tasks. Data gathering took place mostly over the first two months of the project and continues on an as needed basis. Public participation has not yet begun, but Arcadis is prepared to discuss with the City the best way to initiate public notification and involvement. ***Task 2 is ongoing and currently on schedule and on budget. Through December 2019, we have billed approximately 81% of this Task's original.***

Task 3 – Data Gap Analysis

Task 3 includes utilizing Arcadis Data Profiler to complete a gap analysis of the City's GIS and prepare a GIS Gap Analysis report for the City. Task 3 also includes an evaluation of the City's hydraulic model to determine if the modeled network should be expanded and if the model should be re-calibrated. ***Task 3 is essentially complete. Final versions of the "GIS Gap Analysis Report" and the "Hydraulic Model Gap Analysis Letter Report" were delivered to the City on November 5, 2018 and have been uploaded to the project Sharepoint website. Through December 2019, we have billed approximately 81% of this Task's original budget.***

Task 4 – Flow Monitoring Program

The scope of services under Task 4 includes the development and implementation of a flow monitoring program, including the installation, maintenance and monitoring of 40 flow meters (over a two-year program) for a period of 12 weeks; installation of one permanent groundwater gauge and one rain gauge; and monitoring of additional gauges which already exist within the City. Task 4 includes engineering analysis of flow data, including the calculation of average daily flow, peak daily flow and peak hourly flow for each meter area. Task 4 key deliverables include meeting with the City to discuss the flow monitoring program strategy and implementation; and an annual "Flow Monitoring Letter Report" with findings, results and SSES recommendations. ***Task 4 is complete. Through December 2019, we have billed approximately 123% of this Task's original budget. While this task was expanded somewhat from the original scope and required a greater level of effort than originally planned, the overall project is on target to be completed withing the total project budget, since a lesser level of effort is anticipated for the remaining tasks.***

The following is a summary of completed flow monitoring program activities:

Completed in 2018:

- Development of 20 flow meter subareas throughout the City. This was done by Arcadis based with input from the City of Portland's engineering department and DPW.
- Installation, maintenance and monitoring of 20 flow meters by Flow Assessment Services. Flow meters were installed from March 7, 2018 – July 9, 2018 for a total of 16 weeks.
    - Meters were installed in sub-areas 1, 2, 3, 4, 5, 7, 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 28 and 29.

- Two rain gauges (one more than was originally planned) were installed at the Fore River Pump Station and the Riverton Fire Station. Rain gauge data was supplemented with data from the Riverside Pump Station for the infiltration and inflow analysis.
- Two permanent groundwater gauges were installed (one more than was originally planned). One groundwater gauge located at the intersection of Martin Street and Bartley Street and the other is located on Leland Street at Baxter Pines Trail Head.
- An Infiltration and inflow analysis was performed on the 16 weeks of flow data for each of the 20 meter areas (4 more weeks than originally planned). The analysis included calculation of average daily flow, peak daily flow, base infiltration, rainfall induced infiltration and inflow. Infiltration was calculated based on gallons per day per LF as well as gallons per day per inch-diameter mile.
- High infiltration and inflow sub-areas were established and SSES recommendations were developed. Recommendations were developed based on flow metering results as well as data provided by the City – known problem areas, segments previously televised, and upcoming rehabilitation plans.
- Preliminary meter areas for 2019 were developed based on 2018 flow meter results and areas not included in the 2018 metering program.
- Submission of the "Phase 1 Investigation of Flows – 2018 Monitoring Report" in December 2018.

Completed in 2019:

- Development of 15 flow meter subareas throughout the City (utilizing 20 total meters). This was done by Arcadis based with input from the City of Portland's engineering department and DPW. This brings the total project to deployment and operation of 40 flow meters.
- Installation, maintenance and monitoring of 20 flow meters by Flow Assessment Services. Flow meters were installed from February 15, 2019 through May 31, 2019 for a total of 16 weeks.
    - Meters were installed in sub-areas 6, 10, 11, 12, 23, 23A, 24, 24A, 25, 26, 26A, 27, 27A, 30 and 31.
- Two rain gauges were installed at the Allen Ave Fire Station and the Ocean Ave Fire Station (one more than was originally planned). Rain gauge data was supplemented with data from the Riverside Pump Station for the infiltration and inflow analysis.
- An Infiltration and inflow analysis was performed on the 16 weeks of flow data for each of the 20 meter areas (4 more weeks than originally planned). The analysis included calculation of average daily flow, peak daily flow, base infiltration, rainfall induced infiltration and inflow. Infiltration was calculated based on gallons per day per LF as well as gallons per day per inch-diameter mile.
- High infiltration and inflow sub-areas were established and SSES recommendations were developed. Recommendations were developed based on flow metering results as well as data provided by the City – known problem areas, segments previously televised, and upcoming rehabilitation plans.
- Submission of the "Phase 1 Investigation of Flows – 2019 Monitoring Report" in December 2019.

<u>Task 5 – Investigation of Major I/I Sources – Sewer System Evaluation Survey (SSES)</u>

Task 5 includes the development and implementation of a collection system I/I investigation strategy that includes flow isolation, closed circuit television (CCTV) inspections, manhole inspections, smoke testing, dye testing, building inspection as appropriate to identify major sources of I/I. ***Task 5 began in***

the Fall of 2018 and is ongoing. This task is currently on schedule and within budget. Through December 2019, we have billed approximately 90% of this Task's original budget.

Completed in 2019

- Completed SSES investigations include:
    - 315,087 LF of Flow Isolation (complete)
    - 103,441 LF of CCTV (ongoing)
    - 938 Manhole Inspections (complete)
    - 119,244 LF of Smoke Testing (complete)
- Submission of the "Phase 2 – Identification of Major Infiltration and Inflow Sources" Report, delivered to the City in June 2019.

Upcoming Activities

- CCTV and engineering review of pipeline inspection data is ongoing and is expected to be completed in the Spring of 2020.
- Large building inspections and dye testing will be conducted in the Winter of 2020.

Task 6 – Wastewater Collection System Analysis and Action Plan

Task 6 includes the development of a "Wastewater Collection System Analysis and Action Plan" Report and a presentation of Final Report and recommendations to the city. ***This task is 4% complete. It is anticipated that this task will be complete in the Spring of 2020.***

Schedule

A revised project schedule is attached to this progress report.

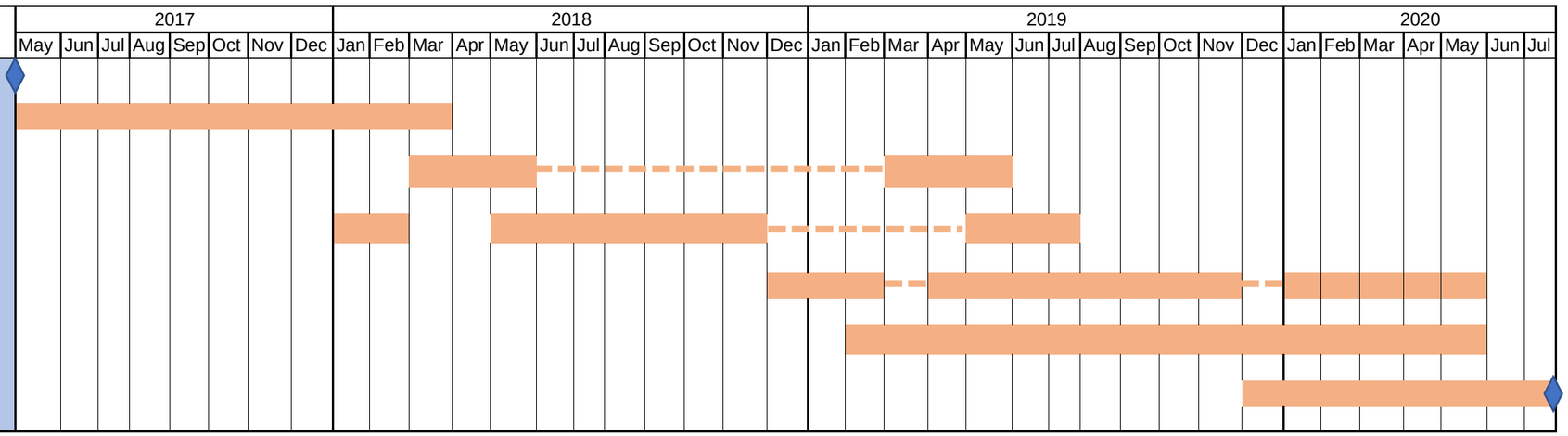
City of Portland, ME

Planning and Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

PROJECT SCHEDULE

Updated January 2020

ID	Task Name
1	Execute Contract for I/I Program
2	Data Gathering and Gap Analysis
3	Flow Monitoring Program
4	Selection of meter areas, analysis of flow data, I/I source identification, select SSES Activities
5	Conduct SSES activities in high priority I/I areas
6	Identification of I/I rehabilitation needs
7	Draft and Final "Wastewater Collection System Analysis and Action Plan" Report



ARCADIS

CITY OF PORTLAND

Department of Public Works Christopher
C. Branch, P.E., Director

Via Electronic Mail
December 24, 2019

Mr. Alex Rosenberg, Compliance Officer
Office of Environmental Stewardship
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Re: Inflow and Infiltration Phase 1 Report – 2019 Flow Monitoring

Dear Mr. Rosenberg:

As required in the Administrative Order Docket Number CWA-R1-AO-12-009, the City of Portland (City) is hereby submitting this Inflow and Infiltration Phase 1 Report for flow monitoring completed in 2019 as part of the Inflow and Infiltration Program. The Inflow and Infiltration Program was awarded to Arcadis through a Request for Qualification based process in May of 2017 and is currently on schedule for completion by June 2020 per a granted extension to allow for additional investigations to be completed and incorporated into short and long term sewer rehabilitation plans.

The attached report summarizes the results of the flow monitoring completed in 2019. The 15 sub-areas monitored in 2019 are in addition to the 20 sub-areas reported lasted year for a total of 35 sub-areas monitored throughout the Inflow and Infiltration Program. The report provides recommendations for Phase 2 Identification of Major Inflow and Infiltration Sources sewer investigations including flow isolation, CCTV inspection, smoke testing, and manhole inspections.

To date, the following Phase 2 investigations have been completed based on the 2018 and 2019 flow monitoring report recommendations for sub-areas determined to have more than 4,000 infiltration gallons per day per inch diameter/mile:

Total flow isolation (lf) = 315,087
Total CCTV inspection (lf) = 103,411
Total smoke testing (lf) = 119,244
Total manhole inspections = 938

In 2020, Arcadis, Ted Berry Company, and Flow Assessment will complete additional CCTV inspections, building inspections, and dye testing to complete the recommended investigations.

12 Canco Road, Ste B • Portland, ME 04103 • 207-874-8801 cbranch@portlandmaine.gov • www.portlandmaine.gov

The City continues to look forward to working with Arcadis and its subcontractors to identify sources of Inflow and Infiltration throughout the collection system. Should you have any questions or want to discuss this report or the program in general, please reach out to me at your convenience.

Thank you,

Benjamin Pearson

Benjamin N. Pearson, PE
Compliance Coordinator
Water Resources Division, Department of Public Works
bnp@portlandmaine.gov
207-874-8843

City of Portland, Maine

PHASE 1 INVESTIGATION OF FLOWS – 2019 MONITORING PROGRAM

DECEMBER 2019

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EXECUTIVE SUMMARY

On September 29, 2012, the United States Environmental Protection Agency (US EPA) issued an Order for Compliance and Complaint to the City of Portland for sanitary sewer overflows (SSOs) from non-permitted portions of the City's sanitary sewer collection system. In accordance with that Order, the City completed a "Capacity, Management, Operation and Maintenance (CMOM) and Corrective Action Plan" Report in November of 2013. The recommendations of the CMOM Report included an Infiltration/Inflow (I/I) Removal and Monitoring Program.

This report summarizes the results of the Phase 1 - 2019 Flow Monitoring Program and provides recommendations for Phase 2 - Identification of Major I/I Sources. The 2019 Flow Monitoring Program was the second of a two-phase program. In conjunction with the implementation of the flow monitoring program, this report includes engineering analysis of flow data, including calculation of average daily flow, peak daily flow and peak hourly flow, and estimation of infiltration and inflow for each sub-area. Meter areas were evaluated and ranked by quantities of infiltration and inflow, and follow-on investigation recommendations were developed based on these evaluations and rankings.

This two-phase flow monitoring program includes installation, maintenance and monitoring of 40 flow meters over 2 successive spring periods. This report summarizes the results of the second 20 meters. The first set of meters were installed in Spring of 2018. The program was planned as a 2-year program to allow for potentially unfavorable weather conditions (low precipitation or groundwater), the ability to meter small subsections of each sub-area in Year 2 (as established by the first year of data), and time to allow for corrections to the City's collection system mapping and pipeline connectivity. The results and recommendations for the 2018 flow monitoring period were summarized in the "Phase 1 – 2018 Flow Monitoring Report", dated December 2018.

Results and Recommendations

Based on the 2019 flow metering results, summarized in Section 3.1 of this report, and ongoing sewer system evaluation survey (SSES) investigations, Phase 2 follow on recommendations were developed. Recommendations, as detailed in Section 3 of this Report, include:

- Flow isolation of 120,377 linear feet (LF) of pipe (based on 2019 flow metering results)
- Four hundred and sixty-seven (467) manhole inspections (based on 2019 flow metering results)
- Smoke testing of 119,244 linear feet (LF) of pipe (based on 2018 and 2019 flow metering results)
- Follow up building inspections and dyed water testing

Individual sub-area maps showing follow-on SSES recommendations are included in Appendix C of this report.

In accordance with the Spring 2019 flow metering results, flow isolation was completed in June 2019, manhole inspections were completed in September 2019, and smoke testing was completed in October 2019.

CCTV investigations to identify infiltration is currently ongoing. Large building inspections will be conducted during the winter of 2020, and dye testing will be used to confirm suspected direct inflow sources identified during smoke testing and large building inspections. Follow-on cost-effective sewer system rehabilitation and renewal recommendations will be developed for the removal of I/I and will be

presented in the “Wastewater Collection System Analysis and Action Plan”, scheduled to be finalized in June 2020.

1 INTRODUCTION

1.1 Scope of Work

On September 29, 2012, the EPA issued an Order for Compliance and Complaint, including a proposed civil penalty, for sanitary sewer overflows (SSOs) from non-permitted portions of the City of Portland's collection system. In accordance with that Order, the City completed a "Capacity, Management, Operation and Maintenance (CMOM) and Corrective Action Plan" Report in November of 2013. The recommendations of the CMOM Report included an Infiltration/Inflow (I/I) Removal and Monitoring Program, as well as improvements to the City's collection system GIS mapping. This I/I Program addresses those recommendations and sets the course for I/I mitigation and the City of Portland's continuing efforts to abate SSOs from the sanitary sewer collection system.

This report summarizes the results of the 2019 Flow Monitoring Program, the second phase of a comprehensive flow monitoring program, and provides recommendations for the continuation of Phase 2 – Identification of Major I/I Sources. Phase 1 includes development of a flow monitoring strategy that includes:

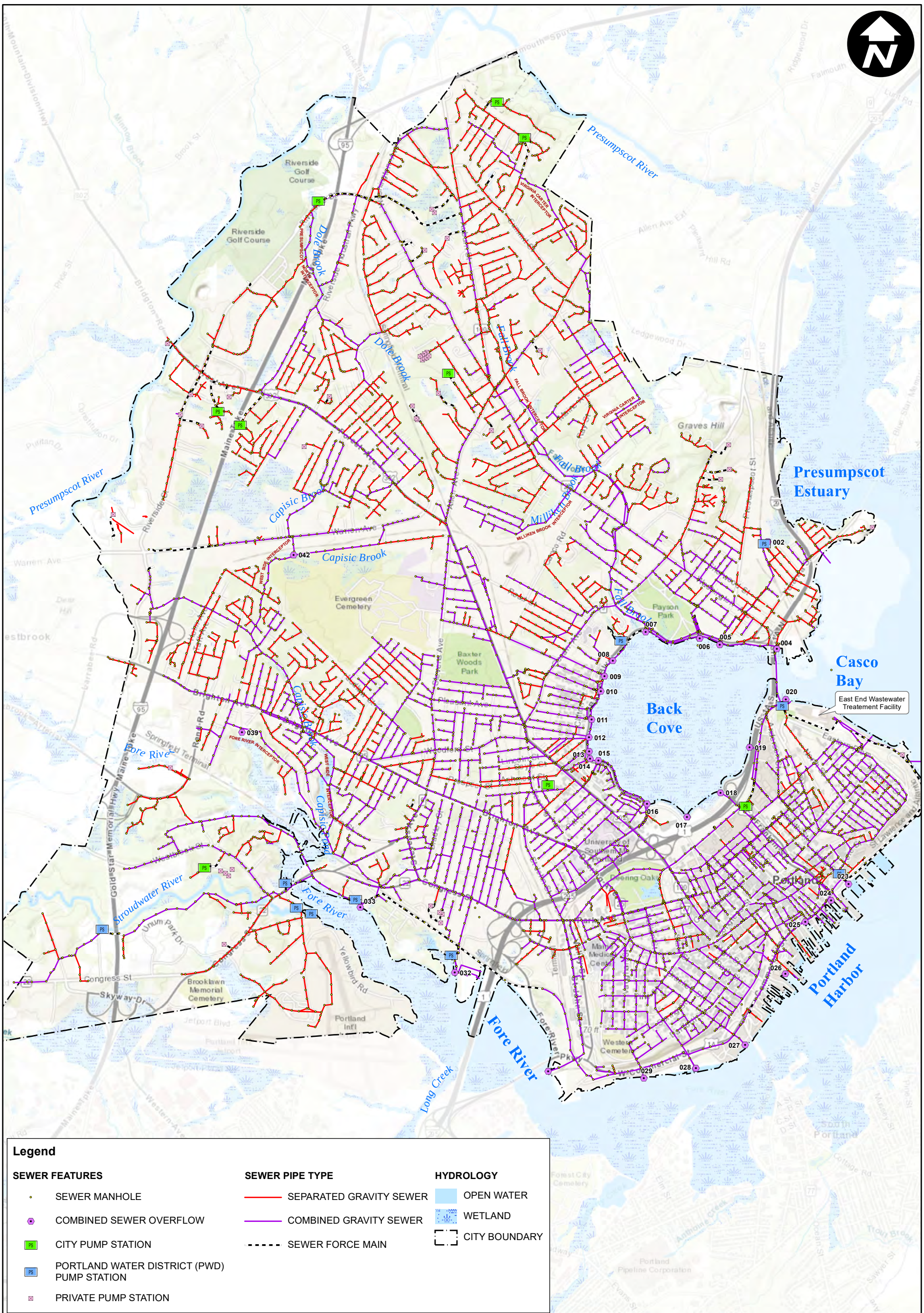
- review of recommended meter sites from the CMOM report
- identification, field verification and recommendation of other suitable sites
- installation of flow monitoring equipment and data collection;
- maintenance procedures for the flow monitoring equipment.

In conjunction with implementation of the flow monitoring program, the 2019 Flow Monitoring Program presents an engineering analysis of flow data, including the calculation of average daily flows, peak daily flows, and peak hourly flows, and estimates of infiltration and inflow for each sub-area. Sub-areas were ranked by quantity of infiltration and inflow and follow-on investigation recommendations were developed based on these analyses and rankings.

This two-phase flow monitoring program includes installation, maintenance and monitoring of 40 flow meters over a period of 2 successive Springs. This report summarizes the results of the second 20 meters. The first 20 meters were installed in Spring of 2018. The program was planned as a 2-year program to allow for potentially unfavorable weather conditions (low precipitation or groundwater), the ability to meter small subsections of each sub-area in Year 2 (as established by the first year of data), and time to allow for corrections to the City's collection system mapping and pipeline connectivity. The results and recommendations for the 2018 flow monitoring period were summarized in the "Phase 1 – 2018 Flow Monitoring Report", dated December 2018.

1.2 Collection System Background and Description

The City of Portland's wastewater collection system, shown on Figure 1, contains approximately 240 miles of separated and combined sewers and 24 pump stations, 9 of which are owned and operated by the City with the remaining 15 either privately owned or owned and operated by the Portland Water District. The collection system and pump stations convey wastewater to the East End Wastewater Treatment Facility (WWTF) in Portland, which is owned and operated by the Portland Water District.



THE CITY OF PORTLAND, MAINE

Phase 1: Investigation of Flows - 2019 Monitoring

0 0.25 0.5 1 Miles

December 2019

FIGURE 1 - CITY OF PORTLAND COLLECTION SYSTEM MAP

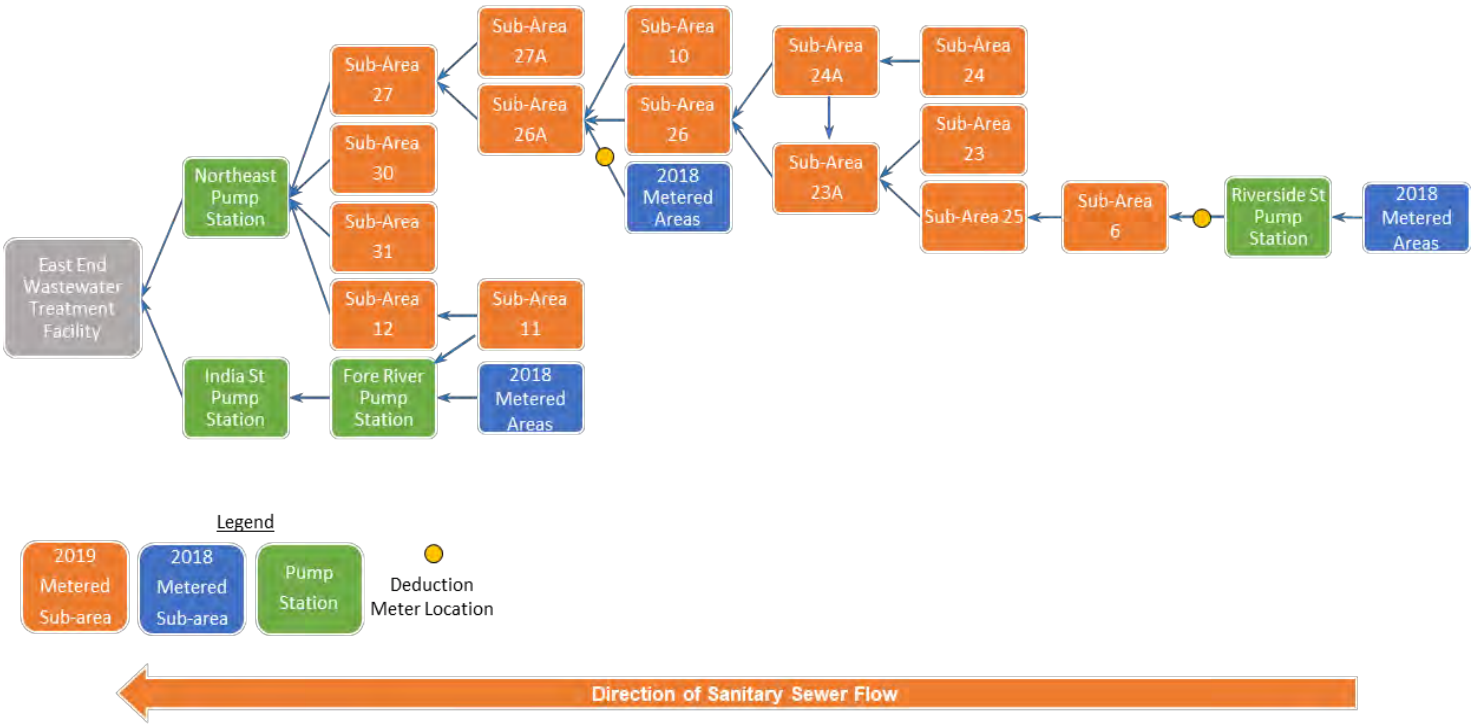
ARCADIS Design & Consultancy for natural and built assets

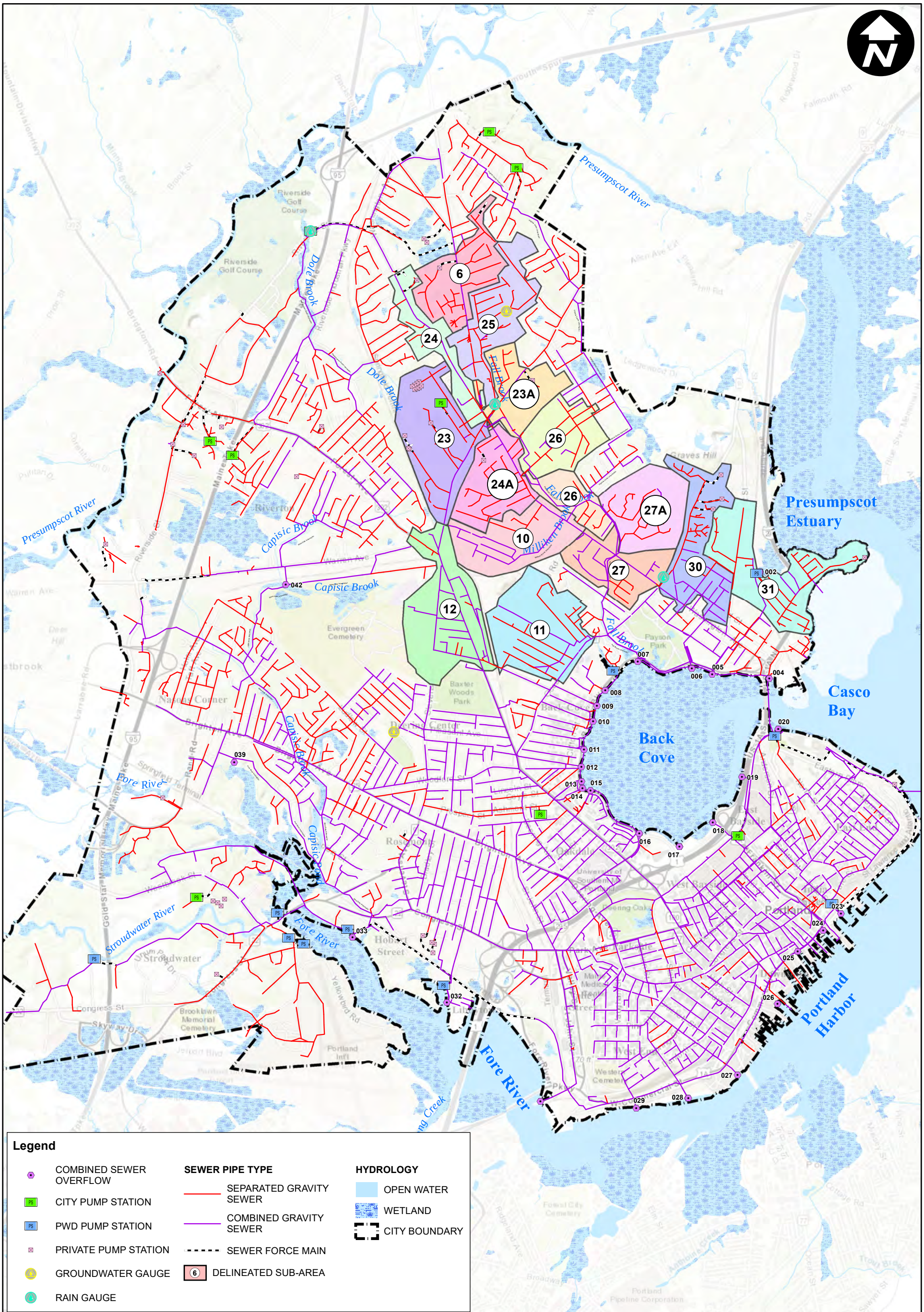
G:\GIS\Portland\2019 I-I Report\FIGURE 1 - CITYWIDE SANITARY SEWER SYSTEM.mxd

1.3 Sub-Area Delineation

The second phase of the metering program included the delineation of 15 sub-areas within the City and deployment of 20 meters. Due to the extent of combined sewers in the downtown area of Portland and on-going sewer separation efforts already in progress for those combined areas, efforts for this study were focused on the north and west areas of the City. Prioritization of meter areas was based on recent and on-going flow monitoring and CCTV data; historic and recently discovered problem areas where backups, surcharging and overflows occurred; areas tributary to known problem areas; areas where the hydraulic model identified potential I/I capacity issues; and areas near water bodies that could be contributing I/I to the system. Figure 2 shows a flow vector diagram for the 15 sub-areas included in the metering program. The flow vector diagram is a visual representation of tributary flow within the system. Sub-areas delineated and included in the 2019 metering program are shown on Figure 3.

Figure 2. Flow Vector Diagram





THE CITY OF PORTLAND, MAINE

Phase 1: Investigation of Flows - 2019 Monitoring

0 0.25 0.5 1 Miles

December 2019

FIGURE 3 - 2019 SUB-AREA DELINEATION

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2019 I-I Report\FIGURE 3 - 2019 SUB-AREA DELINEATION.mxd

2 2019 METERING ANALYSIS

In March 2019, Arcadis and its subcontractor, Flow Assessment Services (FAS) started a 12-week flow monitoring program of 15 sub-areas throughout the City of Portland. Meters were installed by FAS in the most downstream manhole of each sub-area where hydraulic conditions were conductive for metering. While only 15 sub-areas were metered, 3 sub-areas required two meters each to ensure accurate data collection and 2 additional meters were installed as subtraction meters. Metering was performed using continuous monitoring devices incorporating depth and velocity sensors to measure velocity, depth and flow rate. Two record tipping bucket rain gauges measuring rainfall every fifteen minutes were installed on the roof of the Allen Ave Fire Station and the Ocean Ave Fire Station. Rain gauge data was supplemented with data from the City-owned rainfall gauge at the Riverside Street Pump Station.

Two permanent groundwater monitoring wells were installed on May 6, 2018 at the intersection of Martin Street and Bartley Street and on Leland Street across from the Deering High School parking lot. Maintenance and data collection for the groundwater gauges, rainfall gauges and flow meters were conducted bi-weekly by Flow Assessment Services.

2.1 Wastewater Characteristics

There are three major components of flow in a sanitary sewer system, base sanitary flow (BSF), groundwater infiltration (GWI) and rainfall derived inflow and infiltration (RDII - commonly referred to as inflow). The Environmental Protection Agency's "Guide for Estimating Infiltration and Inflow", June 2014, provides the following definitions:

Base Sanitary Flow (BSF) – The portion of wastewater which includes domestic, commercial, institutional, and industrial sewage and specifically excludes infiltration and inflow.

Groundwater Infiltration (GWI) – Measured during average dry weather flow period. The average of the low nighttime flows (midnight to 6am) per day for the same time period, minus significant industrial or commercial nighttime users

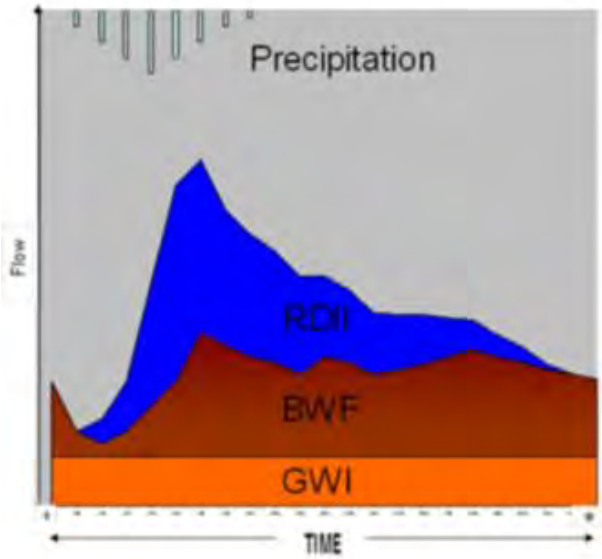
Rainfall Induced Infiltration (RII) – The short-term increase in infiltration which is the result of a rain event. Rainfall-induced infiltration is a portion of delayed inflow.

Delayed Inflow Volume – The portion of total inflow which is generated from indirect connections to the collection system or connections which produce inflow after a significant time delay from the beginning of a storm. Delayed inflow sources include sump pumps, foundation drains, indirect sewer/drain cross connections, etc. Rainfall-induced infiltration cannot be distinguished from delayed inflow and is therefore included as part of delayed inflow. Delayed inflow sources have a gradual impact on the collection system and flow decreases gradually upon conclusion of the rainfall event, and after peak inflow caused by direct connections.

Inflow – Water other than sanitary wastewater that enters a sewer system from sources such as roof leaders, cellar/foundation drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, and catch basins. Inflow does not include infiltration.

Rainfall derived infiltration and inflow includes both rainfall-induced infiltration and inflow. Figure 4 highlights the three key components of wastewater flow during a precipitation event. The GWI (orange line) remains constant and is not impacted by precipitation, the BWF (brown line) is a diurnal pattern based on actual usage and not impacted by precipitation, and the RDII (blue line) shows a very clear increase in flows as a direct response to precipitation.

Figure 4. Components of Wastewater Flow During Wet Weather (US EPA, 2007)



2.1.1 Flow Analysis Approach for Portland's Collection System

The City of Portland's collection system consists of approximately 240 miles of separated and combined sewers. A traditional infiltration and inflow analysis was conducted in the separated portion of the collection system, while a modified approach was used in the combined portion of the collection system. In the sub-areas where 75% or more of the collection system was separated, the I/I analysis focused on identifying groundwater infiltration, rainfall-induced infiltration and direct inflow. In the combined subareas, the I/I analysis focused on identifying groundwater infiltration and rainfall-induced infiltration (delayed inflow). Large volumes of direct inflow are expected in a combined system due to known cross connections between the sanitary system and the drainage system. While direct inflow values were calculated in these sub-areas, they were not used to develop follow-on investigation recommendations. Table 1 includes a summary of the total pipeline footage, percentage of combined pipes and the approach method for each sub-area.

Table 1. Sub-area Characteristics

Sub-area	Total Footage (LF)	Percent Combined (%)	Approach
Sub-Area 6	15,241	13%	Traditional
Sub-Area 10	13,417	77%	Modified
Sub-Area 11	21,085	87%	Modified
Sub-Area 12	20,125	33%	Modified
Sub-Area 23	15,048	19%	Traditional
Sub-Area 23A	10,072	27%	Modified
Sub-Area 24	11,037	37%	Modified
Sub-Area 24A	15,091	13%	Traditional
Sub-Area 25	16,547	7%	Traditional
Sub-Area 26	11,664	25%	Traditional
Sub-Area 26A	8,109	62%	Modified
Sub-Area 27	12,520	81%	Modified
Sub-Area 27A	9,922	26%	Modified
Sub-Area 30	20,905	50%	Modified
Sub-Area 31	22,861	15%	Traditional

2.2 Results and Findings

Table 2 identifies the average daily flow (ADF), peak daily flow (PDF) and peak hourly flow (PHF) measured from February 15, 2019 through May 31, 2019 for each of the fifteen sub-areas. Average daily flow is calculated by summing all metered flows and dividing by the duration of the metering period. Peak daily flow is the maximum daily flow over 24-hours measured throughout the metering period. Peak hourly flow is the maximum 1-hour flow rate measured. Peaking factor is calculated by dividing the peak hourly flow by the average daily flow for each sub-area. Table 2 shows net average daily flow within each sub-area itself (with upstream tributary flows subtracted out), net peak daily flow, net peak hourly flow and the hourly peaking factor.

Table 2. Flow Metering Results – ADF, PDF, PHF

Sub-Area	Average Daily Flow (GPD)	Peak Daily Flow (GPD)	Peak Hourly Flow (GPD)	Peaking Factor
Sub-Area 6*	381,064	563,000	929,000	2
Sub-Area 10	416,000	1,026,000	1,970,000	5
Sub-Area 11	583,594	1,437,000	5,362,000	9
Sub-Area 12*	478,901	1,253,000	2,608,000	5
Sub-Area 23	266,608	1,070,000	3,018,000	11
Sub-Area 23A*	506,788	865,000	1,622,000	3
Sub-Area 24	207,455	576,000	1,855,000	9
Sub-Area 24A*	85,268	585,000	1,115,000	13
Sub-Area 25*	81,644	1,219,000	4,082,000	50
Sub-Area 26*	-37,859	207,000	834,000	-22
Sub-Area 26A*	146,113	968,000	3,107,000	21
Sub-Area 27*	782,969	2,658,000	7,810,000	10
Sub-Area 27A	92,735	221,000	482,000	5
Sub-Area 30	339,538	1,385,000	5,070,000	15
Sub-Area 31	230,980	640,000	1,671,000	7

*Denotes net values with tributary sub-areas subtracted.

Hyetographs showing average daily flow and rainfall for each of the 15 sub-areas are included in Appendix B.

2.3 Groundwater Infiltration

Groundwater infiltration is defined as groundwater that enters or leaks into a sanitary sewer system through defective pipes, pipe joints, service connections, or manholes. The average groundwater infiltration rate is defined as 85% of the nighttime sanitary flow measured on dry days from 12:00am to 6:00am throughout the entire metering period. Only data for days that follow a minimum of 72-hours without a rainfall event are considered “dry days” to avoid inclusion of indirect inflow and rainfall induced infiltration (RII) in the infiltration estimate.

Groundwater levels were monitored throughout the metering period using the two groundwater monitoring wells installed. The groundwater depth during the metering period was analyzed in relation to the average sewer pipe elevations in the area, as shown in Figure 5, as groundwater depth can have a significant influent on the amount of groundwater infiltration entering a collection system.

Groundwater infiltration for each sub-area is normalized by calculating the gallons per day per inch diameter mile of pipe (gpd/in-mi). The inch-diameter-mile of pipe, or inch-miles (in-mi), in a sub-area is calculated by multiplying the sum of the miles of for each diameter of pipe by its respective inch diameter. As an example, if a system contained 1 mile of 10-inch diameter, 1.5 miles of 12-inch diameter, and 0.5 miles of 25-inch diameter of gravity sewers, the calculated inch-miles would be as follows:

(10-inch x 1 mile) + (12-inch x 1.5 miles) + (24-inch x 0.5 mile) = 40 in-mi

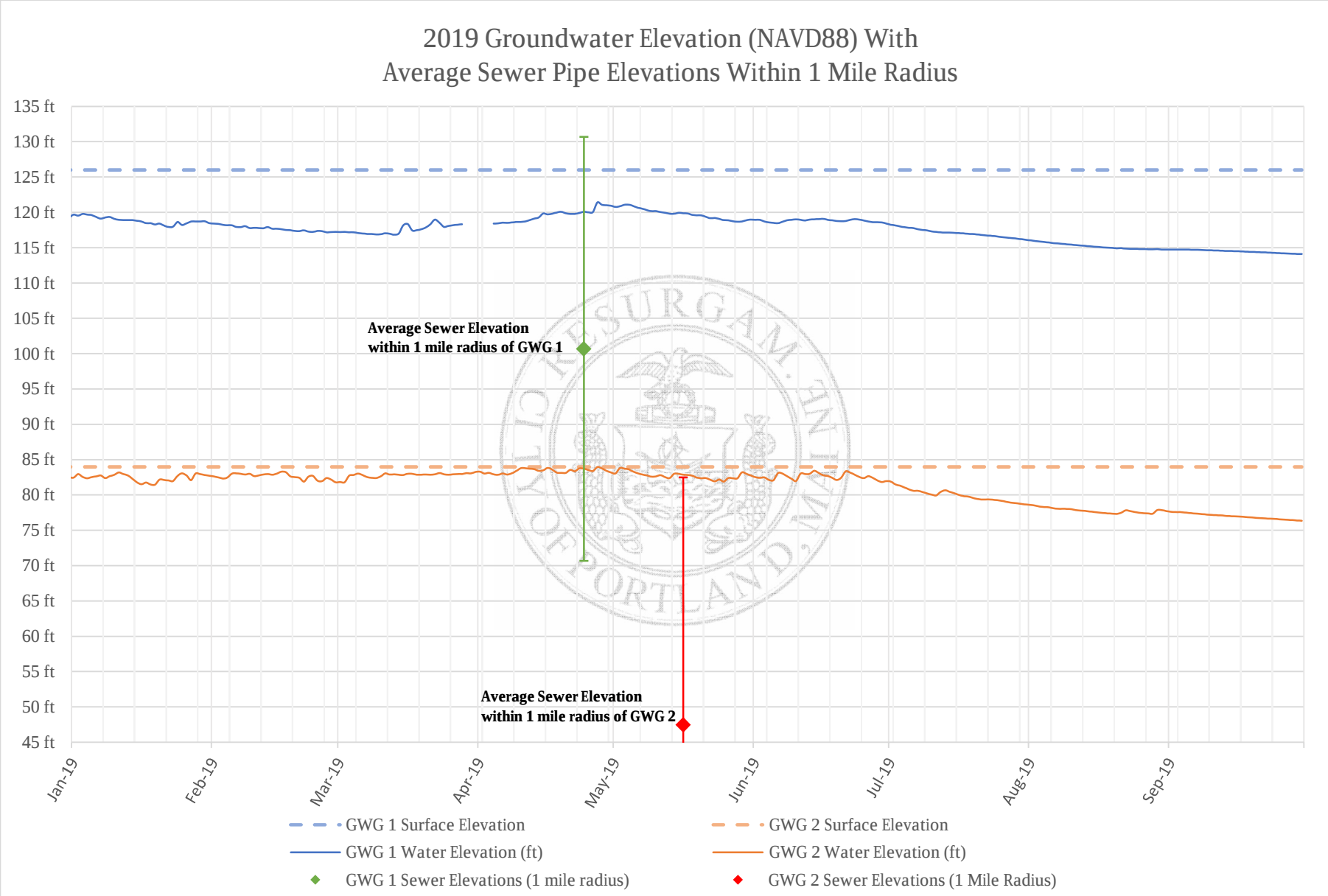
Groundwater infiltration rates for each sub-area were calculated by dividing the sub-area’s total groundwater infiltration by the number of inch-miles of sanitary sewer within the sub-area. The total groundwater infiltration rates for each sub-area during the metering period are shown in Table 3.

Table 3. Flow Metering Results – Infiltration

Sub-Area	Average Daily Flow (gpd)	Net Average Infiltration (gpd)	Infiltration GPD/Total LF (GPD/LF)	Infiltration Gallons per Day per Inch-Mile (GPDIM)
Sub-Area 6*	381,064	234,104	15	7,231
Sub-Area 10	416,000	271,664	20	5,784
Sub-Area 11	583,594	381,685	18	8,897
Sub-Area 12*	478,901	284,260	14	4,457
Sub-Area 23	266,608	160,190	11	4,790
Sub-Area 23A*	506,788	331,600	33	8,728
Sub-Area 24	207,455	140,498	13	6,038
Sub-Area 24A*	85,268	45,463	3	1,443
Sub-Area 25*	81,644	146,106	9	3,513
Sub-Area 26*	-37,859	196,795	17	4,230
Sub-Area 26A*	146,113	178,823	22	3,039
Sub-Area 27*	782,969	551,744	44	10,175
Sub-Area 27A	92,735	69,635	7	3,460
Sub-Area 30	339,538	176,534	8	3,749
Sub-Area 31	230,980	148,921	7	3,103

*Denotes net values with tributary sub-areas subtracted

Figure 5 - Groundwater Elevation
Infiltration and Inflow Program
January 2019 through September 2019



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2.4 Rainfall Derived Infiltration and Inflow (RDII)

Four rainfall events from the metering period were analyzed to calculate rainfall derived infiltration and inflow. Precipitation data was used from rain gauges at the Riverside Road Pump Station, Allen Avenue Fire Station and the Ocean Avenue Fire Station. The precipitation data acquired by these rain gauges was relatively similar; and the rain gauges were in sufficiently relative proximity to each other; as such, the average of these rain gauges was used in determining values for the four storm events selected for an inflow analysis of all sub-areas. Table 4 outlines the duration, total rainfall and peak intensity of the four selected storms.

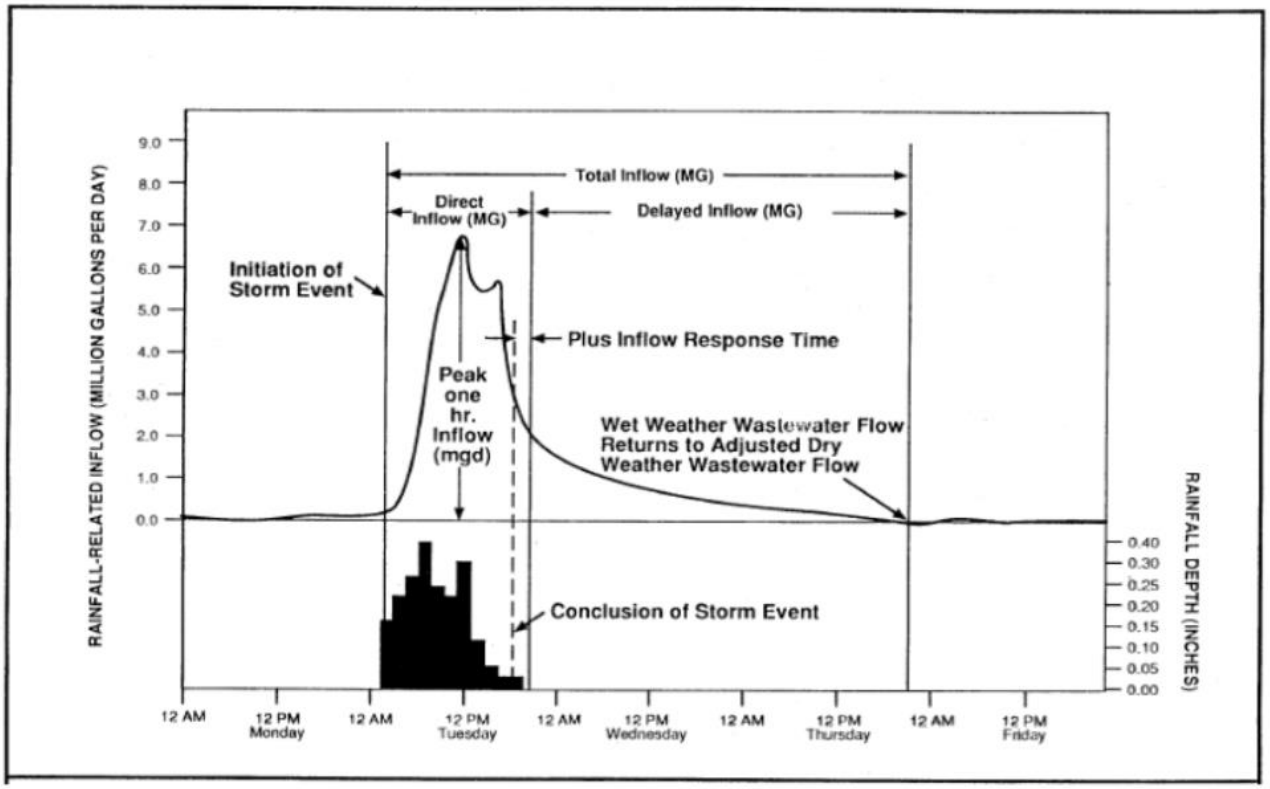
Table 4. Inflow Analysis – Selected Rainfall Events

Rainfall Event	Duration (min)	Duration (hrs)	Total Rainfall (in)	Peak Intensity (in/hr)
3/22/19 7:00 AM	1275	21.25	1.03	0.30
4/14/19 8:00 PM	1395	23.25	1.05	0.25
4/26/19 7:15 AM	1350	22.50	2.25	0.58
5/13/19 9:15 PM	1920	32	0.93	0.22

A wet weather hydrograph from each storm event was compared to a dry weather period on the same day of the week as each storm event. The dry weather flow is subtracted from the wet weather flow resulting in the inflow volumes presented in Table 5. The dry weather flow is calculated as an average of all dry days during the metering period for each day during the week. For example, all dry “Mondays” in the metering period are averaged together to determine the dry weather flow for each individual day.

The hydrograph shown as Figure 6 shows a typical inflow response to wet weather flow. The portion of inflow occurring during the storm event is identified as direct inflow and the portion of inflow that occurs once the storm has concluded is delayed inflow. Total inflow encompasses both direct and delayed inflow.

Figure 6. Wet Weather Hydrograph (MassDEP, 1993)



For the purposes of this study, direct inflow was calculated for all sub-areas; however, where the modified approach was used, only the delayed inflow results were used in the development of follow-on investigation recommendations.

Table 5 - Flow Metering Results - Inflow

Sub-Area	Friday, March 22, 2019			Sunday, April 14, 2019			Friday, April 26, 2019			Monday, May 13, 2019		
	Direct (gal)	Delayed (gal)	Total (gal)	Direct (gal)	Delayed (gal)	Total (gal)	Direct (gal)	Delayed (gal)	Total (gal)	Direct (gal)	Delayed (gal)	Total (gal)
Sub-Area 6	27,695	20,084	47,779	122,502	0	122,502	590,580	0	590,580	481,286	214,602	695,888
Sub-Area 10	417,218	378,794	796,013	253,943	176,448	430,391	330,280	867,732	1,198,012	53,060	1,251	54,311
Sub-Area 11	679,275	199,672	878,947	406,817	18,974	425,792	1,002,760	364,002	1,366,762	259,715	5,452	265,167
Sub-Area 12	657,513	266,396	923,909	448,874	401,028	849,902	642,173	789,315	1,431,488	327,192	56,374	383,567
Sub-Area 23	327,219	148,543	475,762	239,598	103,751	343,349	412,772	298,809	711,581	125,181	6,342	131,522
Sub-Area 23A	343,272	24,195	367,468	166,301	229,206	395,507	528,870	621,988	1,150,858	81,984	0	81,984
Sub-Area 24	246,992	152,598	399,590	287,383	200,802	488,185	238,793	717,174	955,968	160,641	39,090	199,730
Sub-Area 24A	120,590	7,208	127,797	53,495	20,601	74,096	254,546	209,444	463,990	111,486	391,847	503,333
Sub-Area 25	439,151	183,230	622,381	310,850	275,032	585,882	123,194	205,935	329,130	149,081	86,980	236,061
Sub-Area 26	107,516	64,533	172,049	145,852	85,249	231,101	27,059	12,256	39,316	41,077	16,049	57,126
Sub-Area 26A	698,734	840,485	1,539,219	776,918	164,967	941,885	599,368	343,528	942,896	0	0	0
Sub-Area 27	0	0	0	0	307,527	307,527	593,494	581,971	1,175,465	0	0	0
Sub-Area 27A	74,499	73,746	148,245	14,609	4,656	19,265	86,854	67,448	154,302	0	12,518	12,518
Sub-Area 30	989,499	476,189	1,465,688	648,877	440,456	1,089,332	1,022,197	1,075,307	2,097,504	217,114	10,073	227,187
Sub-Area 31	307,075	142,472	449,547	225,645	279,559	505,205	254,596	411,495	666,091	55,760	0	55,760

Direct/Delayed inflow values of "0" denote inconclusive inflow data results

3 SUB-AREA PRIORITIZATION AND RECOMMENDATIONS

3.1 High Infiltration and High RDII Sub-Areas

According to industry standards, infiltration within a sanitary sewer system is considered excessive if a defined area exceeds a dry weather infiltration rate of 4,000 gallons per day per inch diameter mile (gpd/idm). Sub-areas with infiltration rates exceeding 4,000 gpd/in-mi (Sub-areas 6, 10, 11, 12, 23, 23A, 24, 26, 27) are highlighted in Table 6.

Table 6. High Infiltration Sub-areas

Sub-Area	Groundwater Infiltration (GWI)	Infiltration GPD/Total LF (GPDLF)	Gallons per Day per Inch-Mile (GPDIM)
Sub-Area 27*	551,744	44	10,175
Sub-Area 11	381,685	18	8,897
Sub-Area 23A*	331,600	33	8,728
Sub-Area 6*	234,104	15	7,231
Sub-Area 24	140,498	13	6,038
Sub-Area 10	271,664	20	5,784
Sub-Area 23	160,190	11	4,790
Sub-Area 12*	284,260	14	4,457
Sub-Area 26*	196,795	17	4,230
Sub-Area 30	176,534	8	3,749
Sub-Area 25*	146,106	9	3,513
Sub-Area 27A	69,635	7	3,460
Sub-Area 31	148,921	7	3,103
Sub-Area 26A*	178,823	22	3,039
Sub-Area 24A*	45,463	3	1,443

*Denotes net values with tributary sub-areas subtracted

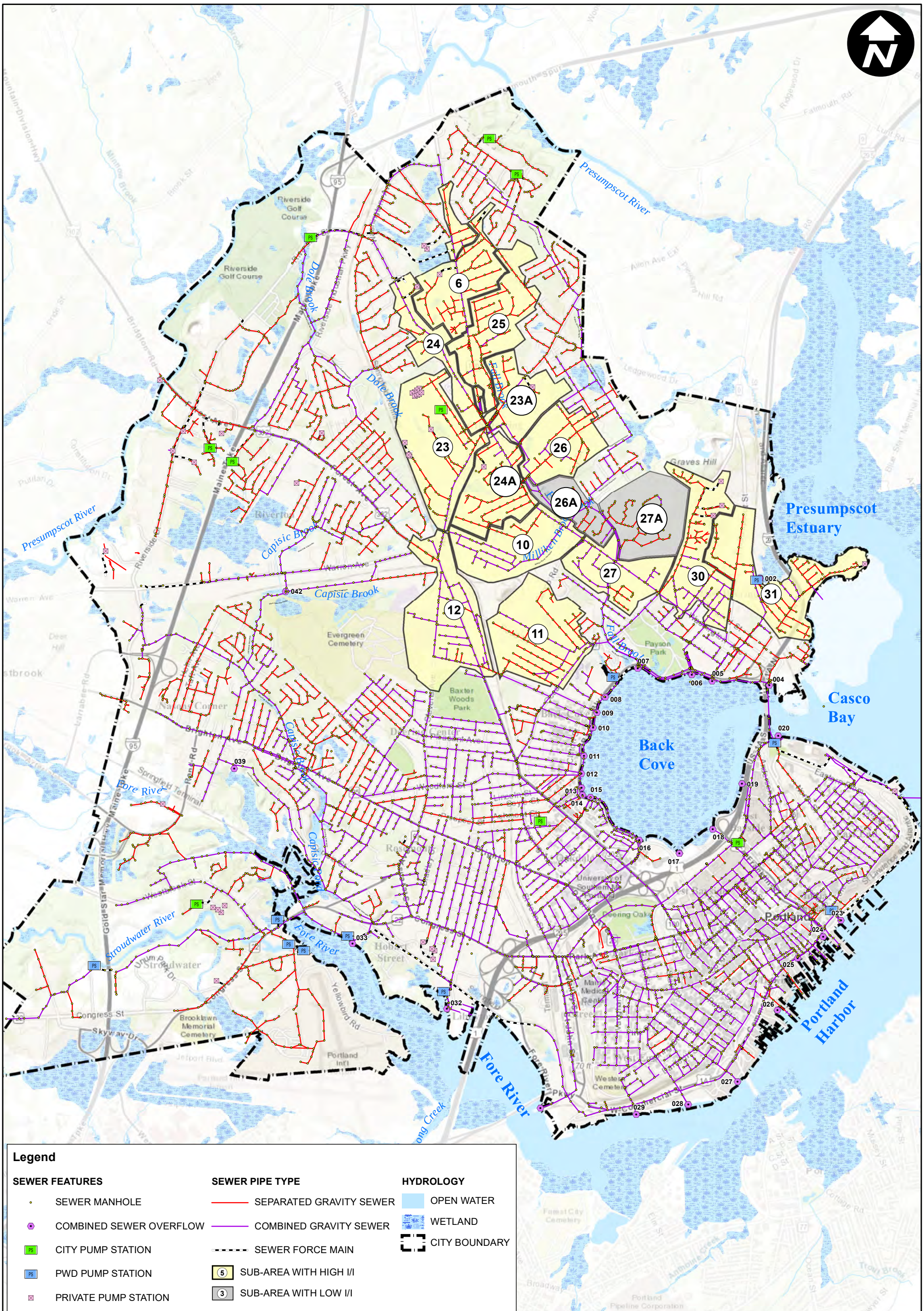
Inflow results were analyzed for the April 26, 2019 storm event to determine which sub-areas contribute excessive volumes of delayed inflow to the collection system. High delayed inflow sub-areas are shaded in Table 7.

Table 7. High Delayed Inflow Sub-areas – April 26, 2019 Storm Event

Subarea	Direct Inflow (Gal)	Delayed Inflow (Gal)	Total Inflow (Gal)
Sub-Area 30	1,022,197	1,075,307	2,097,504
Sub-Area 10	330,280	867,732	1,198,012
Sub-Area 12*	642,173	789,315	1,431,488
Sub-Area 24	238,793	717,174	955,968
Sub-Area 23A*	528,870	621,988	1,150,858
Sub-Area 27*	593,494	581,971	1,175,465
Sub-Area 31	254,596	411,495	666,091
Sub-Area 11	1,002,760	364,002	1,366,762
Sub-Area 26A*	599,368	343,528	942,896
Sub-Area 23	412,772	298,809	711,581
Sub-Area 24A*	254,546	209,444	463,990
Sub-Area 25*	123,194	205,935	329,130
Sub-Area 27A	86,854	67,448	154,302
Sub-Area 26*	27,059	12,256	39,316
Sub-Area 6*,**	590,580	-	590,580

*Denotes net values with tributary sub-areas subtracted
**Denotes sub-area with inconclusive delayed inflow data

High infiltration and inflow sub-areas are highlighted in Figure 7.



THE CITY OF PORTLAND, MAINE

Phase 1: Investigation of Flows - 2019 Monitoring

0 0.25 0.5 1 Miles

December 2019

FIGURE 7 - HIGH INFILTRATION AND INFLOW SUB-AREAS

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G:\GIS\Portland\2019 I-I Report\FIGURE 7 - HIGH I AND I SUB-AREAS.mxd

3.2 Investigation Recommendations

Based on the metering results summarized in Section 3.1 and ongoing investigation within the City of Portland, Phase 2 follow-on recommendations were developed. Recommendations, summarized in Table 8 and shown on Figure 8, include flow isolation, manhole inspections, and smoke testing. Smoke testing recommendations were developed based on 2018 and 2019 flow metering results. Flow isolation and manhole inspection recommendations are based on the 2019 flow metering results. Individual sub-area maps showing follow-on recommendations are included in Appendix C.

Table 8. Follow-on Investigation Recommendations

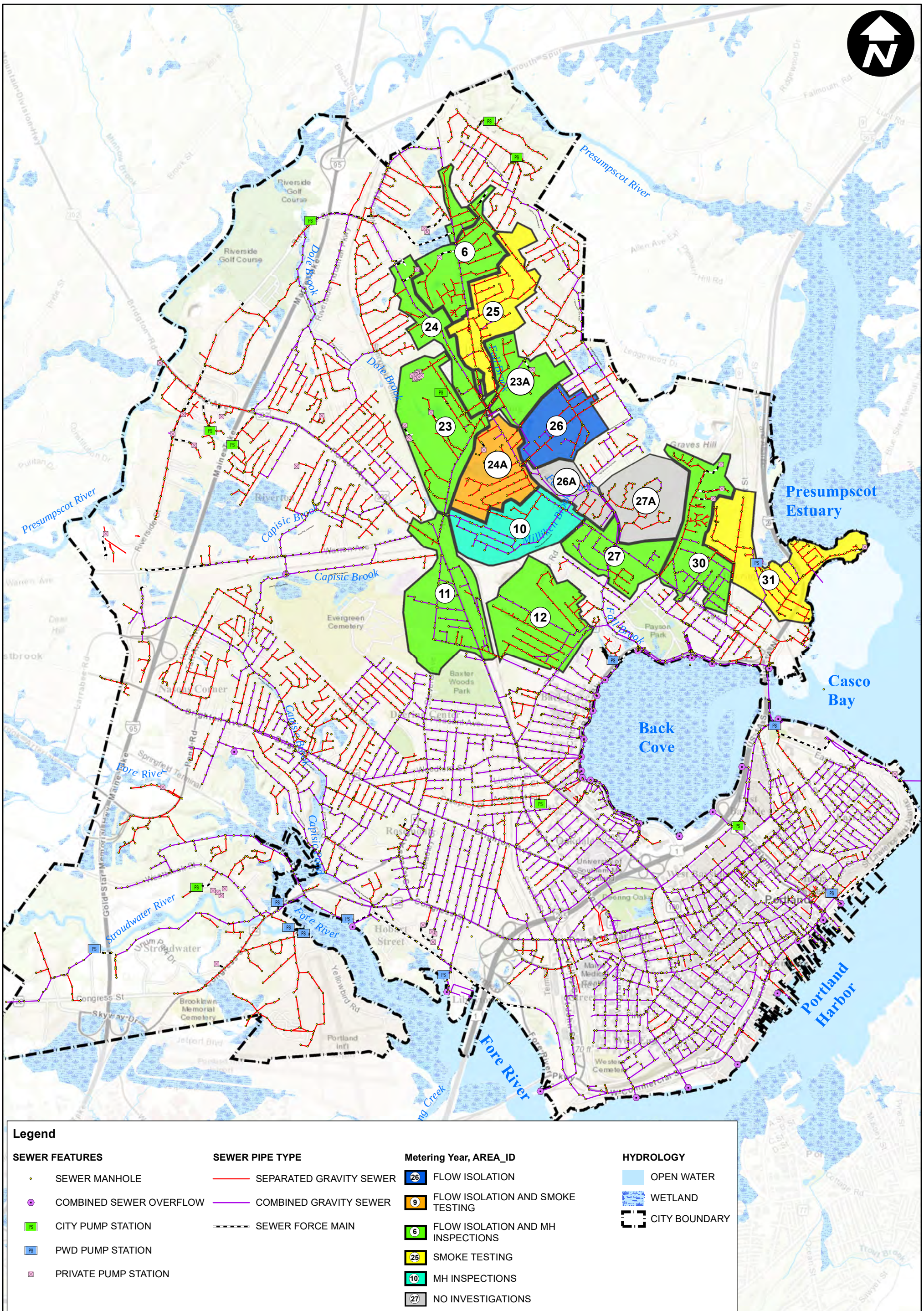
Sub-Area	Approach	High Infiltration Sub-areas	High Delayed Inflow Sub-area	Recommendations		
				Flow Isolation (LF)	Manhole Inspections	Smoke Testing (LF)
Sub-Area 1**	Traditional		X			19,994
Sub-Area 2**	Traditional		X			11,916
Sub-Area 4**	Traditional	X	X			8,894
Sub-Area 6*	Traditional	X		15,813	91	
Sub-Area 7**	Traditional	X	X			23,950
Sub-Area 10	Modified	X	X		66	
Sub-Area 11	Modified	X	X	20,485	103	
Sub-Area 12*	Modified	X	X	13,949	3	
Sub-Area 23	Traditional	X	X	12,442	89	
Sub-Area 23A*	Modified	X	X	6,635	46	
Sub-Area 24	Modified	X	X	10,450	2	
Sub-Area 24A*	Traditional		X	12,625		15,084
Sub-Area 25*	Traditional		X			16,546
Sub-Area 26*	Traditional	X		7,907		
Sub-Area 26A***	Modified		X			
Sub-Area 27*	Modified	X	X	9,293	64	
Sub-Area 27A	Modified					
Sub-Area 30	Modified		X	10,778	3	
Sub-Area 31	Traditional		X			22,860
Total				**120,377**	**467**	**119,244**

*Denotes net values with tributary sub-areas subtracted;
** Denotes sub-areas evaluated during 2018 flow monitoring program;
*** Due to the prevalence of combined sewers in sub-area 26A, inflow investigations are not recommended because they would not provide valid results.

Flow isolation was completed in sub-areas 6, 11, 12, 23, 23A, 24, 24A, 26, 27, and 30 in June 2019. Manhole Inspections were completed in September 2019 in sub-areas 6,10, 11, 12, 23, 23A, 24, 27, and 30. Smoke Testing was completed in October 2019 in sub-areas 1, 2, 4, 7, 24A, 25, and 31.

Follow-up building inspections and dye testing will be conducted for select large buildings in the Winter of 2020.

The results of all SSES investigations and recommendations for sewer system rehabilitation and renewal for I/I mitigation will be presented in the final I/I study report, “Wastewater Collection System Analysis and Action Plan”.



THE CITY OF PORTLAND, MAINE

Phase 1: Investigation of Flows - 2019 Monitoring

0 0.25 0.5 1 Miles

December 2019

FIGURE 8 - INVESTIGATION RECOMMENDATIONS

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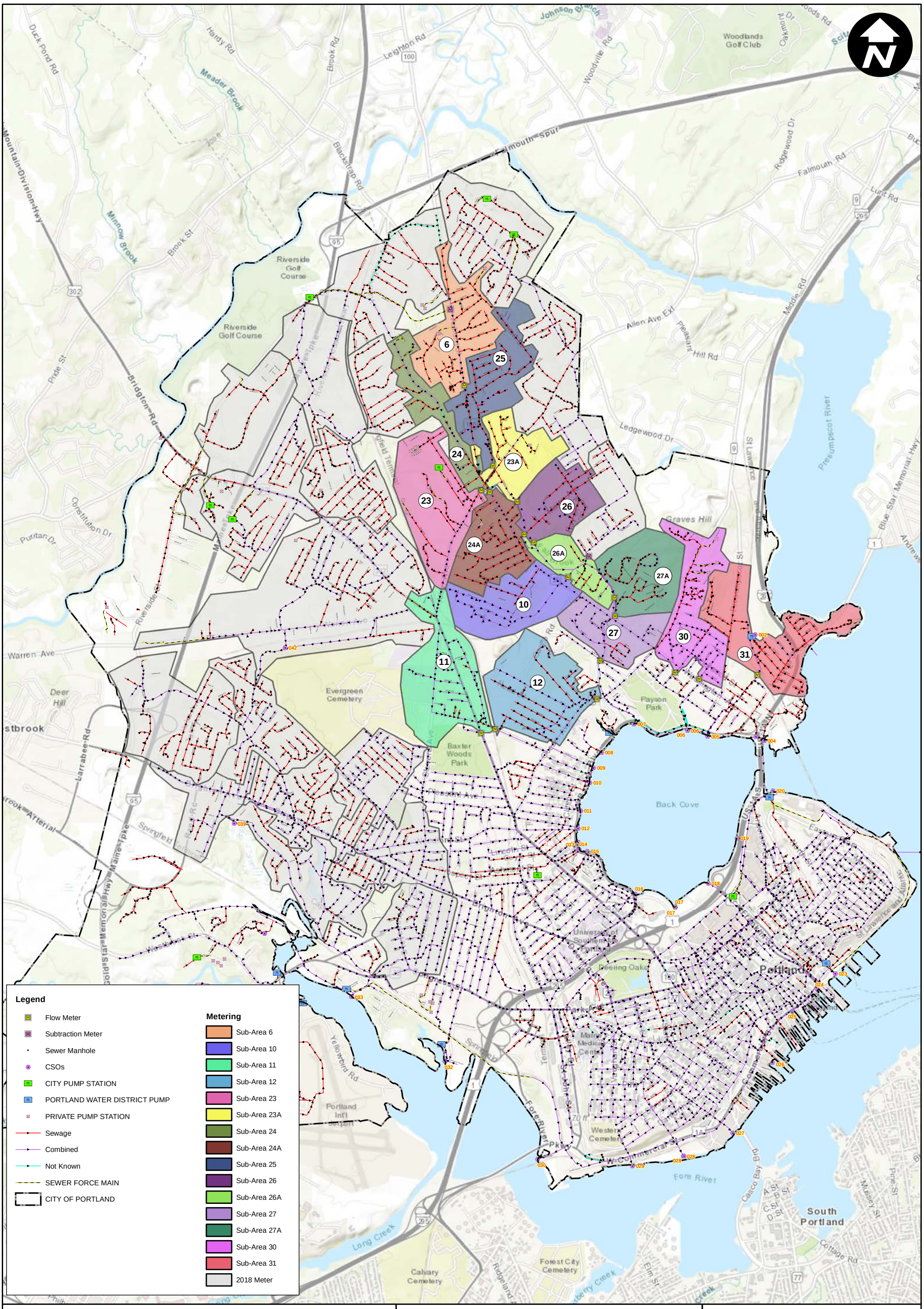
G:\GIS\Portland\2019 I-I Report\FIGURE 8 - I AND I INVESTIGATION SUB-AREAS.mxd

APPENDIX A

2019 Meter Area Figures



City of Portland, Maine

Planning & Engineering
Infiltration and Inflow Analysis

2019 Flow Monitoring Meter Location Recommendations

0 0.25 0.5 0.75 1 Miles

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G:\GIS\Portland\2019 Flow Meters\City-Wide Map (11x17).mxd

Lambert St
Morningstar Ln
Lambert St
Crestview Dr
Pamela Rd
Sturdivant Dr
Clapboard Rd
Abby Ln
Quiet Ln
Curtis Rd
Old Barn Ln
Frost Hill Rd
Wendy Way
Georgia St
Hillside Rd
Havertys Way
Clayton St
Summit St
Kenneth St
Jackson St
Subtraction Meter
Summit Park Ave
Talbot St
Juniper St
Cresfield Ter
Settlers Ct
Parsons Pond Dr
Braddish Ct
Auburn St
Alpine Rd
Smith Farm Ln
Christy Rd
Wakely Ct
Quaker Ln
Rustic Ln
Auburn Ter
Melody Ln
Autumn Ln
Fall Ln
Brookfield
6
Bartley Ave
Junior St

Legend

- FLOW METER (1)
- SUBTRACTION METER (1)
- SANITARY SEWER MANHOLE
- CITY PUMP STATION
- PRIVATE PUMP STATION
- SEWER PIPE, SEPARATED
- SEWER PIPE, COMBINED
- SEWER PIPE, UNDEFINED
- SEWER FORCE MAIN

Stormwater Assets

- STORMWATER MANHOLE
- CATCH BASIN
- STORMWATER PIPE
- SUB-AREA 6
- MUNICIPAL BOUNDARY

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 6

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 19,233 ft
Total Manhole Count = 92

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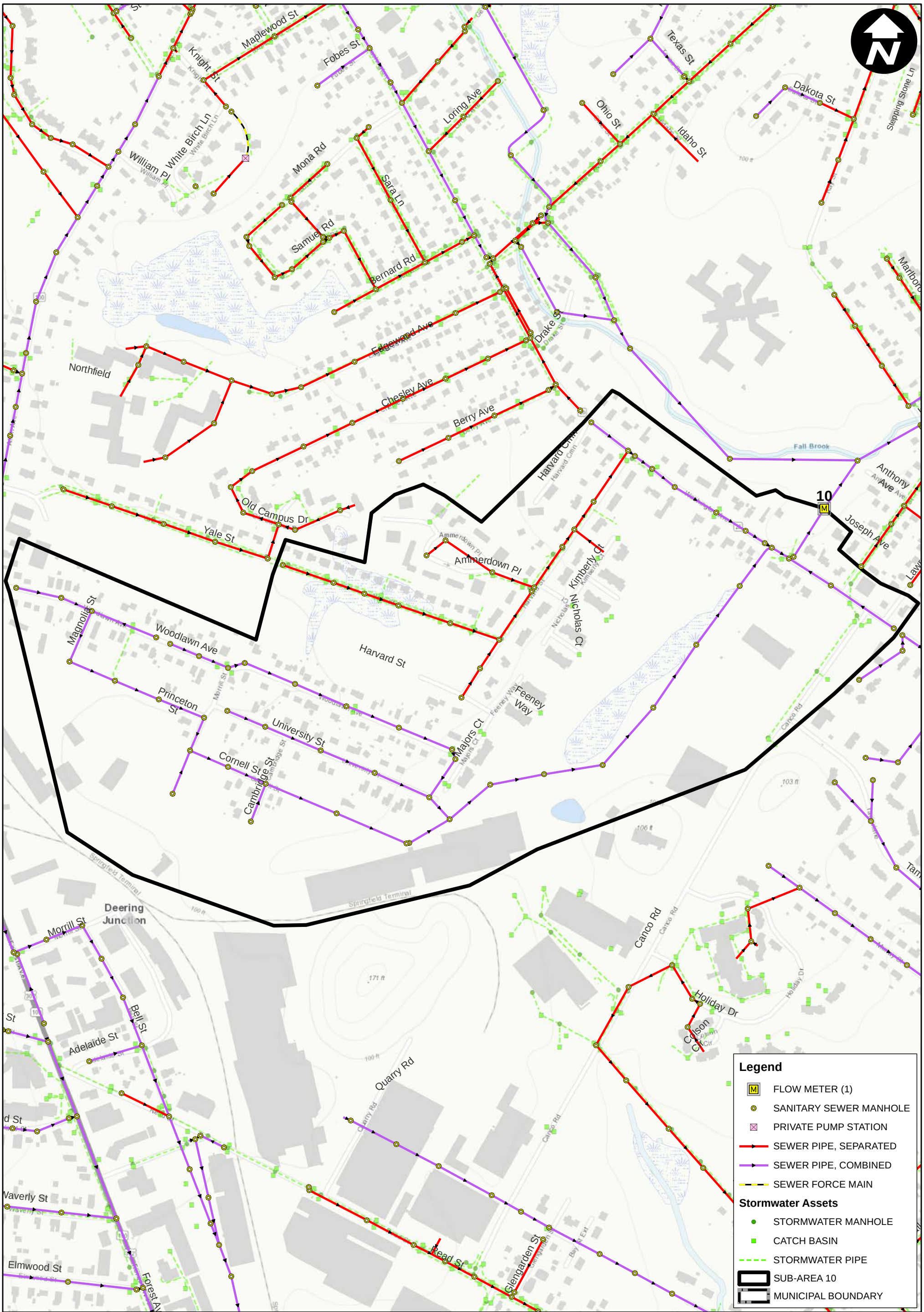

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 10

2019 Sanitary Flow Meter Location

0 200 400 600 800 Feet

Total Pipe Length = 13,417 ft
Total Manhole Count = 67

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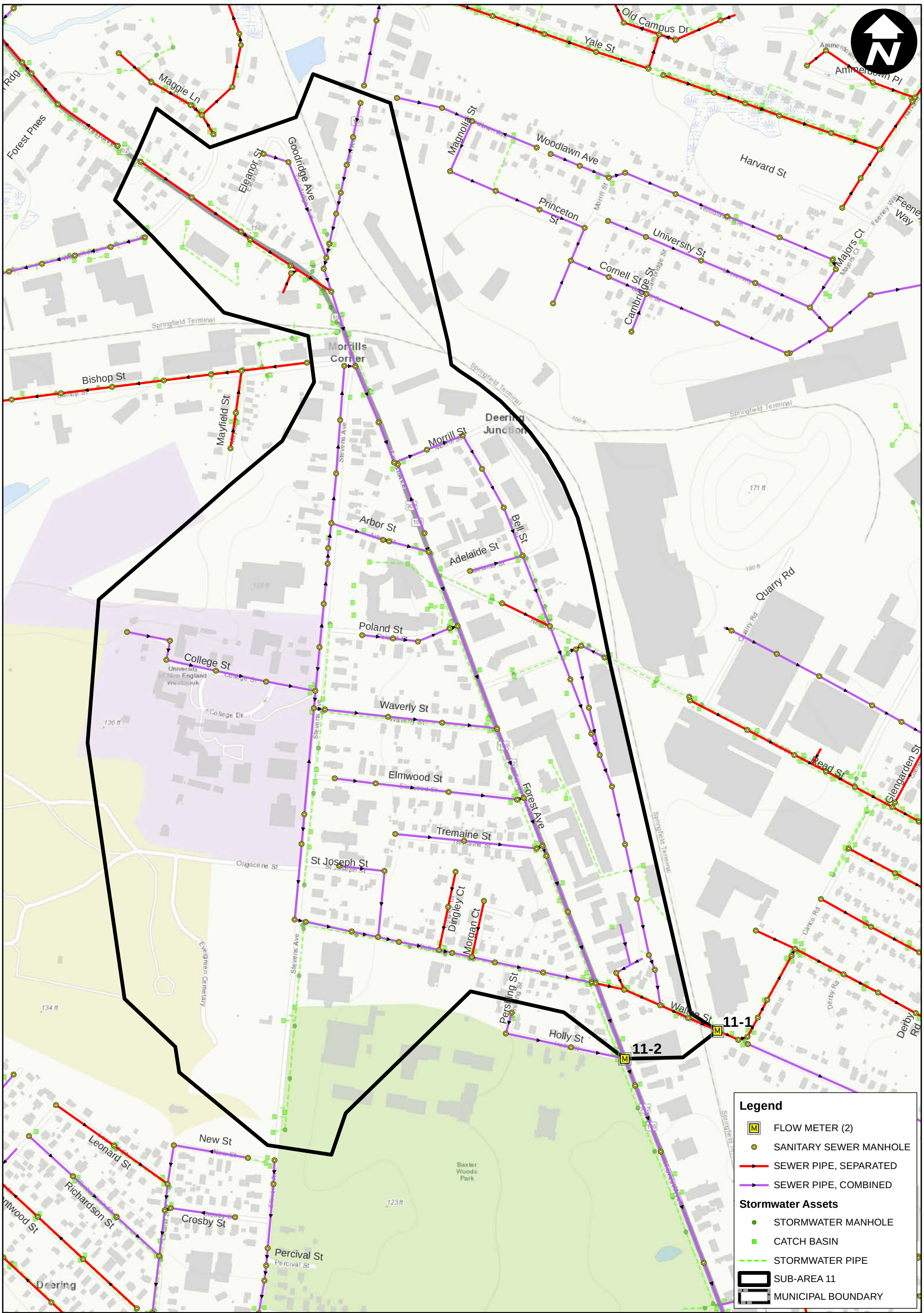

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 11

2019 Sanitary Flow Meter Location

0 200 400 600 800 Feet

Total Pipe Length = 21,085 ft
Total Manhole Count = 105

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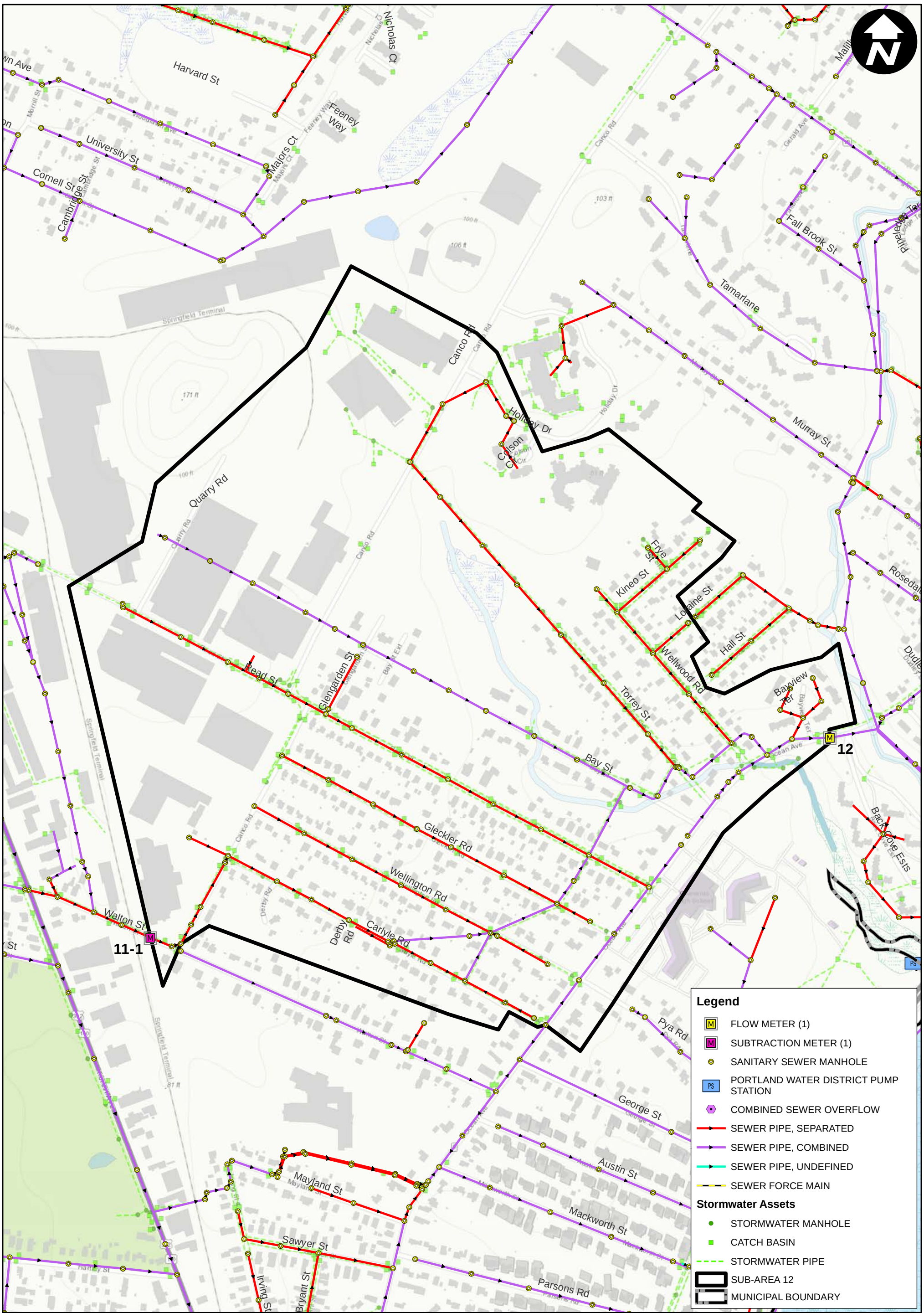

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 12

2019 Sanitary Flow Meter Location

0 200 400 600 800 Feet

Total Pipe Length = 20,851 ft
Total Manhole Count = 109

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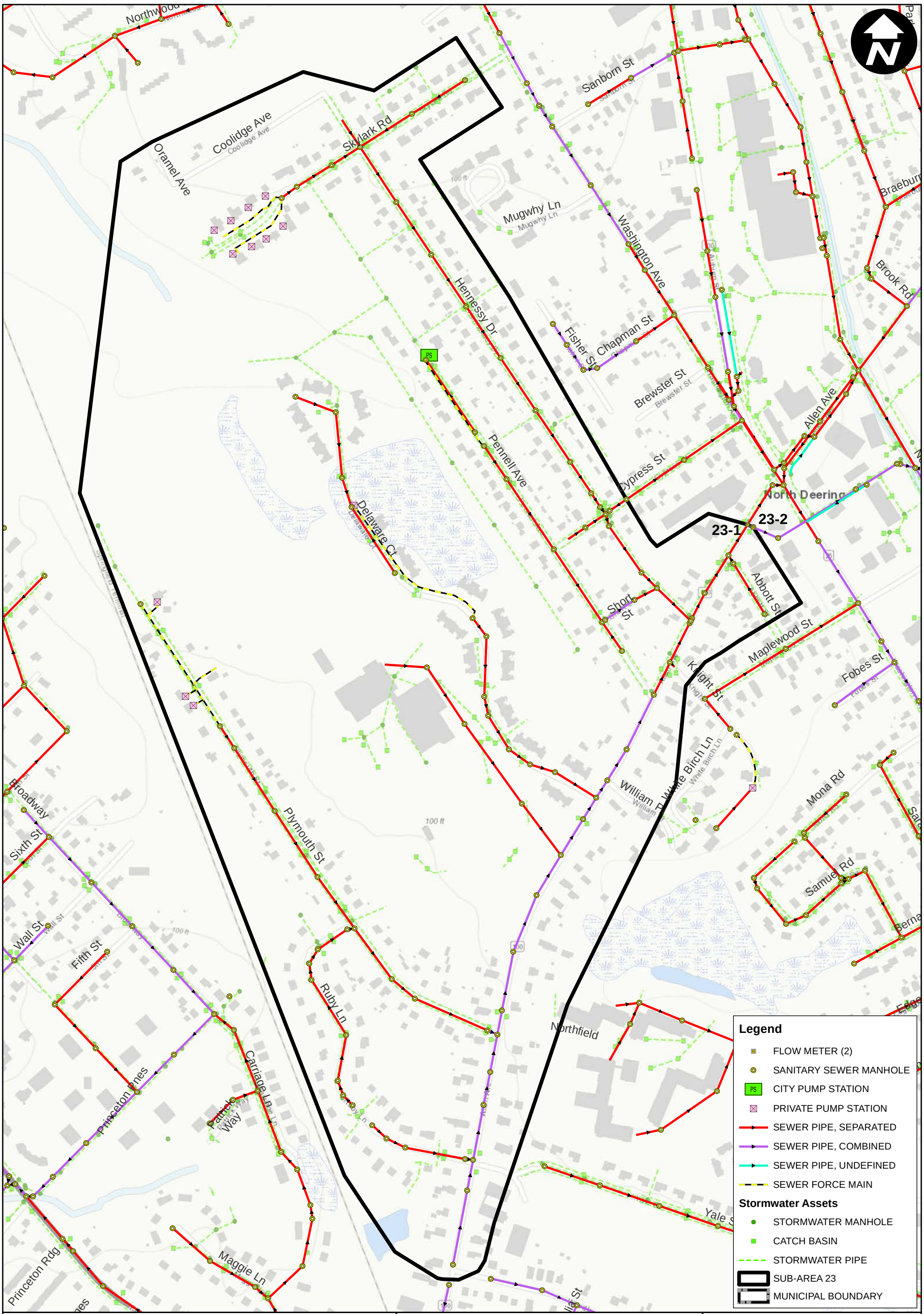

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 23

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 14,752 ft
Total Manhole Count = 90

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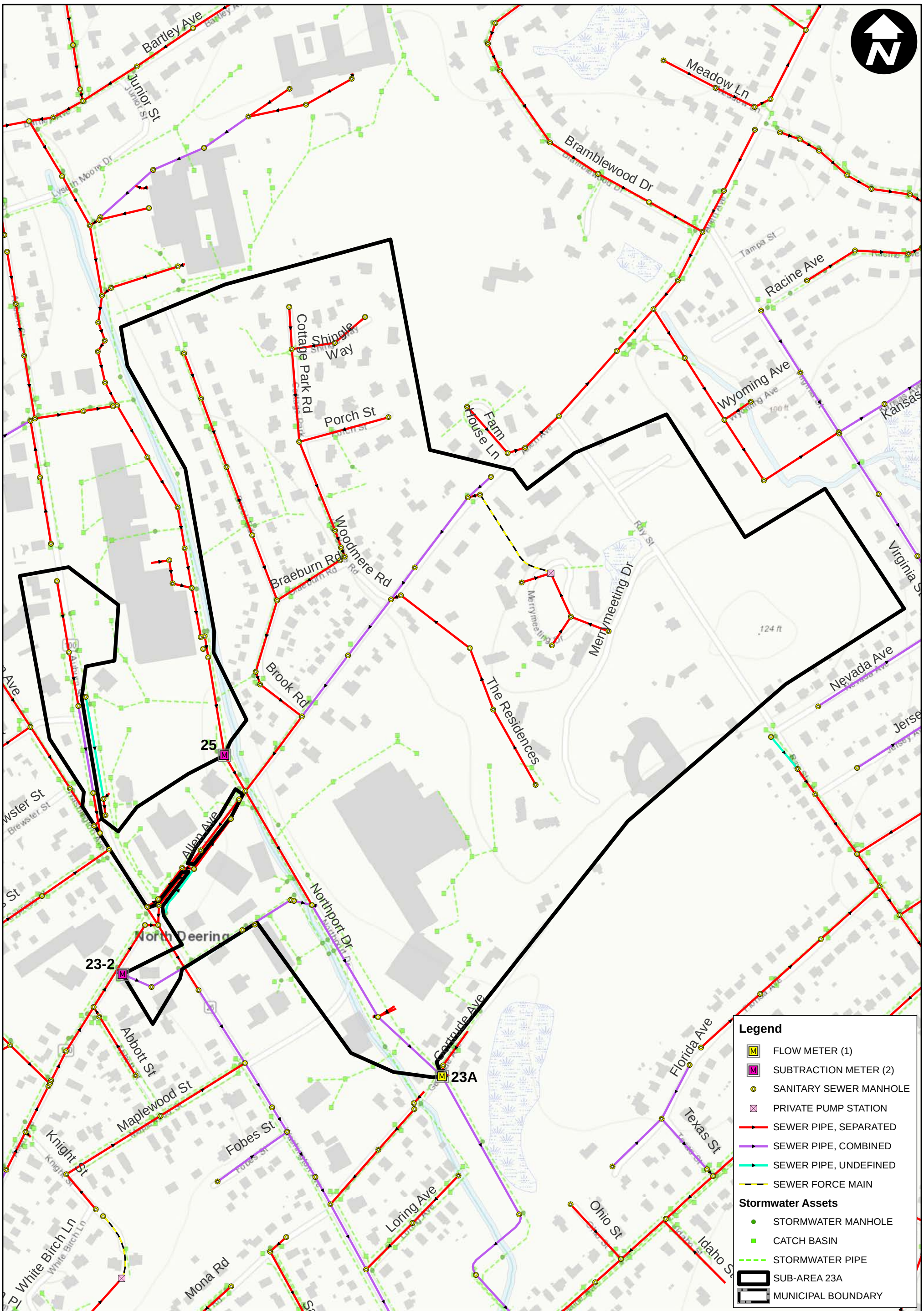

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 23A

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 10,497 ft
Total Manhole Count = 52

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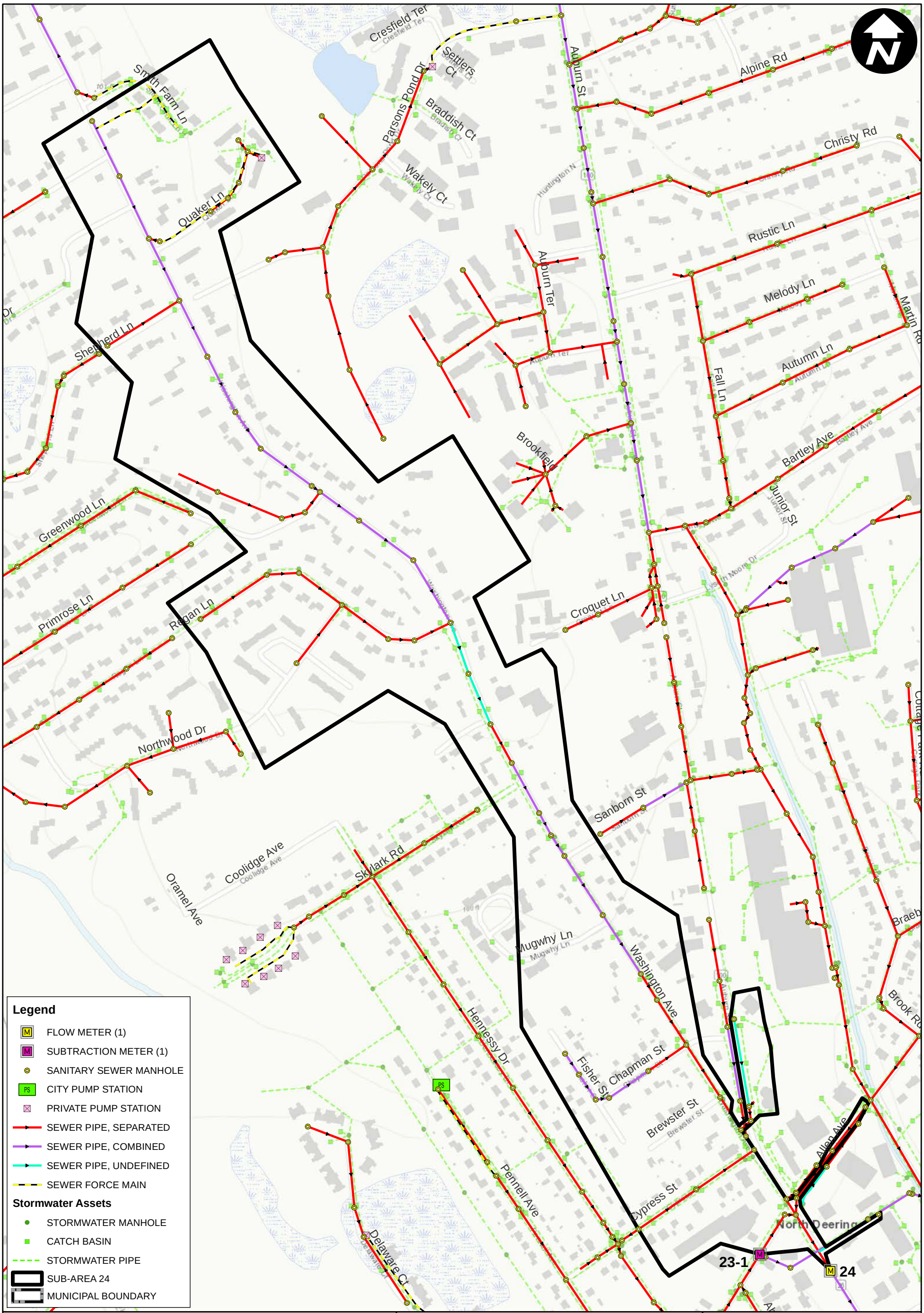

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 24

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 11,224 ft
Total Manhole Count = 58

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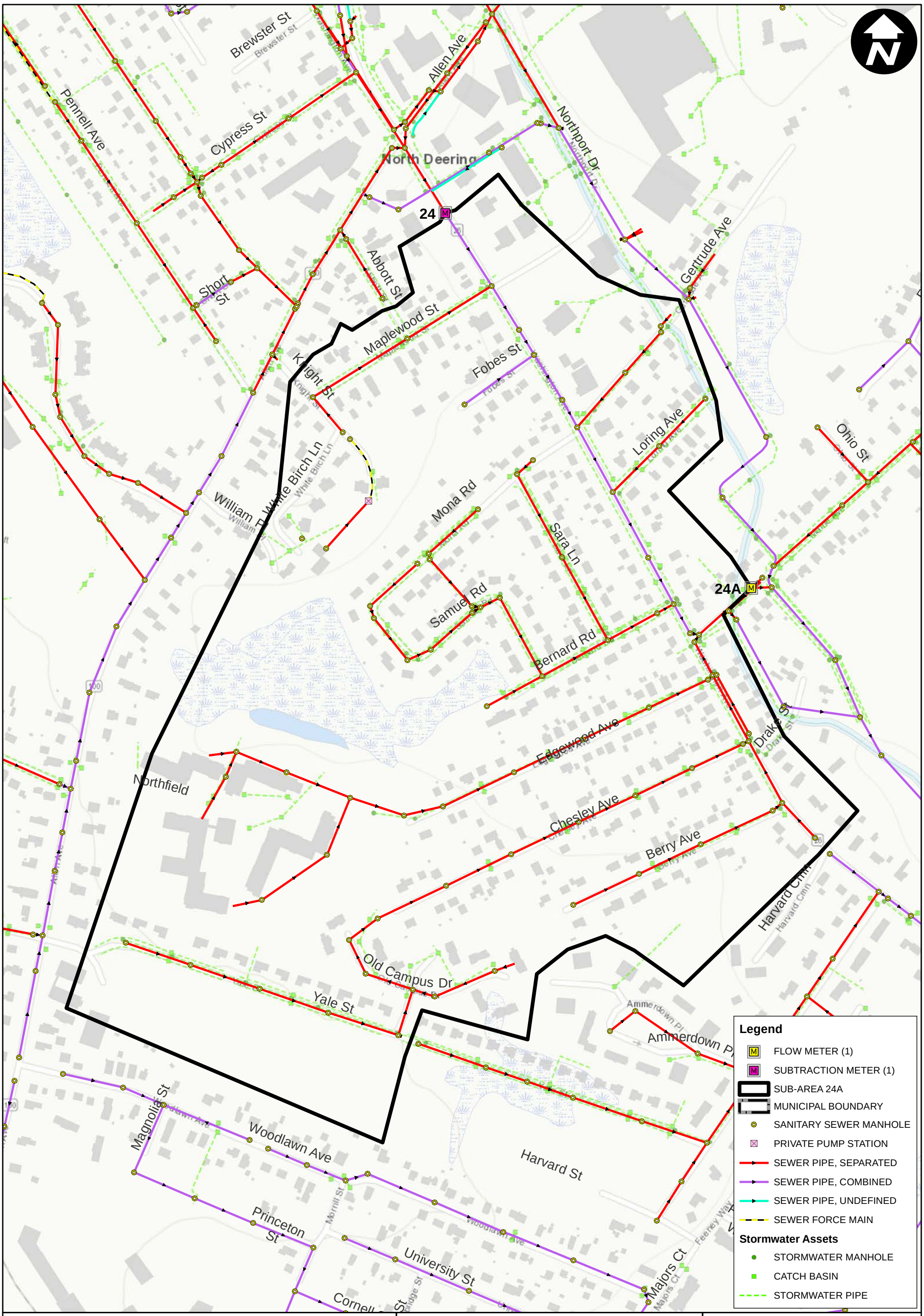

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 24A

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 15,332 ft
Total Manhole Count = 83

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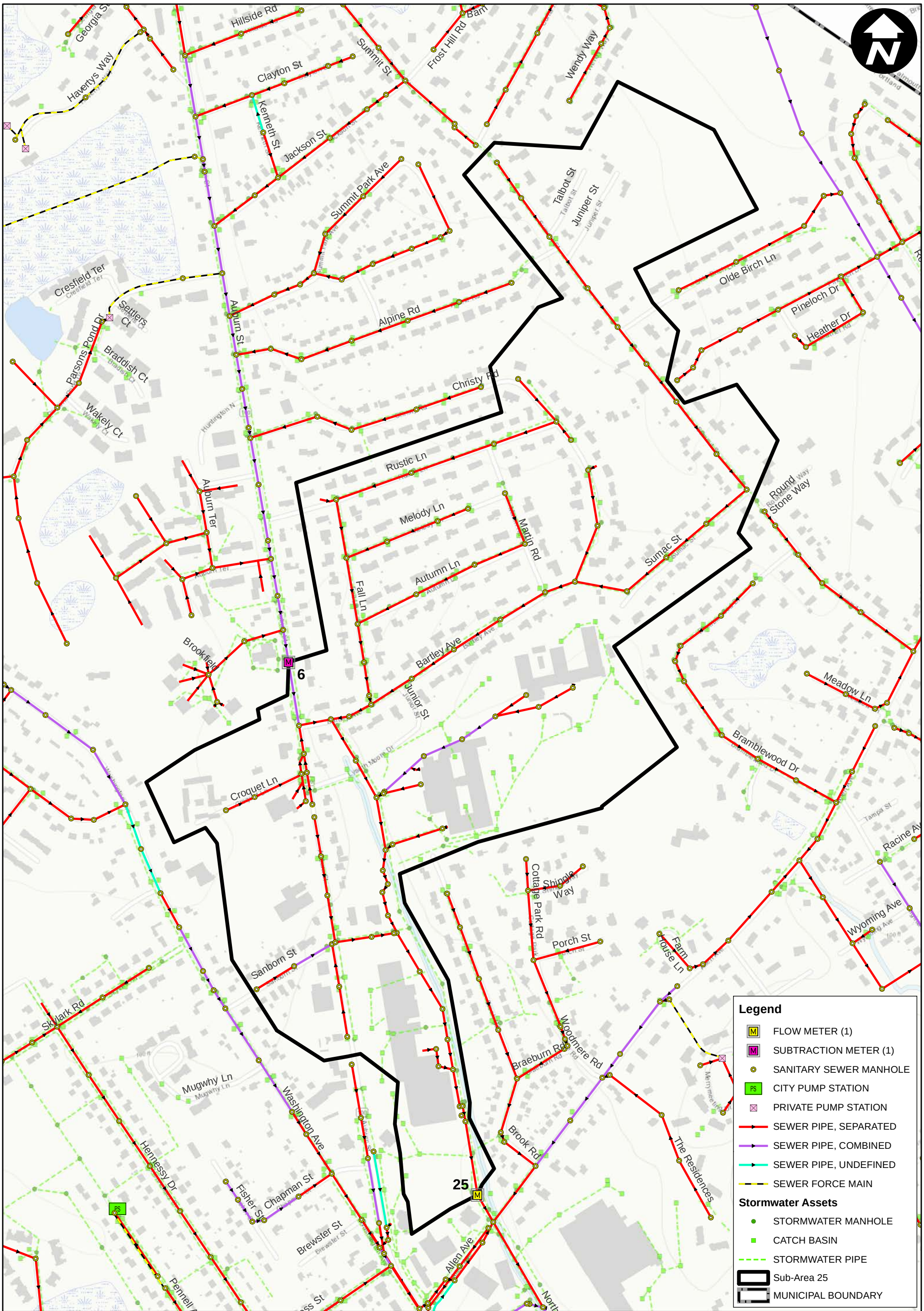

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 25

2019 Sanitary Flow Meter Location

0 200 400 600 800 Feet

Total Pipe Length = 16,547 ft
Total Manhole Count = 89

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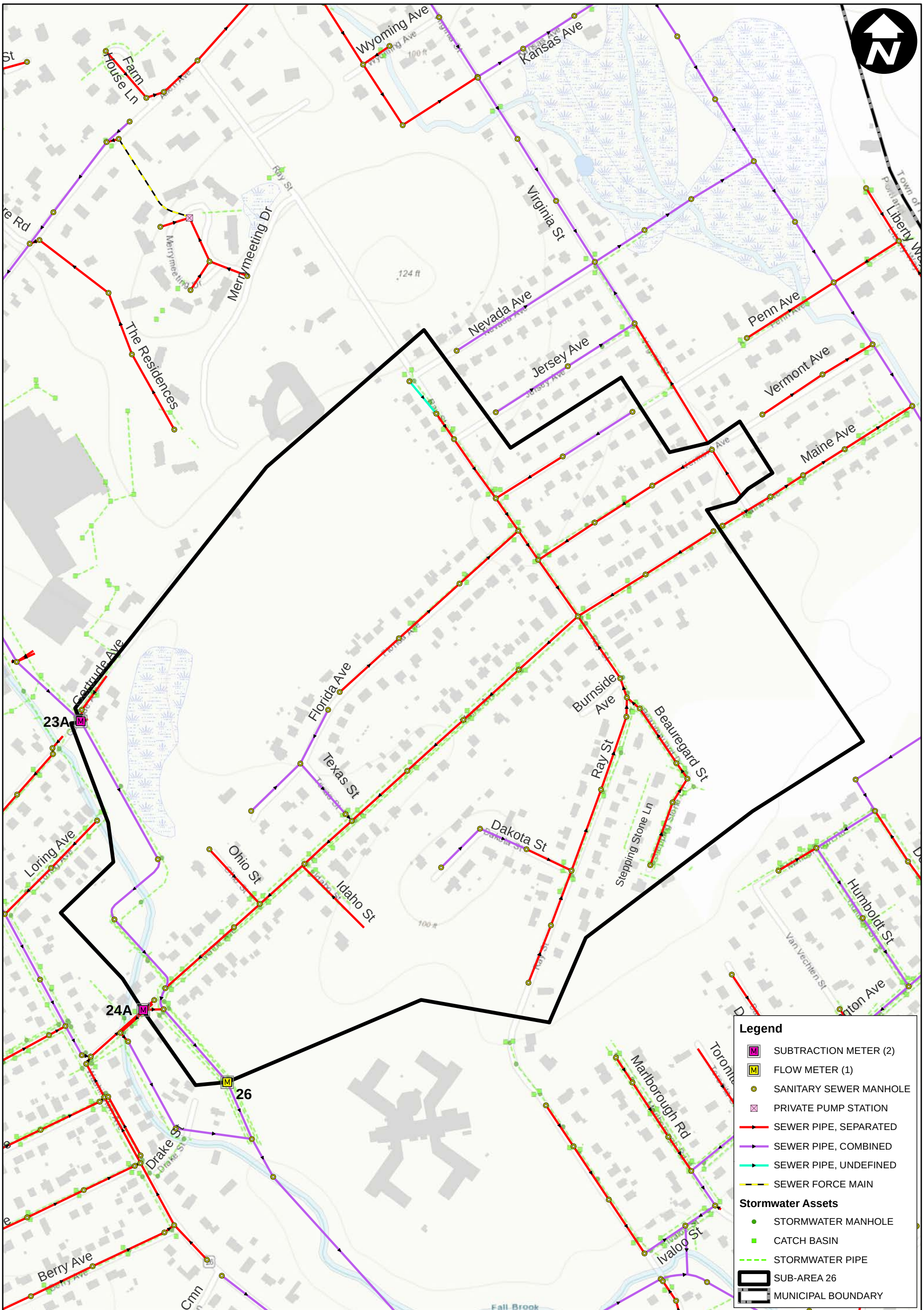

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 26

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 11,423 ft
Total Manhole Count = 53

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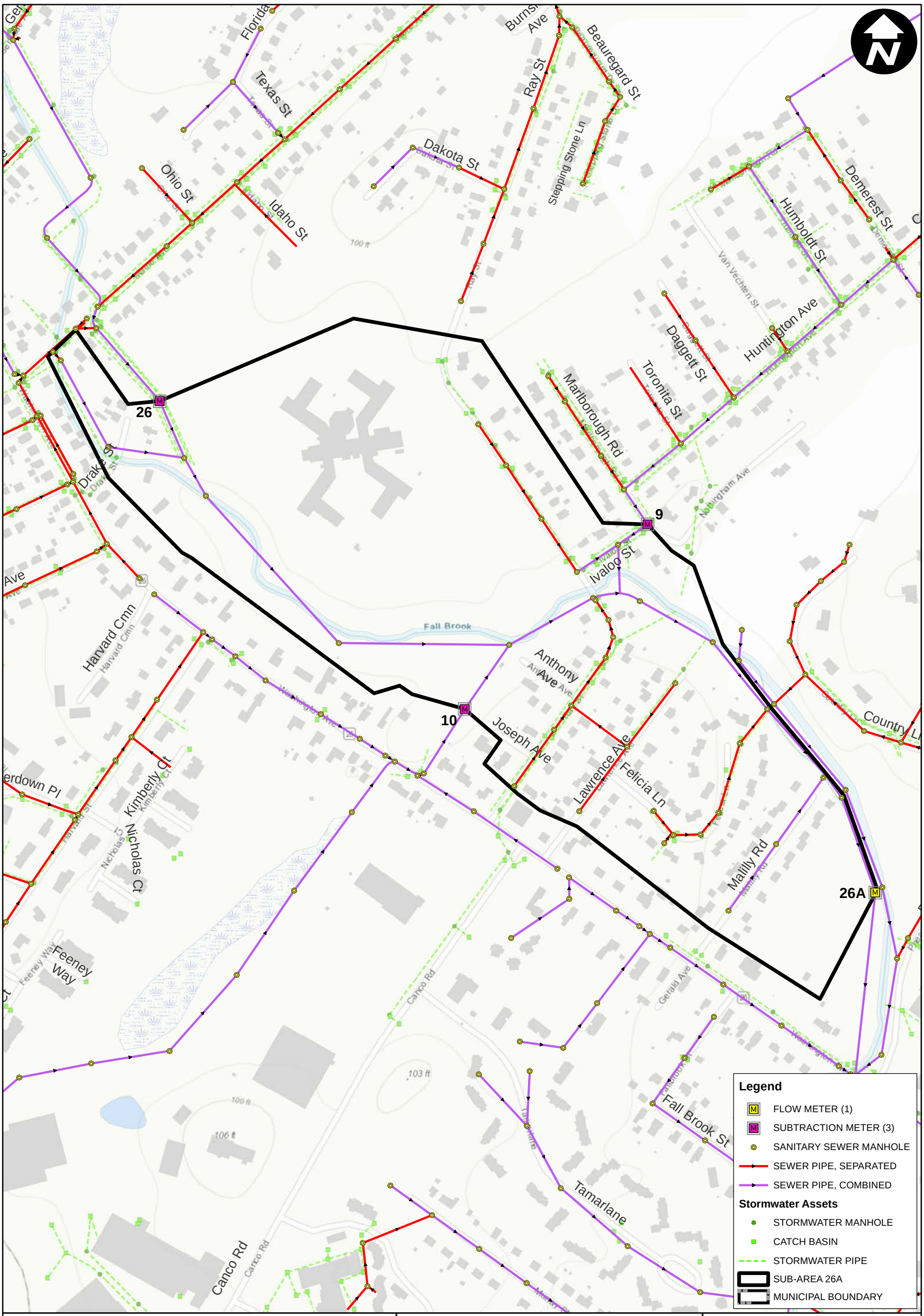

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 26A

2019 Sanitary Flow Meter Location

0 200 400 600 Feet

Total Pipe Length = 8,454 ft
Total Manhole Count = 40

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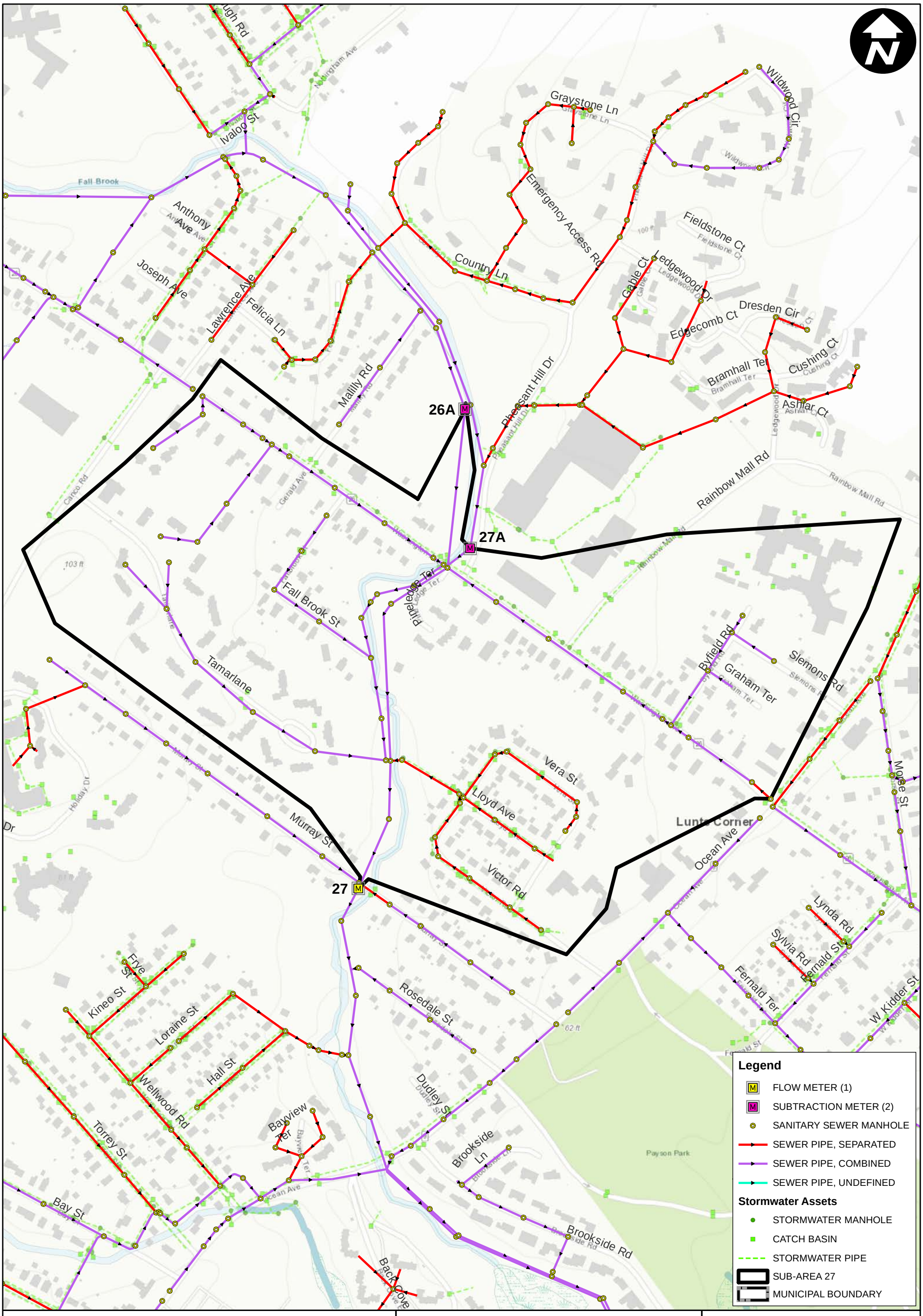

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 27

2019 Sanitary Flow Meter Location

Total Pipe Length = 12,480 ft
Total Manhole Count = 64

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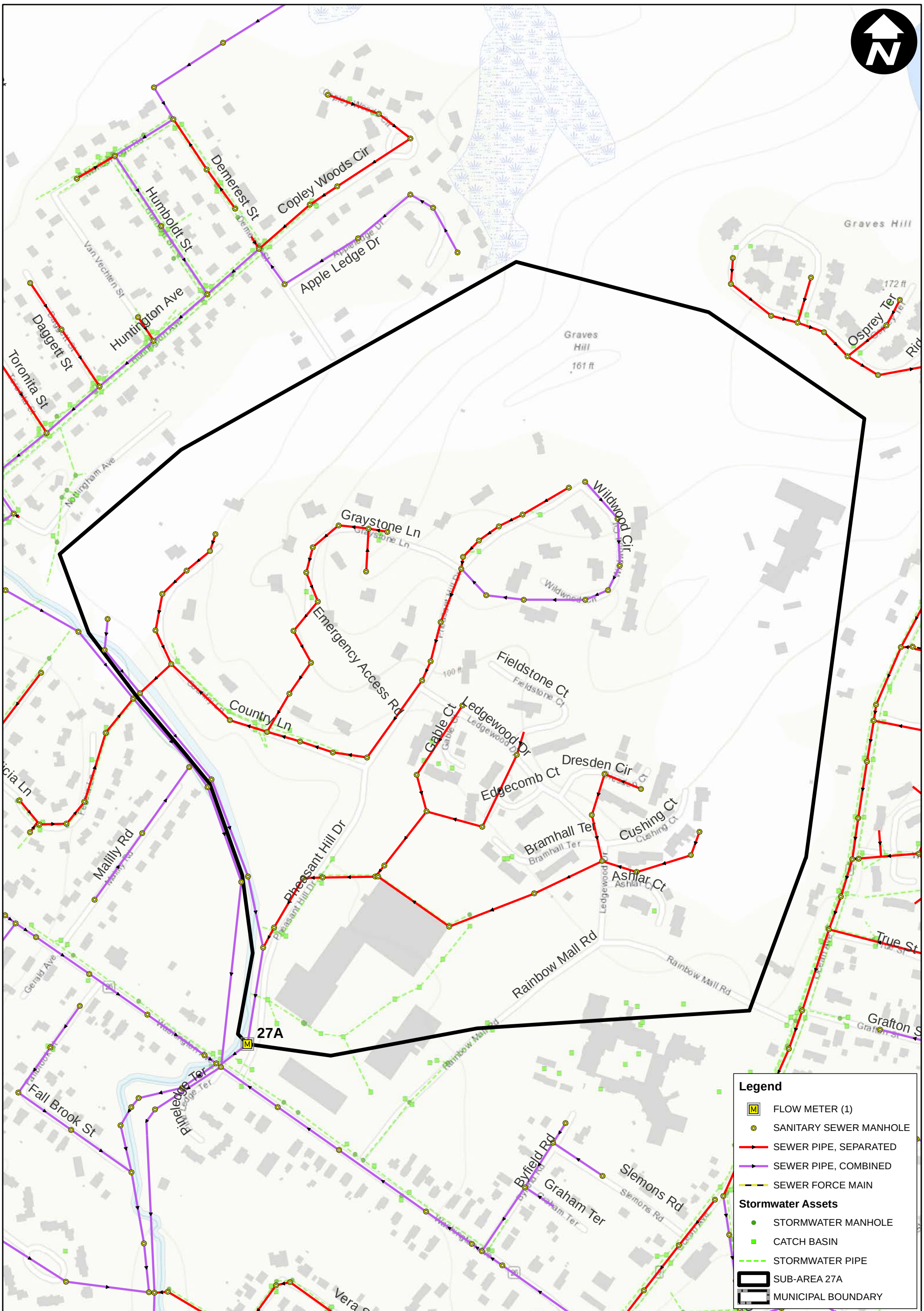
February 2019



City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 27A

2019 Sanitary Flow Meter Location

Total Pipe Length = 9,922 ft
Total Manhole Count = 64

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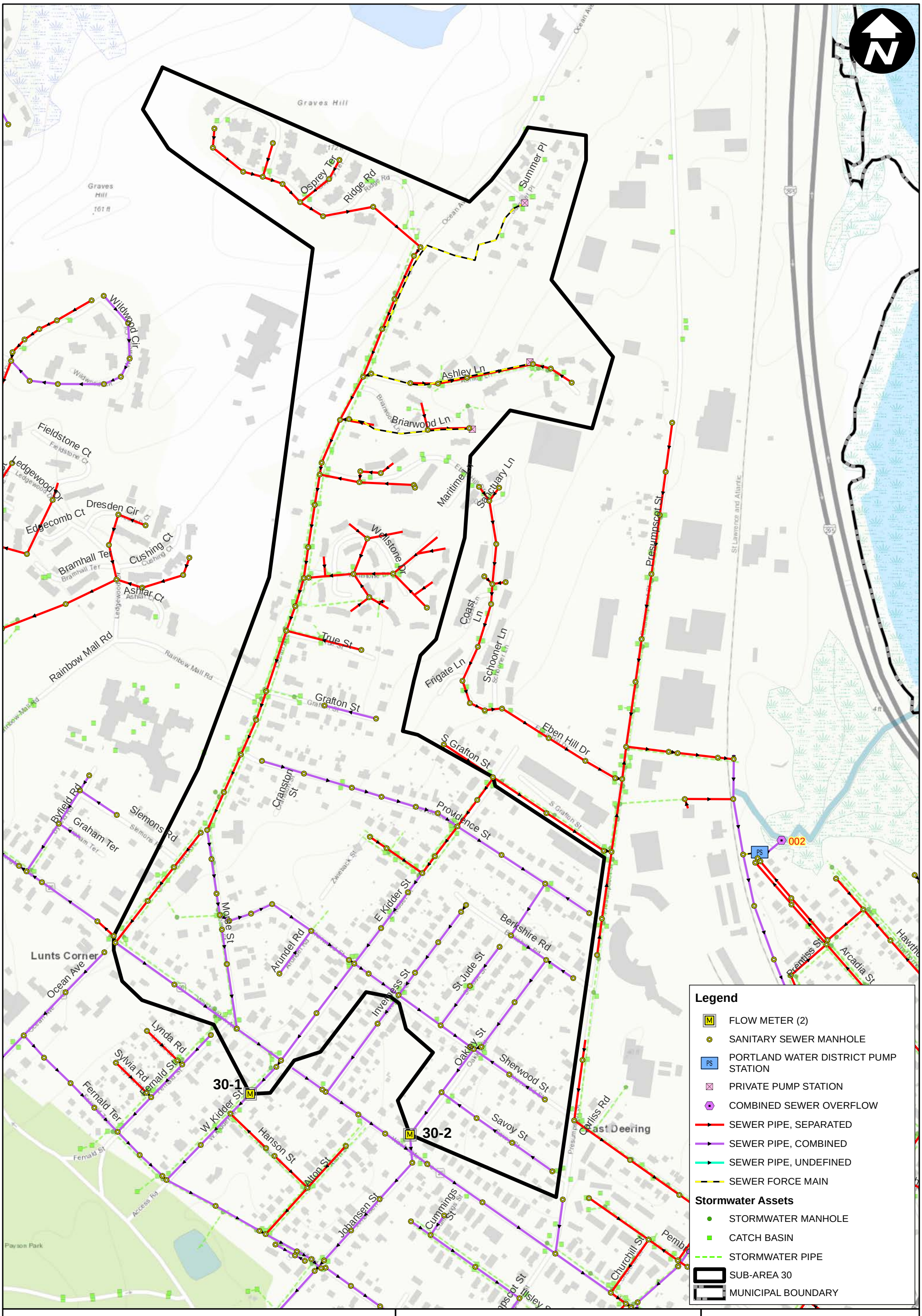

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 30

2019 Sanitary Flow Meter Location

0 200 400 600 800 Feet

Total Pipe Length = 20,647 ft
Total Manhole Count = 117

ARCADIS Design & Consultancy for natural and built assets

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February 2019

City of Portland, Maine

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

Sub-Area 31

2019 Sanitary Flow Meter Location

0 200 400 600 800 1,000 Feet

Total Pipe Length = 22,861 ft
Total Manhole Count = 123

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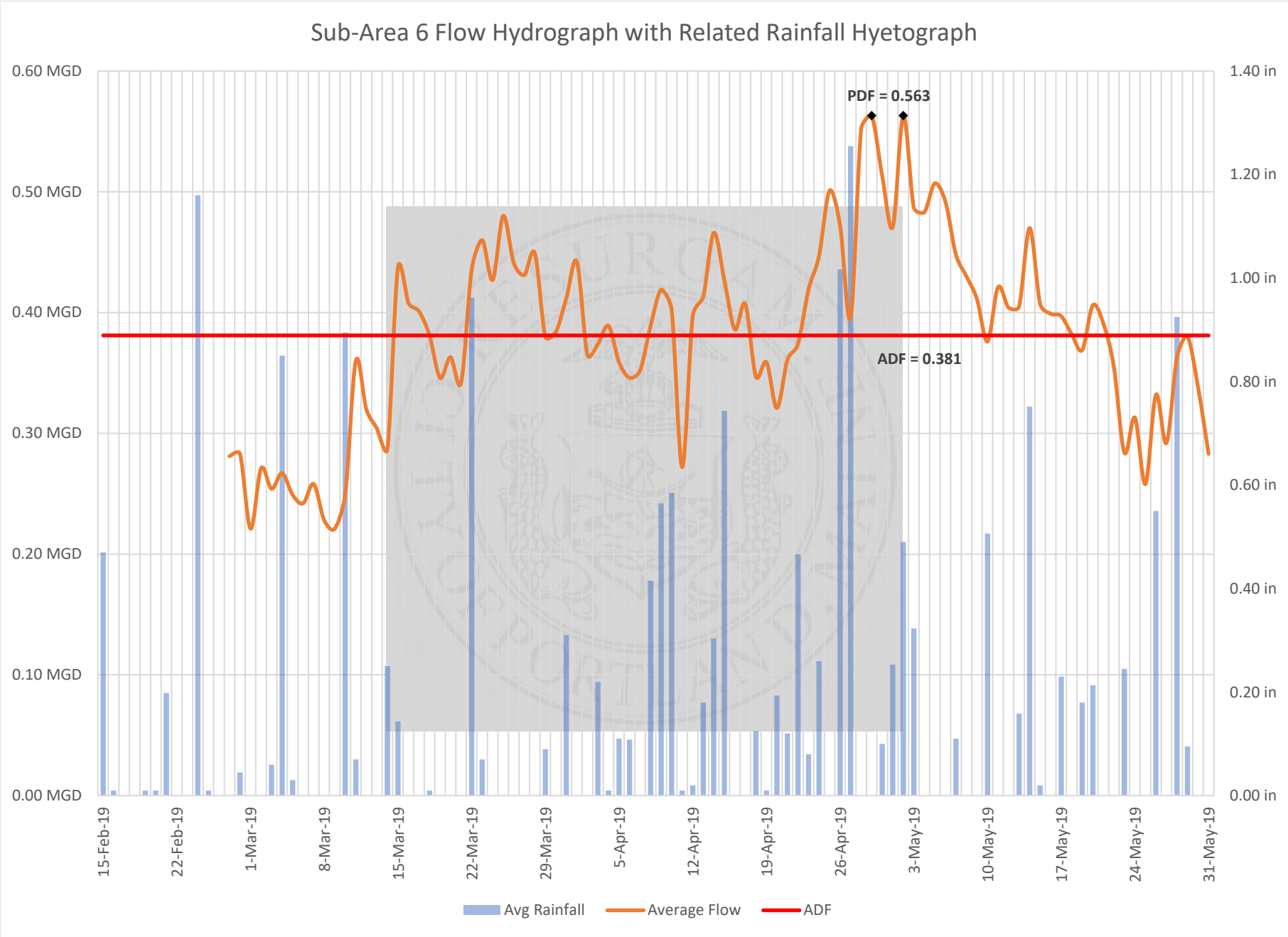
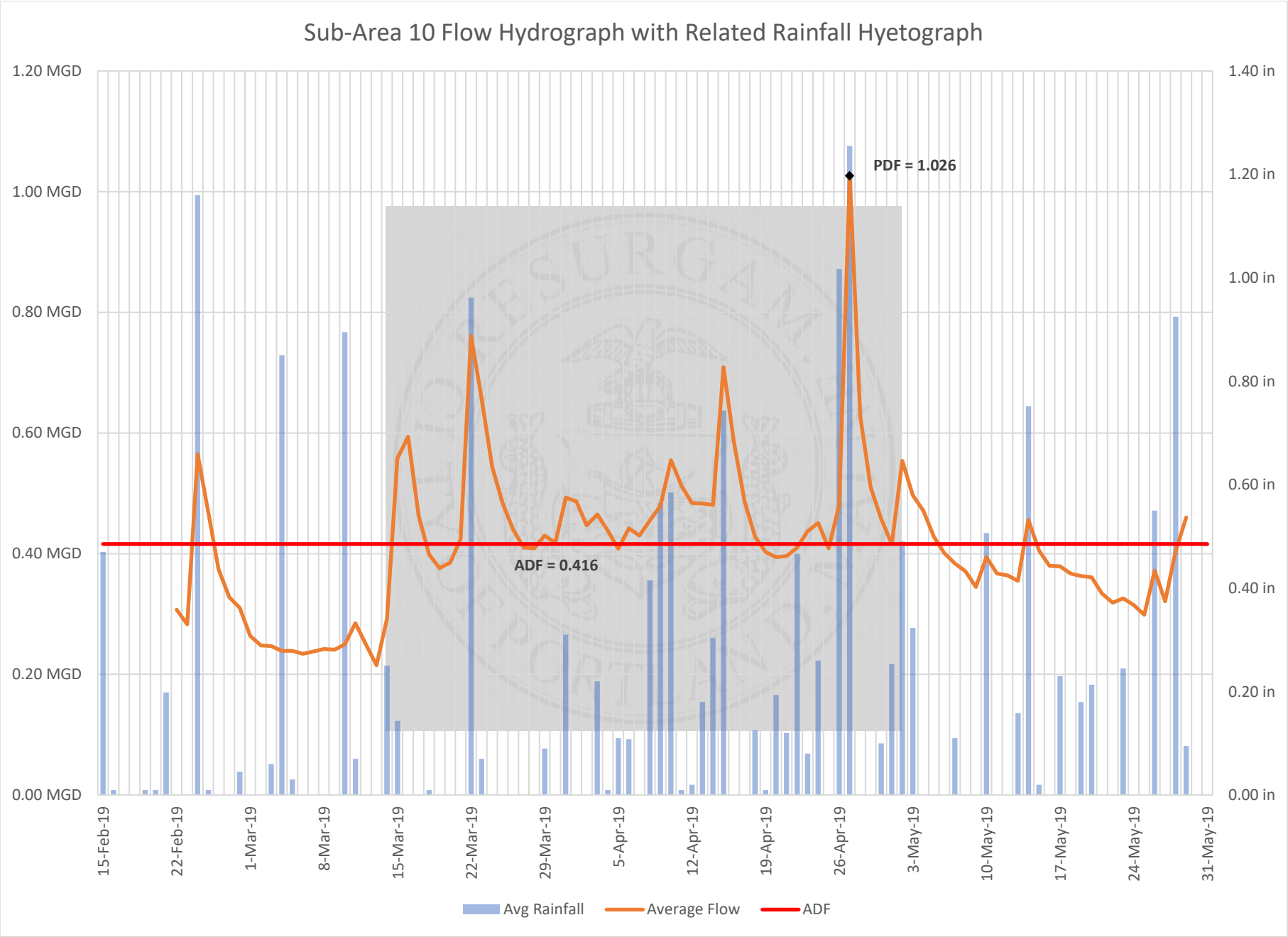
APPENDIX B

Flow Meter Hydrographs with Related Rainfall Hyetographs



ADF = Average Daily Flow
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
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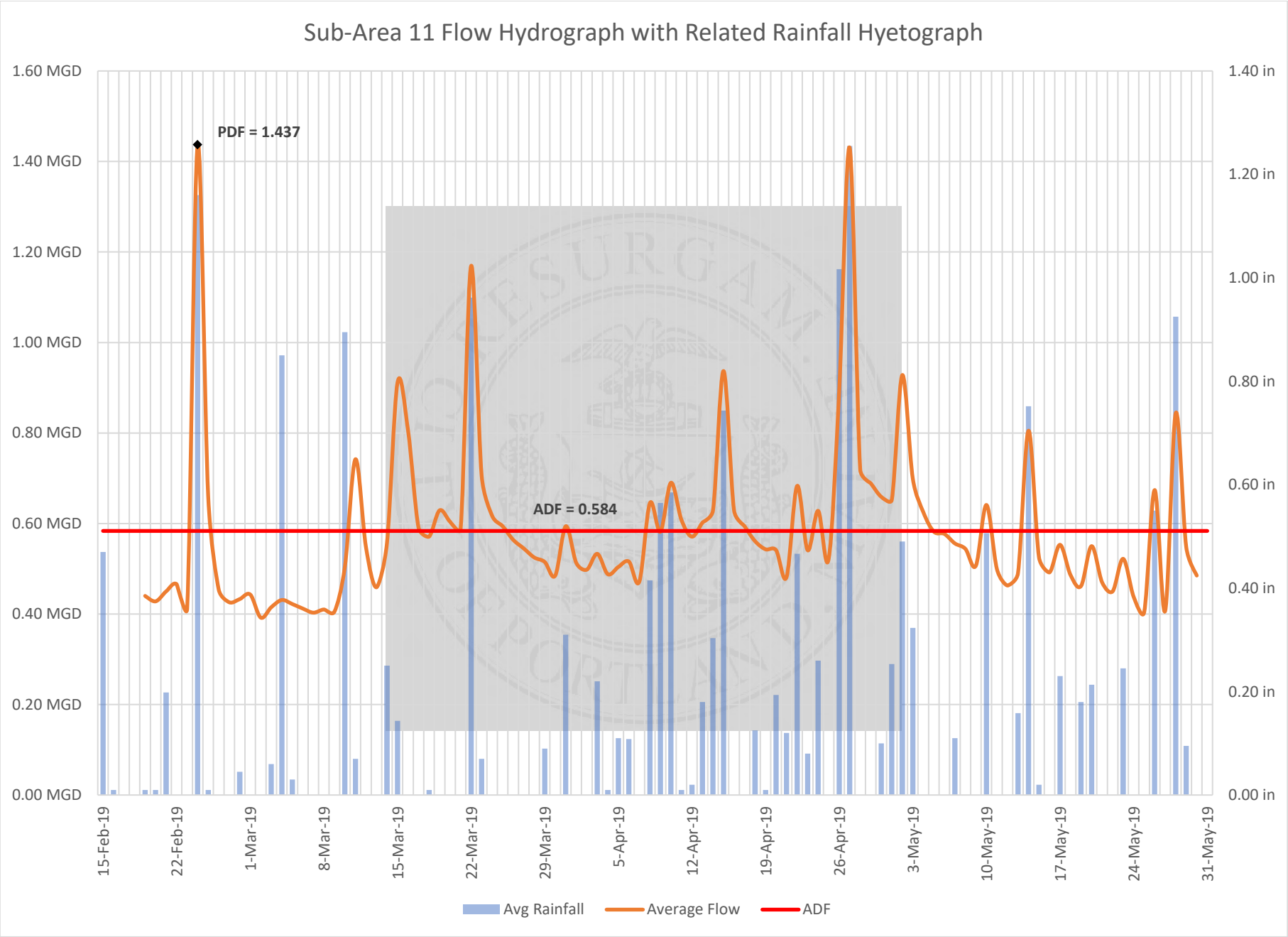
ARCADIS Design & Consultancy for natural and built assets



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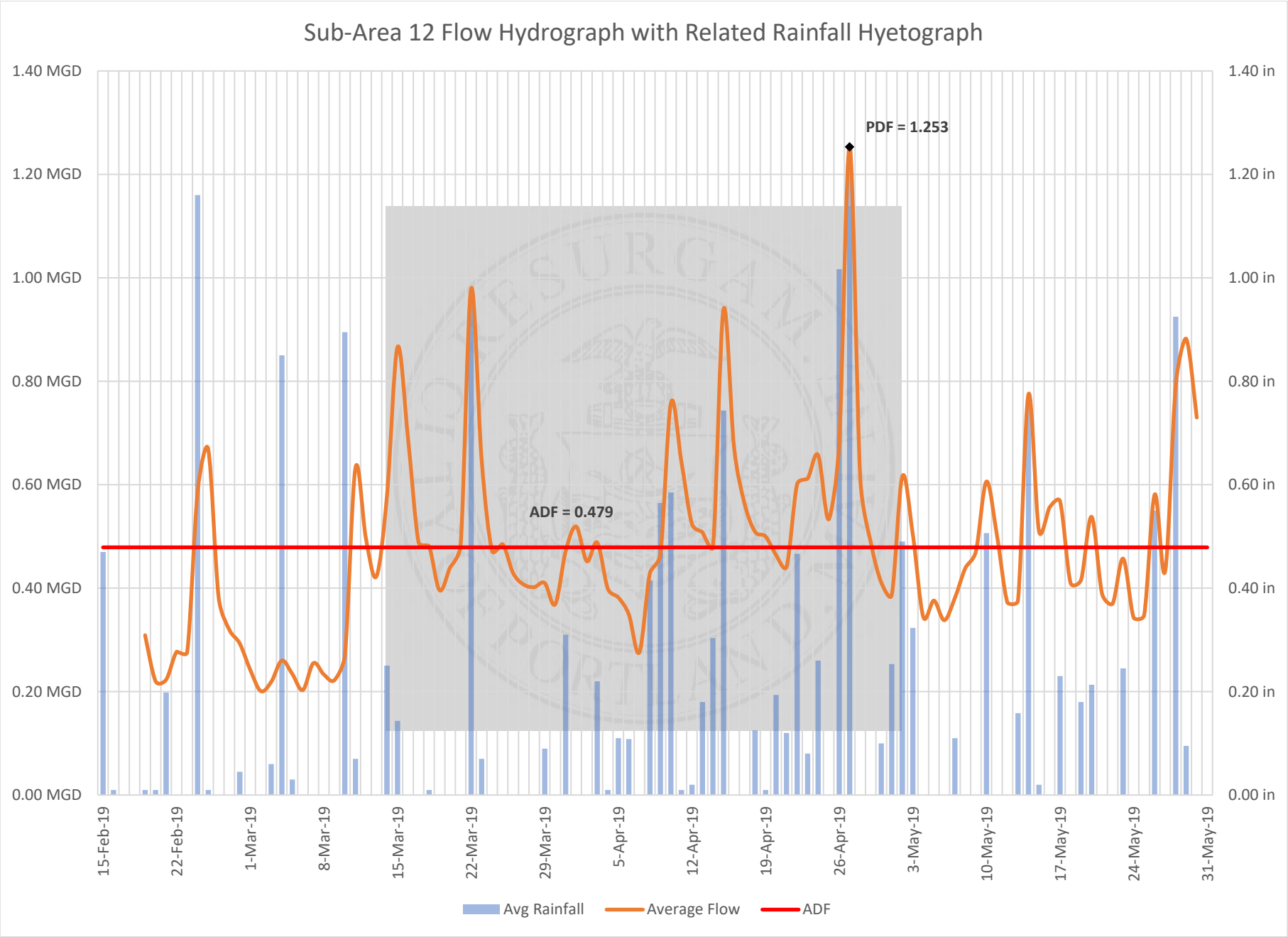
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
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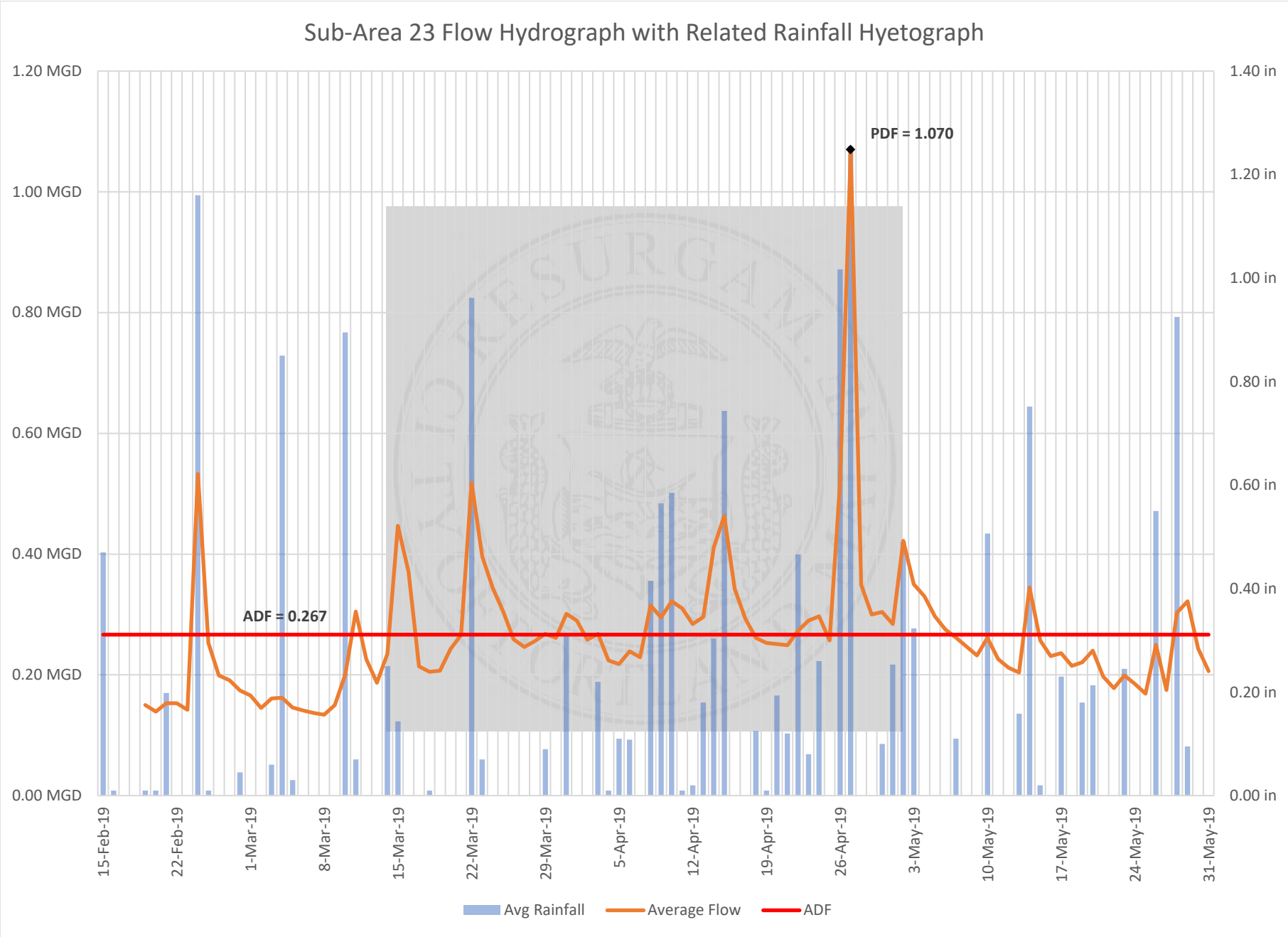
ARCADIS Design & Consultancy for natural and built assets



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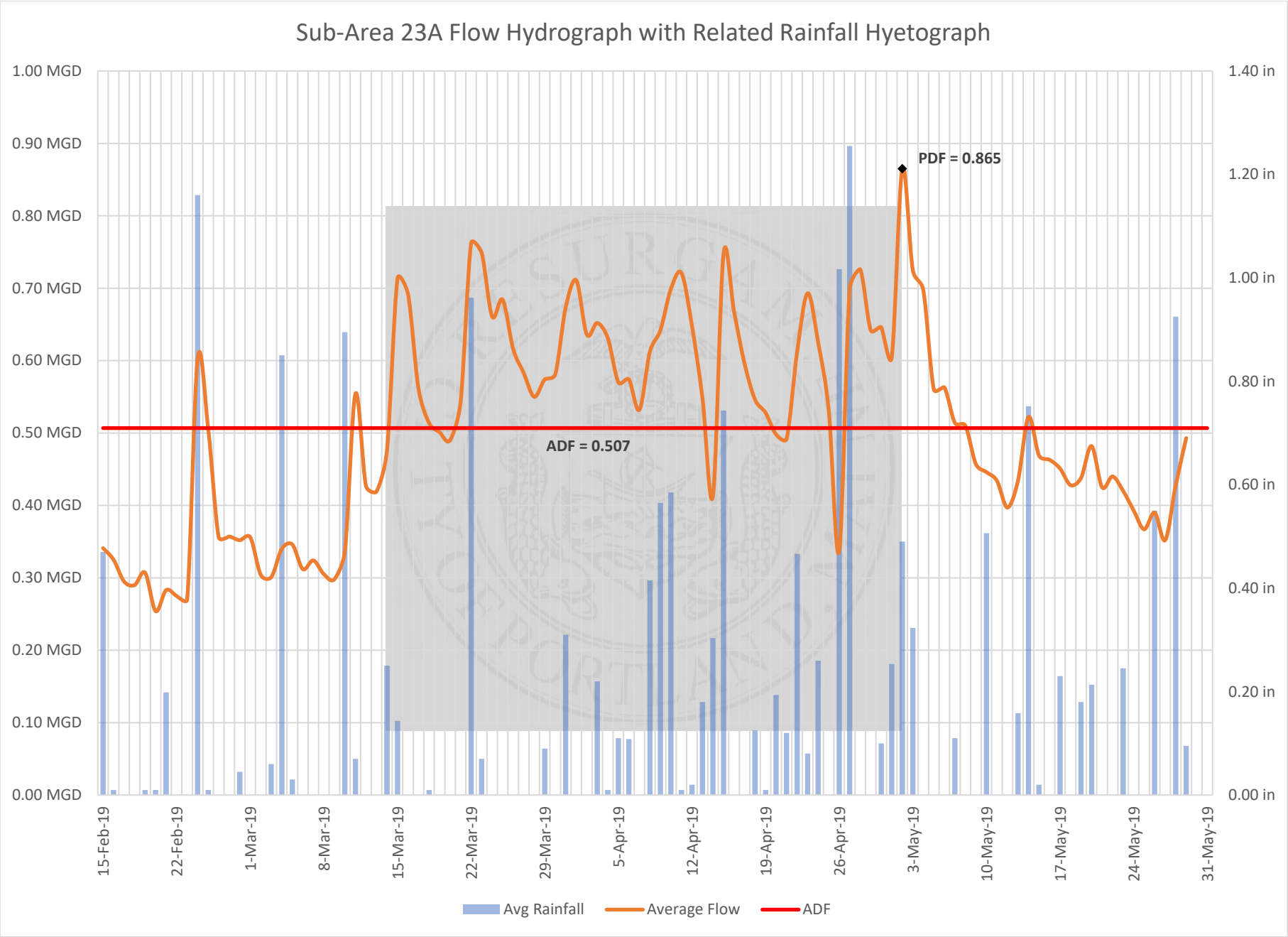
ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
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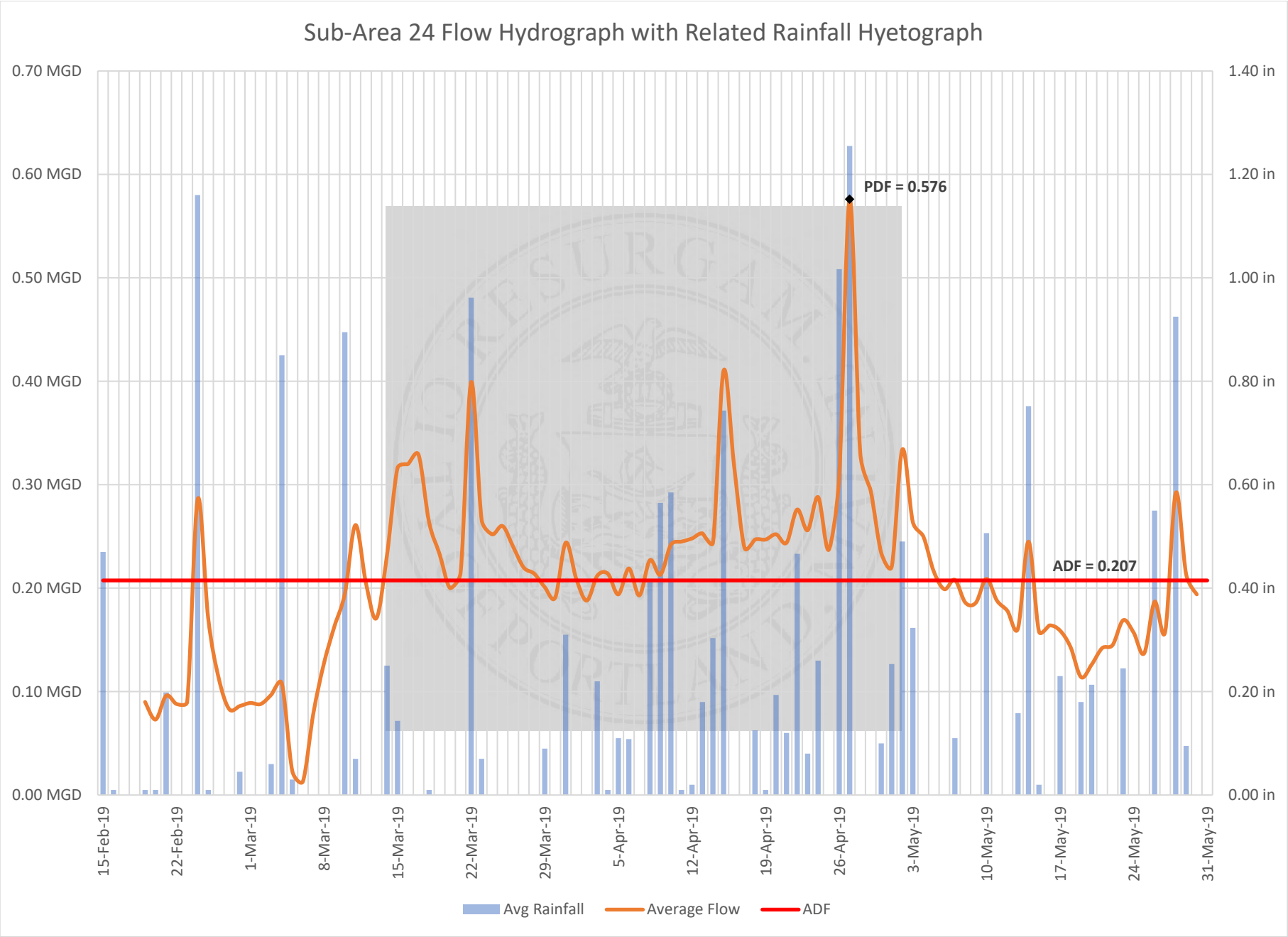
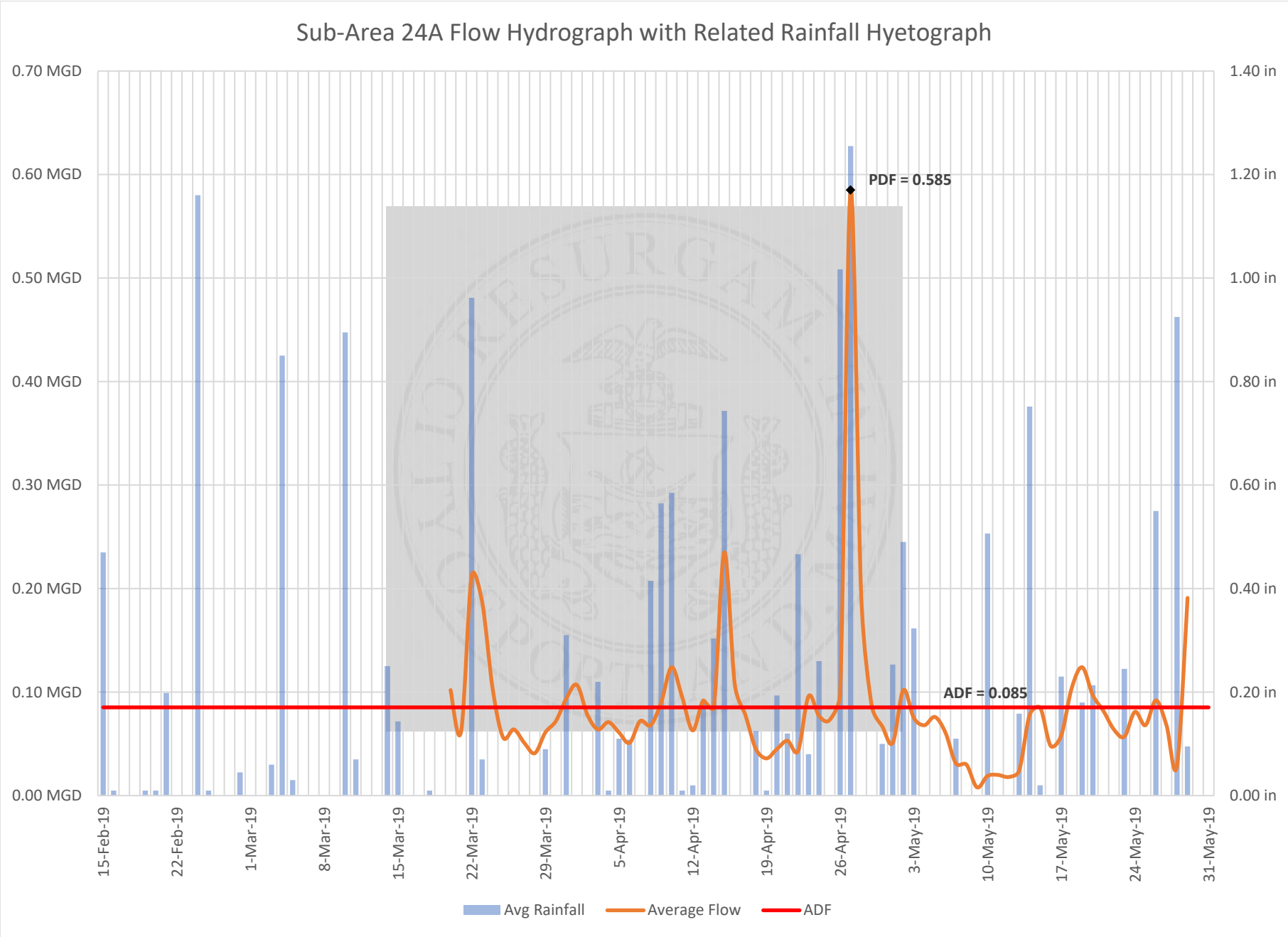
ARCADIS Design & Consultancy for natural and built assets



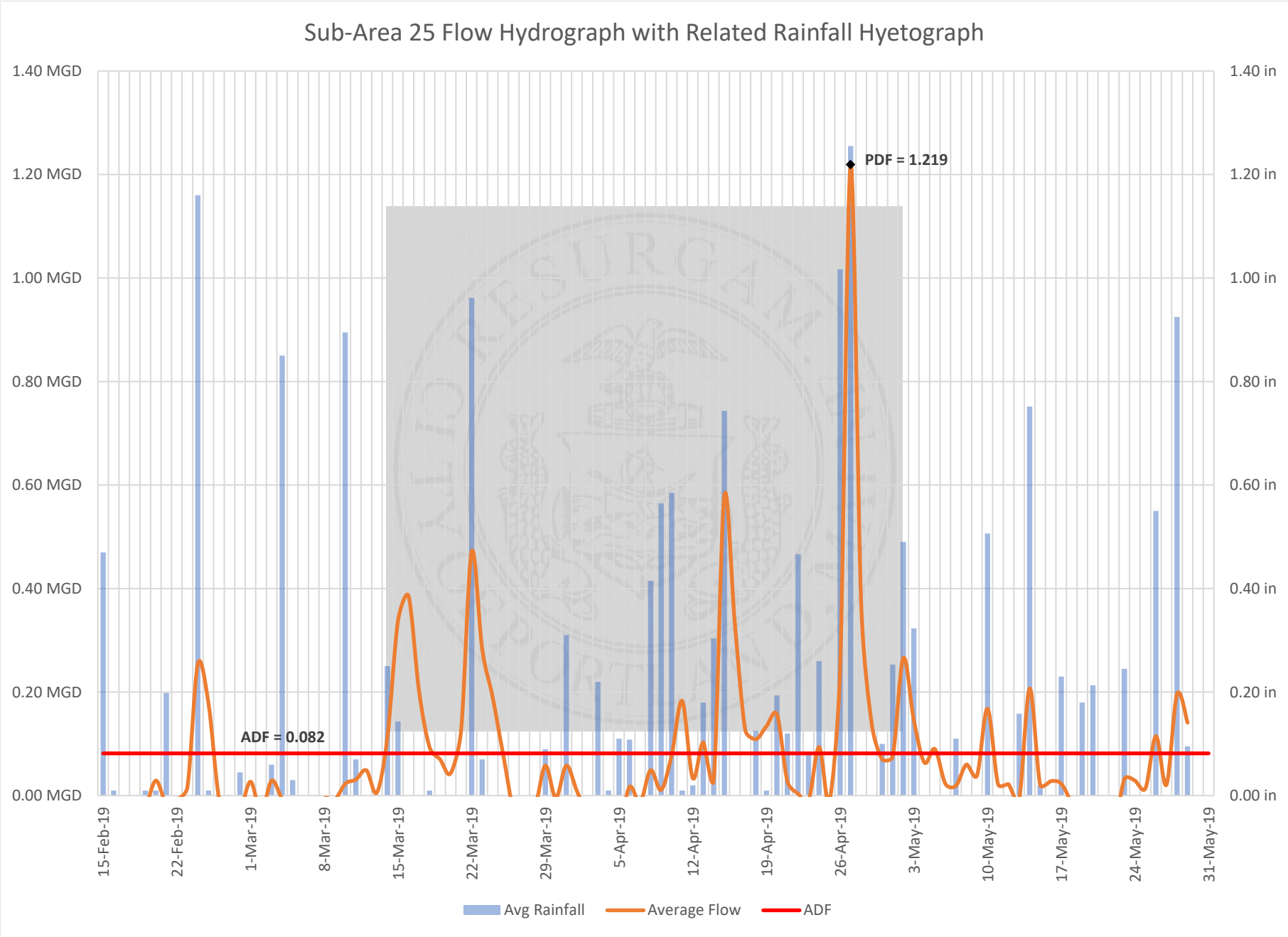
ADF = Average Daily Flow
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
PDF = Peak Daily Flow

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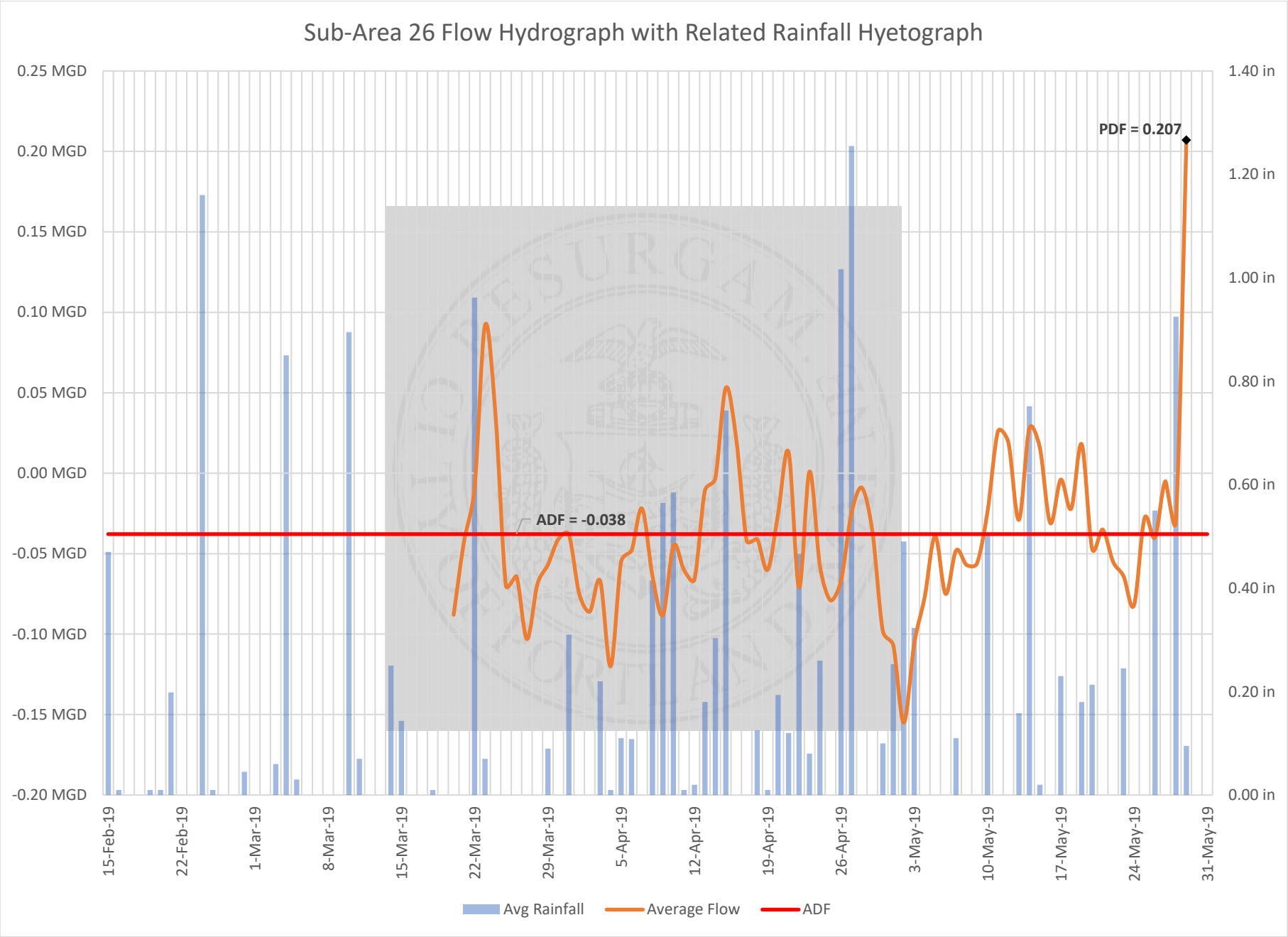
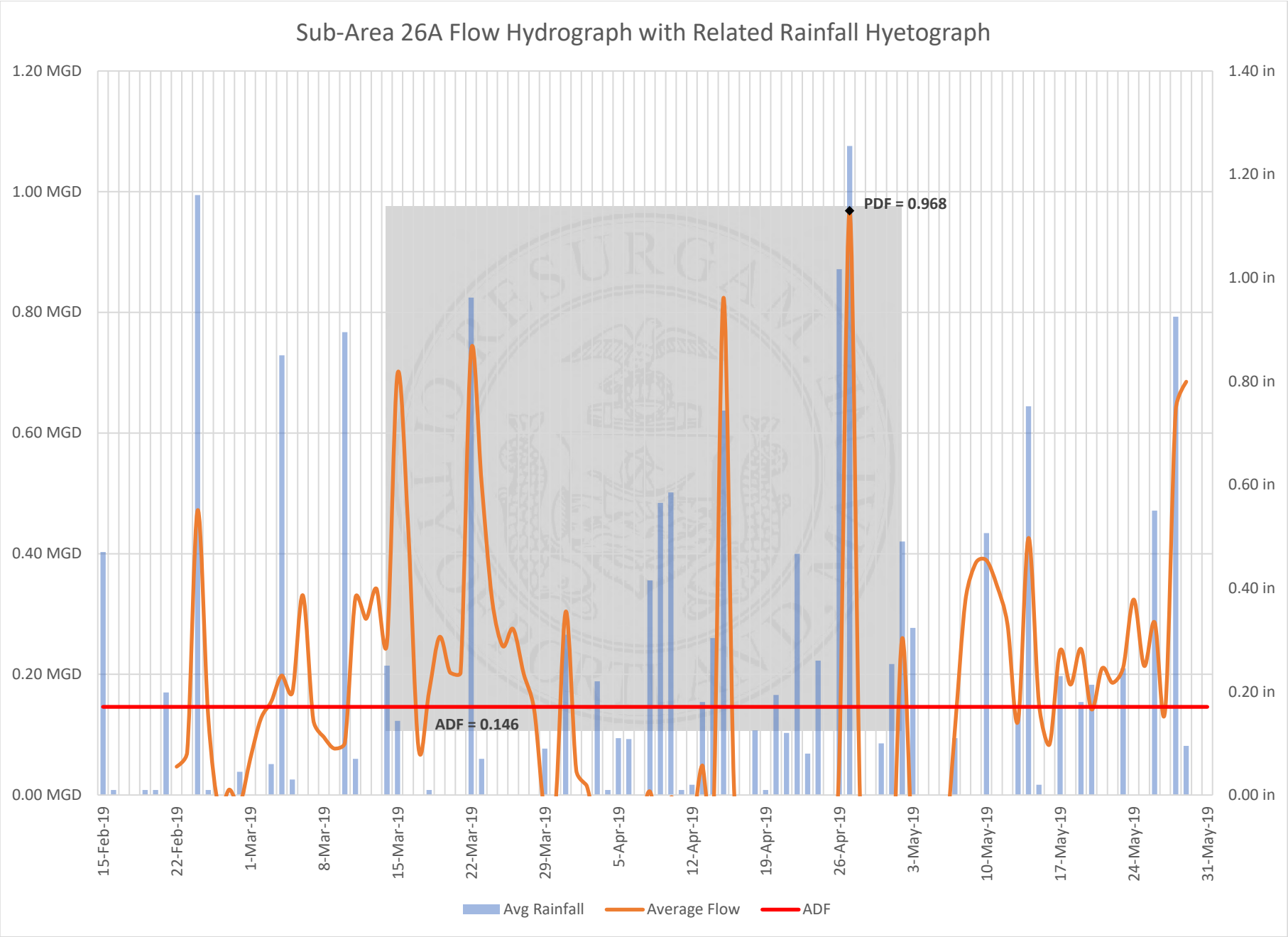


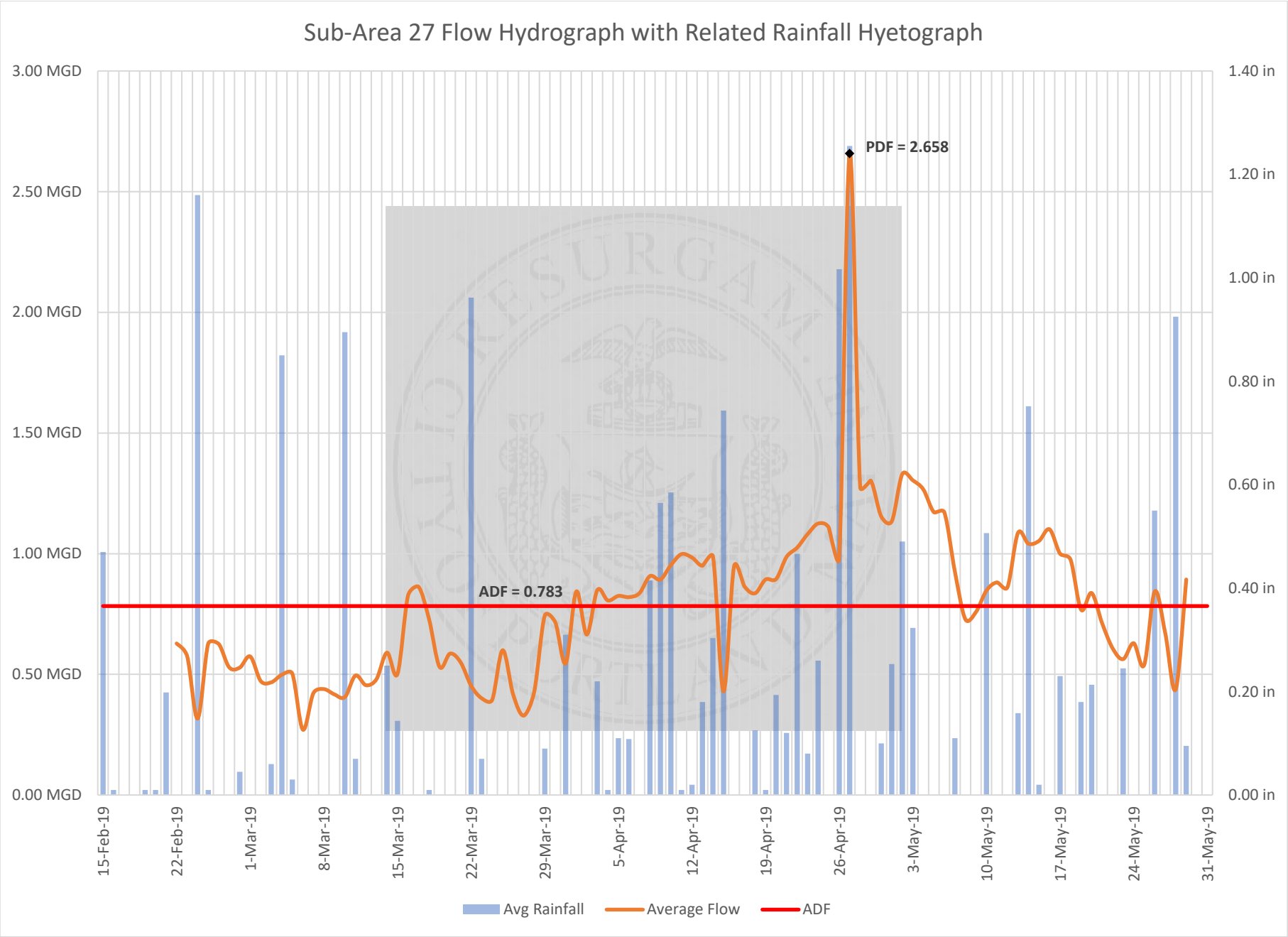
ADF = Average Daily Flow
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
PDF = Peak Daily Flow

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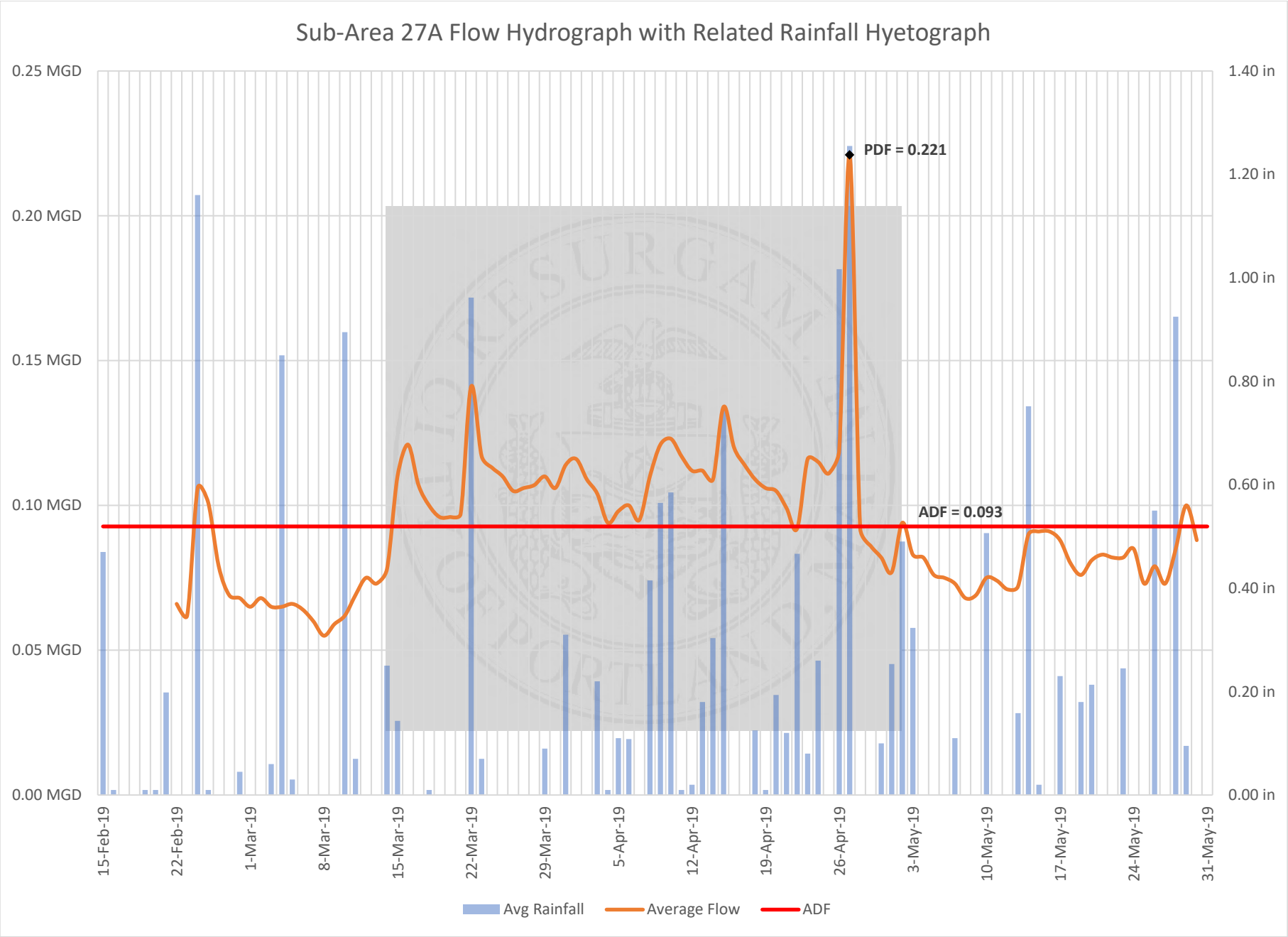

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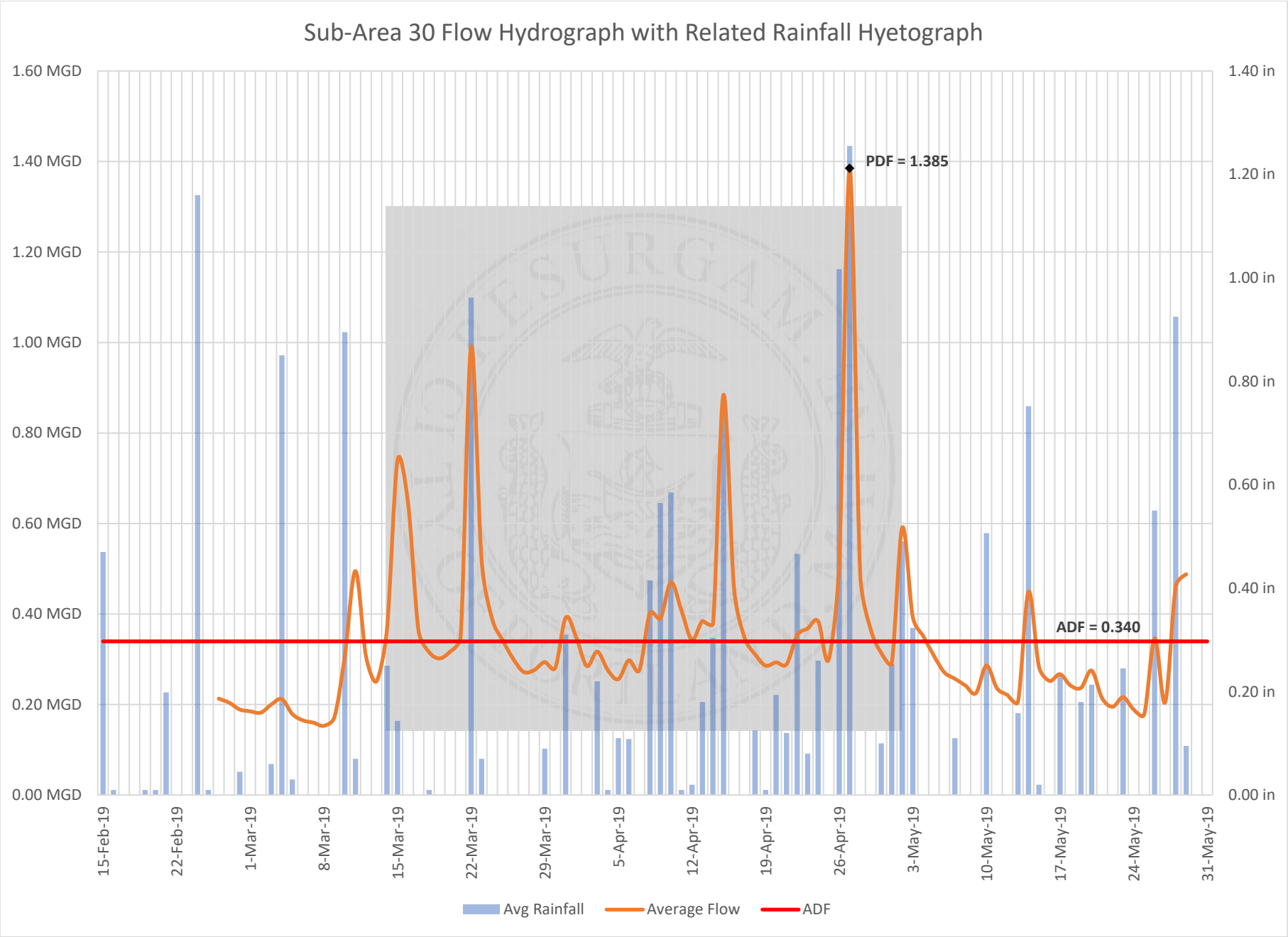
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



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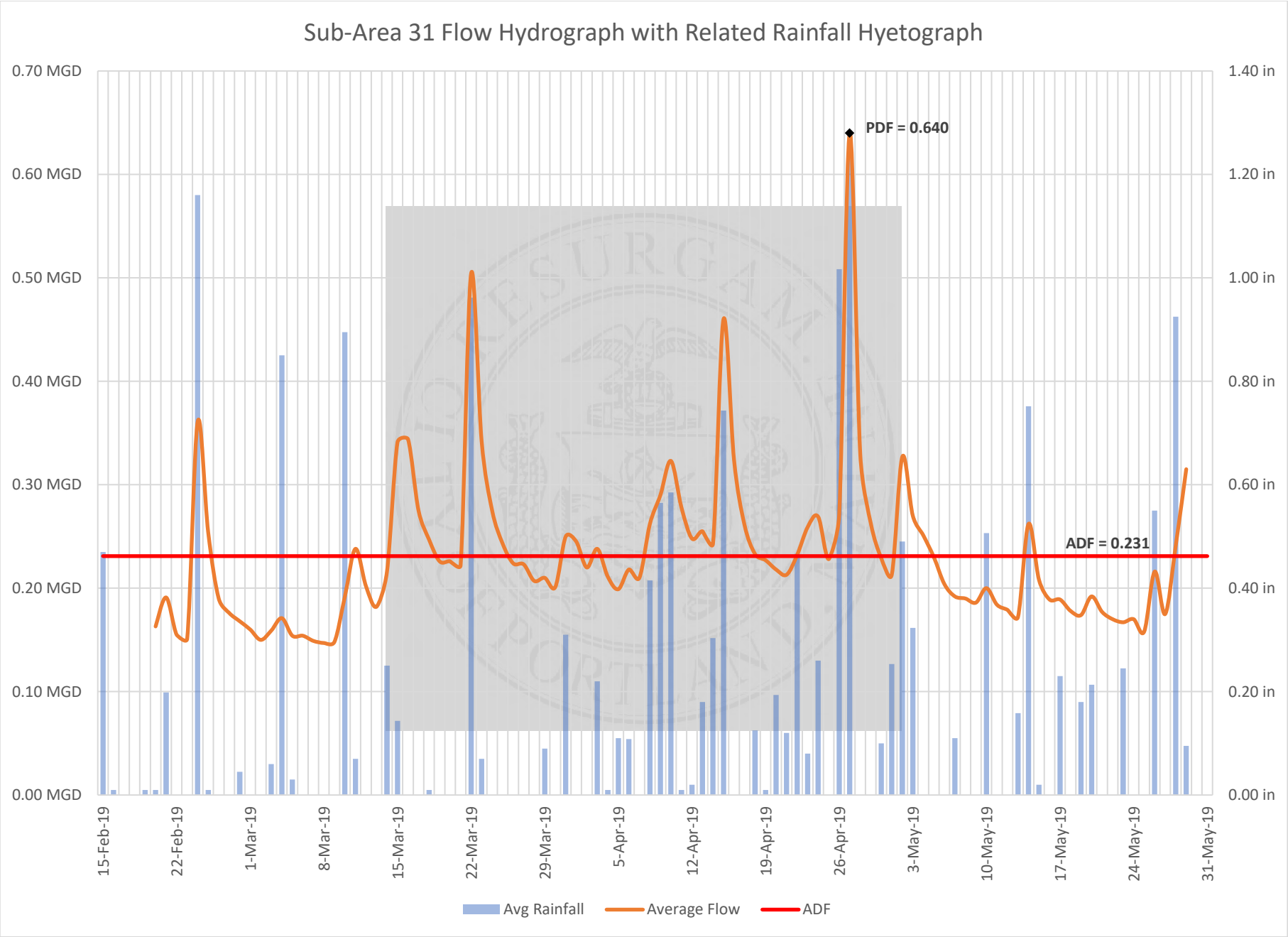
PDF = Peak Daily Flow

ARCADIS Design & Consultancy for natural and built assets



ADF = Average Daily Flow
PDF = Peak Daily Flow

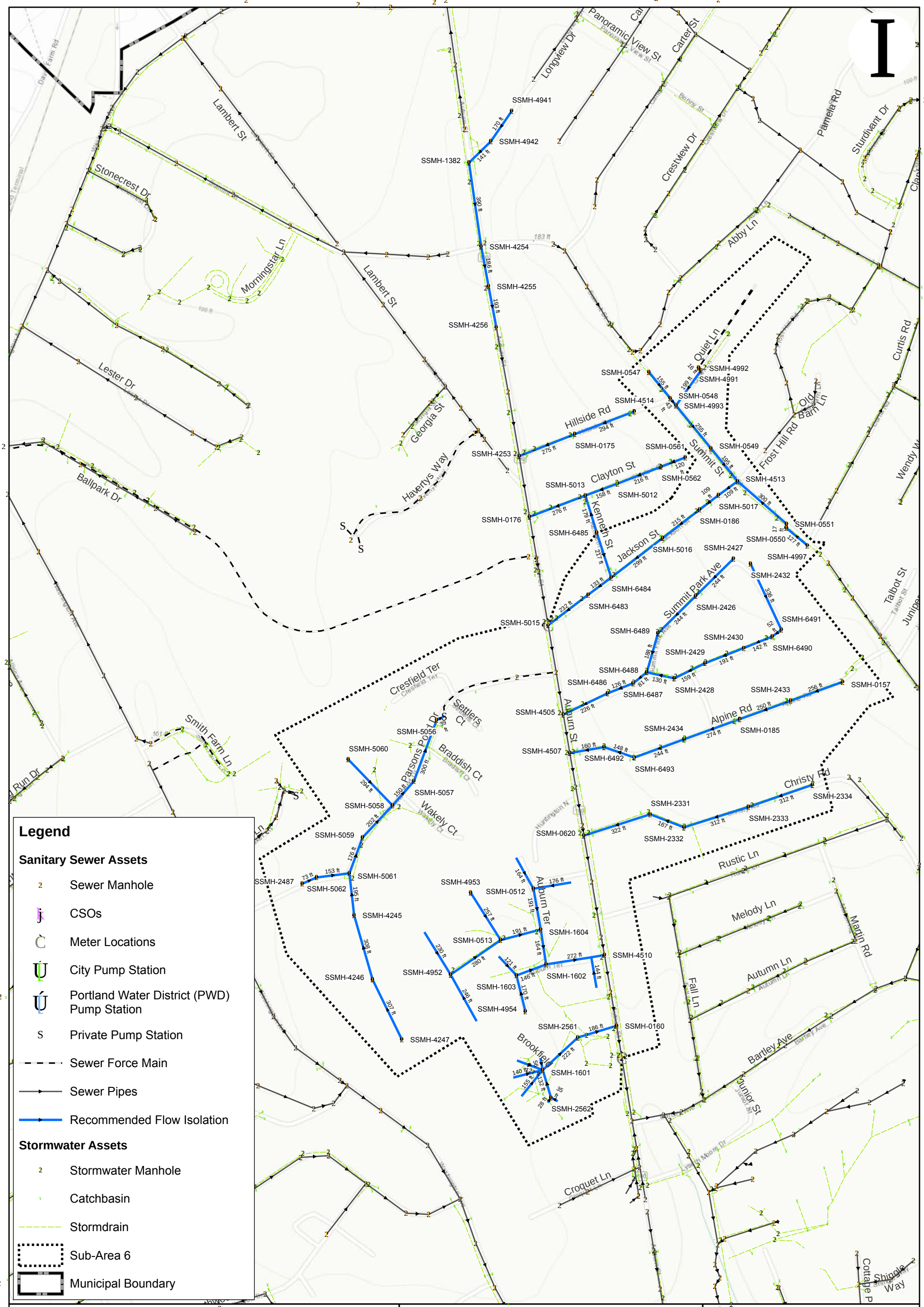
ARCADIS Design & Consultancy for natural and built assets

APPENDIX C

Follow-on Investigation Sub-Area Figures

INFILTRATION AND INFLOW INVESTIGATIONS:

FLOW ISOLATION LOCATIONS



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

ARCADIS

Sub-Area 6

Phase 2 - Flow Isolation Recommendations

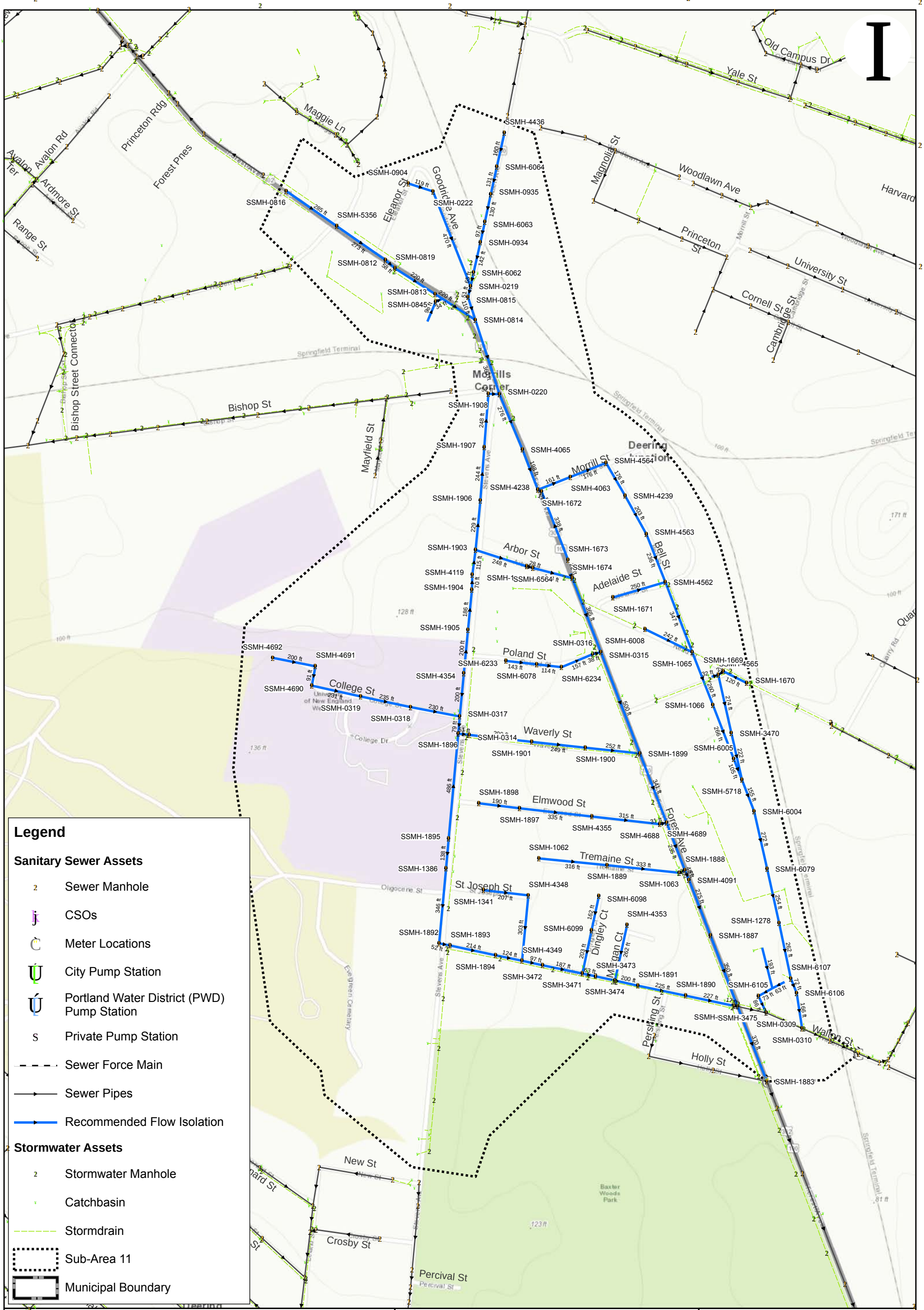
May 2019

Total Recommended Pipe For Flow Isolation = 15,813 ft

Combined Sewers = 13 %

Infiltration Estimate = 9,582 GPD/IM

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 6.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

ARCADIS

Sub-Area 11

Phase 2 - Flow Isolation Recommendations

May 2019

Total Recommended Pipe For Flow Isolation = 20,484 ft

Combined Sewers = 87 %

Infiltration Estimate = 6,629 GPD/IM

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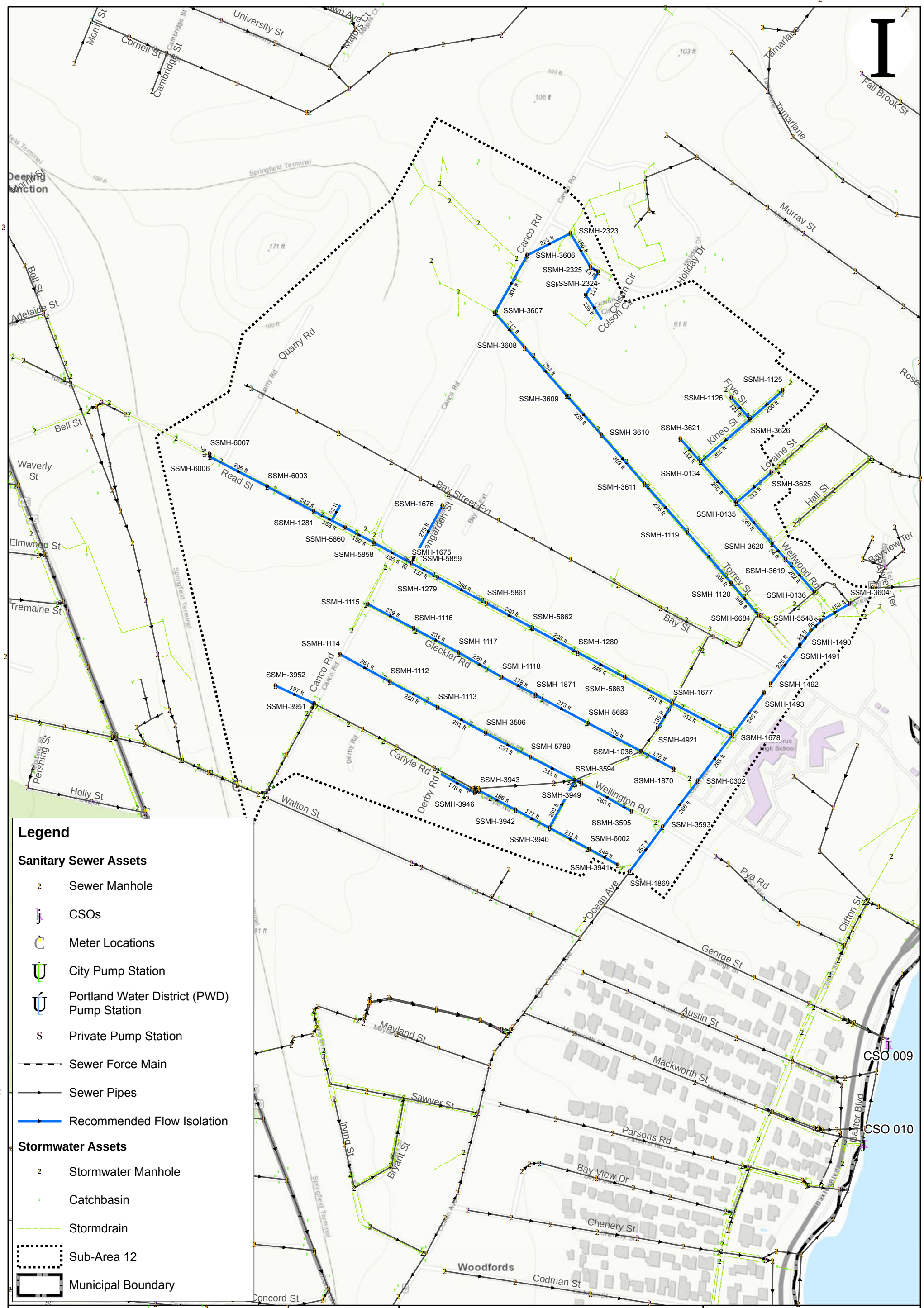

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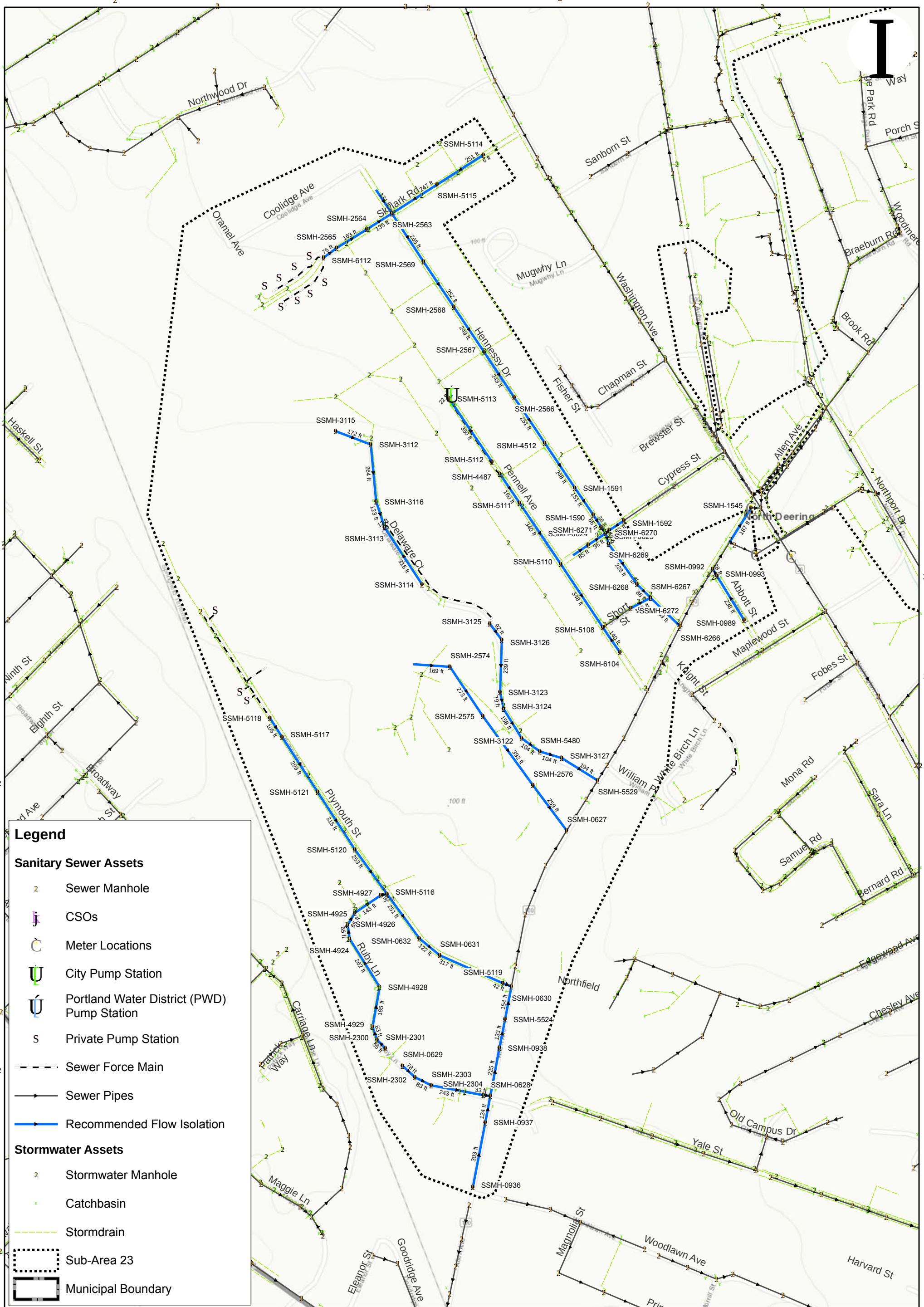


City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

ARCADIS

Sub-Area 23

Phase 2 - Flow Isolation Recommendations

May 2019

0 100 200 400 600 Feet

Total Recommended Pipe For Flow Isolation = 12,442 ft

Combined Sewers = 19 %

Infiltration Estimate = 4,081 GPD/IM

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 23.mxd

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

ARCADIS

Sub-Area 23A

Phase 2 - Flow Isolation Recommendations

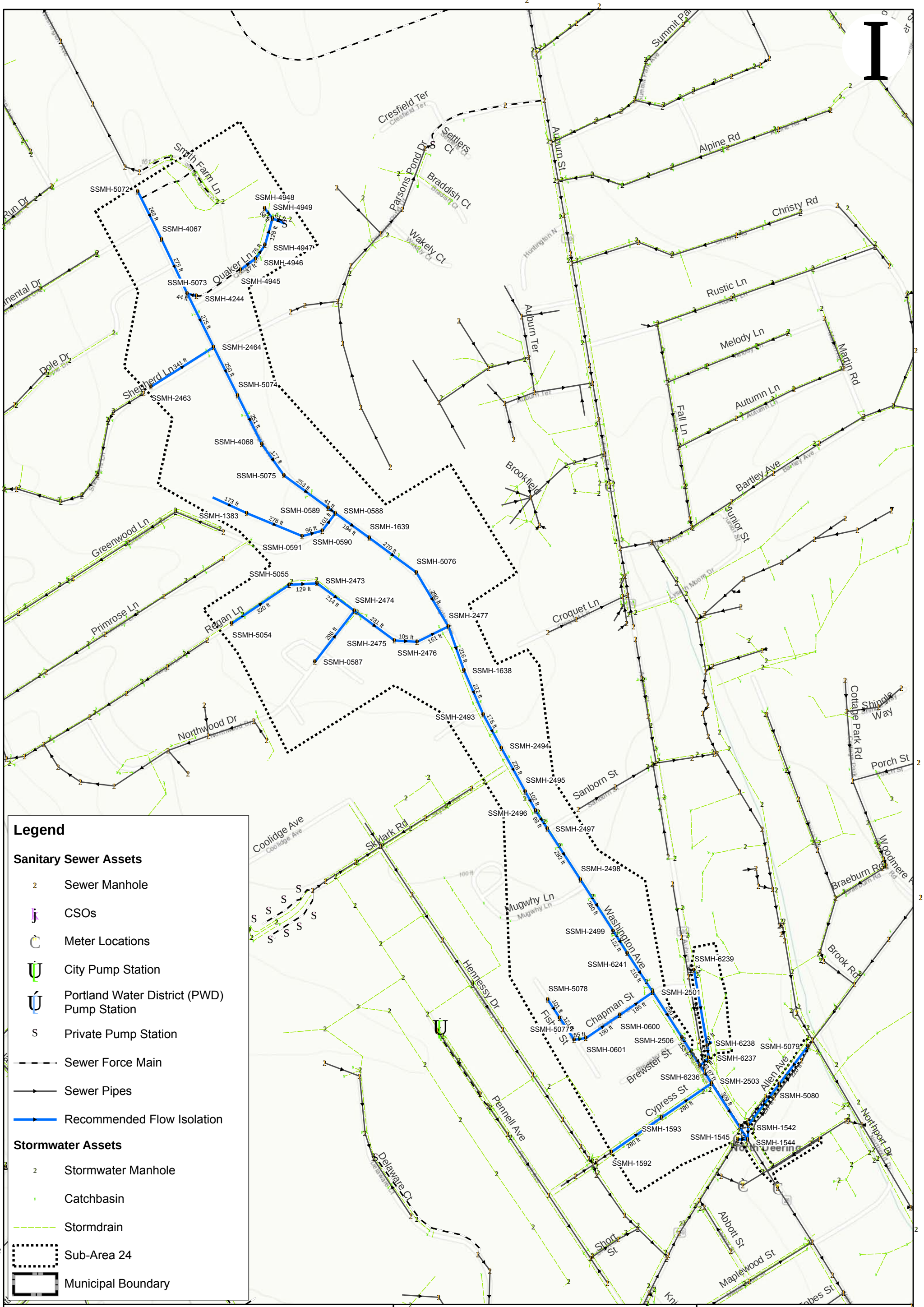
May 2019

Total Recommended Pipe For Flow Isolation = 6,635 ft

Combined Sewers = 27 %

Infiltration Estimate = 7,255 GPD/IM

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 23A.mxd



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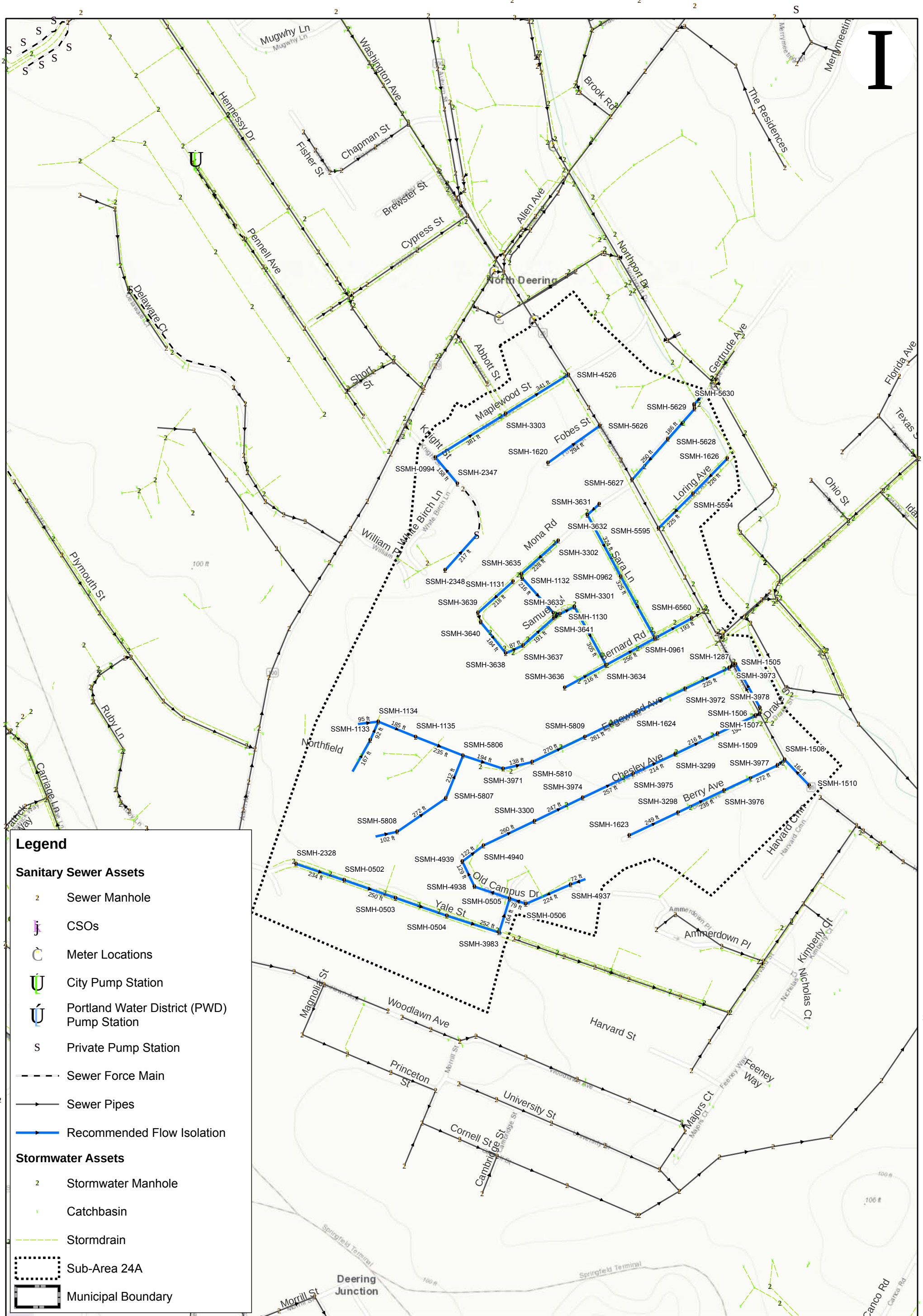


City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

ARCADIS

Sub-Area 24A

Phase 2 - Flow Isolation Recommendations

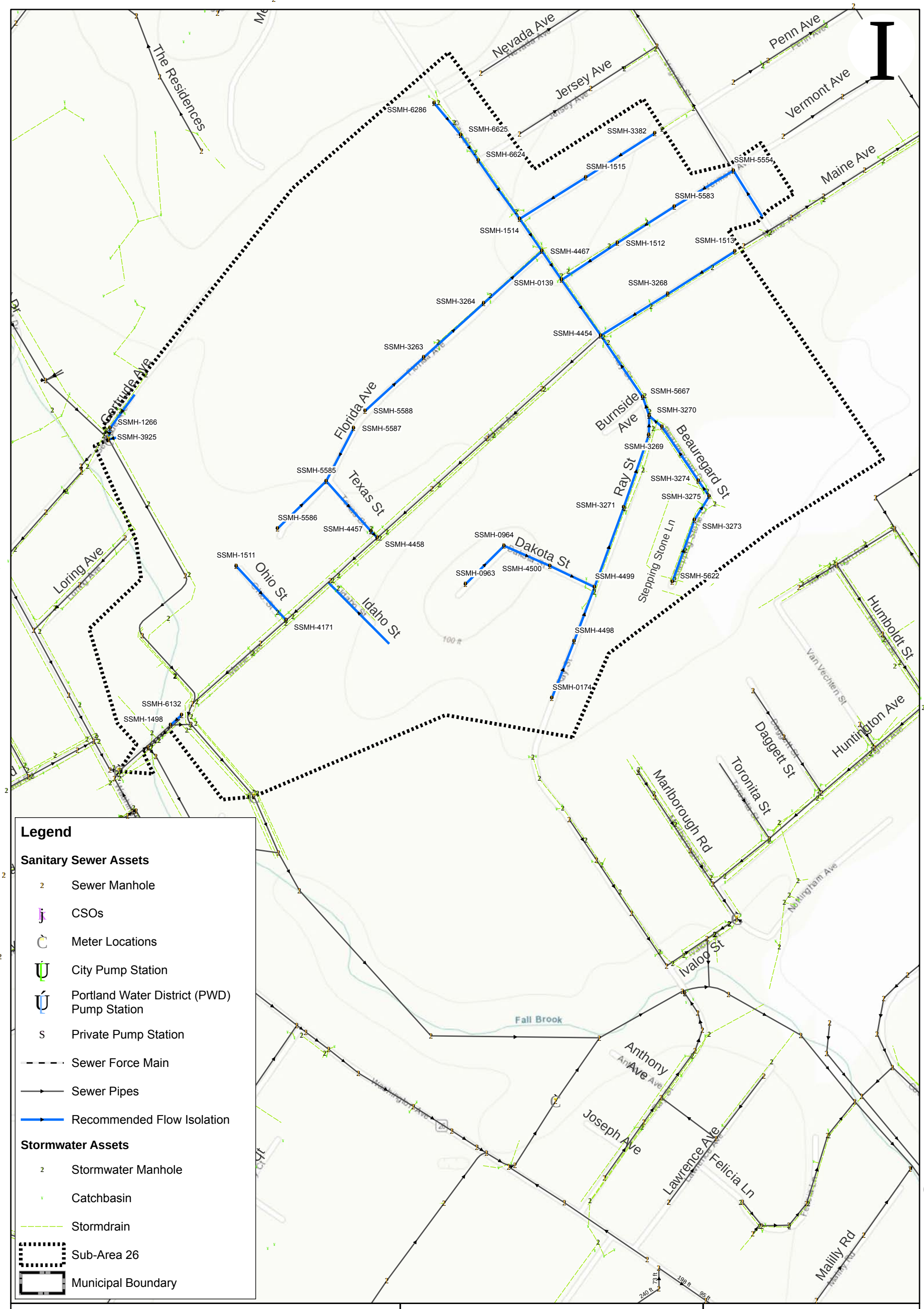
May 2019

Total Recommended Pipe For Flow Isolation = 12,625 ft

Combined Sewers = 13 %

Infiltration Estimate = TBD

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 24A.mxd



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

ARCADIS

Sub-Area 26

Phase 2 - Flow Isolation Recommendations

May 2019

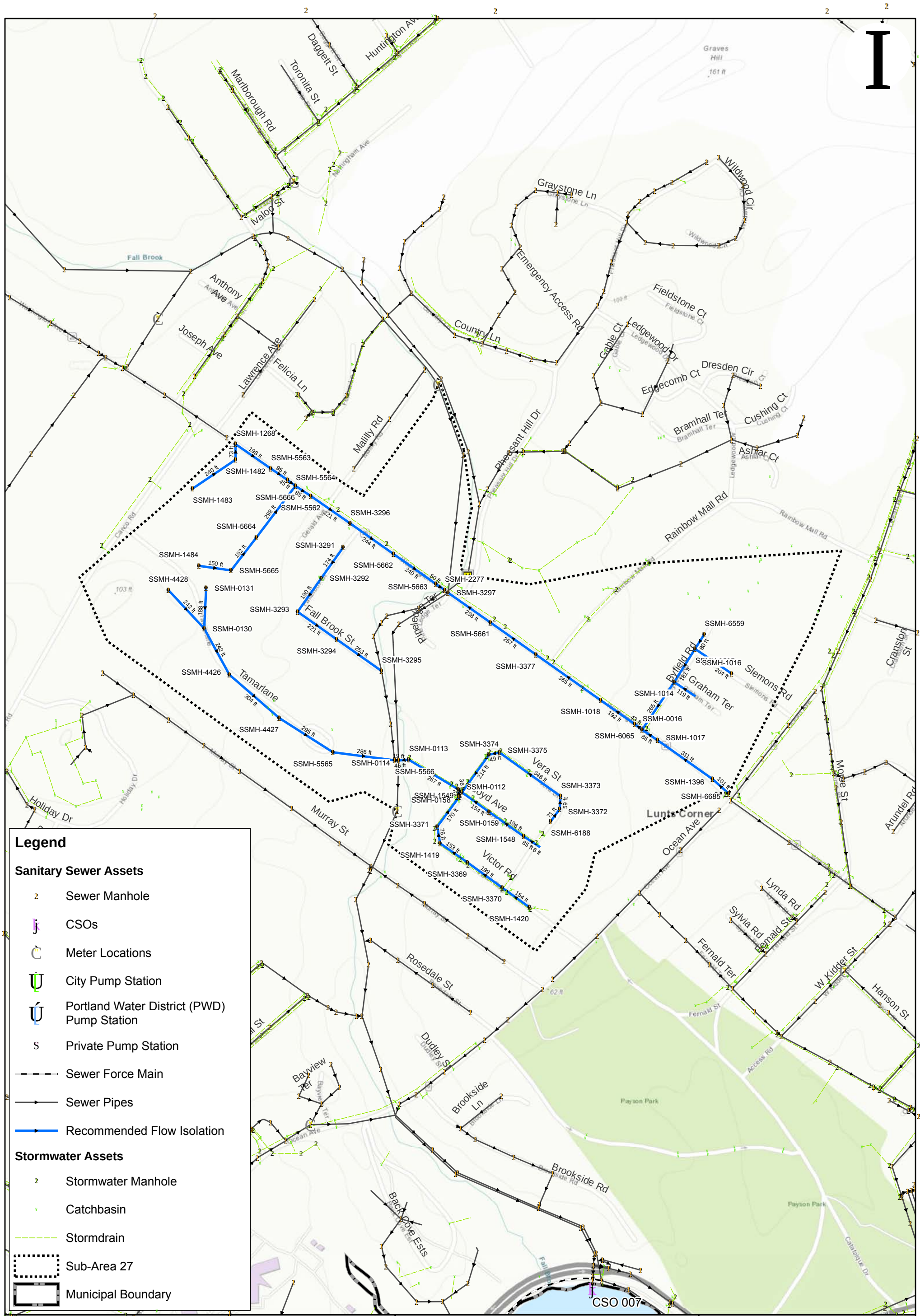
20 100 200 400 600 Feet

Total Recommended Pipe For Flow Isolation = 7,907 ft

Combined Sewers = 25 %

Infiltration Estimate = TBD

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 26.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

ARCADIS

Sub-Area 27

Phase 2 - Flow Isolation Recommendations

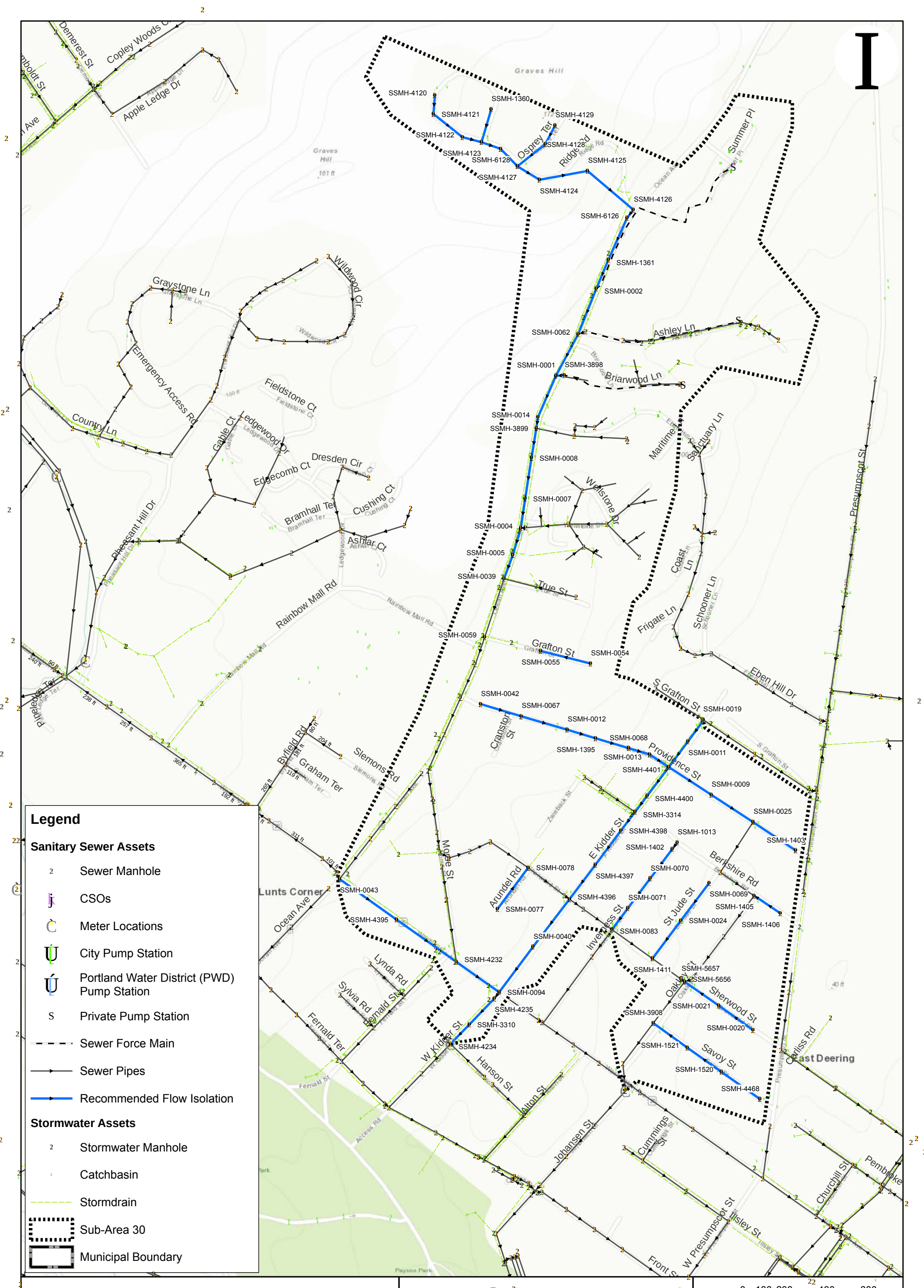
May 2019

Total Recommended Pipe For Flow Isolation = 9,293 ft

Combined Sewers = 81 %

Infiltration Estimate = 6,806 GPD/IM

G:\GIS\Portland\2018 - 2019 SSES Maps\2019 Phase 2 Flow Isolation - Sub-Area 27.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

ARCADIS

Sub-Area 30

Phase 2 - Flow Isolation Recommendations

May 2019

Total Recommended Pipe For Flow Isolation = 10,778 ft

Combined Sewers = 50 %

Infiltration Estimate = 3,163 GPD/IM

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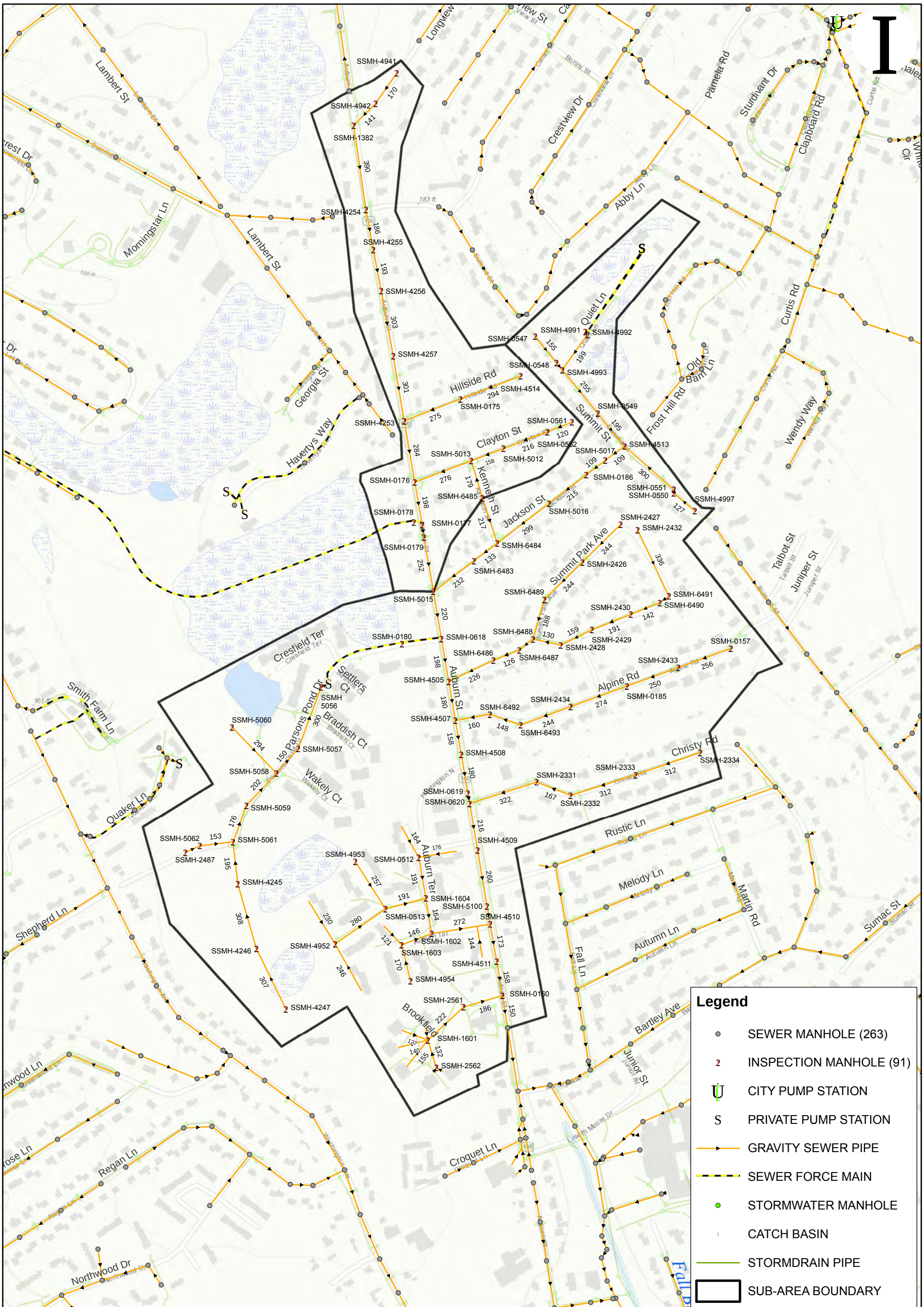
INFILTRATION AND INFLOW INVESTIGATIONS:

MANHOLE INSPECTION LOCATIONS



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 6

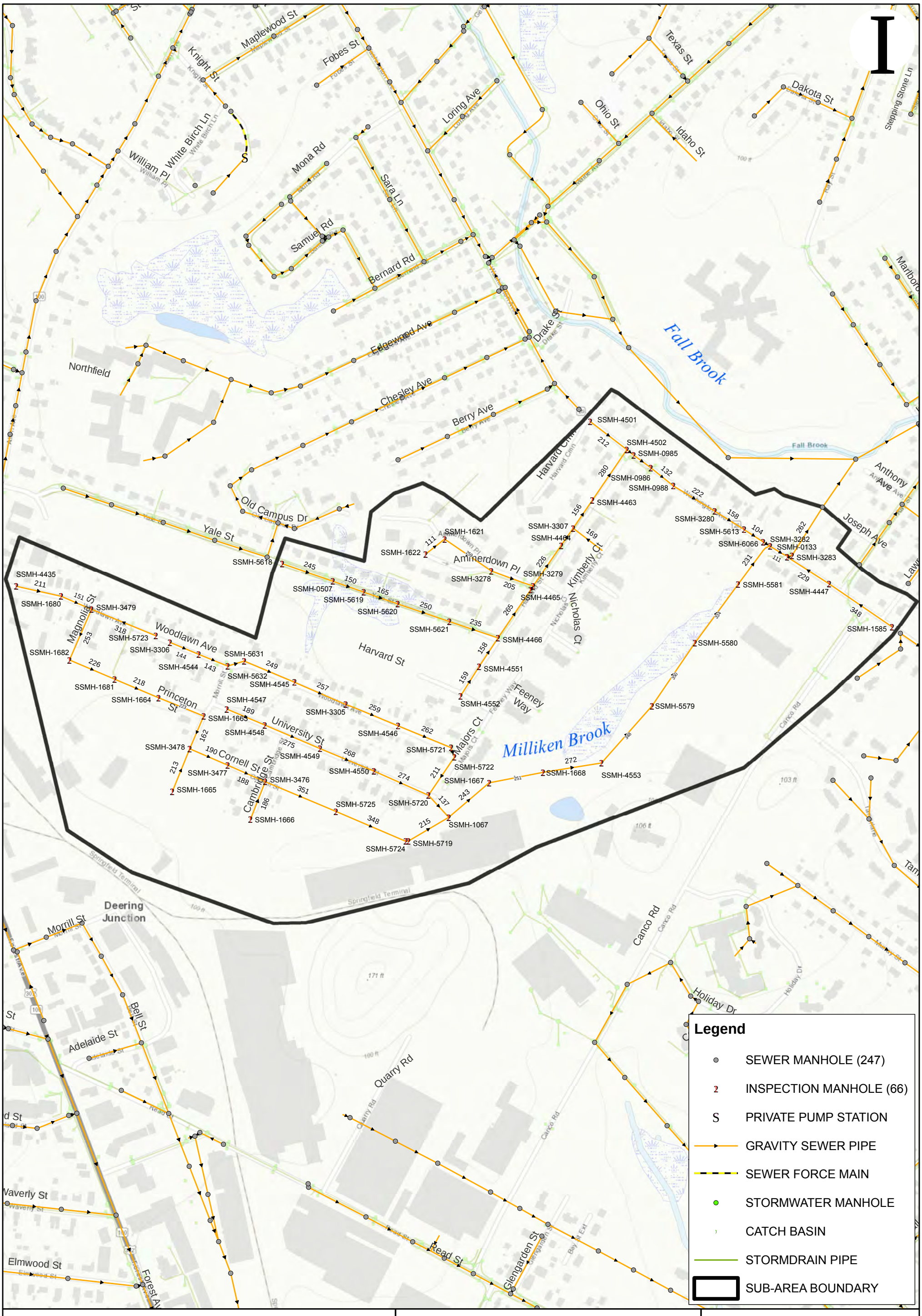
Phase 2.3 Manhole Inspection Locations

0 200 400 600 800 Feet

August 2019

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\PHASE 3 - SSES\2019 MANHOLE INSPECTION SUB-AREA 06.mxd



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 10

Phase 2.3 Manhole Inspection Locations

August 2019

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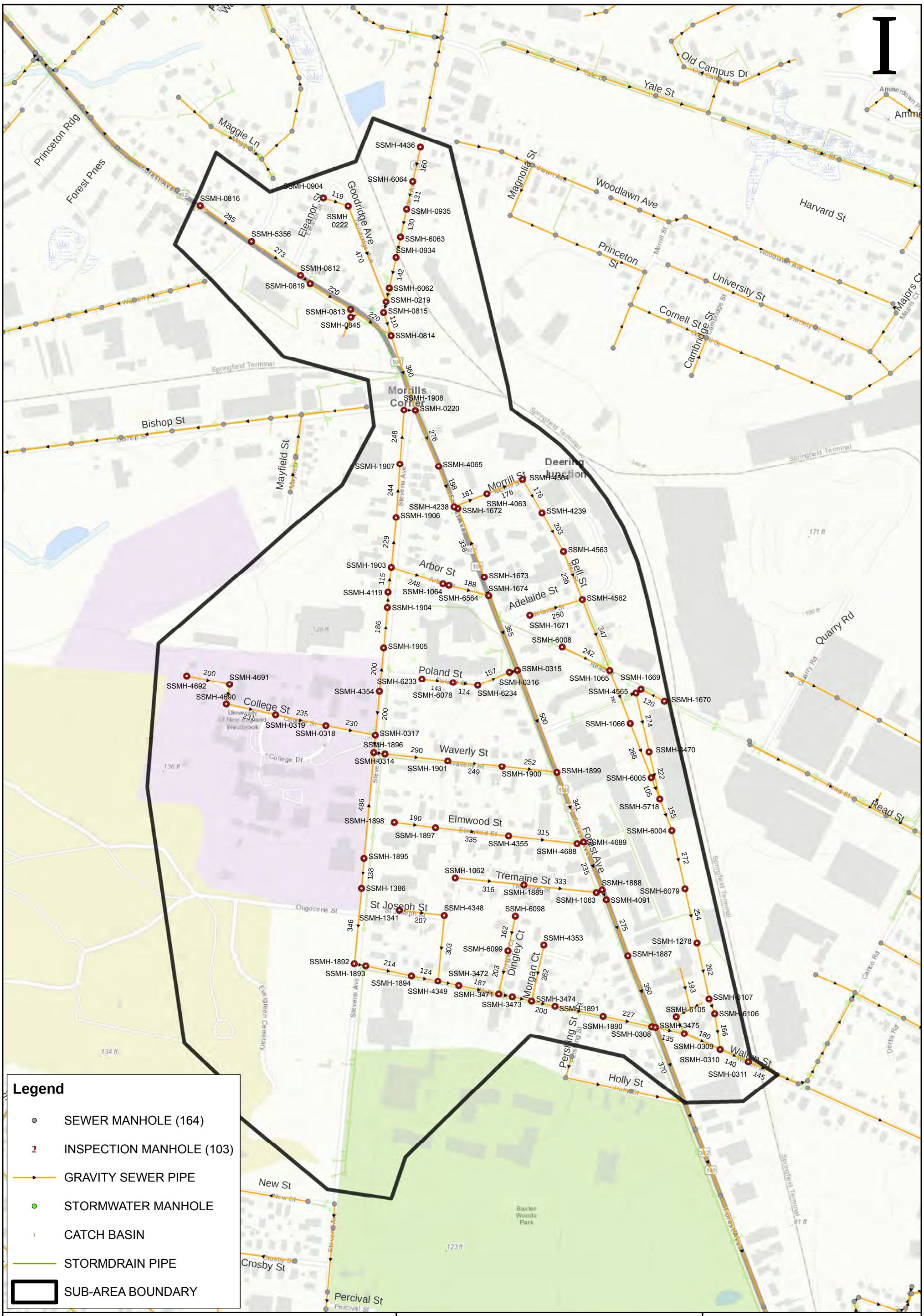

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 11

Phase 2.3 Manhole
Inspection Locations

August 2019

ARCADIS Design & Consultancy for natural and built assets

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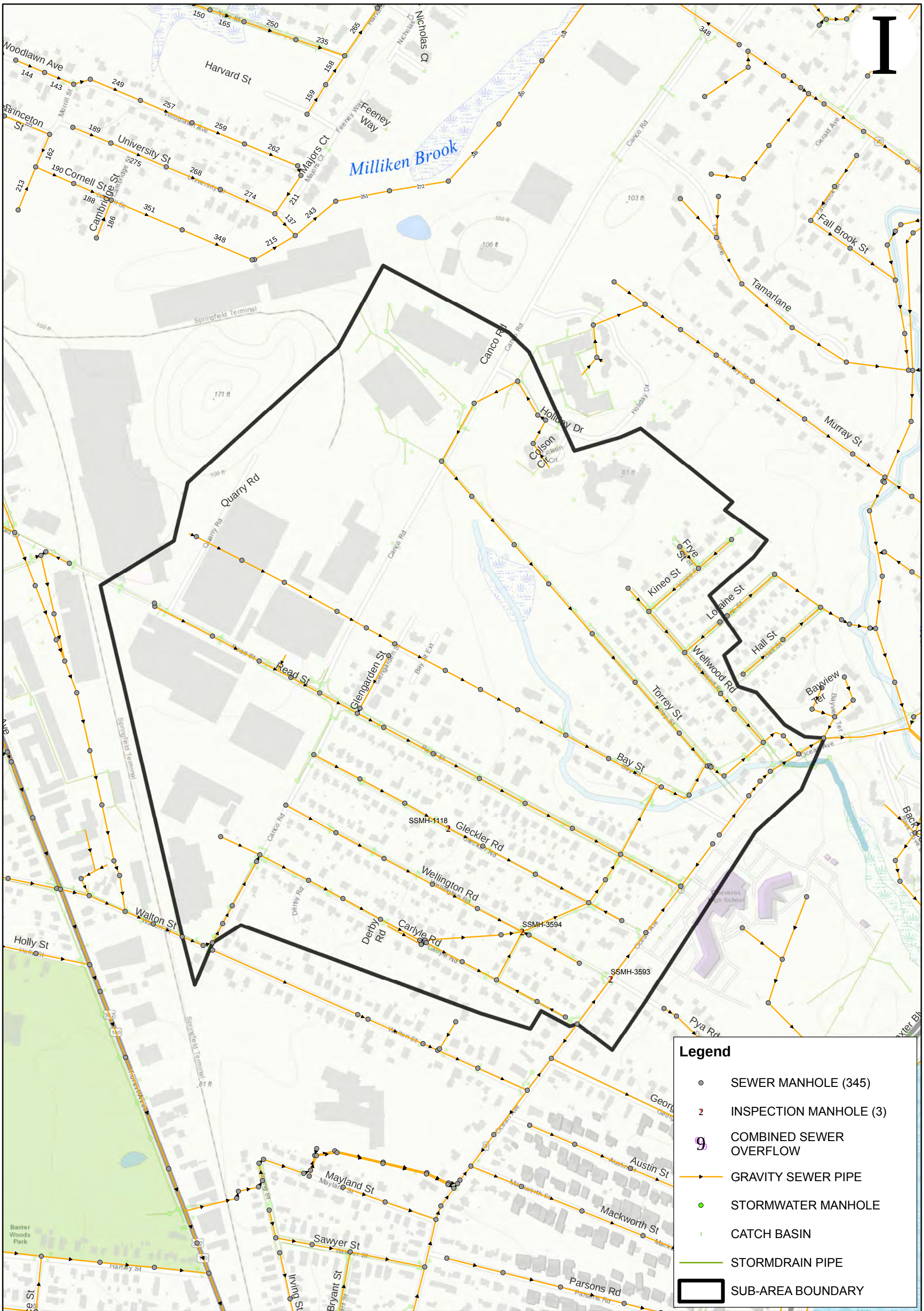

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 12

Phase 2.3 Manhole Inspection Locations

August 2019

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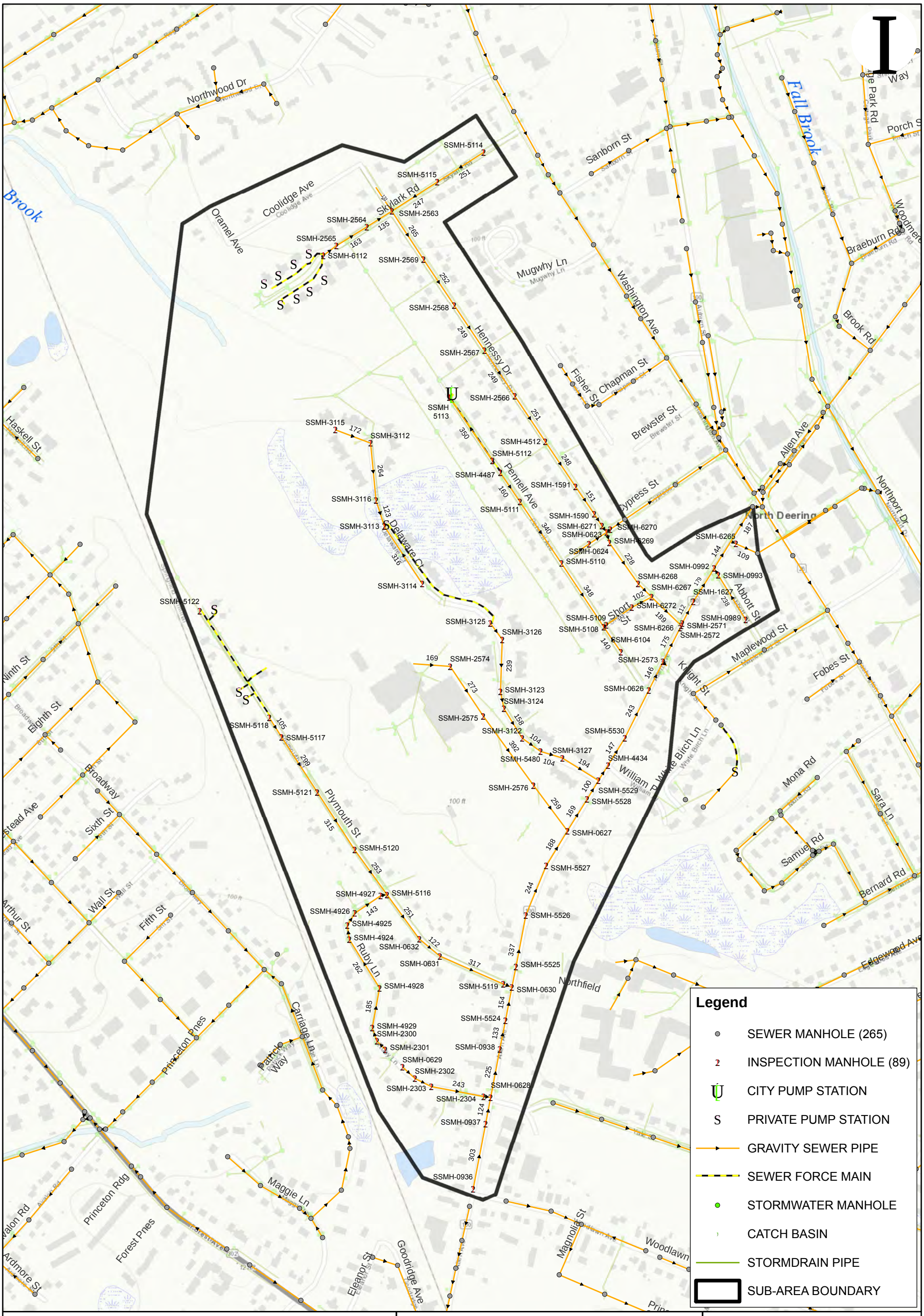

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 23

Phase 2.3 Manhole Inspection Locations

August 2019

ARCADIS Design & Consultancy for natural and built assets

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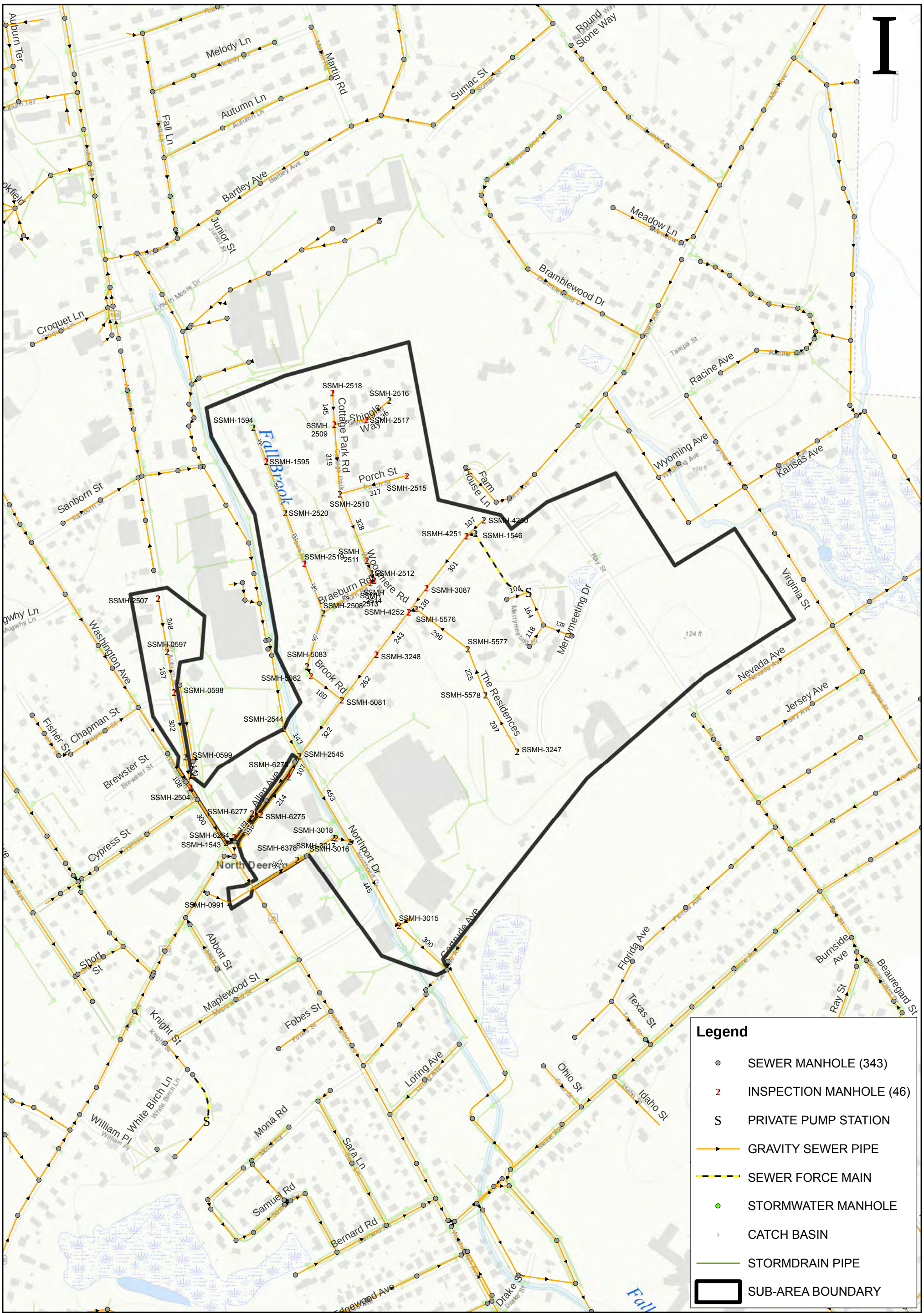

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 23A

Phase 2.3 Manhole Inspection Locations

August 2019

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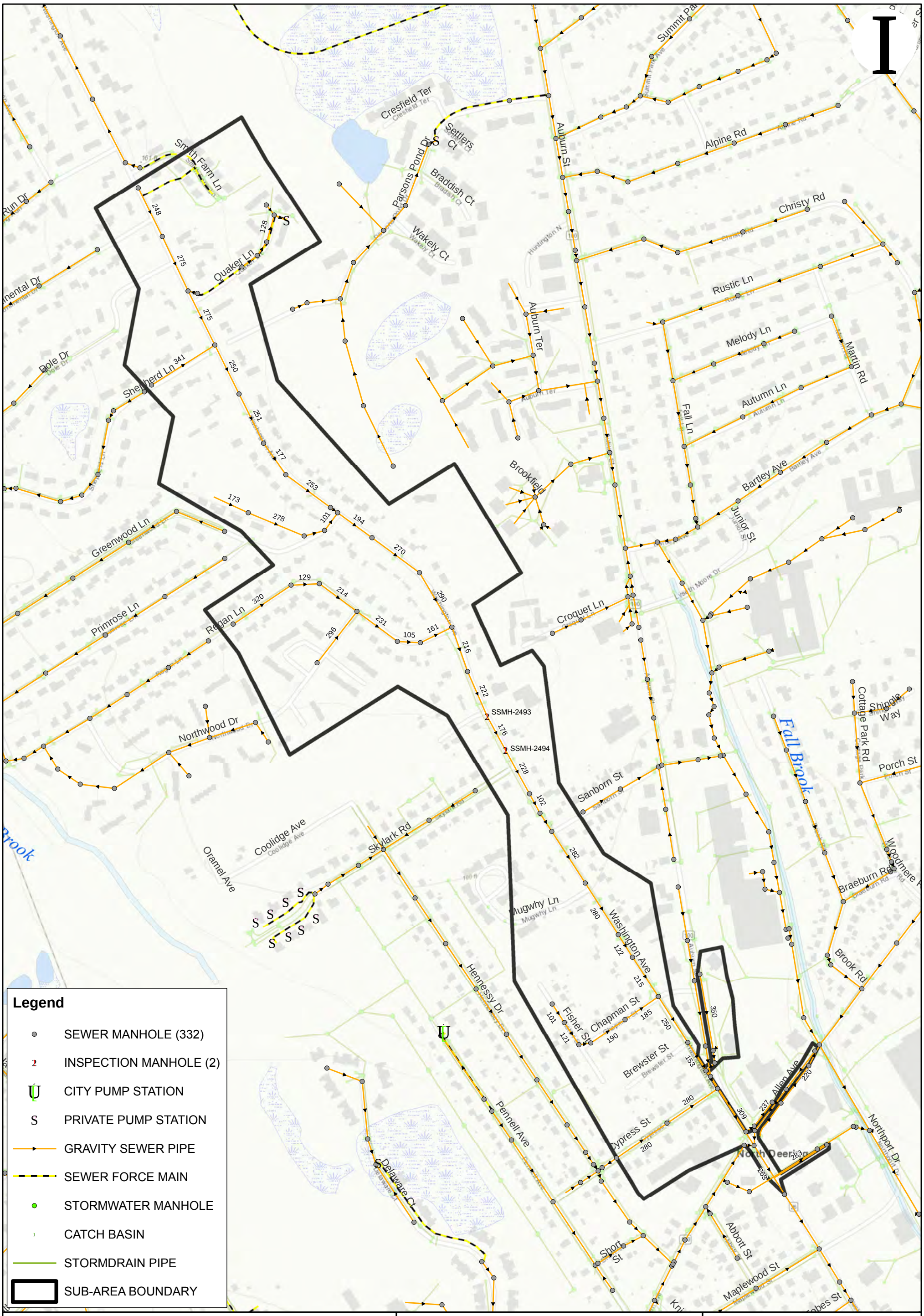

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 24

Phase 2.3 Manhole Inspection Locations

August 2019

ARCADIS Design & Consultancy for natural and built assets

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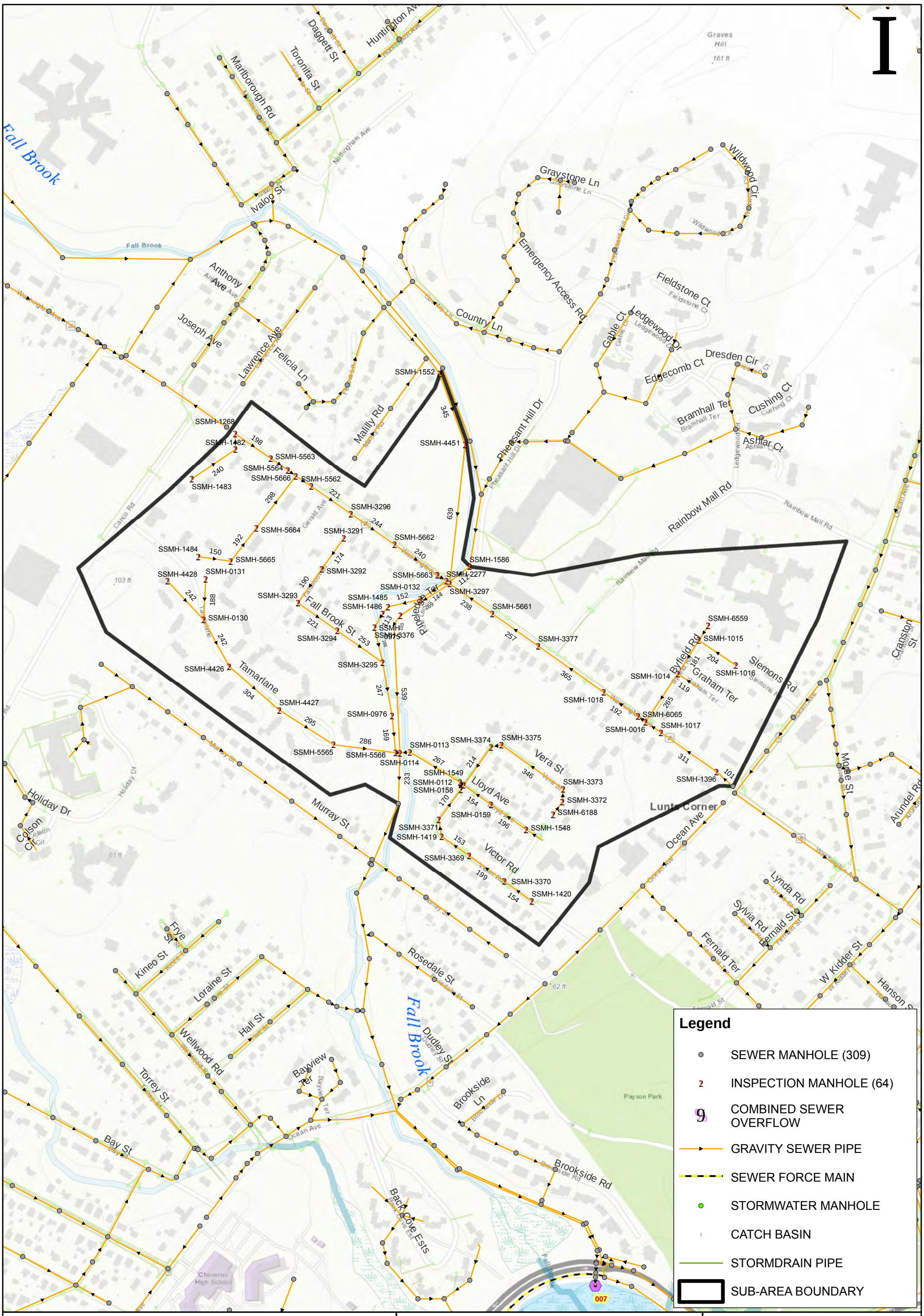

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 27

Phase 2.3 Manhole Inspection Locations

0 200 400 600 800 Feet

July 2019

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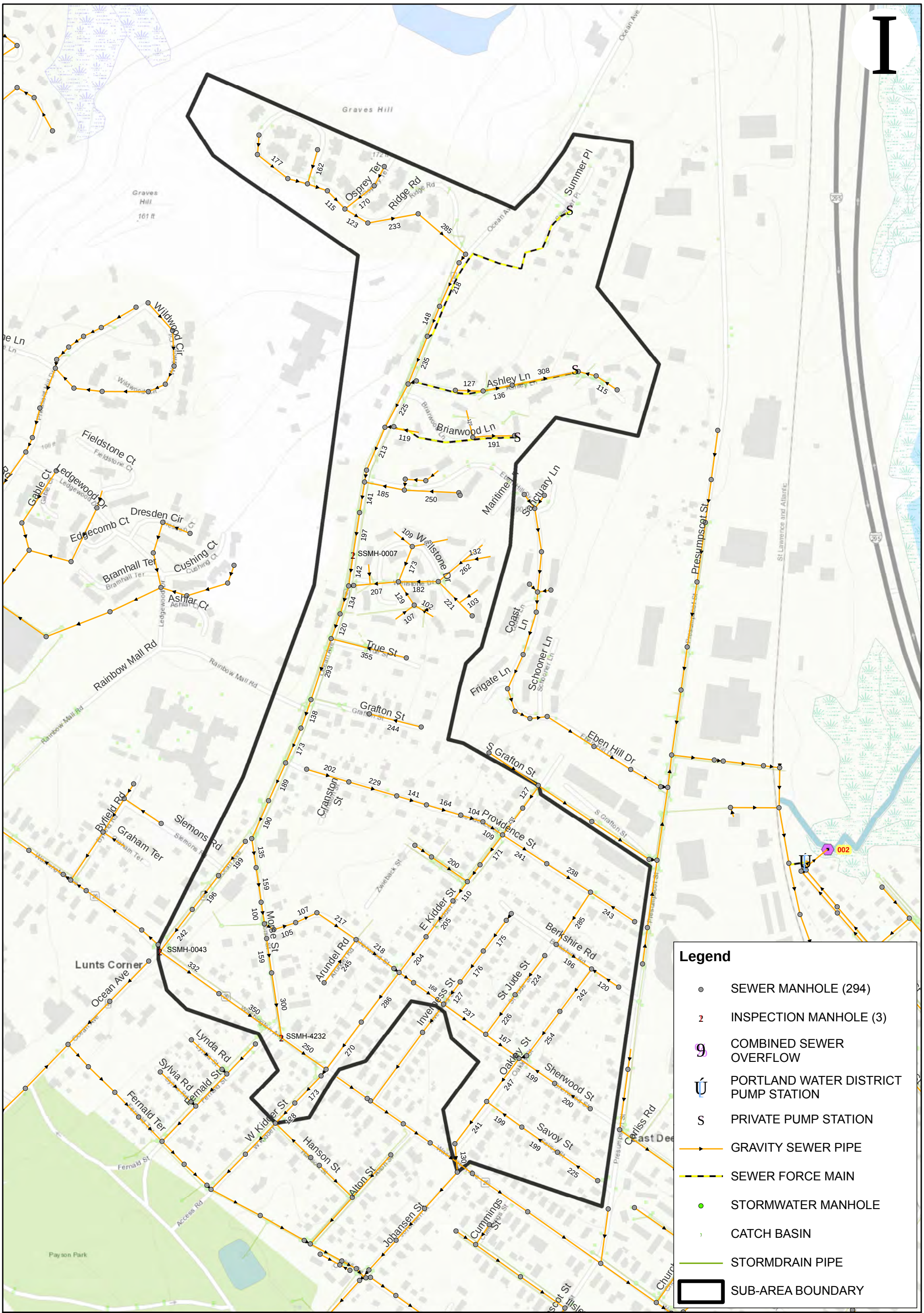
G:\GIS\Portland\2018 - 2019 SSES Maps\PHASE 3 - SSES\2019 MANHOLE INSPECTION SUB-AREA 27.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 30

Phase 2.3 Manhole Inspection Locations

0 200 400 600 800 Feet

August 2019

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INFILTRATION AND INFLOW INVESTIGATIONS:

SMOKE TESTING LOCATIONS

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 1

Phase 2.3 Smoke Test Locations

0 200 400 600 800 Feet

September 2019

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G:\GIS\Portland\2018 - 2019 SSES Maps\PHASE 3 - SSES\2019 SMOKE TESTING SUB-AREAS.mxd

City of Portland, Maine

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Sewer System
Evaluation Survey

Sub-Area 2

Phase 2.3 Smoke
Test Locations

September 2019

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I

Legend

- SEWER MANHOLE
- CITY PUMP STATION
- PRIVATE PUMP STATION
- SMOKE TEST PIPE
- SEWER GRAVITY
- SEWER FORCE MAIN
- STORMWATER MANHOLE
- CATCH BASIN
- STORMDRAIN PIPE
- SUB-AREA BOUNDARY

0 200 400 600 800 Feet

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 4

Phase 2.3 Smoke Test Locations

September 2019

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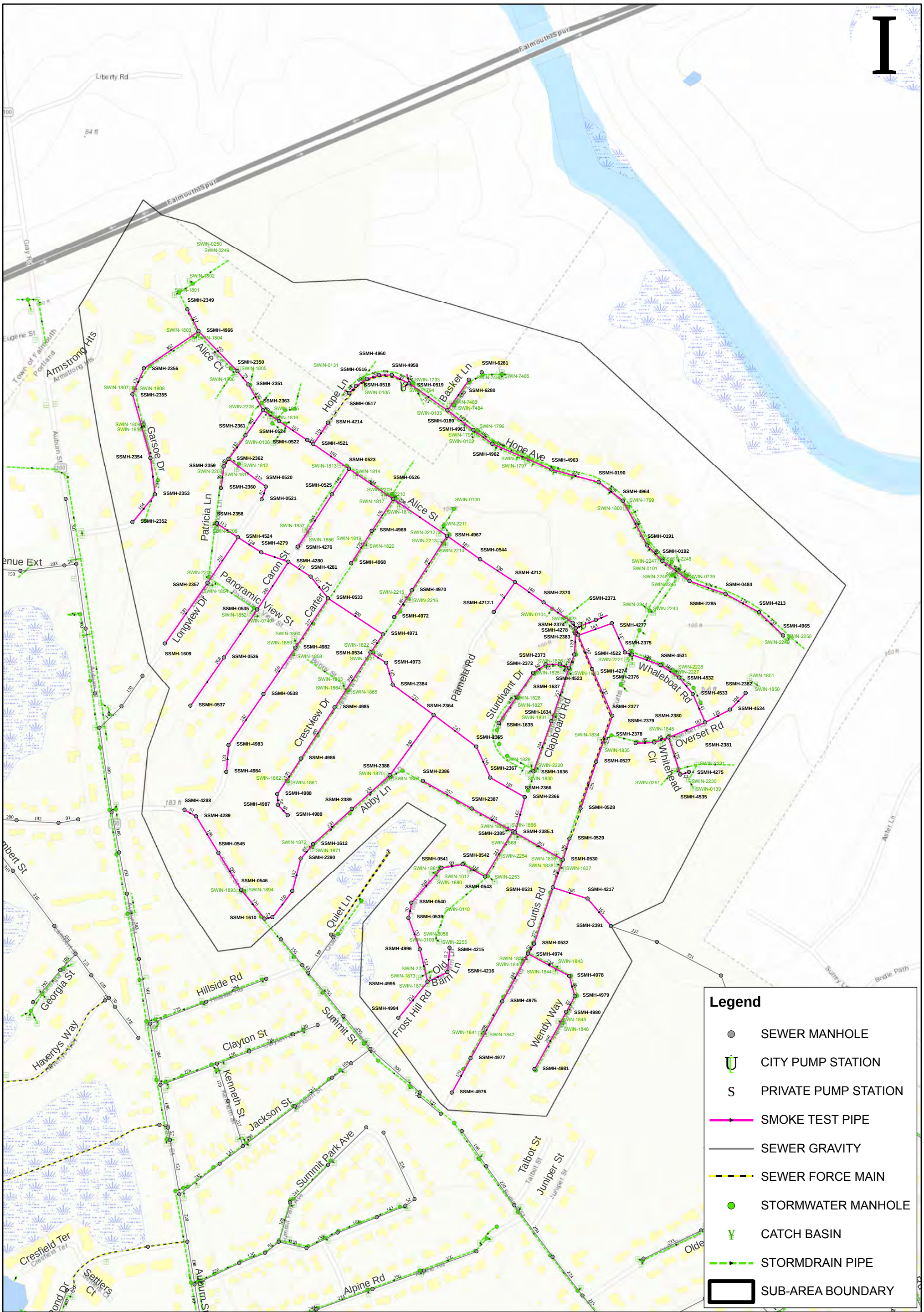

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 7

Phase 2.3 Smoke Test Locations

0 200 400 600 800 Feet

September 2019

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\PHASE 3 - SSES\2019 SMOKE TESTING SUB-AREAS.mxd

I

Legend

- SEWER MANHOLE
- CITY PUMP STATION
- PRIVATE PUMP STATION
- SMOKE TEST PIPE
- SEWER GRAVITY
- SEWER FORCE MAIN
- STORMWATER MANHOLE
- CATCH BASIN
- STORMDRAIN PIPE
- SUB-AREA BOUNDARY

0 200 400 600 800 Feet

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 24A

Phase 2.3 Smoke
Test Locations

September 2019

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City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 25

Phase 2.3 Smoke
Test Locations

September 2019

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City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 31

Phase 2.3 Smoke Test Locations

0 200 400 600 800 Feet

September 2019

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Tel 781 224 4488

www.arcadis.com

CITY OF PORTLAND
Department of Public Works Christopher
C. Branch, P.E., Director

Via Electronic Mail
June 28, 2019

Mr. Alex Rosenberg, Compliance Officer
Office of Environmental Stewardship
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Re: Inflow and Infiltration Phase 2 Report – Identification of Major Inflow and Infiltration Sources Plan

Dear Mr. Rosenberg:

As required in the Administrative Order Docket Number CWA-R1-AO-12-009, the City of Portland (City) is hereby submitting this Inflow and Infiltration Phase 2 Report for Identification of Major Inflow and Infiltration Sources Plan as part of the Inflow and Infiltration Program. The Inflow and Infiltration Program was awarded to Arcadis through a Request for Qualification based process in May of 2017.

The attached report includes a plan to identify major inflow and infiltration sources throughout the thirty five sub-areas previously identified. Flow monitoring and analysis of twenty of the sub-areas was provided in the Phase 1 2018 Flow Monitoring Report submitted December 2018. Flow monitoring was completed this spring for the remaining fifteen sub-areas and the results and analysis will be provided in a separate report to be submitted this year.

Based on the results from both years of flow monitoring, Phase 2 investigations are underway following the plan within the report. Arcadis continues to utilize subcontractors Flow Assessment Services and Ted Berry Company to complete investigations. As outlined, the primary investigation methods are flow isolation, CCTV inspections, and manhole inspections. Additional methods including smoke testing, building inspections and dye testing will be utilized as part of Phase 2 investigations. To date, 315,087 linear feet of flow isolation and 96,874 linear feet of CCTV inspections for areas identified as having greater than 4,000 gallons per day per inch diameter/mile

212 Canco Road, Ste B • Portland, ME 04103 • 207-874-8801 cbranch@portlandmaine.gov •
www.portlandmaine.gov

have been completed with 55,100 LF of CCTV, 10 days of dye testing, 126,000 linear feet of smoke testing, and 45 building inspections scheduled.

While the remaining investigations are planned for this summer and fall, they are weather dependent and may require additional time to capture high groundwater levels in the spring. For this reason, the City of Portland would like to discuss an extension of the December 1, 2019 deadline to submit a schedule for the completion of Phase 3 of the Inflow and Infiltration Program and the January 1, 2020 deadline for a long-term collection system renewal plan to July 1, 2020. An extension will allow data from the Inflow and Infiltration Program, CCTV assessments, and asset management work to be compiled and fully considered together, since Phase 3 of the Inflow and Infiltration Program may rely heavily on collection system renewal. Every effort will be made to meet existing deadlines when possible, but the City would prefer to have some additional time to make fully informed decisions for future plans and budget cycles. The City will also continue to repair and rehabilitate infrastructure as necessary with the use of on-call and time and material contracts. A progress report is also included with this submittal.

The City continues to look forward to working with Arcadis and its subcontractors to identify sources of Inflow and Infiltration throughout the collection system. Should you have any questions or want to discuss the City's efforts or extension request, please reach out to me at your convenience.

Sincerely yours,

Benjamin N. Pearson

Benjamin N. Pearson, PE
Compliance Coordinator
Water Resources Division, Department of Public Works
bnp@portlandmaine.gov
207-874-8843

City of Portland, Maine

CITY-WIDE INFILTRATION AND INFLOW PROGRAM

Phase 2 Identification Of Major Infiltration And Inflow Sources

JUNE 2019

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APPENDICES

Appendix A Phase 1 – Investigation of Flows – 2018 Monitoring Report

ACRONYMS AND ABBREVIATIONS

BSF	Base Sanitary Flow
CCTV	Closed-Circuit Television
CMOM	Capacity Management Operation and Maintenance
GPDIM	Gallons Per Day Per Inch Diameter Mile
GWI	Groundwater Infiltration
I/I	Infiltration and Inflow
LF	Linear Feet
NASSCO	Nation Association of Sewer Service Companies
PACP	Pipeline Assessment Certification Program
RDII	Rainfall Derived Infiltration and Inflow
RII	Rainfall Induced Infiltration
SSO	Sanitary Sewer Overflow
WWTF	Wastewater Treatment Facility

1 INTRODUCTION

1.1 Scope of Work

On September 29, 2012, the EPA issued an Order for Compliance and Complaint, including a proposed civil penalty, for sanitary sewer overflows (SSOs) from non-permitted portions of the City of Portland's collection system. In accordance with that Order, the City completed a "Capacity, Management, Operation and Maintenance (CMOM) and Corrective Action Plan" Report in November of 2013. The recommendations of the CMOM Report included Infiltration and Inflow (I/I) Reduction Measures, as well as continued improvements to the City's Collection System Mapping by supplementing and correcting data gaps in their GIS system as they are identified. This I/I Reduction Measures Program will address those recommendations and set the course for I/I mitigation and the City of Portland's continuing efforts to abate SSOs from their collection system under three Phases of work:

Phase 1 – Investigation and Quantification of I/I Flows

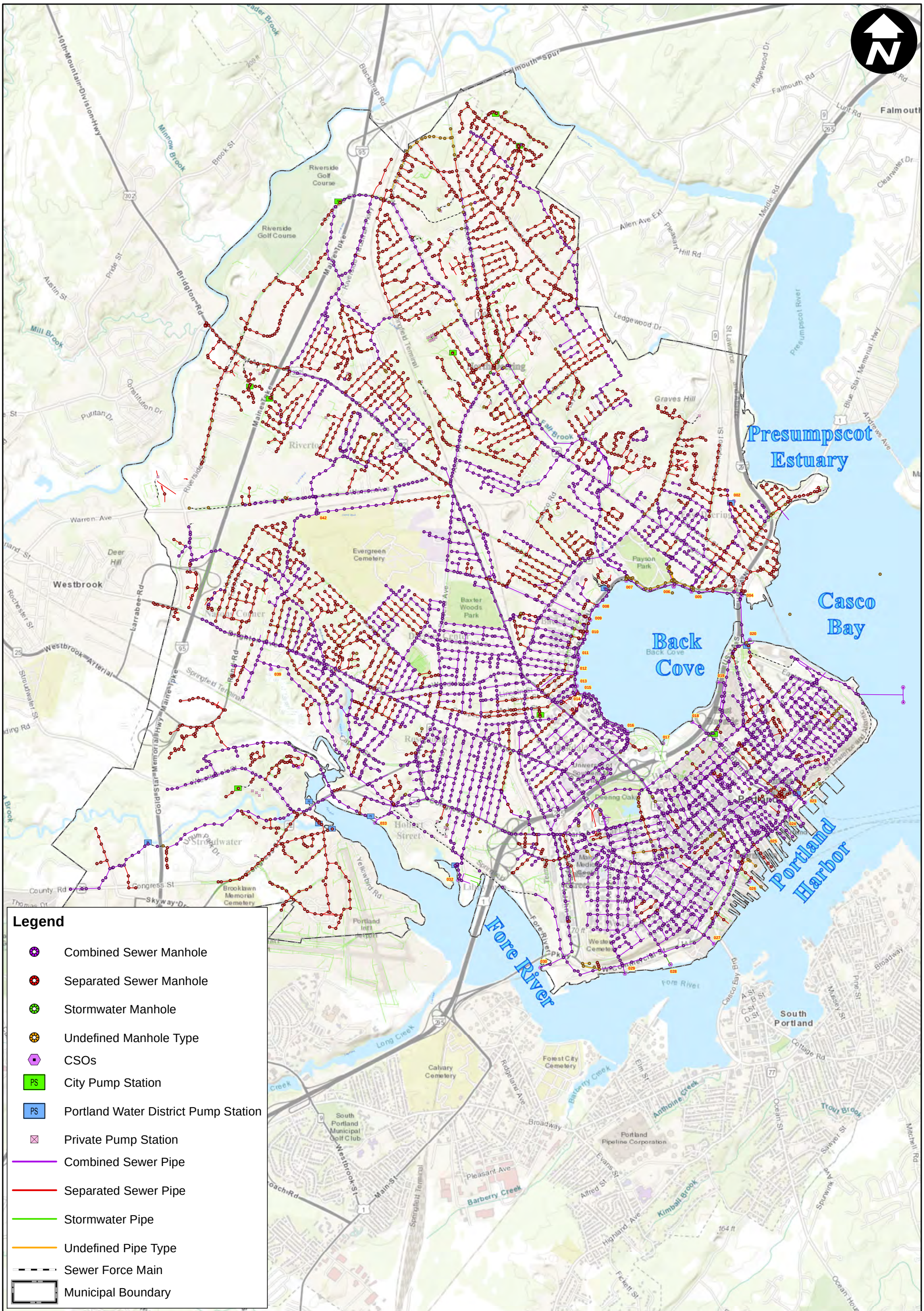
Phase 2 – Identification of Major I/I Sources

Phase 3 – Schedule of Target Opportunities for Cost-effective Mitigation

This report includes summarized findings from the Phase 1 and the activities completed and planned under Phase 2.

1.2 Collection System Background and Description

The City of Portland's wastewater collection system, shown on Figure 1, contains approximately 240 miles of separated and combined sewers and 24 pump stations, 9 of which are owned and operated by the City. The collection system and pump stations convey wastewater to the East End Wastewater Treatment Facility (WWTF) in Portland, which is owned and operated by the Portland Water District.



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Phase 2 Identification of Major I/I Sources

Citywide Collection System

0 0.25 0.5 0.75 1 Miles

Figure 1

ARCADIS Design & Consultancy for natural and built assets

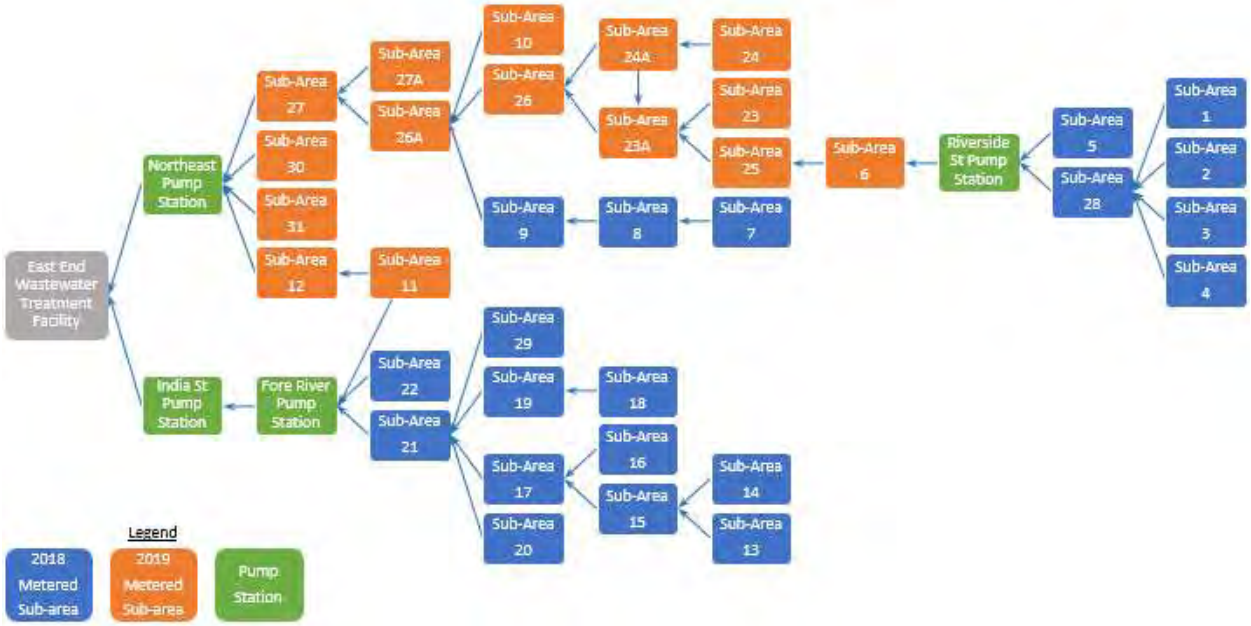
G:\GIS\Portland\2018 - 2019 SSES Maps\Phase 2 Technical Memo\Figure 1 - Citywide Collection System Map.mxd

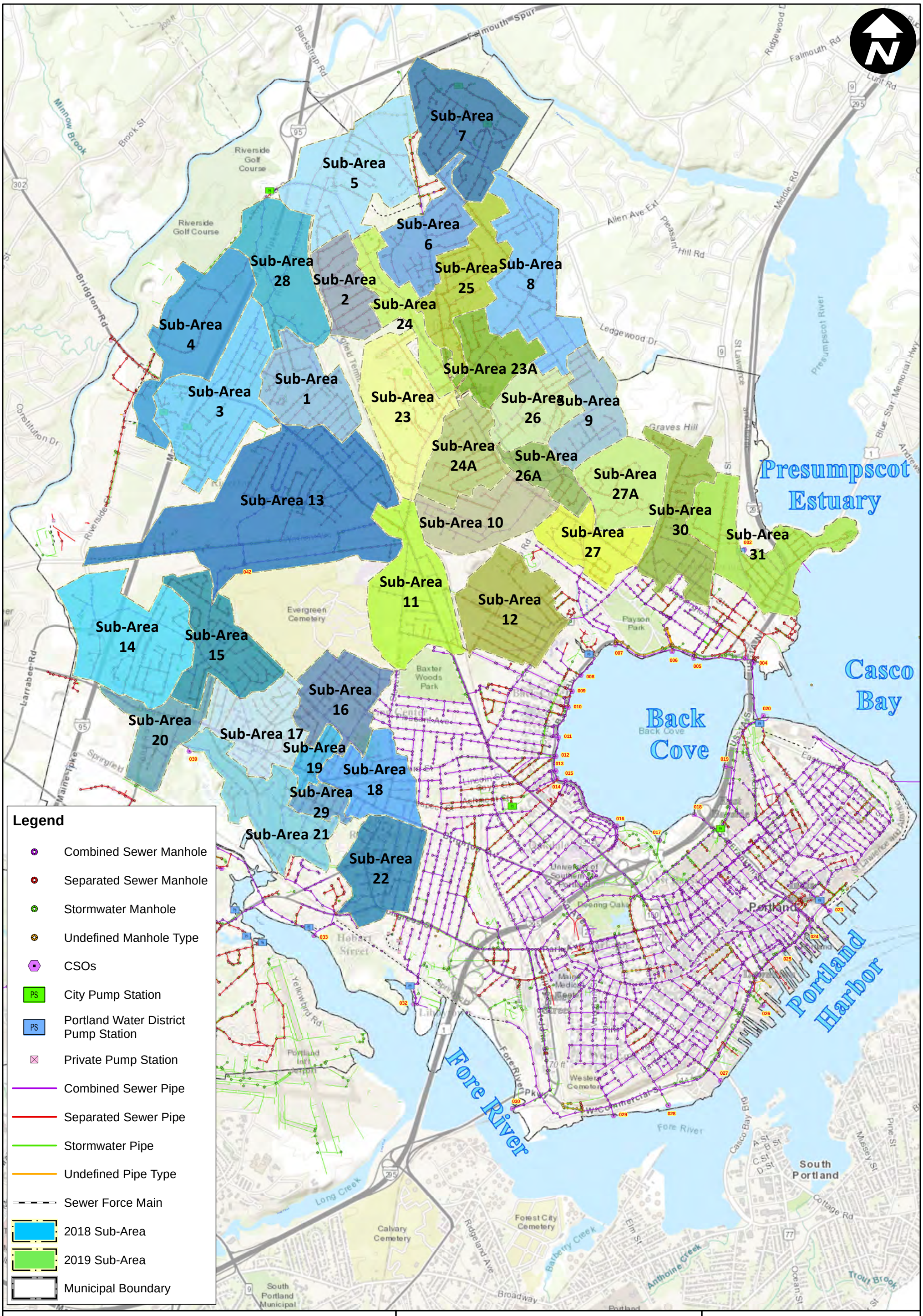
June 2019

1.2.1 Sub-Area Delineation

Sub-areas were delineated during Phase 1 of the I/I Reduction Measures Program. 20 Sub-areas were assessed as part of the 2018 flow metering program, and an additional 15 Sub-areas were assessed as part of the 2019 flow metering program. Each Sub-area was created to contain approximately 20,000 linear feet (LF) of pipe or less, as is optimal for isolating and identifying I/I sources. Due to ongoing sewer separation projects and the extent of combined sewers in the downtown area of Portland, efforts were focused on the north and west areas of the City. Prioritization of meter areas was based on recent and on-going flow monitoring and available CCTV data, historic and recently discovered problem areas where backups, surcharging and overflows occurred, areas tributary to known problem areas, areas where the hydraulic model identified potential I/I capacity issues, and areas near water bodies that could be contributing I/I to the system. Figure 2 shows a flow vector diagram for the 35 Sub-areas included in the metering program. The flow vector diagram is a visual representation of tributary flow within the system. Sub-areas delineated and included in the 2018 and 2019 metering program are shown on Figure 3.

Figure 2: Flow Vector Diagram





City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Phase 2 Identification of Major I/I Sources

Sub-Area Delineations

0 0.25 0.5 0.75 1 Mi

Figure 3

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\Phase 2 Technical Memo\Figure 3 - Sub-Area Delineations.mxd

June 2019

2 PHASE 1 FLOW METERING PROGRAMS

2.1 Methodology

There are four major components of wastewater flow in a sanitary sewer system, base sanitary flow (BSF), groundwater infiltration (GWI), rainfall induced infiltration (RII), and Inflow. The Environmental Protection Agency's "Guide for Estimating Infiltration and Inflow", June 2014, provides the following definitions:

Base Sanitary Flow (BSF) – The portion of wastewater which includes domestic, commercial, institutional, and industrial sewage and specifically excludes infiltration and inflow.

Groundwater Infiltration (GWI) – Measured during average dry weather flow period. The average of the low nighttime flows (midnight to 6am) per day for the same time period, minus significant industrial or commercial nighttime users

Rainfall Induced Infiltration (RII) – The short-term increase in infiltration which is the result of a rain event. Rainfall-induced infiltration is a portion of delayed inflow.

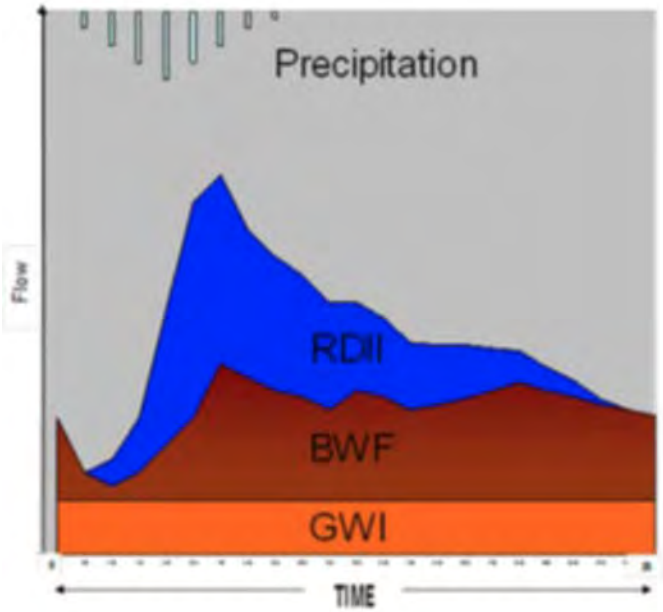
Inflow – Water other than sanitary wastewater that enters a sewer system from sources such as roof leaders, cellar/foundation drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, and catch basins. Inflow does not include infiltration.

Delayed Inflow Volume – The portion of total inflow which is generated from indirect connections to the collection system or connections which produce inflow after a significant time delay from the beginning of a storm. Delayed inflow sources include sump pumps, foundation drains, indirect sewer/drain cross connections, etc. Rainfall-induced infiltration cannot be distinguished from delayed inflow and is therefore included as part of delayed inflow. Delayed inflow sources have a gradual impact on the collection system and flow decreases gradually upon conclusion of the rainfall event, and after peak inflow caused by direct connections.

Furthermore, Inflow and Delayed Inflow can be group into a category of rainfall derived infiltration and inflow (RDII – commonly referred to as the total inflow volume).

Figure 4 highlights the three key components of wastewater flow during a precipitation event. The GWI (orange line) remains constant and is not impacted by precipitation, the BWF (brown line) is a diurnal pattern based on actual usage and not impacted by precipitation, and the RDII (blue line) shows a very clear increase in flows as a direct response to precipitation that dissipates after the completion of the storm.

Figure 4: Components of Wastewater Flow During Wet Weather (US EPA, 2007)



As part of Phase 1 of the Inflow and Infiltration Program two flow metering programs were conducted in the consecutive springs of 2018 and 2019. These flow metering programs were intended to isolate sub-areas of the City's collection system that contain excessive GWI rates and high RDII. GWI over 4000 gallons per day per inch diameter mile (GPDIM) is considered excessive for any given sub-area of pipe and should be considered for corrective action. Mitigation of RDII in a separated system is typically to address subsets within a study area that comprise the top 80% of the total inflow volume in the study area, however, because the City's collection system is still combined, rain induced infiltration will be used in assessing areas with excessive inflow which is not related to designed stormwater collection.

2.2 2018 Flow Metering Program

A 16-week flow metering program was conducted in 2018 that monitored flows in 20 sub-areas within the City's collection system. As a result of the 2018 flow monitoring program, high rates of infiltration were identified in Sub-areas 4, 16, 18, 20, and 29, and high RDII was identified in Sub-areas 13, 22, 18, 20, 16, 29, 19, 14, 9, 7, 8, 15, 21.

A copy of the Phase 1 Investigation of Flows – 2018 Monitoring report is included as Appendix A of this report.

2.3 2019 Flow Metering Program

The 2019 flow monitoring program was conducted in 15 sub-areas for 12-weeks of continuous monitoring. Flow meters were installed on February 15, 2019 and removed on May 31, 2019. Data collection for all sub-areas began early March and continued for 12 consecutive weeks. Data was

recorded for collection system flows, rainfall, and groundwater by enlisting 20 telemetry flow meters, 2 rain gauges, and 2 groundwater gauges, respectively.

The 2019 flow metering program was conducted following the same methodology of the 2018 flow metering program. A traditional infiltration and inflow analysis will be conducted in the separated portion of the collection system, while a modified approach will be used in the combined portion of the system. In sub-areas where 75% or more of the collection system is separated, the I/I analysis will focus on identifying groundwater infiltration, rainfall-inducted infiltration and direct inflow. In the combined areas, the I/I analysis will focus on identifying groundwater infiltration and rainfall-inducted infiltration (delayed inflow).

Table 1 includes a summary of the total pipeline footage and the percentage of combined pipes and the approach method for each sub-area.

Table 1: Sub-area Characteristics

Sub-area	Total Footage (LF)	Percent Combine0d (%)	Approach
6	15,241	13%	Traditional
10	13,417	77%	Modified
11	21,085	87%	Modified
12	20,125	33%	Modified
23	15,048	19%	Traditional
23A	10,072	27%	Modified
24	11,037	37%	Modified
24A	15,091	13%	Traditional
25	16,547	7%	Traditional
26	11,664	25%	Traditional
26A	8,109	62%	Modified
27	12,520	81%	Modified
27A	9,922	26%	Modified
30	20,905	50%	Modified
31	22,861	15%	Traditional

2.3.1 Results and Findings

Table 2 identifies the average daily flow (ADF), peak daily flow (PDF) and peak hourly flow (PHF) measured for each of the fifteen sub-areas. Average daily flow is calculated by summing all metered flows and dividing by the duration of the metering period. Peak daily flow is the maximum daily flow measured over 24-hours throughout the metering period. Peak hourly flow is the maximum 1-hr flow rate measured. Peaking factor is calculated by dividing the peak hourly flow by the average daily flow for each sub-area. Table 2 shows the net average daily flow within each sub-area itself (with upstream tributary flows subtracted out), net peak hourly flow and the hourly peaking factor.

Table 2: Flow Metering Results – ADF, PDF, PHF and Hourly Peaking Factor

Sub-area	Average Daily Flow (GPD)	Peak Daily Flow (GPD)	Peak Hourly Flow (GPD	Hourly Peaking Factor
6	565,514	1,605,250	735,837	3
10	313,380	920,000	772,000	3
11	499,056	4,065,000	1,362,000	8
12	484,472	2,211,000	1,063,000	5
23	244,075	1,541,000	535,000	6
23A	494,695	1,622,000	762,000	3
24	205,434	870,000	437,000	4
24A*	-	-	-	-
25	101,759	1,381,000	1,266,000	14
26*	-	-	-	-
26A	255,792	1,756,000	735,000	7
27	470,204	1,644,000	1,157,000	3
27A	84,469	267,000	140,000	3
30	380,652	3,015,000	1,250,000	8
31	199,308	1,629,000	470,000	8

*Data is still being reviewed and analyzed. Finalized values will be incorporated in the Final 2019 Flow Metering Report.

Preliminary data was used to produce a generalized assessment of sub-areas with excessive infiltration and provide sub-areas in which flow isolation could be conducted prior to the completion of flow metering.

Preliminary data indicated high infiltration in Sub-areas 6, 23A, 27, 11, 24, 10, 12, 30 and 23. Inflow analyses in these sub-areas will be conducted upon completion of the 2019 flow metering program.

Final infiltration and inflow analyses have not been completed for the 2019 flow metering period. These results will be included in the 2019 Flow Metering Report.

3 PHASE 2 INVESTIGATIONS

3.1 Methodology

Following the Phase 1 Flow metering programs, the isolation of defects within collection system assets is determined. The quantity, location, and severity of defects or defective assets are necessary in determining a cost-effective mitigation plan in the removal of infiltration and inflow from a collection system. Investigative technologies and techniques have been devised that have become an industry standard in isolating defects and defective assets. The typical investigation methods used in isolating the location of I/I and assessing the severity and frequency of defects and defective assets used in this Infiltration and Inflow Removal and Monitoring Program include:

Flow Isolation – a method of investigation that uses a portable volumetric weir that is placed at the downstream end of a pipe when sanitary system usage is at its lowest, typically between 12am and 5am. The weir has set values that allow for the estimation of flows between two points, typically manhole-to- manhole or approximated stretches of 1,000 LF of pipe. Conducting flow isolation while the sanitary sewer system is at a theoretical usage of virtually zero indicates an approximate flow rate derived from groundwater infiltration. Flow Isolation is typically conducted while groundwater elevation is high.

Closed-Circuit Television (CCTV) Inspection – one of the most common ways to assess the structural condition of pipes and determine the need for maintenance and rehabilitation. Inspections are conducted by inserting a camera into a pipe that is remotely directed from one end of the pipe to the other. CCTV operators actively identify and call out defects within the pipe during the inspection using the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) standards to identify defects. CCTV inspection conducted to identify defects contributing infiltration into the system are typically conducted when groundwater elevation is high.

Manhole Inspections – conducted to identify structural defects, infiltration sources, and the potential for inflow into a collection system. Manhole inspections can be conducted both externally and internally depending on the detail requirements of the inspection. Inspections conducted to identify infiltration is typically conducted during times when groundwater elevation is high.

Smoke Testing – used as a means in the identification of direct and indirect sources of inflow into a collection system. This is performed by introducing smoke or smokeless vapor into an isolated section of the collection system using a blower or fan and observing the surrounding buildings and landscape for escaping smoke. This method is typically conducted while groundwater elevation is low.

Building Inspections – typically conducted as precision investigations as follow on to more generalized investigations such as smoke testing, CCTV inspections, or flow isolation. Building

inspections are used in the confirmation of inflow sources and identification of illicit cross connections or faulty plumbing and can be conducted under various conditions, usually dependent on the nature of the inspection.

Dye Testing – used for multiple applications where tracking the flow of water from a point source is required. This method of investigation can be used in the determination of inflow sources, cross connections, faulty plumping and various other deficiencies within a collection system. Dye testing can be conducted under various conditions depending on the nature of the dye testing investigation.

Phase 2 investigations have been separated into three sub-phases of work that coincide with the completion and analyses of the Phase 1 flow metering programs and follow-on to preceding sub-phases of Phase 2 investigations.

3.2 Phase 2.1 Investigations

Phase 2.1 investigation were recommended as following the flow monitoring program conducted in the spring of 2018 and included flow isolation of 197,710 LF of pipe, CCTV inspection of 27,611 LF of pipe, and 496 manhole inspections in sub-areas identified as having excessive infiltration. A breakdown of investigations recommended for Phase 2.1 is included in Table 3. Phase 2.1 investigations began in December of 2018 and are ongoing. Flow Isolation and CCTV Inspections have been completed, and manhole inspections are scheduled to be completed in the Fall of 2019.

Table 3: Phase 2.1 Investigation Quantities

Sub-Area	Flow Isolation (LF)	CCTV Inspection (LF)	Manhole Inspection (Qty)
Sub-Area 4	8,893		46
Sub-Area 5	21,962		6
Sub-Area 7	23,684		4
Sub-Area 8	19,179		26
Sub-Area 9		9,165	20
Sub-Area 14	23,488		8
Sub-Area 15	19,404		23
Sub-Area 16	21,410		100
Sub-Area 17			28
Sub-Area 18	19,962		4
Sub-Area 19		4,667	
Sub-Area 20		8,685	
Sub-Area 21	12,431		2
Sub-Area 22	19,133		112
Sub-Area 28	5,164		55
Sub-Area 29		5,094	35
Total	**194,710**	**27,611**	**469**

3.3 Phase 2.2 Investigations

Phase 2.2 investigations were recommended in the spring of 2019 congruent to the 2019 flow monitoring program and include 120,377 LF of flow isolation for pipes identified as having excessive infiltration in the preliminary analysis of 2019 flow metering data, and 62,263 LF of CCTV inspections as follow on to the flow isolation conducted as part of Phase 2.1 investigations. A breakdown of investigations recommended for Phase 2.2 is included as Table 4. The flow isolation recommendations under Phase 2.2 investigations have been completed and CCTV inspections are ongoing.

Table 4: Phase 2.2 Investigation Quantities

Sub-Area	Flow Isolation (LF)	CCTV Inspection (LF)
Sub-Area 4		636
Sub-Area 5		3,018
Sub-Area 6	15,813	
Sub-Area 7		5,479
Sub-Area 8		10,092
Sub-Area 11	20,485	
Sub-Area 12	13,949	
Sub-Area 14		4,827
Sub-Area 15		11,628
Sub-Area 16		7,964
Sub-Area 17		1,914
Sub-Area 18		8,701
Sub-Area 21		4,952
Sub-Area 22		9,052
Sub-Area 23	12,442	
Sub-Area 23A	6,635	
Sub-Area 24	10,450	
Sub-Area 24A	12,625	
Sub-Area 26	7,907	
Sub-Area 27	9,293	
Sub-Area 28		1,000
Sub-Area 30	10,778	
Total	120,377	69,263

3.4 Phase 2.3 Investigations

The planning for Phase 2.3 Investigations include the recommendation of up approximately 56,000 LF of CCTV inspections as follow-on to Phase 2.2 Flow Isolation results, 490 manhole inspections, 126,000 LF of smoke testing, 45 building inspections, and 10 days of dye testing. Phase 2.3 Investigations are scheduled to be conducted throughout the remainder of 2019 and the spring of 2020.

4 SUMMARY

The following Phase 2 investigations for the identification of major I/I sources have effectively been completed or are in the process of being completed:

- 315,087 LF of flow isolation
- 96,874 LF of CCTV inspections; and
- 469 manhole inspections

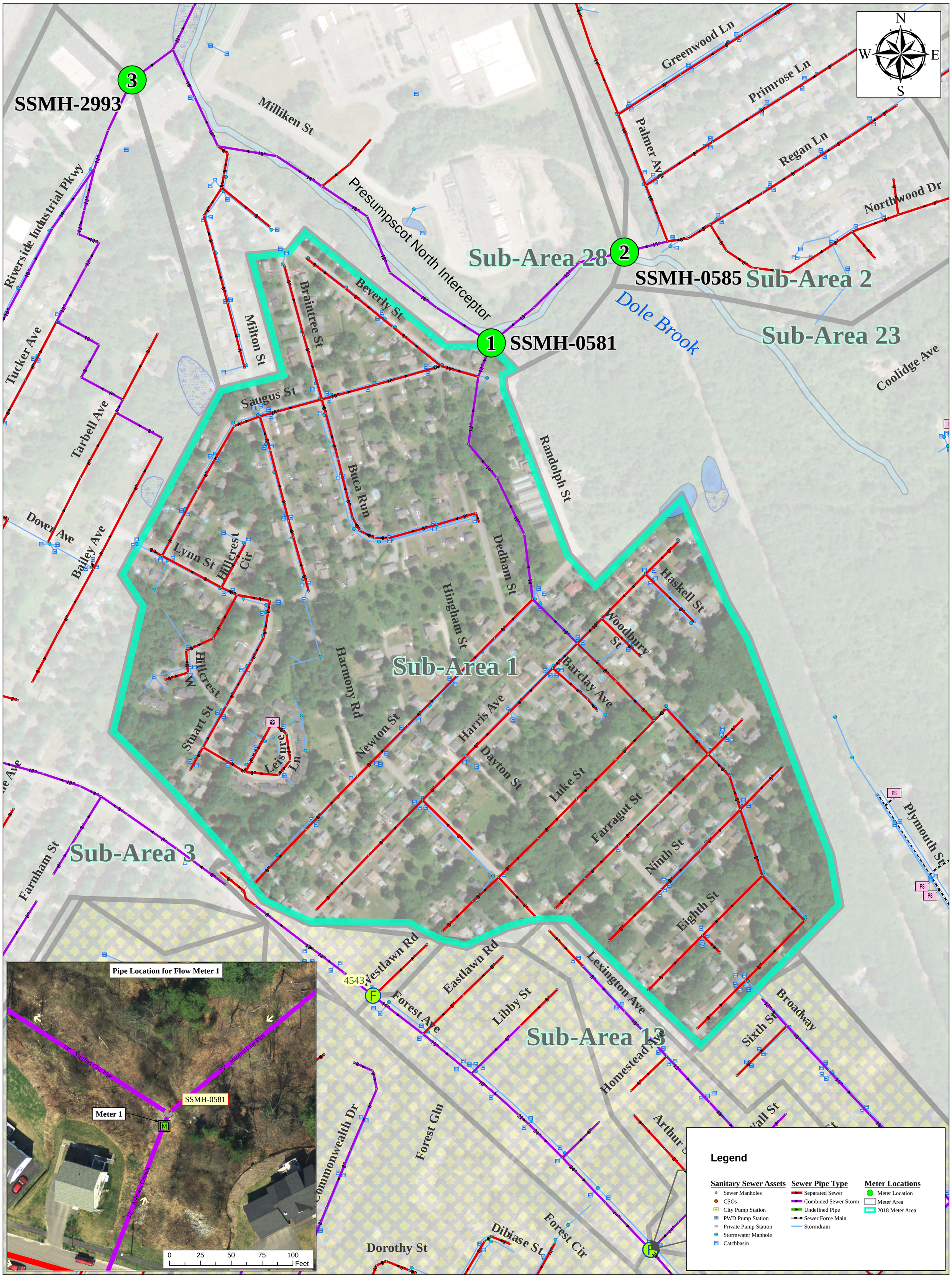
In addition, the planning and execution of the following investigations will be conducted during the remainder of 2019 and through the spring of 2020:

- 56,000 LF of CCTV inspections
- 490 manhole inspections
- 126,000 LF of smoke testing
- 45 building inspections
- 10 days of dye testing

As illustrated in this report, the city has made considerable strides in identifying major I/I sources. As this effort continues, the City remains committed to meeting the goals and requirements of the EPA's Order for Compliance and the City's I/I Reduction Program.

APPENDIX A

Phase 1 – Investigation of Flows – 2018 Monitoring Report



0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 1

ARCADIS

Sub-Area Details

Area = 124 ACRES
Length of pipe = 20,000 LF
Sewer Manholes = 102 MHs
Buildings = 371 Bldgs

March 2018

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 2

ARCADIS

Sub-Area Details

Area = 86 ACRES
Length of pipe = 11,919 LF
Sewer Manholes = 59 MHs
Buildings = 196 Bldgs

March 2018

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 3

ARCADIS

Sub-Area Details

Area = 218 ACRES
Length of pipe = 28,692 LF
Sewer Manholes = 148 MHs
Buildings = 515 Bldgs

March 2018

Pipe Location for Flow Meter 4

SSMH-6287

SSMH-0194

SSMH-0831

SSMH-0195

Meter 4

10" Asbestos Cement

24" Vitrified Clay Pipe

0 25 50 75 100 Feet

Legend

Sanitary Sewer Assets
- Sewer Manholes
- CSOs
- City Pump Station
- PWD Pump Station
- Private Pump Station
- Stormwater Manhole
- Catchbasin

Sewer Pipe Type
- Separated Sewer
- Combined Sewer Storm
- Undefined Pipe
- Sewer Force Main
- Stormdrain

Meter Locations
- Meter Location
- Meter Area
- 2018 Meter Area

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

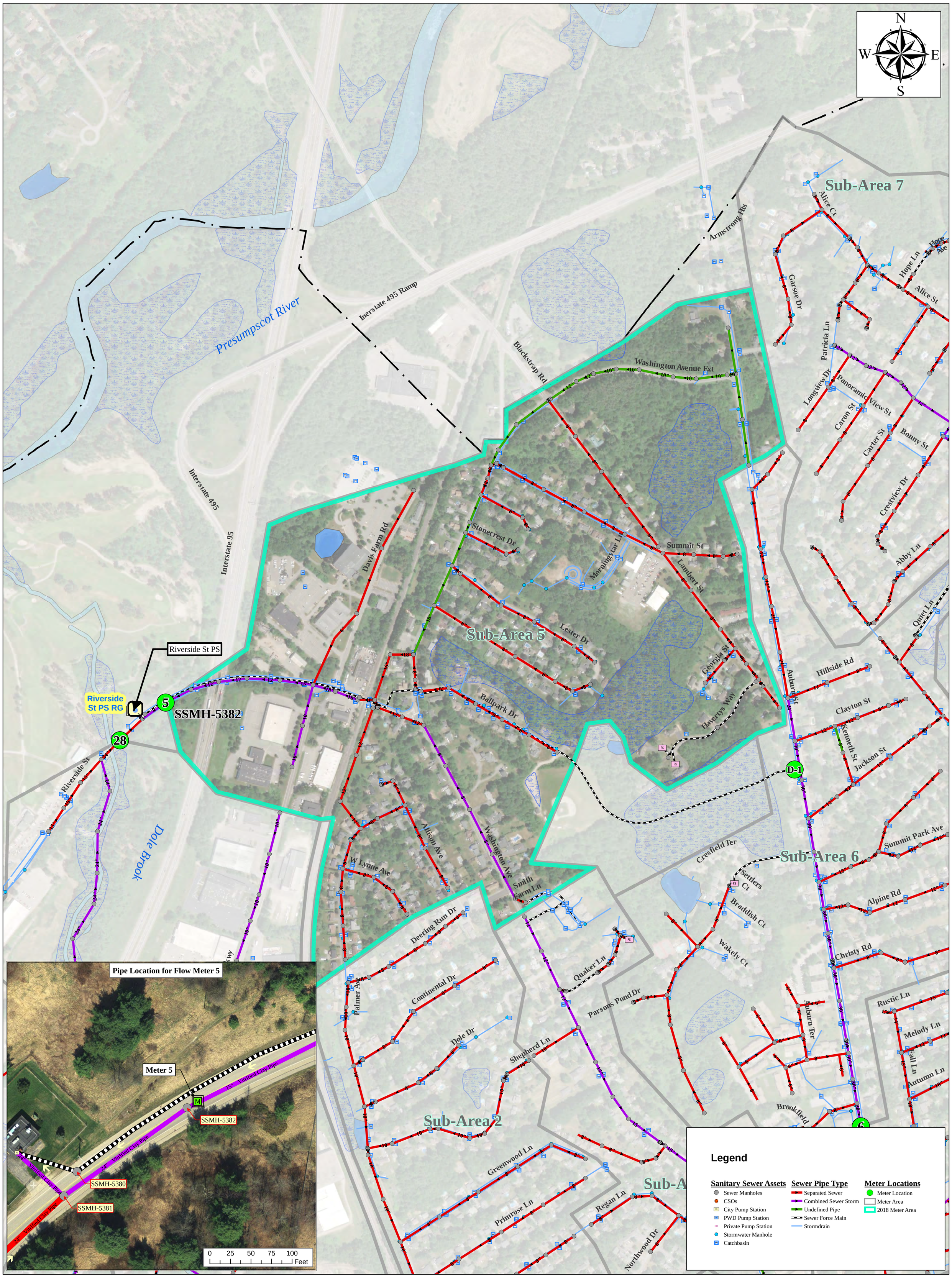
Sub-Area 4

ARCADIS

Sub-Area Details

Area = 187 ACRES
Length of pipe = 8,893 LF
Sewer Manholes = 47 MHs
Buildings = 104 Bldgs

March 2018



0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 5

ARCADIS

Sub-Area Details

Area = 220 ACRES
Length of pipe = 21,962 LF
Sewer Manholes = 111 MHs
Buildings = 275 Bldgs

March 2018

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

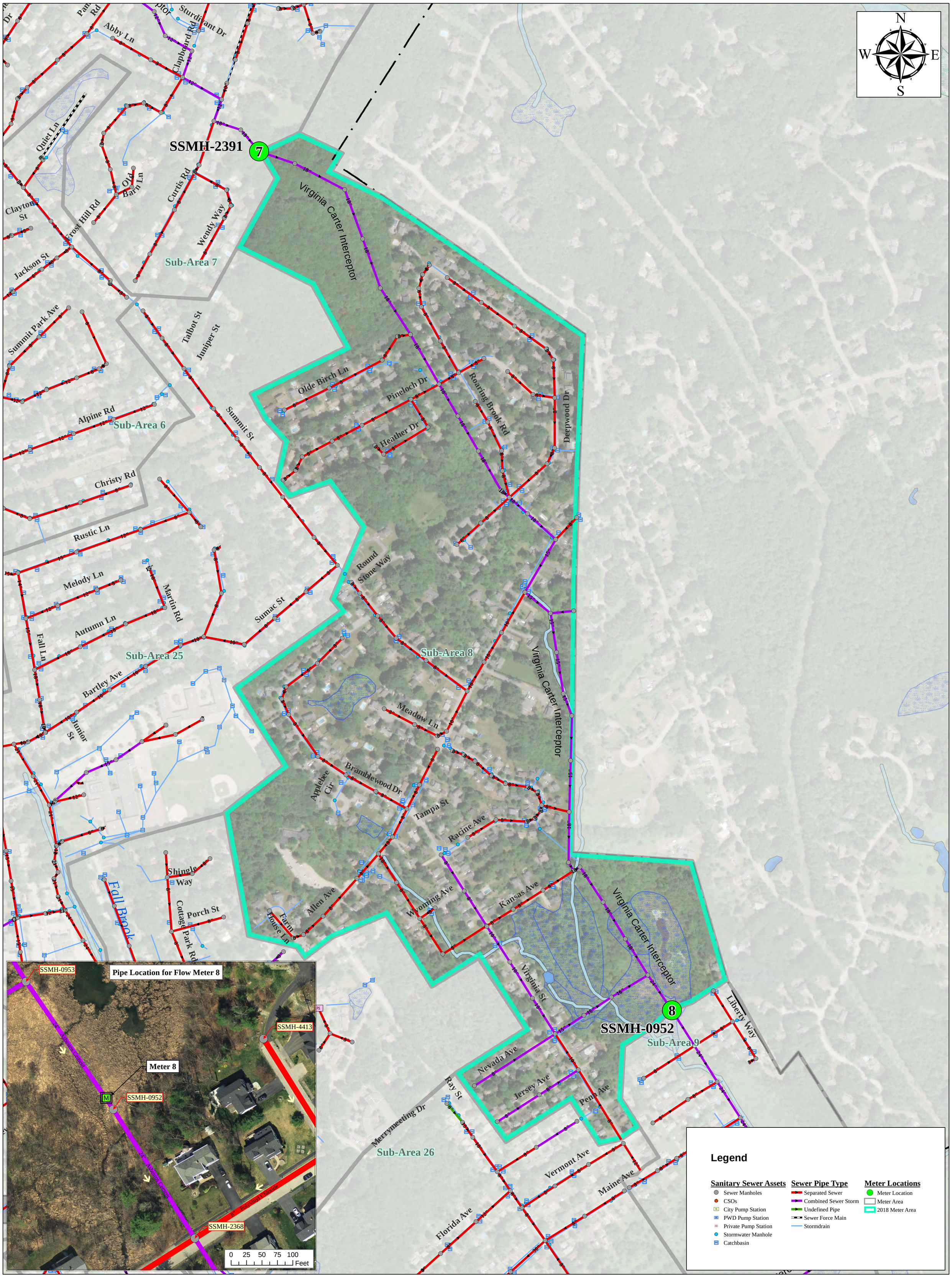
Sub-Area 7

ARCADIS

Sub-Area Details

Area = 198 ACRES
Length of pipe = 23,684 LF
Sewer Manholes = 148 MHs
Buildings = 367 Bldgs

March 2018



0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

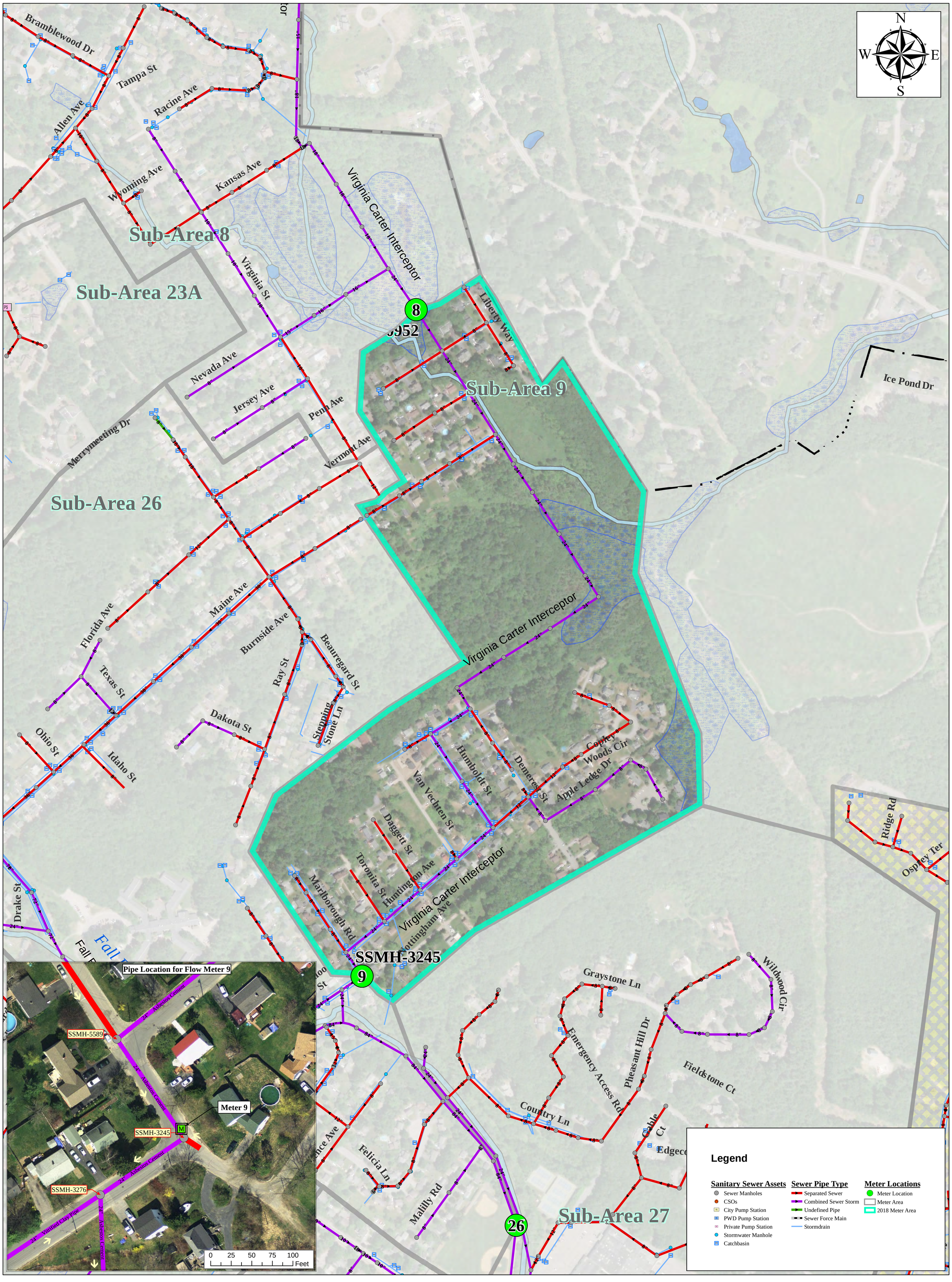
Sub-Area 8

ARCADIS

Sub-Area Details

Area = 203 ACRES
Length of pipe = 25,298 LF
Sewer Manholes = 128 MHs
Buildings = 416 Bldgs

March 2018



0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

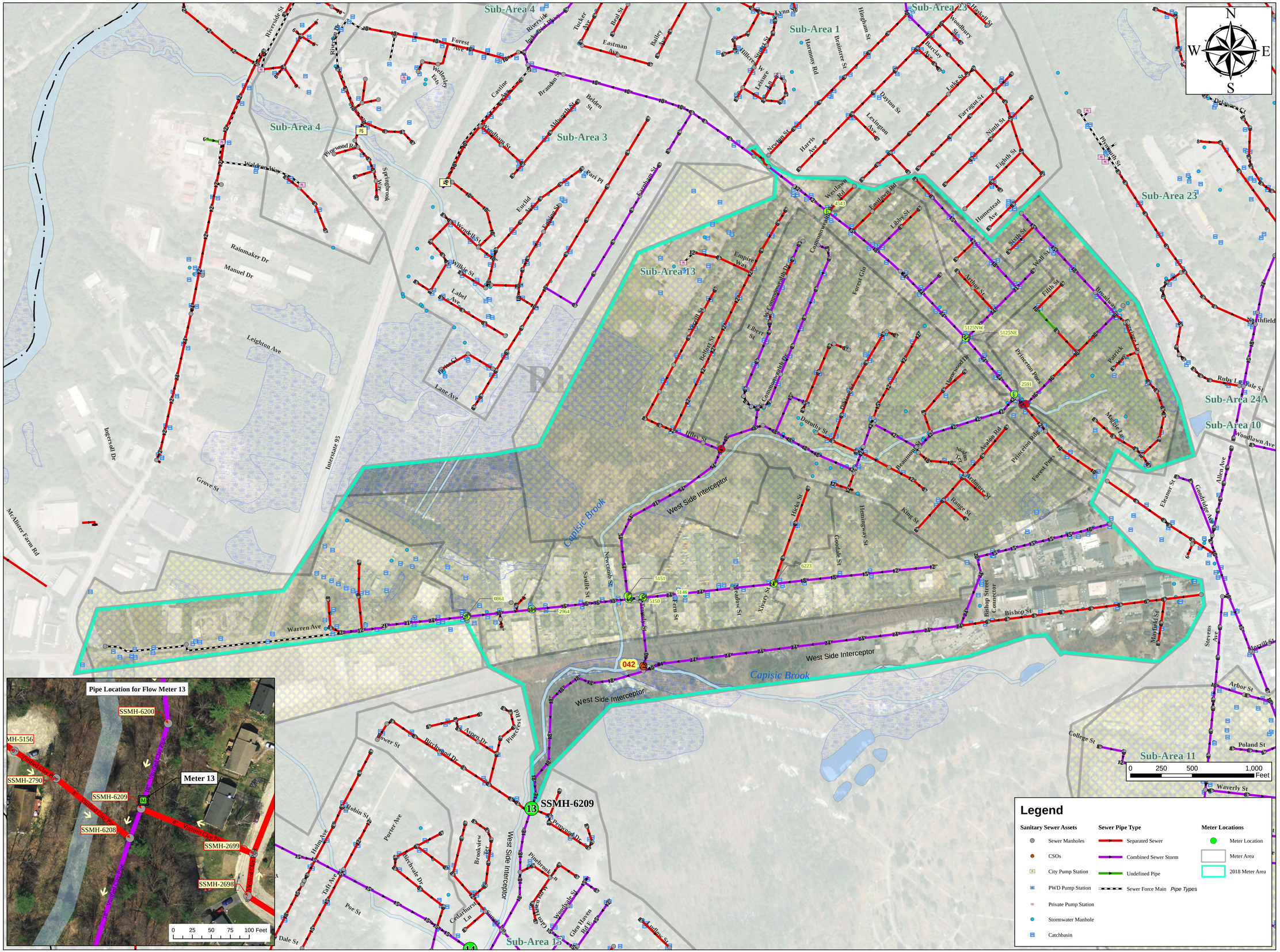
Sub-Area 9

ARCADIS

Sub-Area Details

Area = 103 ACRES
Length of pipe = 11,176 LF
Sewer Manholes = 51 MHs
Buildings = 193 Bldgs

March 2018



Sub-Area Details

Area = 499 ACRES
Length of pipe = 48,470 LF
Sewer Manholes = 270 MHs
Buildings = 774 Bldgs

March 2018

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 13

ARCADIS

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 14

ARCADIS

Sub-Area Details

Area = 234 ACRES
Length of pipe = 23,488 LF
Sewer Manholes = 124 MHs
Buildings = 319 Bldgs

March 2018

Sub-Area 13

Sub-Area 14

Sub-Area 15

Sub-Area 16

Sub-Area 17

Sub-Area 21

SSMH-6209

SSMH-5188

SSMH-0266

SSMH-5248

Pipe Location for Flow Meter 15

SSMH-5213

SSMH-4074

Meter 15

SSMH-0266

SSMH-5203

Legend

Sanitary Sewer Assets
- Sewer Manholes
- CSOs
- City Pump Station
- PWD Pump Station
- Private Pump Station
- Stormwater Manhole
- Catchbasin

Sewer Pipe Type
- Separated Sewer
- Combined Sewer Storm
- Undefined Pipe
- Sewer Force Main
- Stormdrain

Meter Locations
- Meter Location
- Meter Area
- 2018 Meter Area

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 15

ARCADIS

Sub-Area Details

Area = 146 ACRES
Length of pipe = 22,812 LF
Sewer Manholes = 126 MHs
Buildings = 457 Bldgs

March 2018

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

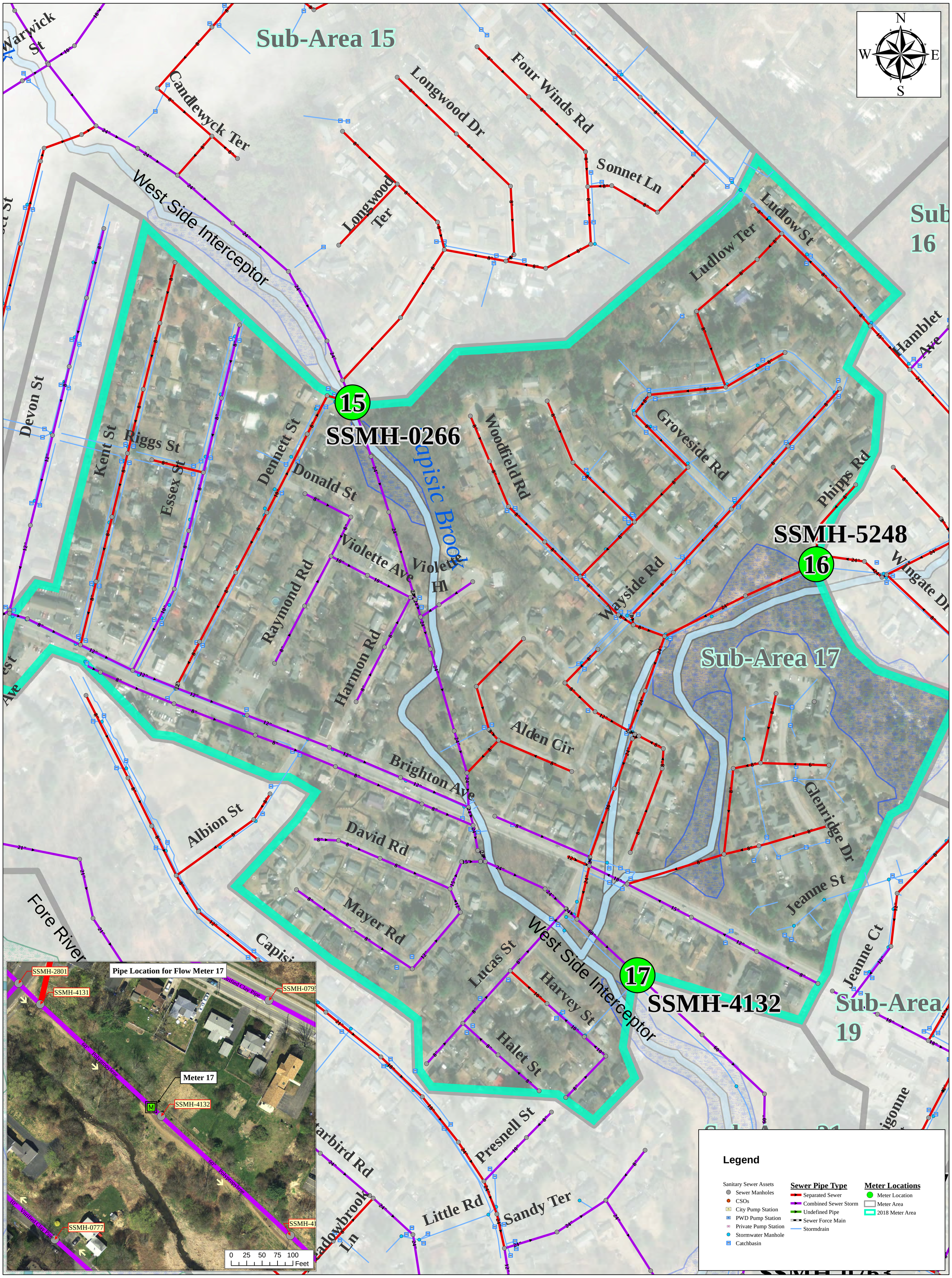
Sub-Area 16

ARCADIS

Sub-Area Details

Area = 124 ACRES
Length of pipe = 21,410 LF
Sewer Manholes = 101 MHs
Buildings = 442 Bldgs

March 2018



0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 17

ARCADIS

Sub-Area Details

Area = 127 ACRES
Length of pipe = 24,822 LF
Sewer Manholes = 142 MHs
Buildings = 427 Bldgs

March 2018

Sub-Area 16

Sub-Area 19

Sub-Area 18

Sub-Area 29

Sub-Area 22

SSMH-2849

18

Pipe Location for Flow Meter 18

SSMH-4327

SSMH-2846

SSMH-5263

SSMH-5262

SSMH-2847

SSMH-2849

Meter 18

SSMH-2881

SSMH-0262

SSMH-5293

0 25 50 75 100 Feet

Legend

Sanitary Sewer Assets
- Sewer Manholes
- CSOs
- City Pump Station
- PWD Pump Station
- Private Pump Station
- Stormwater Manhole
- Catchbasin

Sewer Pipe Type
- Separated Sewer
- Combined Sewer Storm
- Undefined Pipe
- Sewer Force Main
- Stormdrain

Meter Locations
- Meter Location
- Meter Area
- 2018 Meter Area

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 18

ARCADIS

Sub-Area Details

Area = 111 ACRES
Length of pipe = 19,962 LF
Sewer Manholes = 94 MHs
Buildings = 469 Bldgs

March 2018

Sub-Area 16

Sub-Area 17

Sub-Area 18

Sub-Area 19

Sub-Area 29

SSMH-5248 16

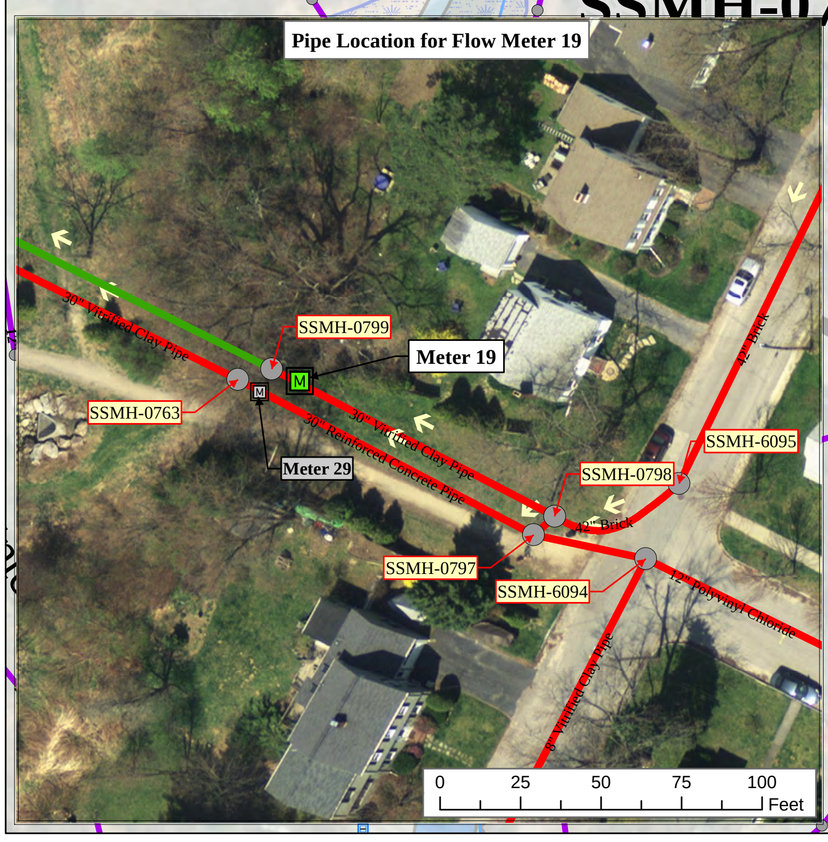
SSMH-4132 17

SSMH-2849 18

SSMH-0799 19

SSMH-0763 29

Hamblet Ave
Best St
Madeline St
Bartlett St
Hale St
Mabel St
Alba St
Groveside Rd
Woodfield Rd
Phipps Rd
Fuller St
Concord St W
Wingate Dr
Wayside Rd
Ludlow St
Leland St
Alden Cir
Jeanne St
Glenridge Dr
Edgeworth Ave
Westminster Ave
Leeman St
Merriam St
Lucas St
Columbia Rd
Columbia Ter
Rosemont Ave
Jeanne Ct
West Side Interceptor
Harvey St
Hillis St
Caldwell St
Marlow St
Gay St
Presnell St
Machigonne St
Woodford St
Brighton Ave
Montrose Ave
Sandy Ter
Fellows St
Runnells St
Rockland Ave
Fleetwood St
Hastings St
Colonial Rd
Kenilworth St
Motley St
Caroline St
Belfield St
Wolcott St
Bancroft St
Colonial Ct
Pomeroy St



Legend

Sanitary Sewer Assets	Sewer Pipe Type	Meter Locations
Sewer Manholes	Separated Sewer	Meter Location
CSOs	Combined Sewer Storm	Meter Area
City Pump Station	Undefined Pipe	
PWD Pump Station	Sewer Force Main	
Private Pump Station	Stormdrain	
Stormwater Manhole		
Catchbasin		

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 19

ARCADIS

Sub-Area Details

Area = 30 ACRES
Length of pipe = 5,677 LF
Sewer Manholes = 33 MHs
Buildings = 140 Bldgs

March 2018

Sub-Area 14

Sub-Area 17

Sub-Area 20

Sub-Area 21

Nasons Corner

SSMH-5188

SSMH-2945

Capisic Brook

Fore River

West Side Interceptor

Fore River Interceptor

Interstate 95

Poe St

Dale St

Dale Ct

Holm Ave

Taft Ave

Godfrey St

Gorges St

Josslyn St

Purchas St

Orono Rd

Cedarhurst Ln

Sunset Ln

Glen Haven Rd W

Starlight Rd

Candlewyck Ter

Warwick St

Popham St

Cabot St

Riggs St

Dorset St

Devon St

Kent St

Essex St

Dennett St

Raymond Rd

Brighton Ave

Wessex St

Lomond St

Terrace Ave

Meriline Ave

Hillcrest Ave

Webb St

Levia St

Rowe Ave

Capisic St

Albion St

Mayer Rd

Lorenzo St

Winding Way

039

Pipe Location for Flow Meter 20

SSMH-2905

SSMH-0805

Meter 20

SSMH-2945

SSNS-0029

36" Reinforced Concrete Pipe

48" Reinforced Concrete Pipe

0 25 50 75 100 Feet

Legend

Sanitary Sewer Assets
- Sewer Manholes
- CSOs
- City Pump Station
- PWD Pump Station
- Private Pump Station
- Stormwater Manhole
- Catchbasin

Sewer Pipe Type
- Separated Sewer
- Combined Sewer Storm
- Undefined Pipe
- Sewer Force Main
- Stormdrain

Meter Locations
- Meter Location
- Meter Area
- 2018 Meter Area

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 20

ARCADIS

Sub-Area Details

Area = 93 ACRES
Length of pipe = 9,924 LF
Sewer Manholes = 47 MHs
Buildings = 185 Bldgs

March 2018

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

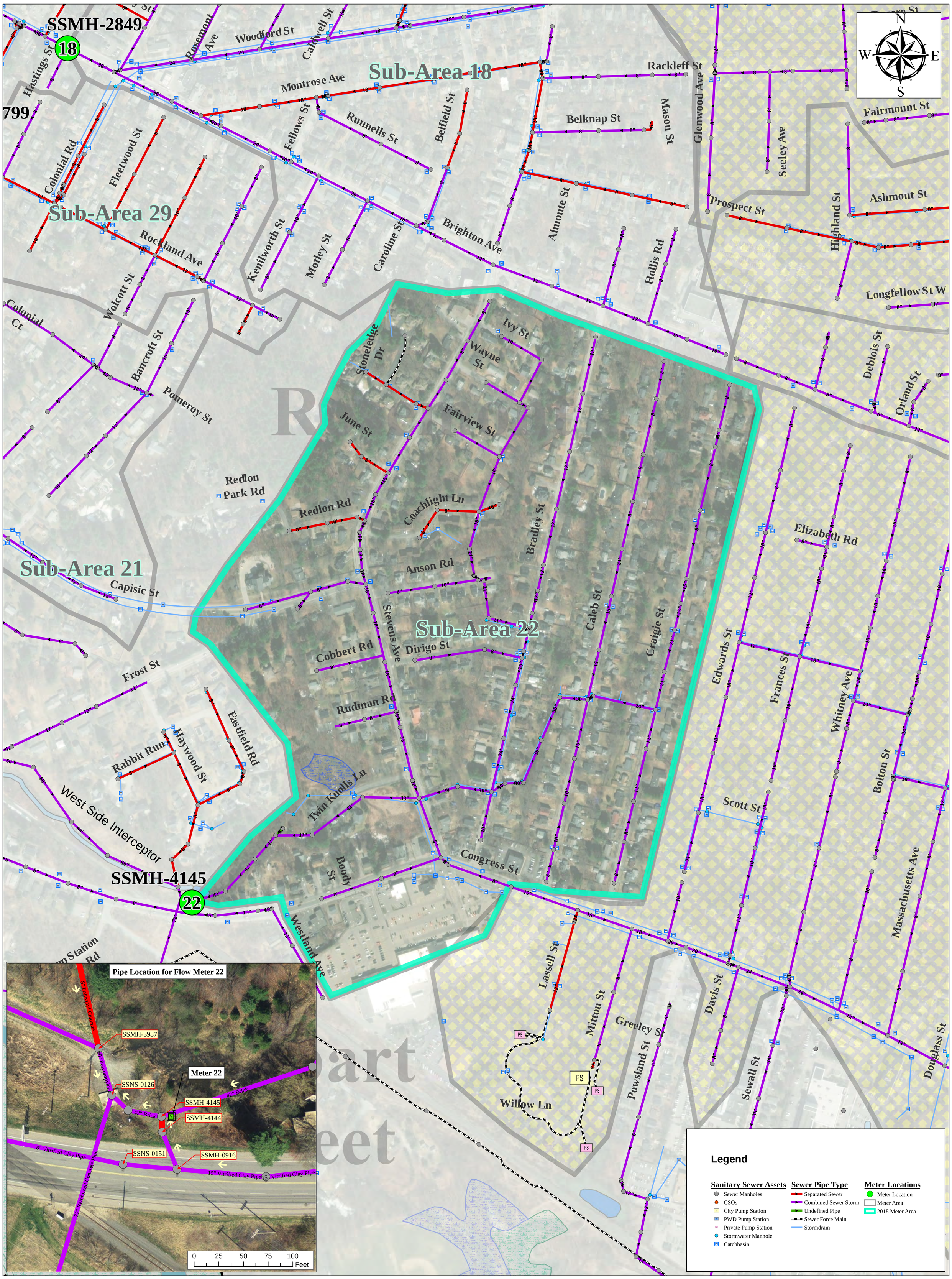
Sub-Sub-Area 21

ARCADIS

Sub-Area Details

Area = 149 ACRES
Length of pipe = 21,047 LF
Sewer Manholes = 108 MHs
Buildings = 308 Bldgs

March 2018



CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

Sub-Area 22

Sub-Area Details

Area =
Length of pipe = 19,134 LF
Sewer Manholes = 113 MHs
Buildings = 377 Bldgs

March 2018

Riverside St PS

Riverside St PS RG

SSMH-5382

SSMH-5384

SSMH-0831

SSMH-2993

SSMH-0585

SSMH-0531

Sub-Area 5

Sub-Area 28

Sub-Area 4

Sub-Area 1

Sub-Area 2

Sub-Area 23

Pipe Location for Flow Meter 30

SSMH-5380

SSMH-5381

SSMH-5385

SSMH-5384

Meter 30

SSMH-0837

SSMH-0834

0 25 50 75 100 Feet

Legend

Sanitary Sewer Assets	Sewer Pipe Type	Meter Locations
Sewer Manholes	Separated Sewer	Meter Location
CSOs	Combined Sewer Storm	Meter Area
City Pump Station	Undefined Pipe	2018 Meter Area
PWD Pump Station	Sewer Force Main	
Private Pump Station	Stormdrain	
Stormwater Manhole		
Catchbasin		

0 250 500 1,000 Feet

CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

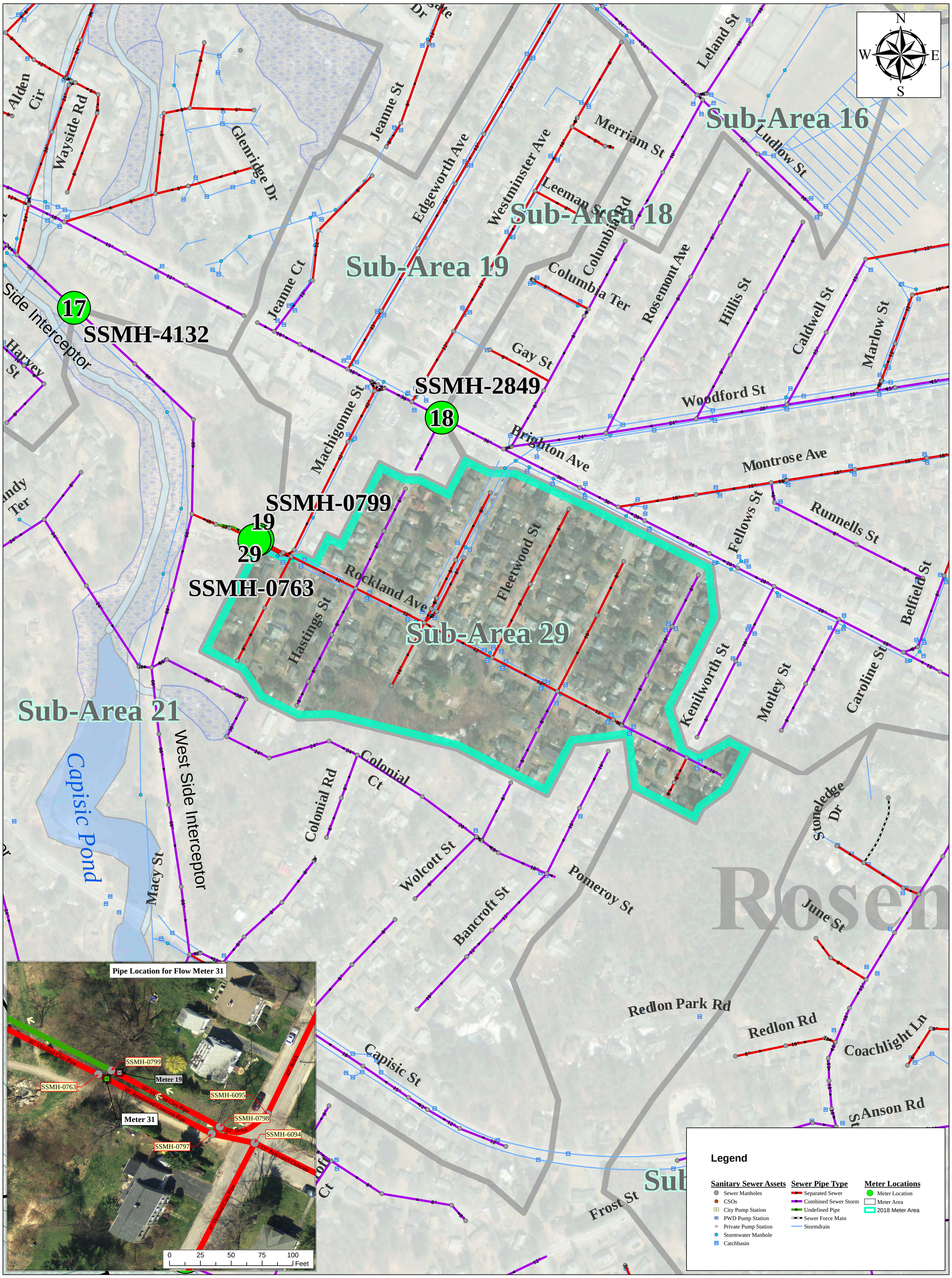
Sub-Area 28

ARCADIS

Sub-Area Details

Area = 162 ACRES
Length of pipe = 10,942 LF
Sewer Manholes = 58 MHs
Buildings = 42 Bldgs

March 2018



CITY OF PORTLAND, MAINE

Planning & Engineering Services for an Infiltration and Inflow Program of the Sanitary Sewer System

2018 Sanitary Flow Metering

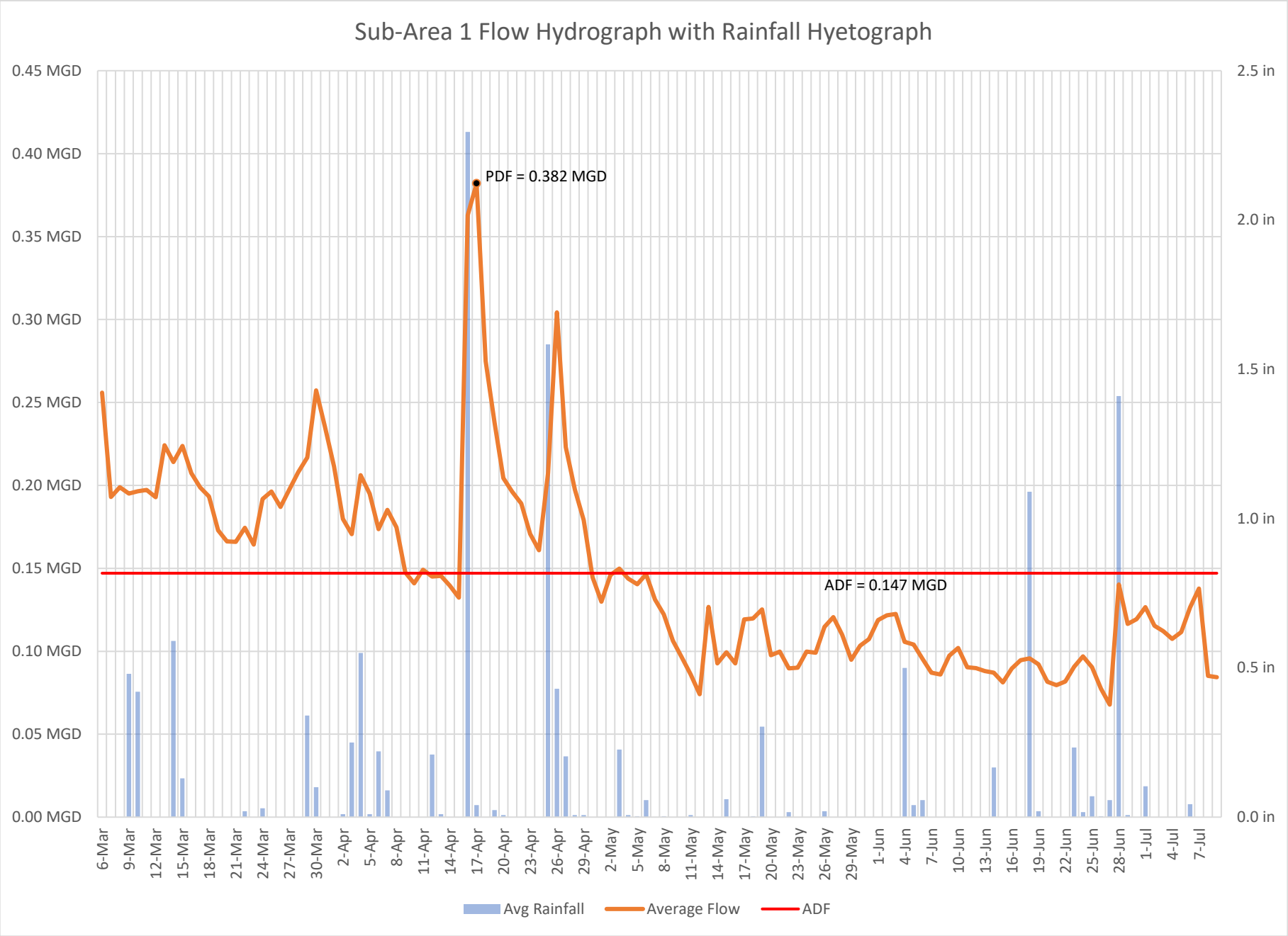
Sub-Area 29

ARCADIS

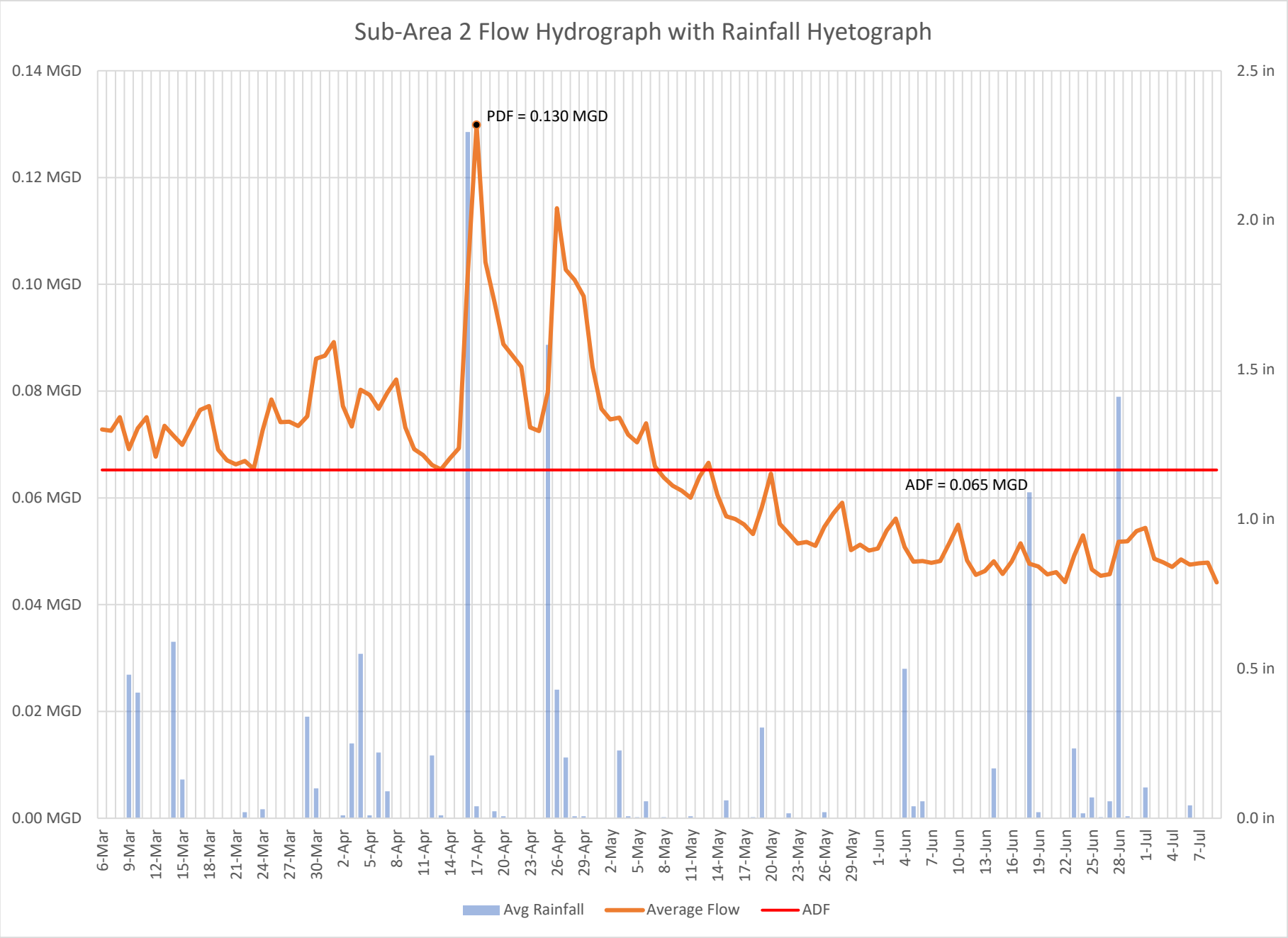
Sub-Area Details

Area = 31 ACRES
Length of pipe = 6,165 LF
Sewer Manholes = 35 MHs
Buildings = 155 Bldgs

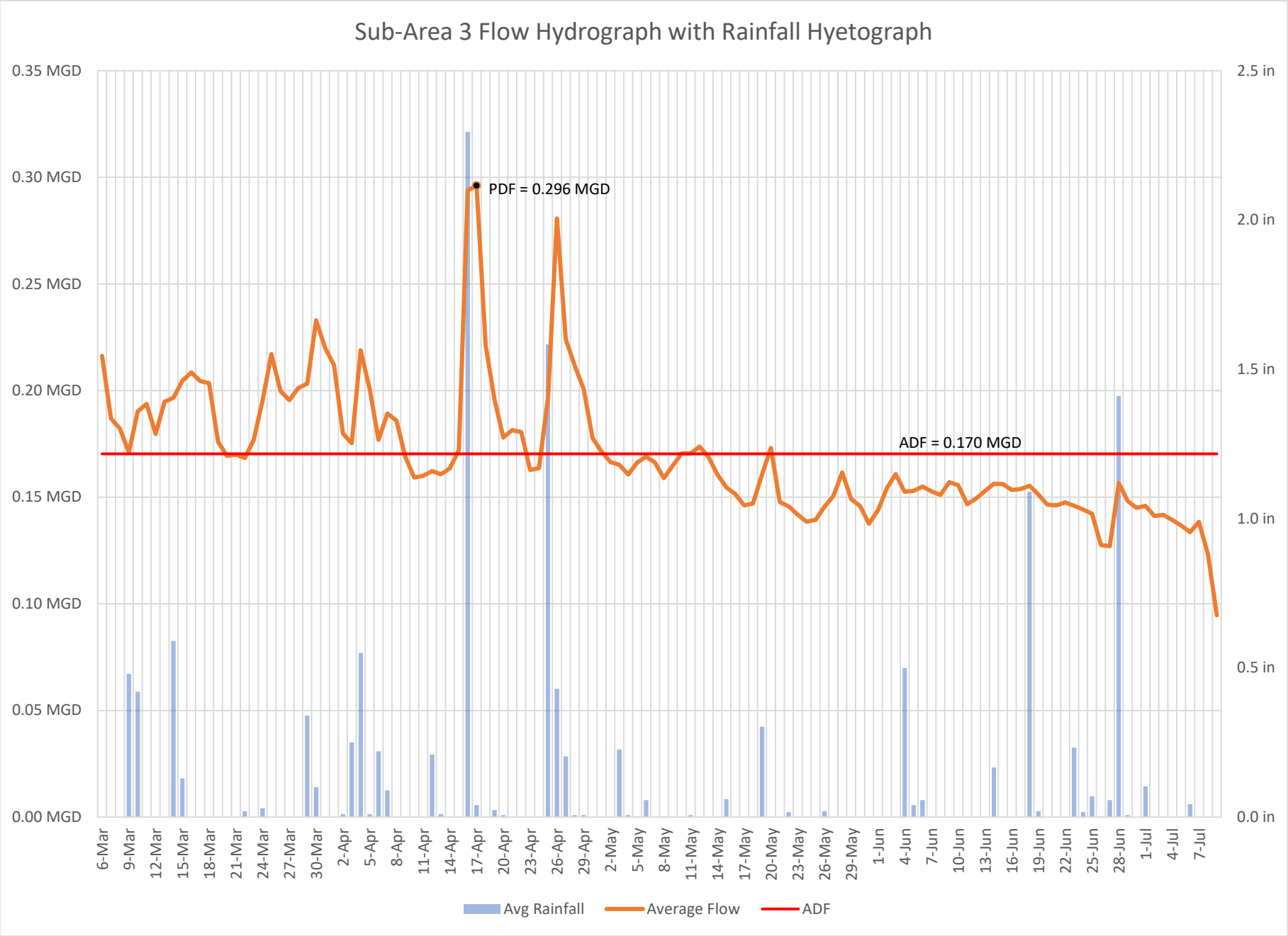
March 2018


Sub-Area 1 Flow Hydrograph with Rainfall Hyetograph
0.45 MGD
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.382 MGD
ADF = 0.147 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

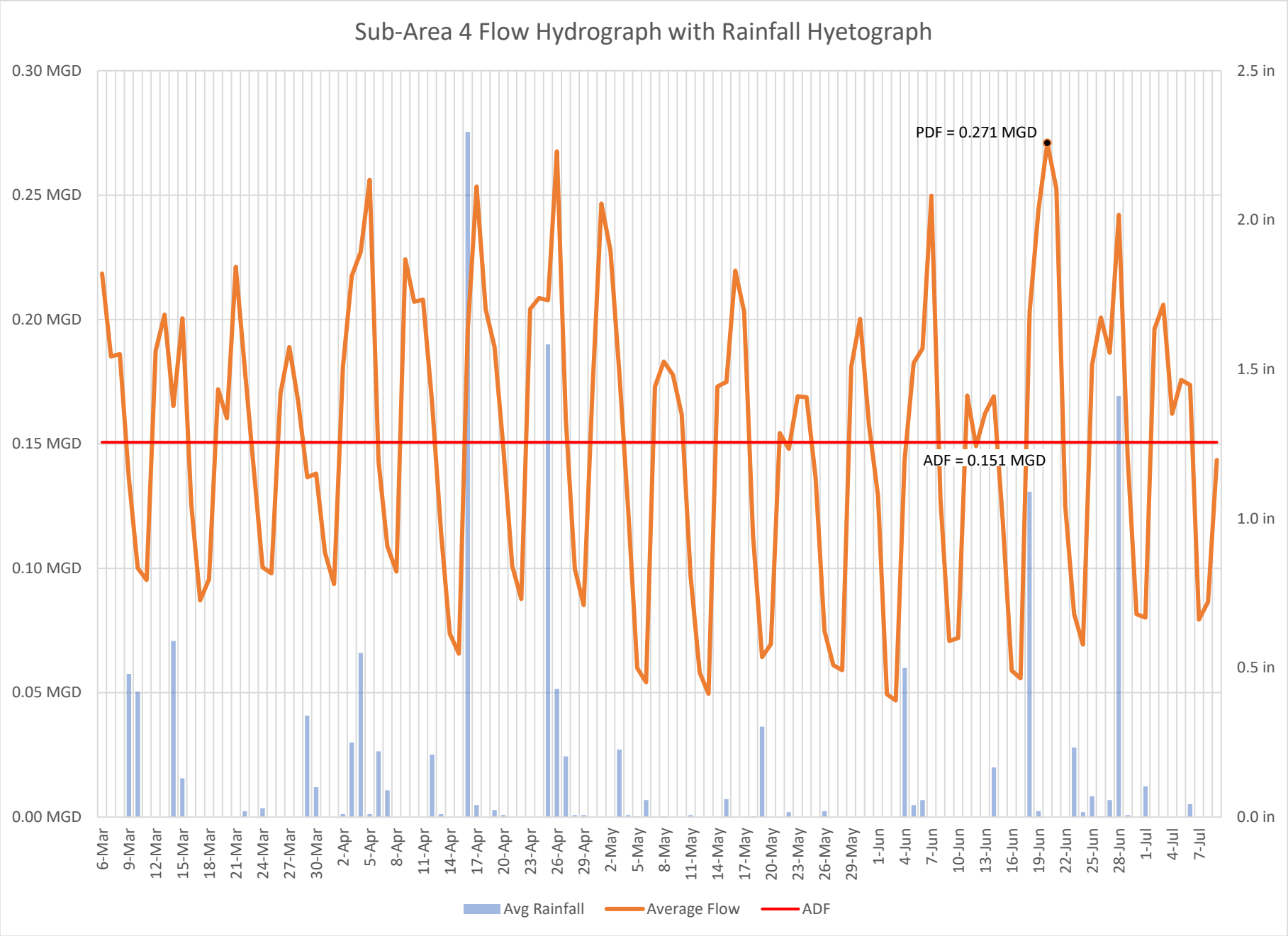
12/17/2018


Sub-Area 2 Flow Hydrograph with Rainfall Hyetograph
0.14 MGD
0.12 MGD
0.10 MGD
0.08 MGD
0.06 MGD
0.04 MGD
0.02 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.130 MGD
ADF = 0.065 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

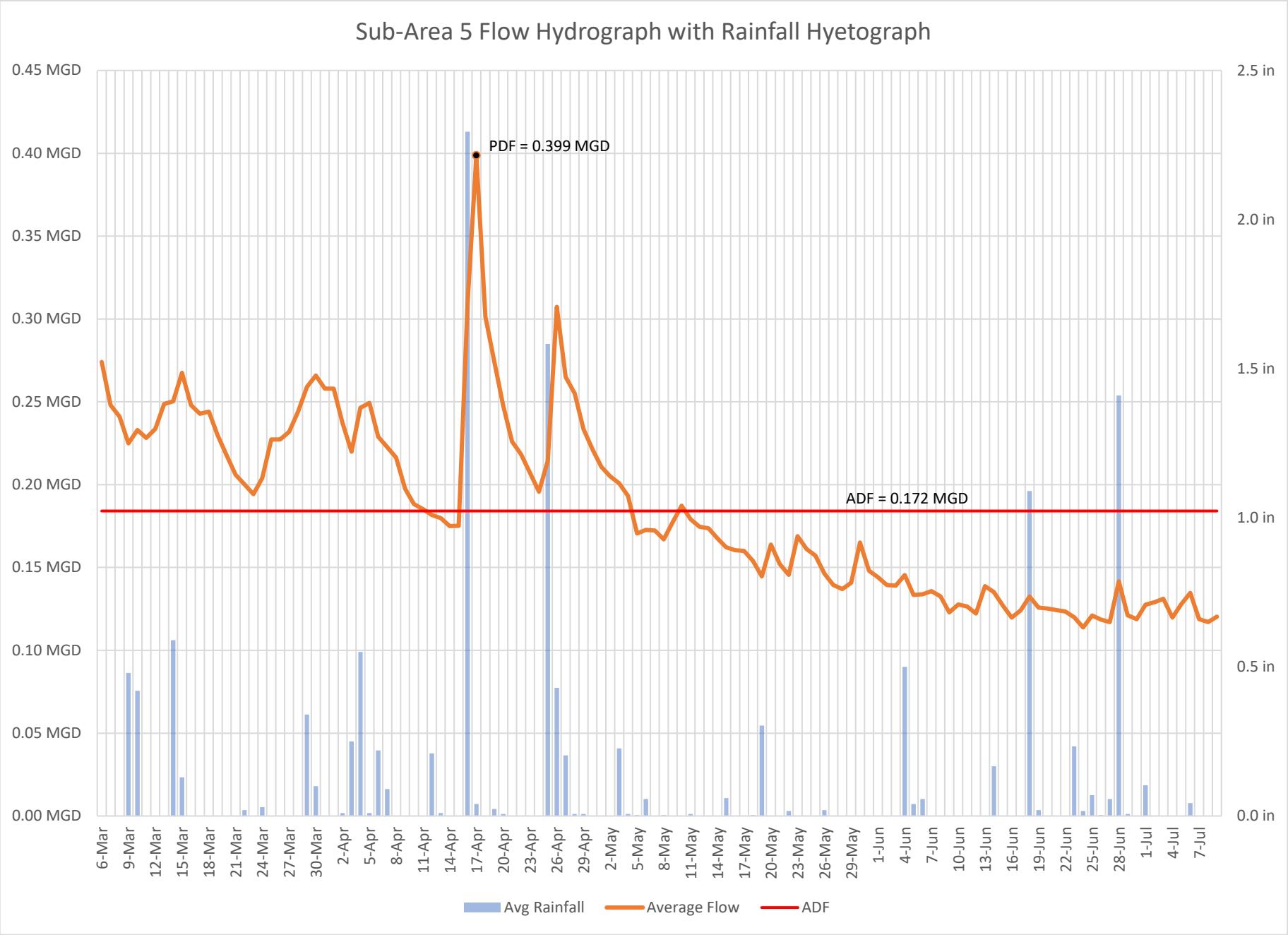
12/17/2018


Sub-Area 3 Flow Hydrograph with Rainfall Hyetograph
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.296 MGD
ADF = 0.170 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

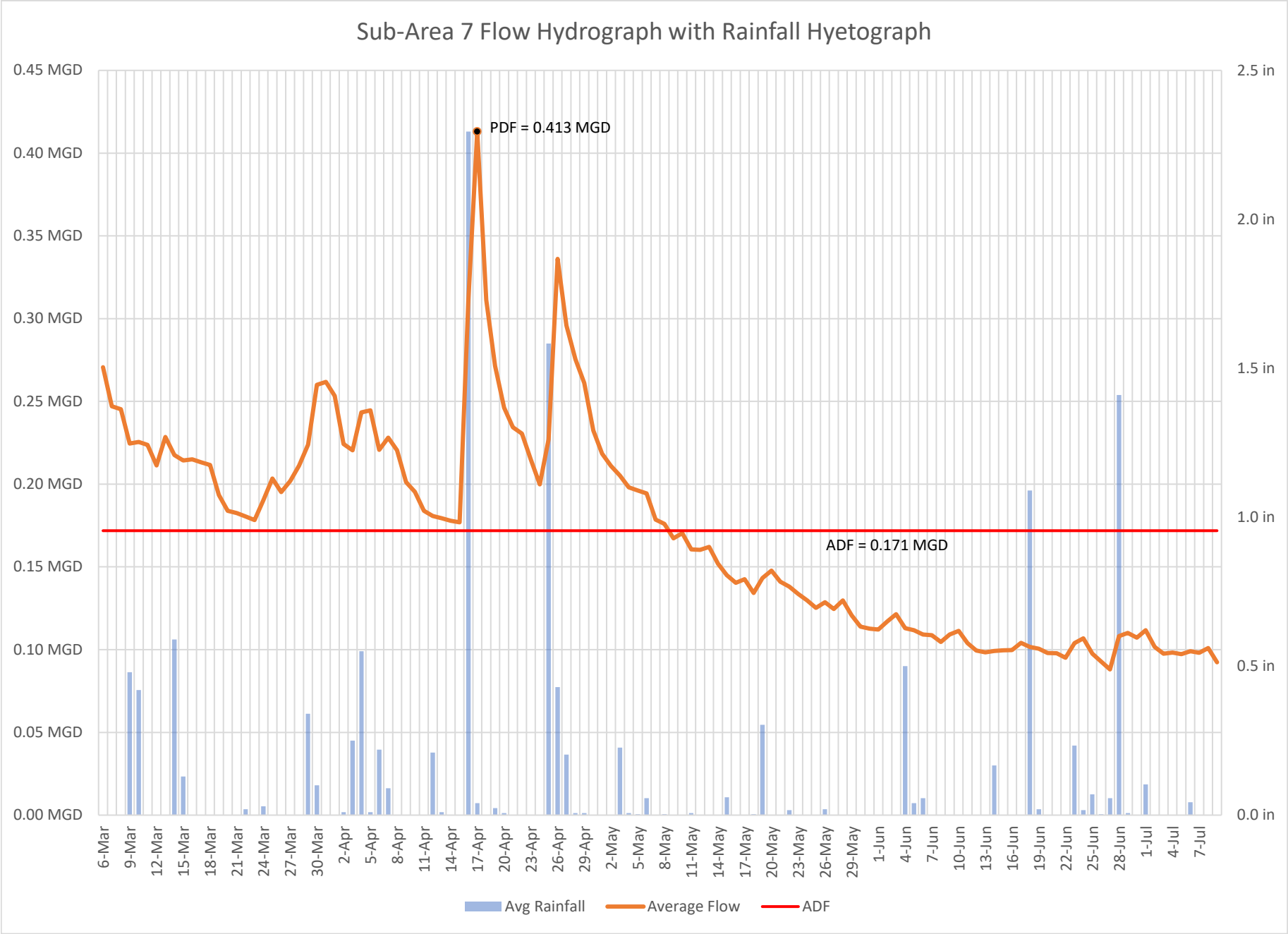
12/17/2018


Sub-Area 4 Flow Hydrograph with Rainfall Hyetograph
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.271 MGD
ADF = 0.151 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

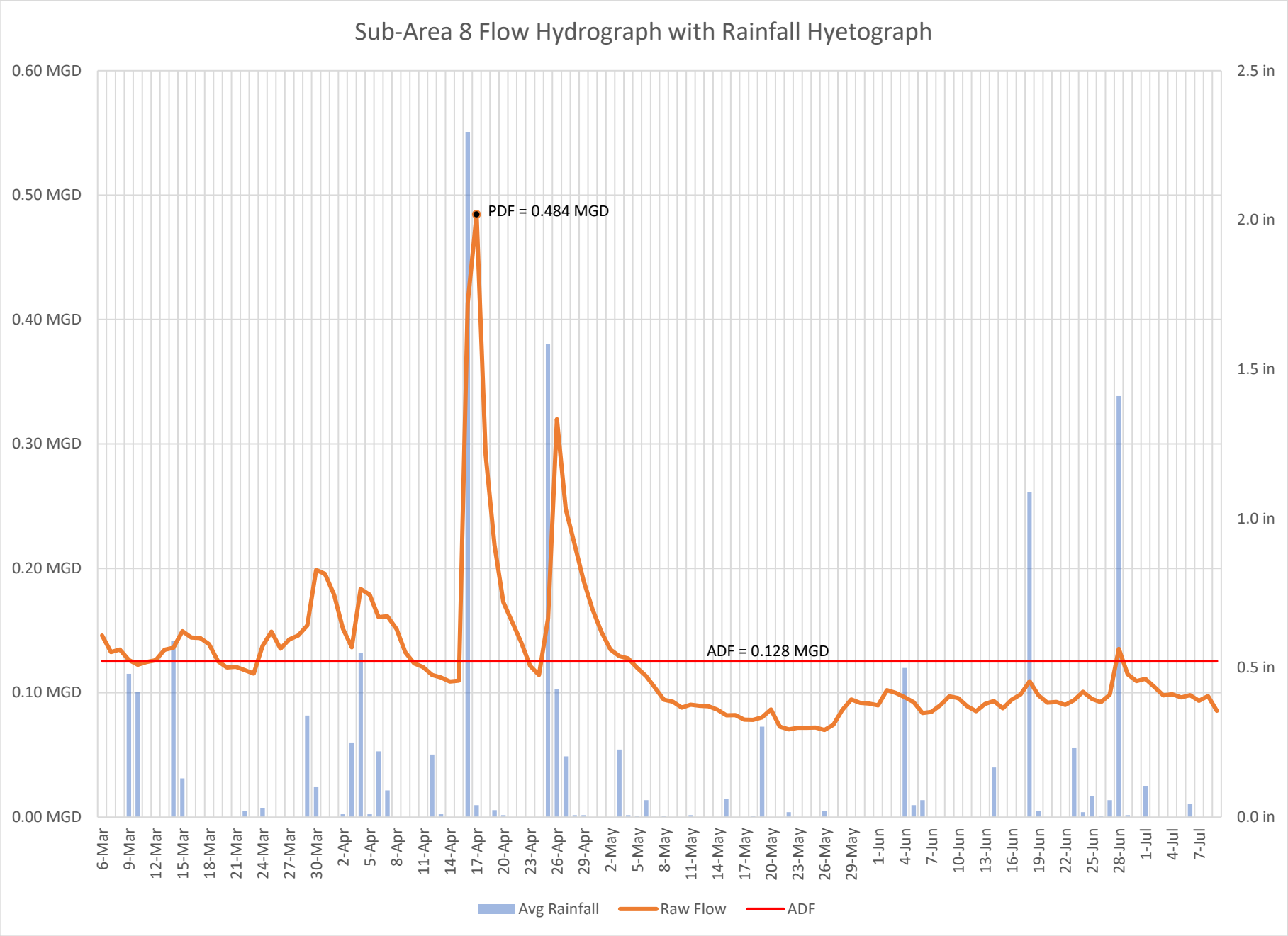
12/17/2018


Sub-Area 5 Flow Hydrograph with Rainfall Hyetograph
0.45 MGD
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.399 MGD
ADF = 0.172 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

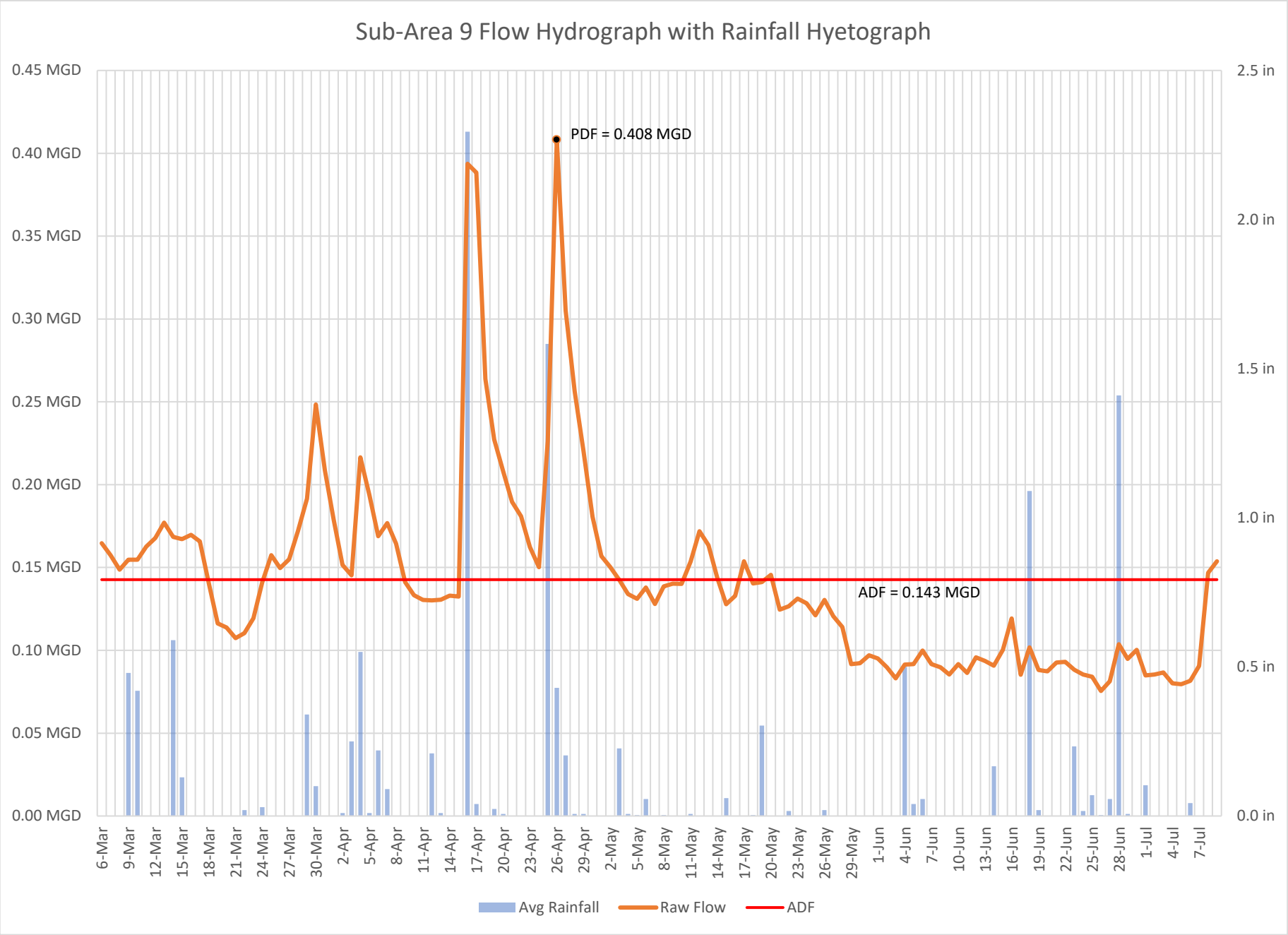
12/17/2018


Sub-Area 7 Flow Hydrograph with Rainfall Hyetograph
0.45 MGD
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.413 MGD
ADF = 0.171 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

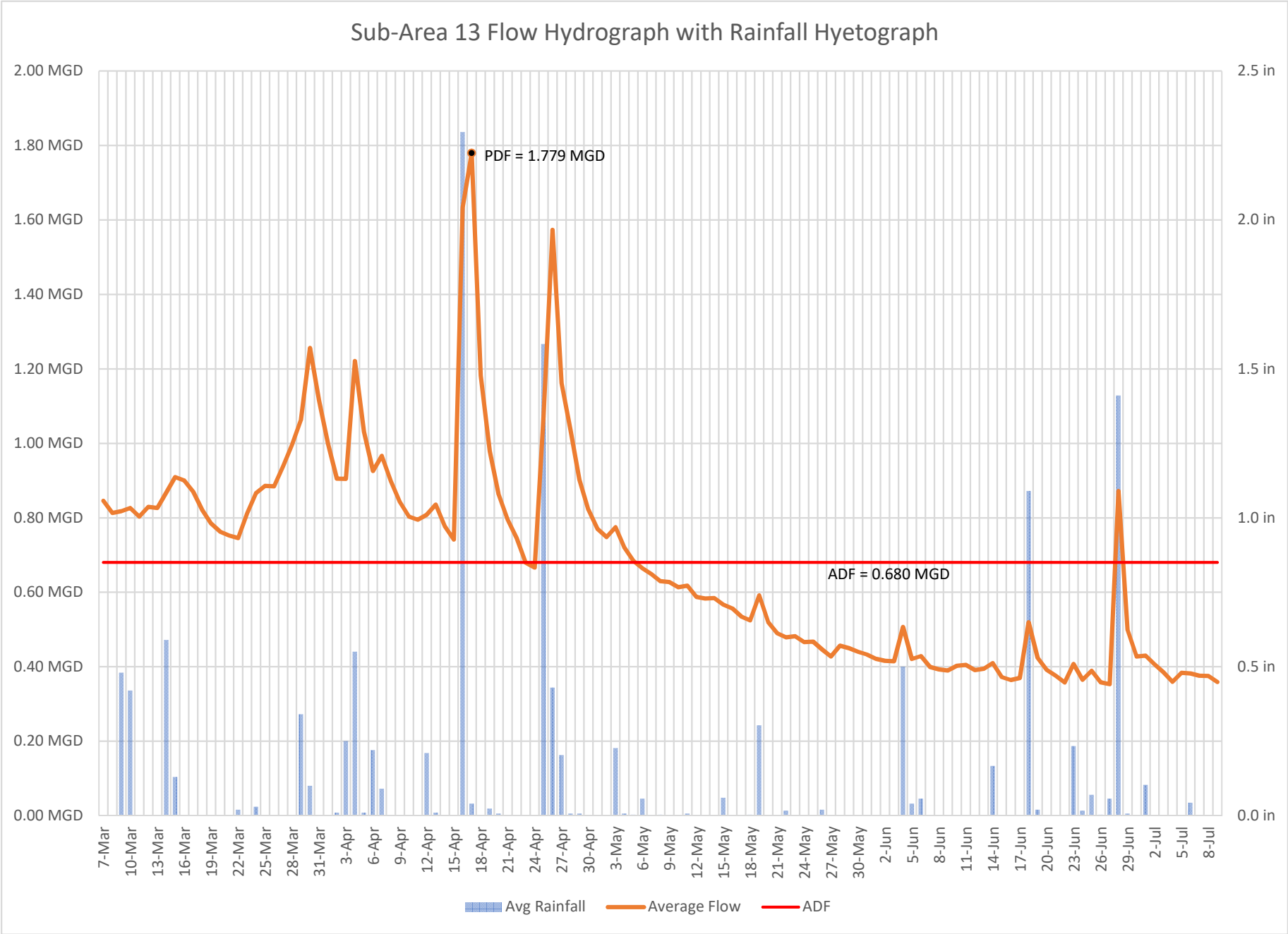
12/17/2018


Sub-Area 8 Flow Hydrograph with Rainfall Hyetograph
0.60 MGD
0.50 MGD
0.40 MGD
0.30 MGD
0.20 MGD
0.10 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.484 MGD
ADF = 0.128 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Raw Flow
ADF

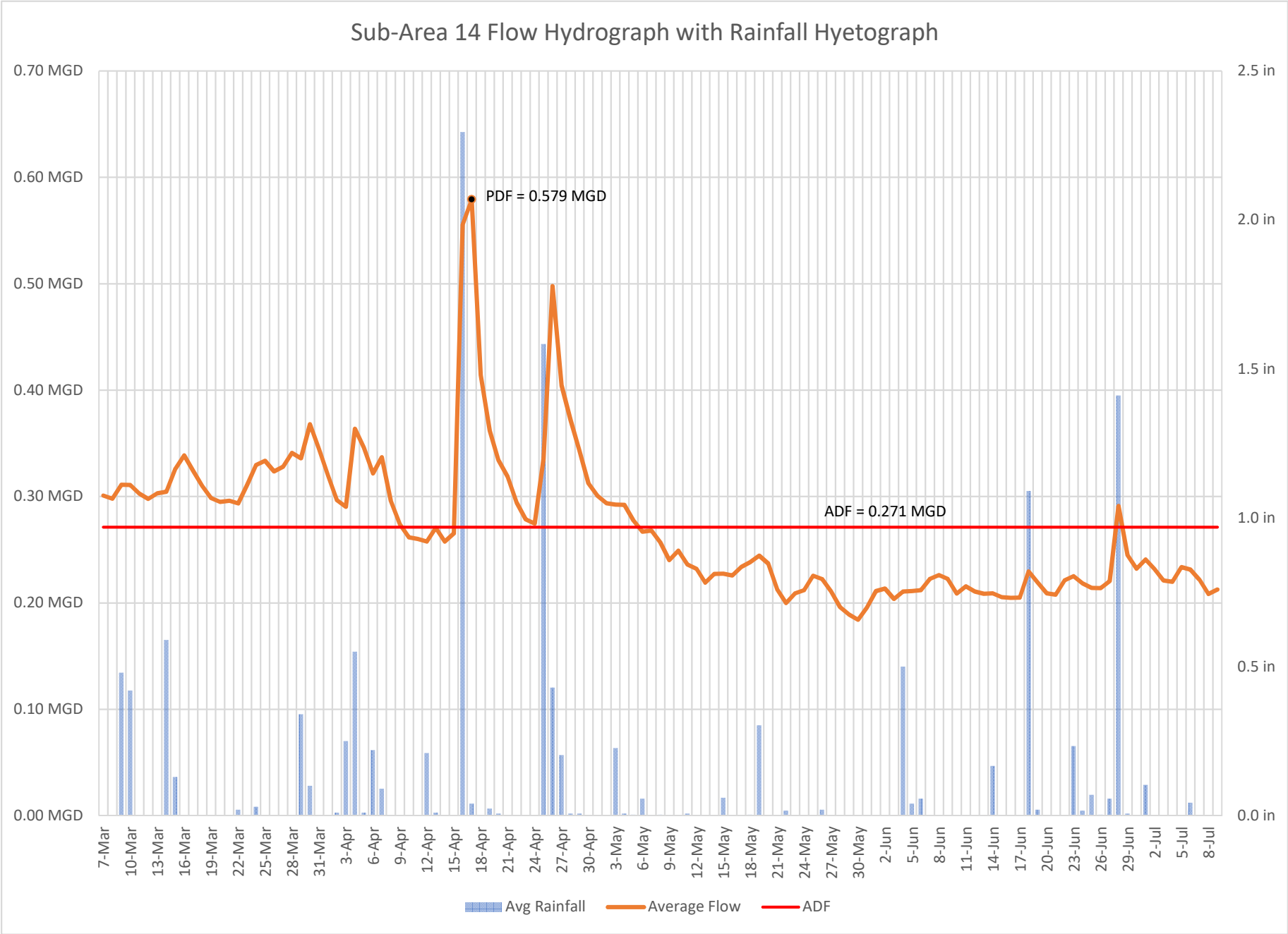
12/17/2018


Sub-Area 9 Flow Hydrograph with Rainfall Hyetograph
0.45 MGD
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.408 MGD
ADF = 0.143 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Raw Flow
ADF

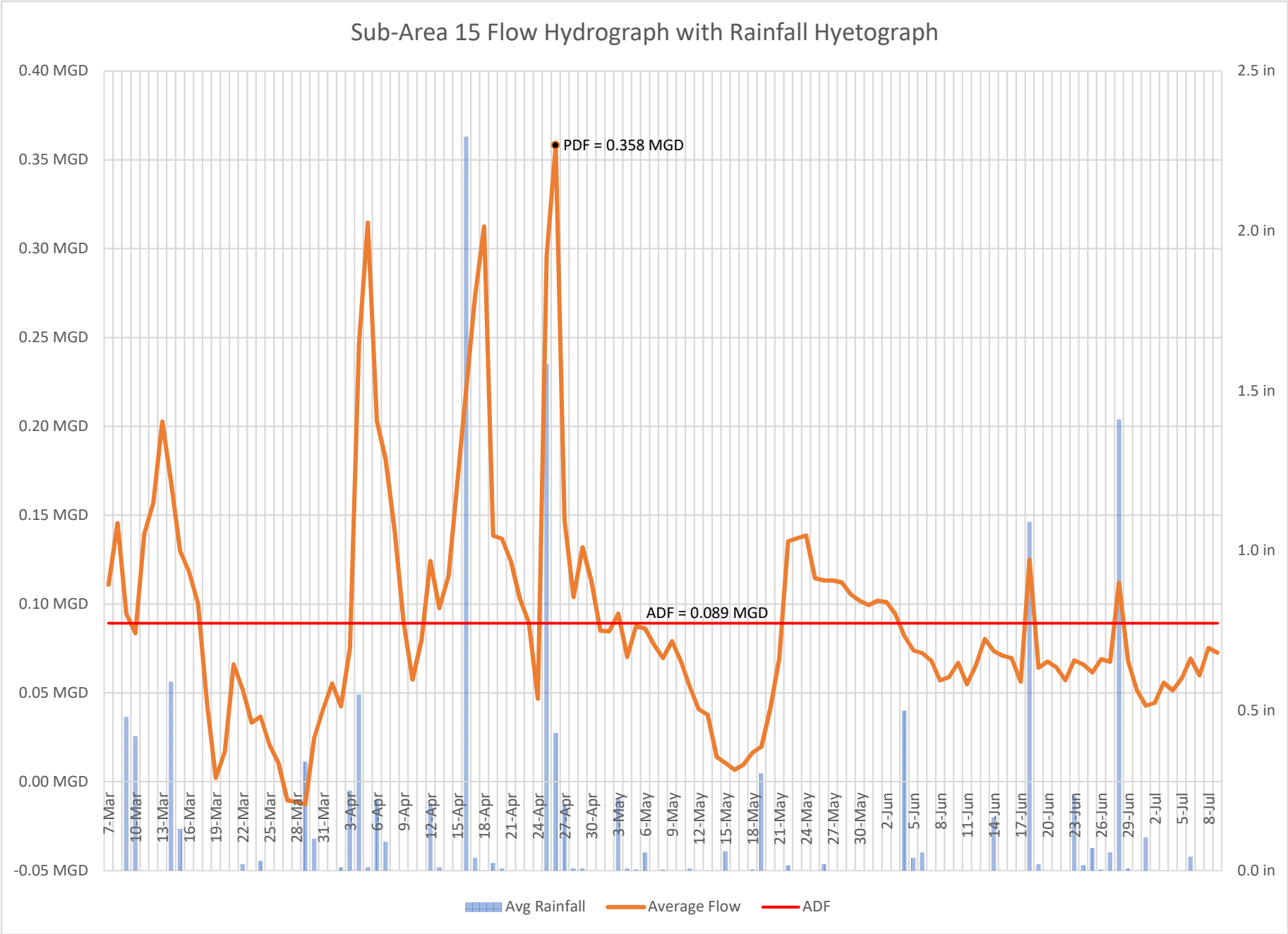
12/17/2018


Sub-Area 13 Flow Hydrograph with Rainfall Hyetograph
2.00 MGD
1.80 MGD
1.60 MGD
1.40 MGD
1.20 MGD
1.00 MGD
0.80 MGD
0.60 MGD
0.40 MGD
0.20 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 1.779 MGD
ADF = 0.680 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

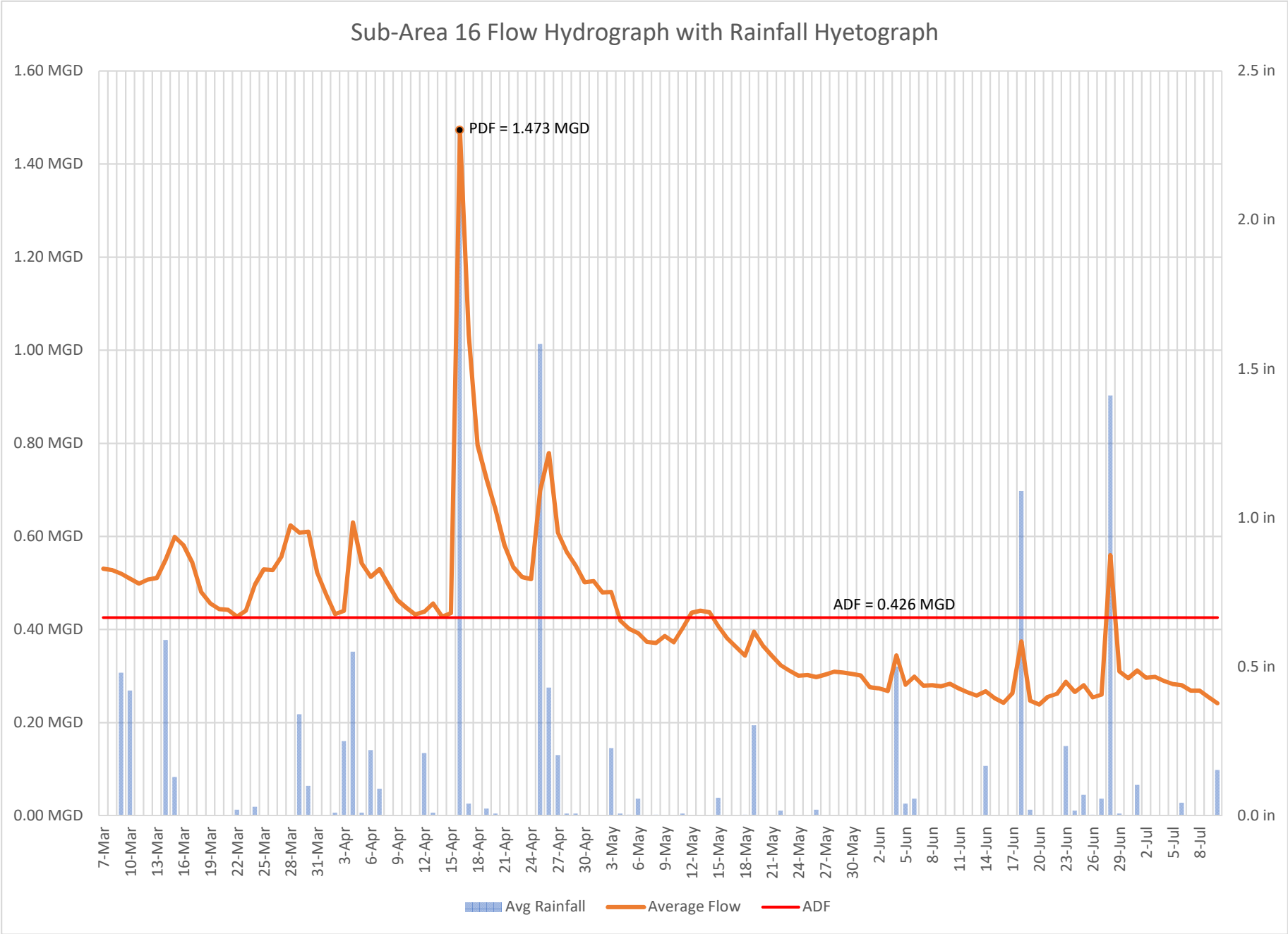
12/17/2018


Sub-Area 14 Flow Hydrograph with Rainfall Hyetograph
0.70 MGD
0.60 MGD
0.50 MGD
0.40 MGD
0.30 MGD
0.20 MGD
0.10 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.579 MGD
ADF = 0.271 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

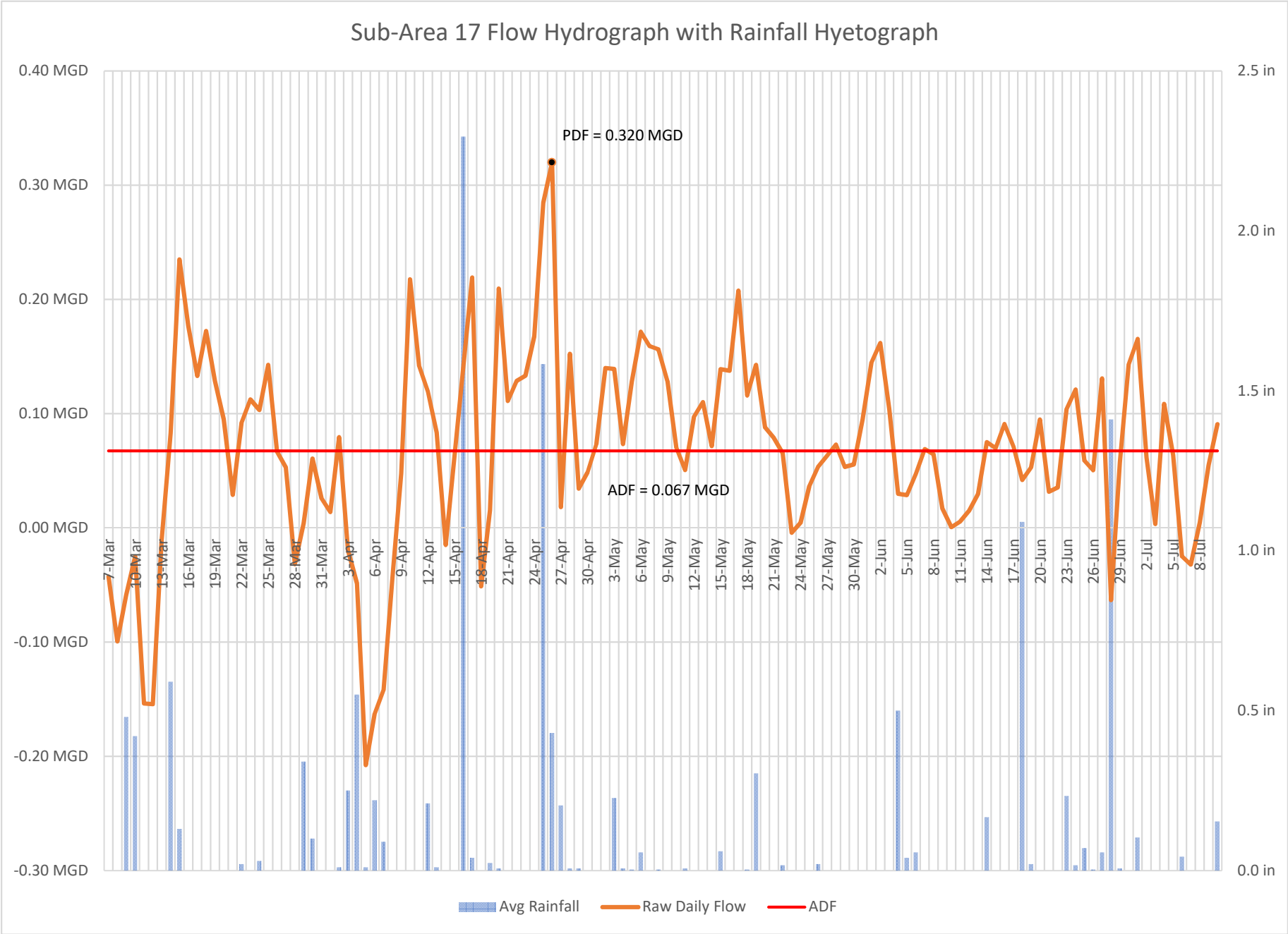
12/17/2018


Sub-Area 15 Flow Hydrograph with Rainfall Hyetograph
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
-0.05 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.358 MGD
ADF = 0.089 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

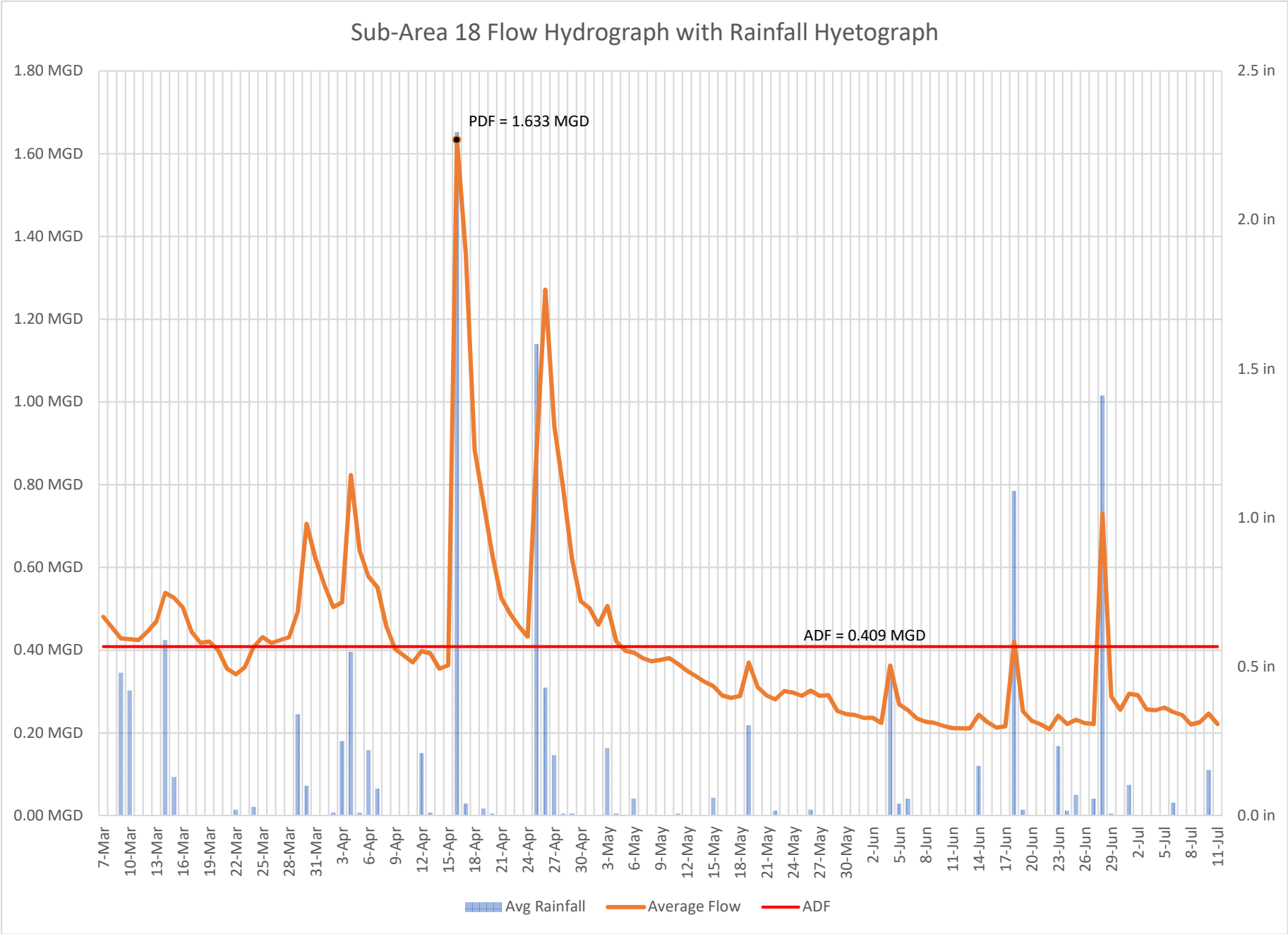
12/17/2018


Sub-Area 16 Flow Hydrograph with Rainfall Hyetograph
1.60 MGD
1.40 MGD
1.20 MGD
1.00 MGD
0.80 MGD
0.60 MGD
0.40 MGD
0.20 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 1.473 MGD
ADF = 0.426 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

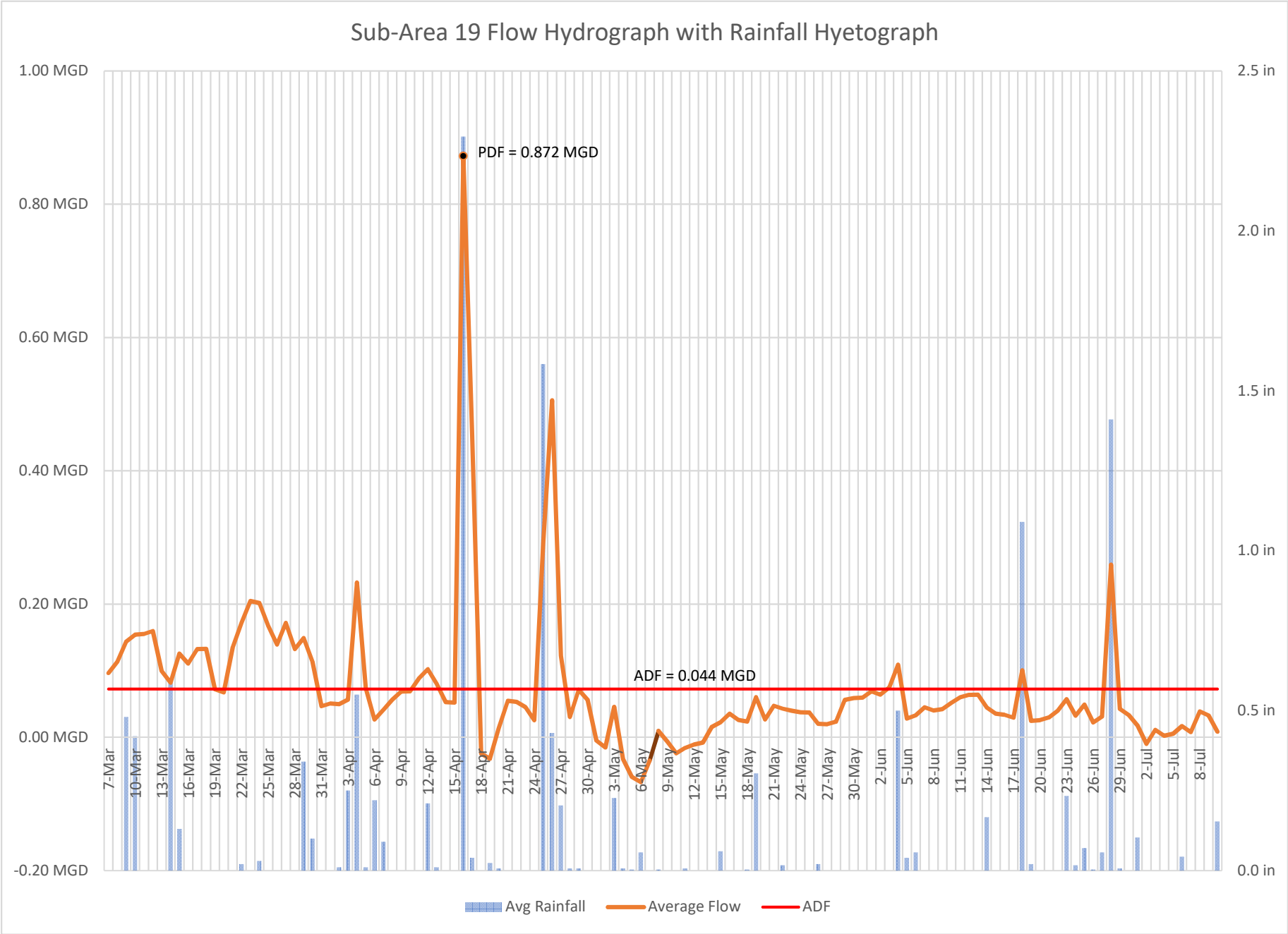
12/17/2018


Sub-Area 17 Flow Hydrograph with Rainfall Hyetograph
0.40 MGD
0.30 MGD
0.20 MGD
0.10 MGD
0.00 MGD
-0.10 MGD
-0.20 MGD
-0.30 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.320 MGD
ADF = 0.067 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Raw Daily Flow
ADF

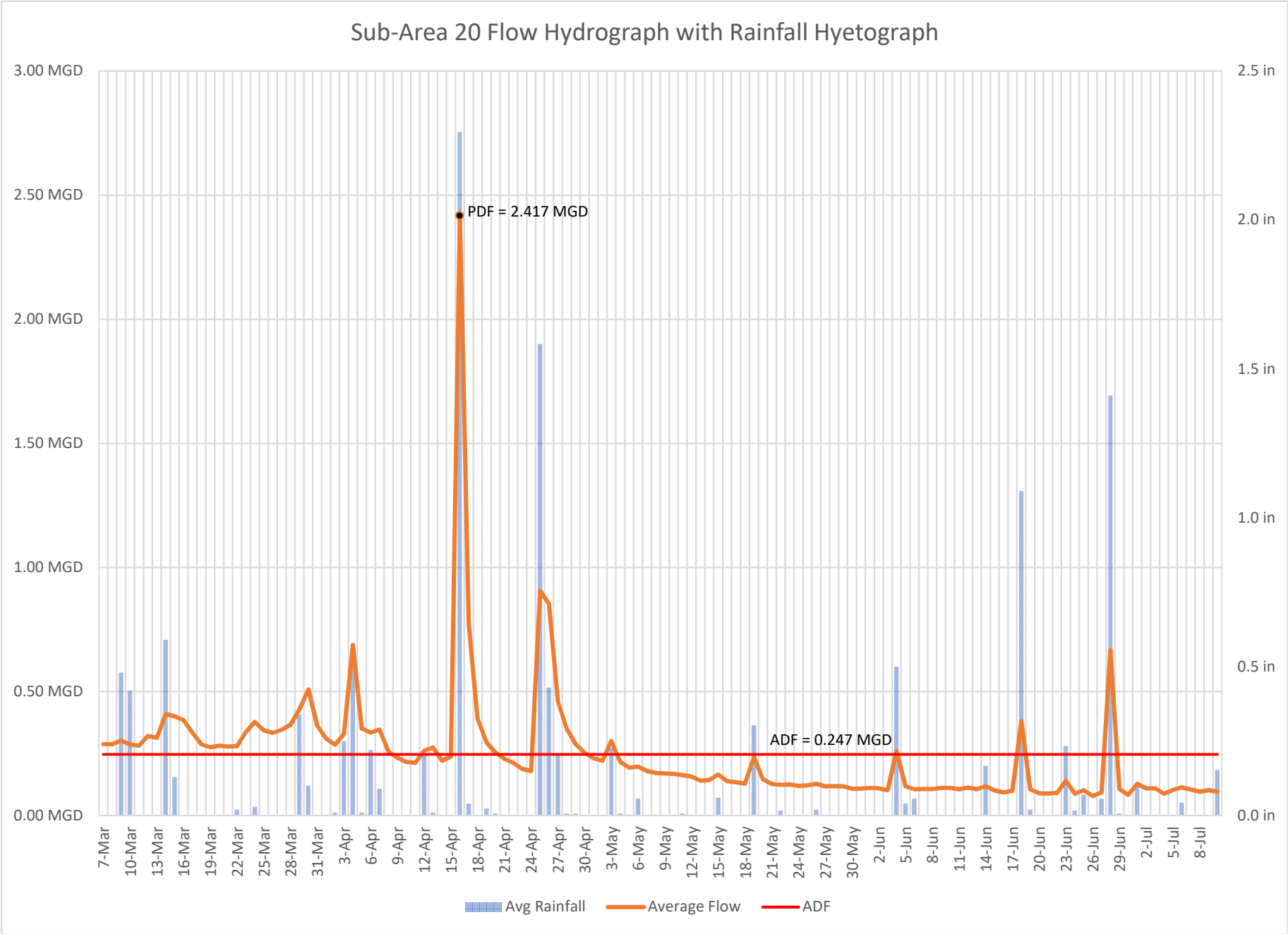
12/17/2018


Sub-Area 18 Flow Hydrograph with Rainfall Hyetograph
PDF = 1.633 MGD
ADF = 0.409 MGD
1.80 MGD
1.60 MGD
1.40 MGD
1.20 MGD
1.00 MGD
0.80 MGD
0.60 MGD
0.40 MGD
0.20 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
11-Jul
Avg Rainfall
Average Flow
ADF

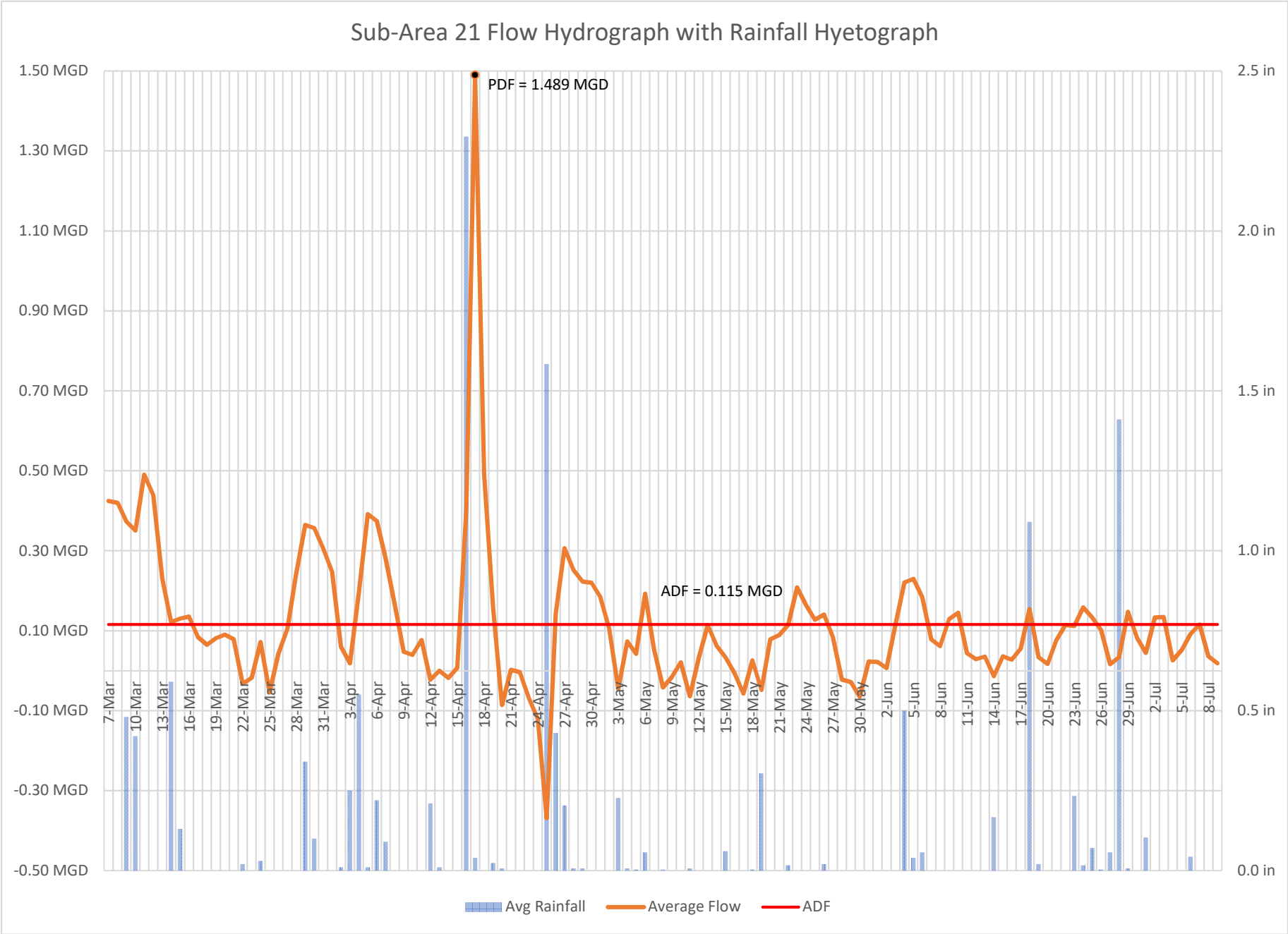
12/17/2018


Sub-Area 19 Flow Hydrograph with Rainfall Hyetograph
1.00 MGD
0.80 MGD
0.60 MGD
0.40 MGD
0.20 MGD
0.00 MGD
-0.20 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.872 MGD
ADF = 0.044 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

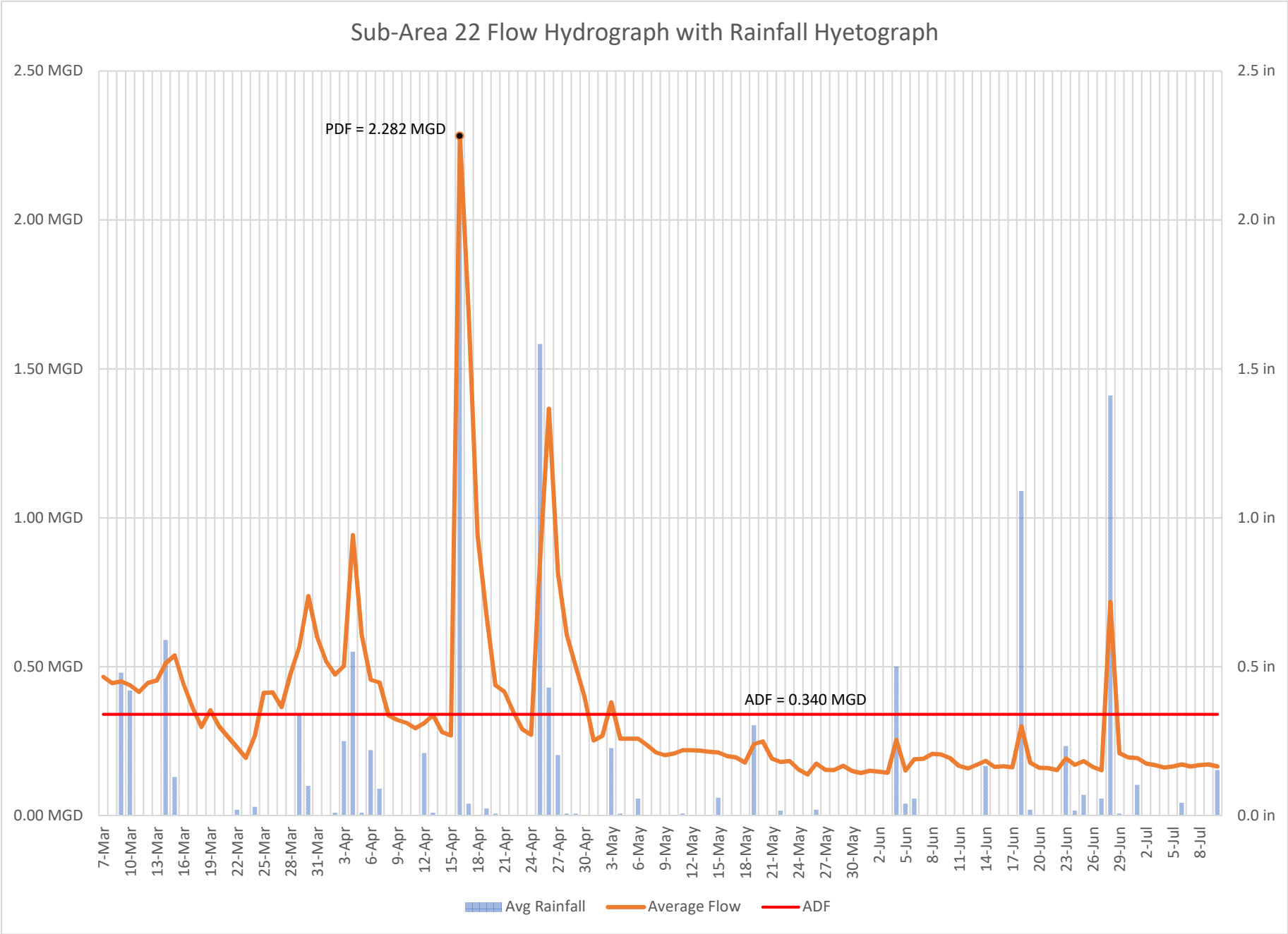
12/17/2018


Sub-Area 20 Flow Hydrograph with Rainfall Hyetograph
3.00 MGD
2.50 MGD
2.00 MGD
1.50 MGD
1.00 MGD
0.50 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 2.417 MGD
ADF = 0.247 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

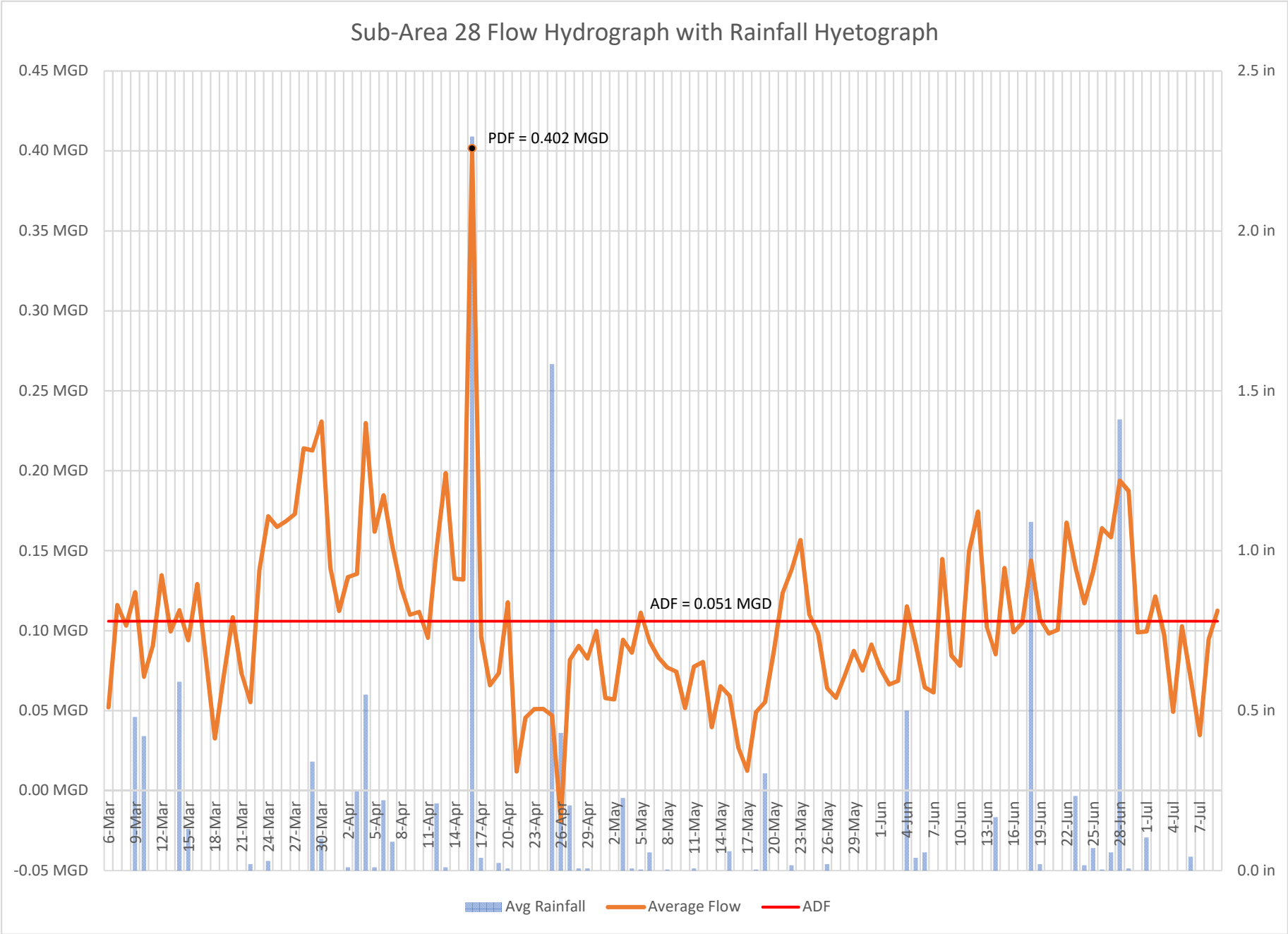
12/17/2018


Sub-Area 21 Flow Hydrograph with Rainfall Hyetograph
PDF = 1.489 MGD
ADF = 0.115 MGD
1.50 MGD
1.30 MGD
1.10 MGD
0.90 MGD
0.70 MGD
0.50 MGD
0.30 MGD
0.10 MGD
-0.10 MGD
-0.30 MGD
-0.50 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

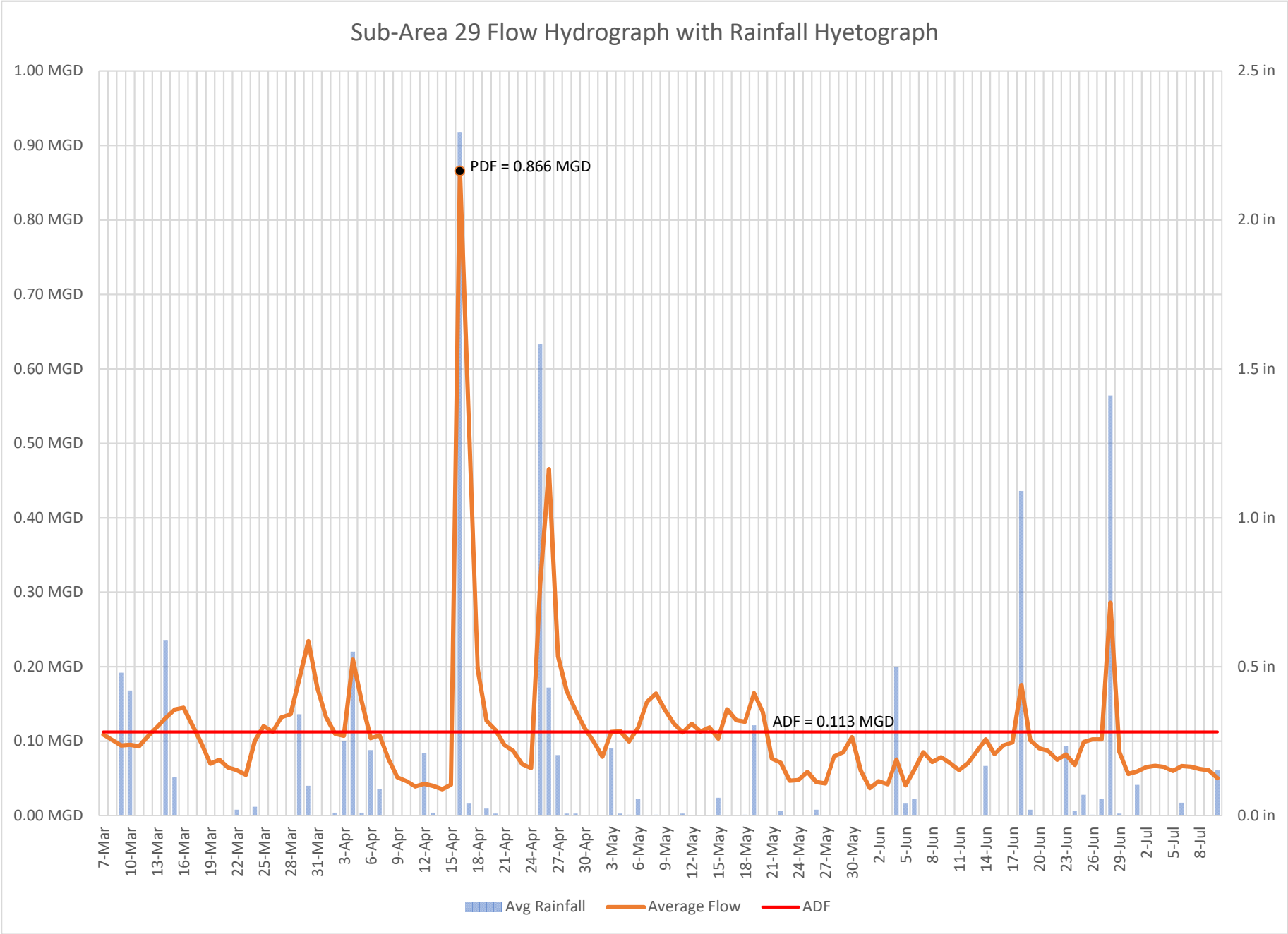
12/17/2018


Sub-Area 22 Flow Hydrograph with Rainfall Hyetograph
2.50 MGD
2.00 MGD
1.50 MGD
1.00 MGD
0.50 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 2.282 MGD
ADF = 0.340 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

12/17/2018


Sub-Area 28 Flow Hydrograph with Rainfall Hyetograph
0.45 MGD
0.40 MGD
0.35 MGD
0.30 MGD
0.25 MGD
0.20 MGD
0.15 MGD
0.10 MGD
0.05 MGD
0.00 MGD
-0.05 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.402 MGD
ADF = 0.051 MGD
6-Mar
9-Mar
12-Mar
15-Mar
18-Mar
21-Mar
24-Mar
27-Mar
30-Mar
2-Apr
5-Apr
8-Apr
11-Apr
14-Apr
17-Apr
20-Apr
23-Apr
26-Apr
29-Apr
2-May
5-May
8-May
11-May
14-May
17-May
20-May
23-May
26-May
29-May
1-Jun
4-Jun
7-Jun
10-Jun
13-Jun
16-Jun
19-Jun
22-Jun
25-Jun
28-Jun
1-Jul
4-Jul
7-Jul
Avg Rainfall
Average Flow
ADF

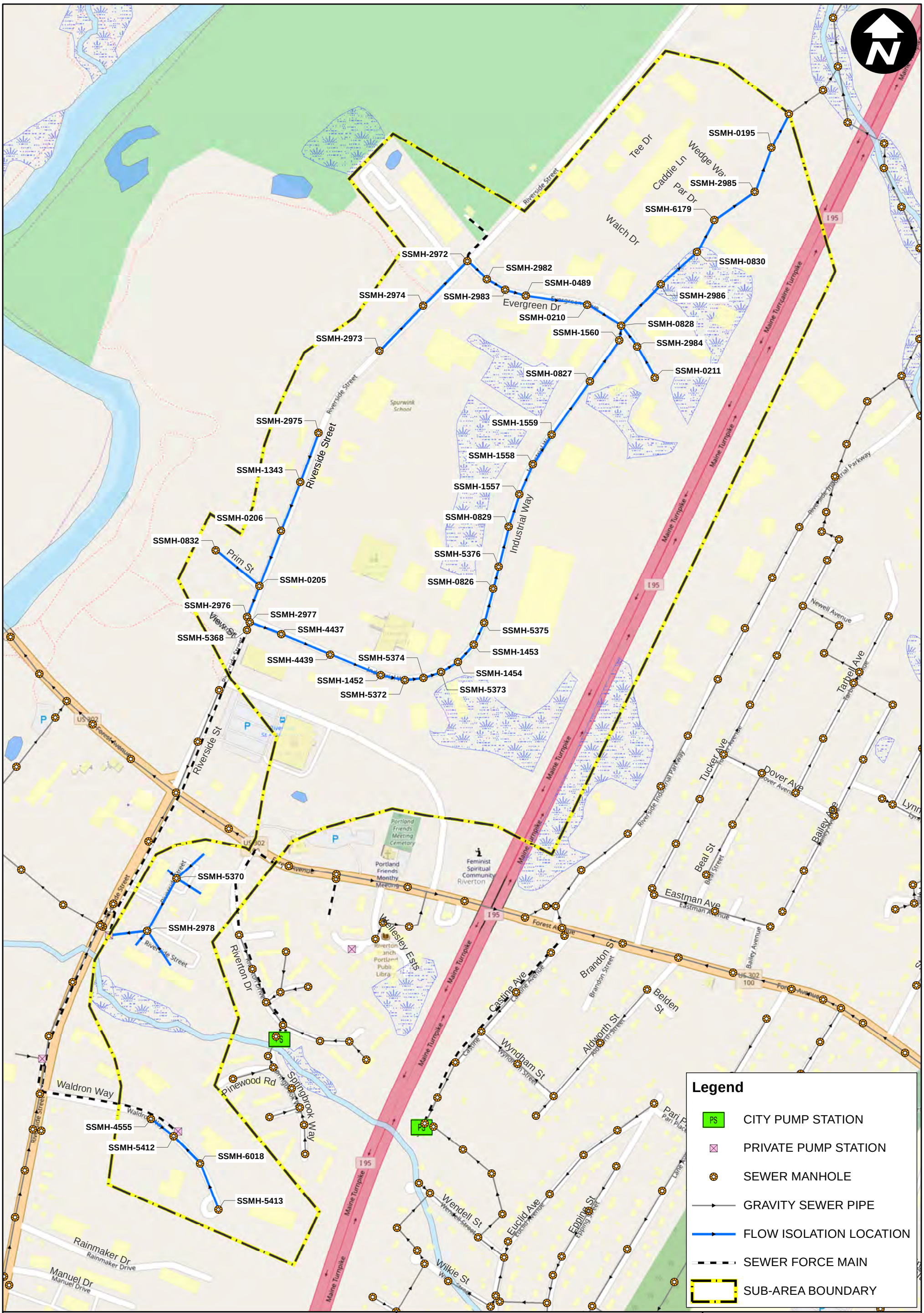
12/17/2018


Sub-Area 29 Flow Hydrograph with Rainfall Hyetograph
1.00 MGD
0.90 MGD
0.80 MGD
0.70 MGD
0.60 MGD
0.50 MGD
0.40 MGD
0.30 MGD
0.20 MGD
0.10 MGD
0.00 MGD
2.5 in
2.0 in
1.5 in
1.0 in
0.5 in
0.0 in
PDF = 0.866 MGD
ADF = 0.113 MGD
7-Mar
10-Mar
13-Mar
16-Mar
19-Mar
22-Mar
25-Mar
28-Mar
31-Mar
3-Apr
6-Apr
9-Apr
12-Apr
15-Apr
18-Apr
21-Apr
24-Apr
27-Apr
30-Apr
3-May
6-May
9-May
12-May
15-May
18-May
21-May
24-May
27-May
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
Avg Rainfall
Average Flow
ADF

12/17/2018

INFILTRATION AND INFLOW INVESTIGATIONS:

FLOW ISOLATION LOCATIONS



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

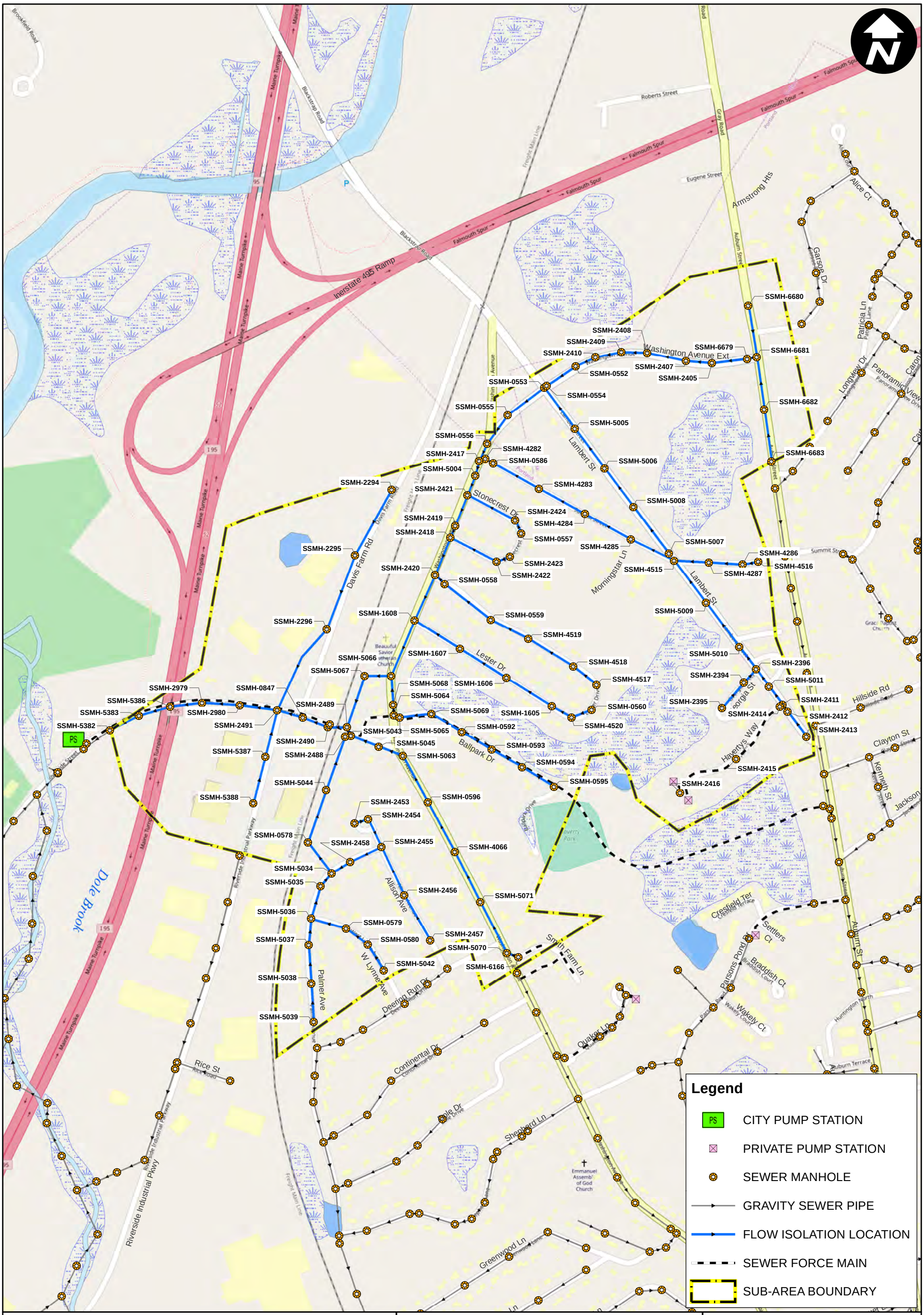
Sub-Area 4

Flow Isolation Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 FLOW ISOLATION SUB AREA 4.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 5

Flow Isolation Locations

0 200 400 600 800 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

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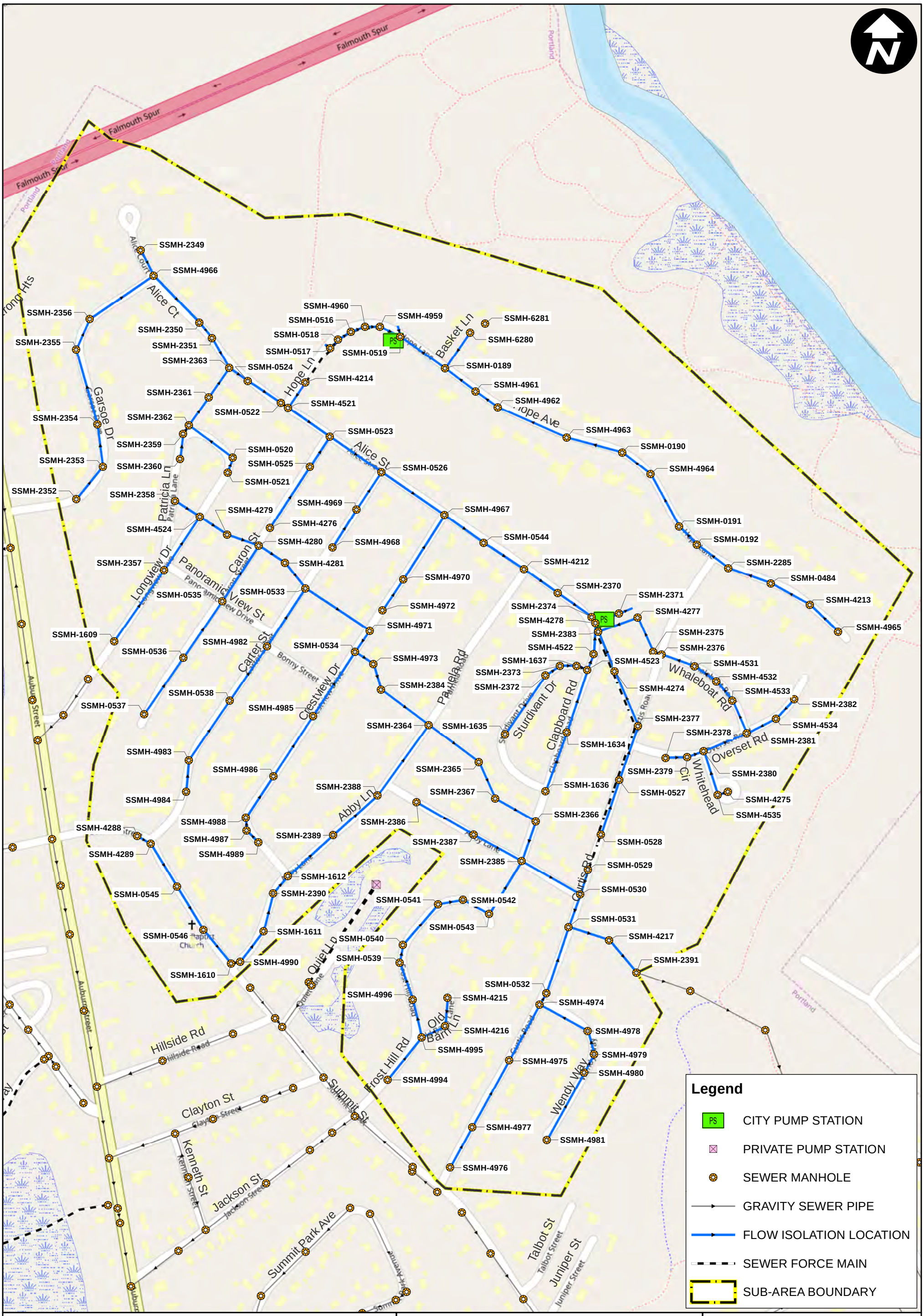


City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 7

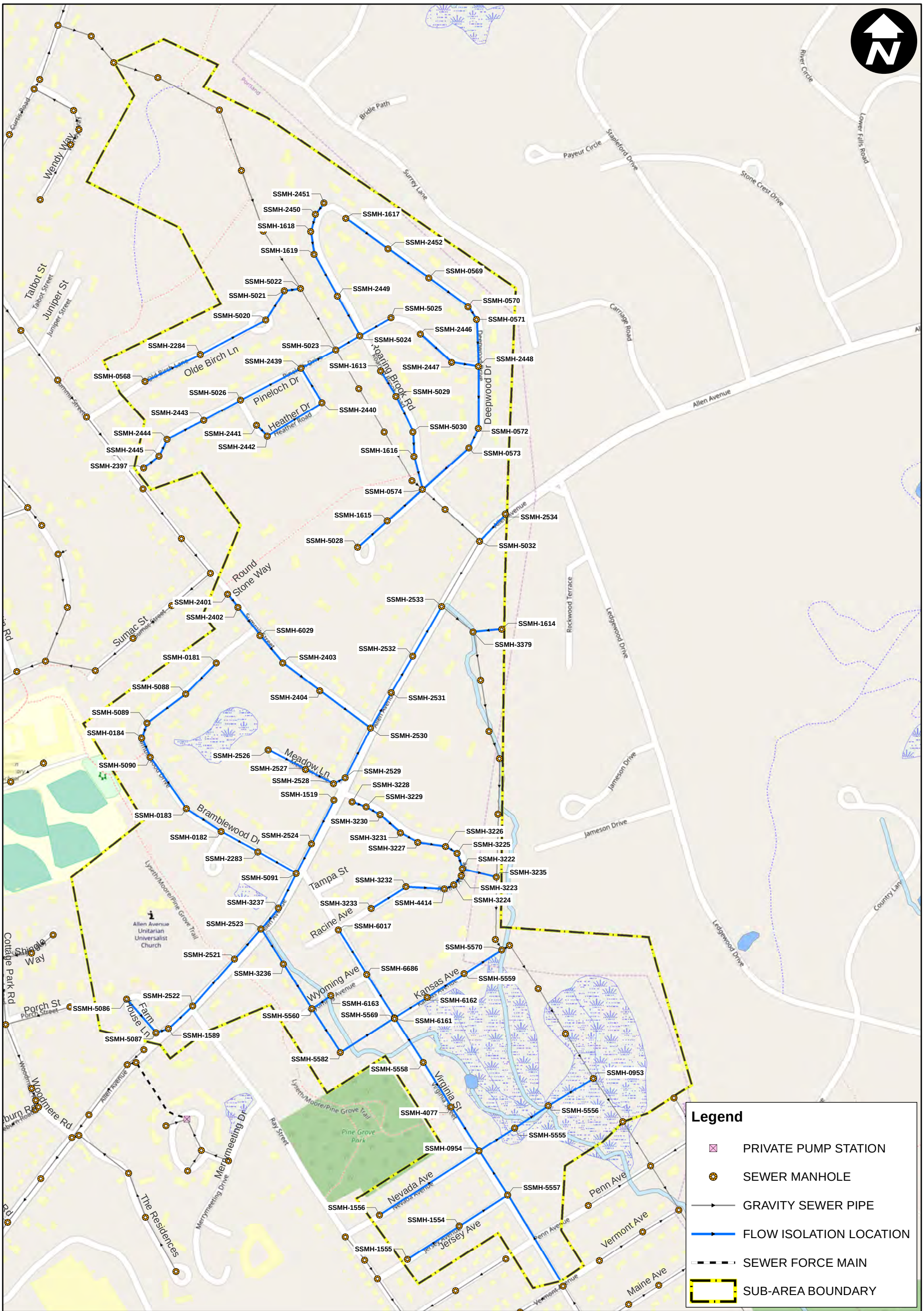
Flow Isolation Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 FLOW ISOLATION SUB AREA 7.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 8

Flow Isolation Locations

0 200 400 600 800 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

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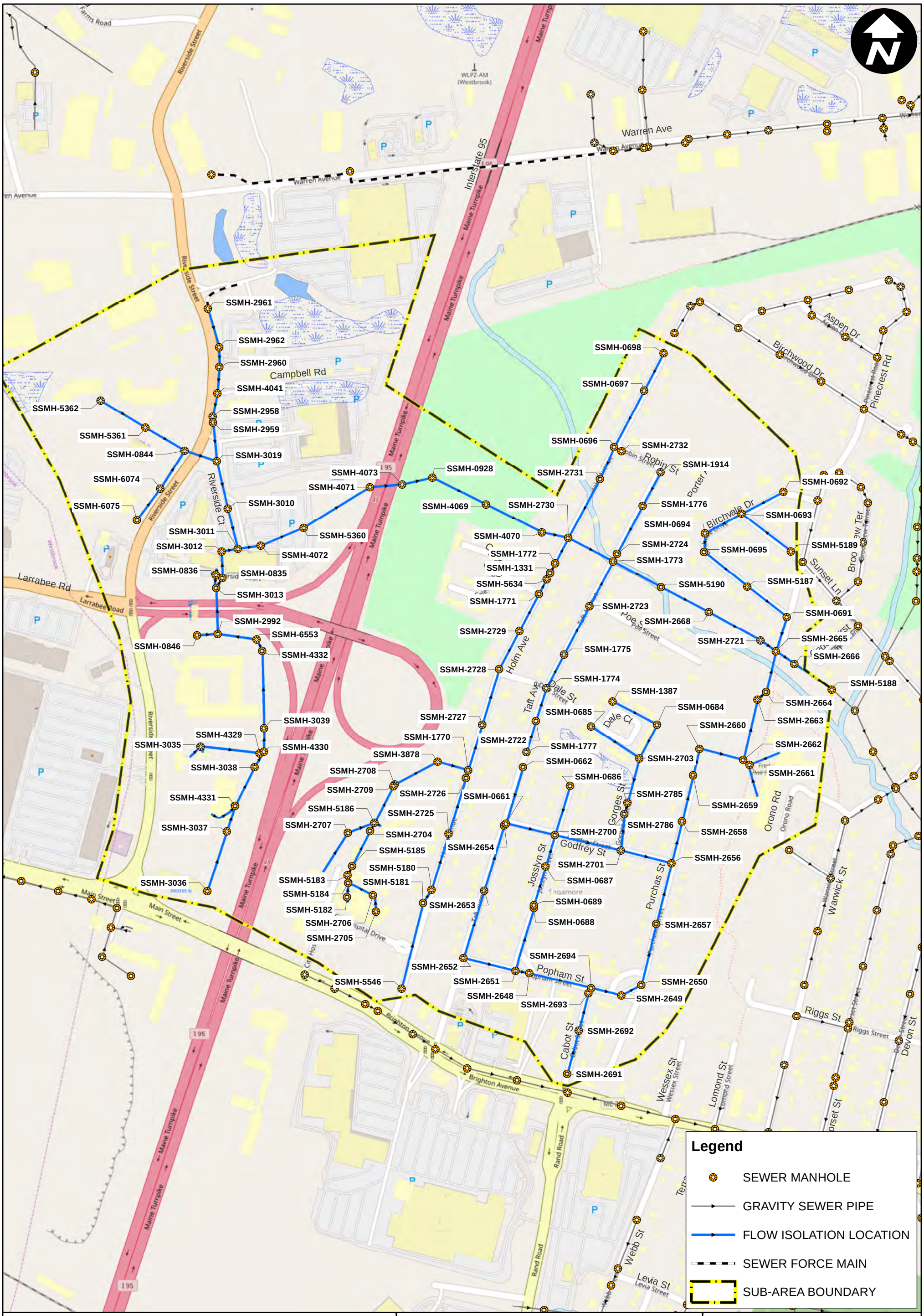

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 14

Flow Isolation Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

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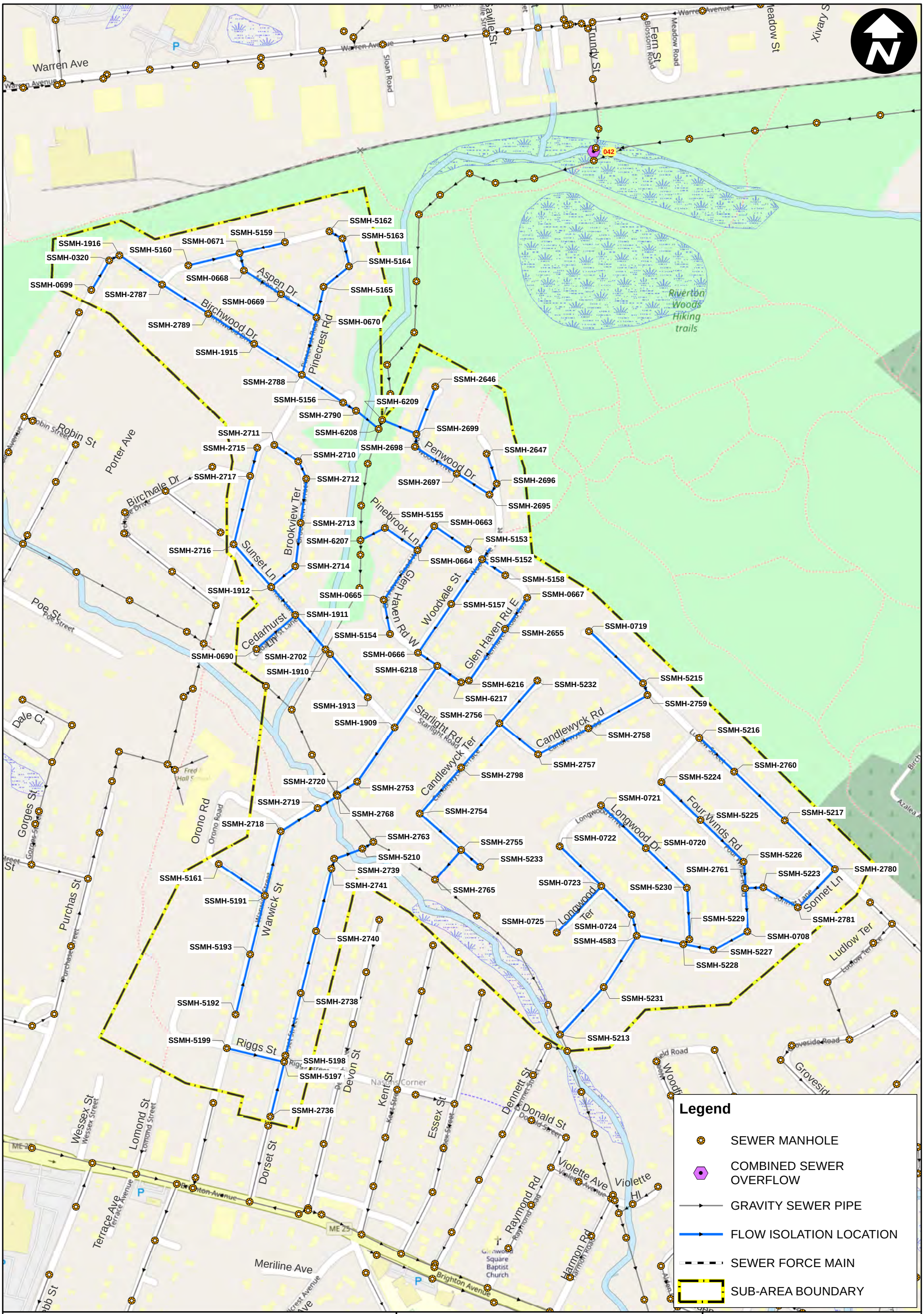


City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 15

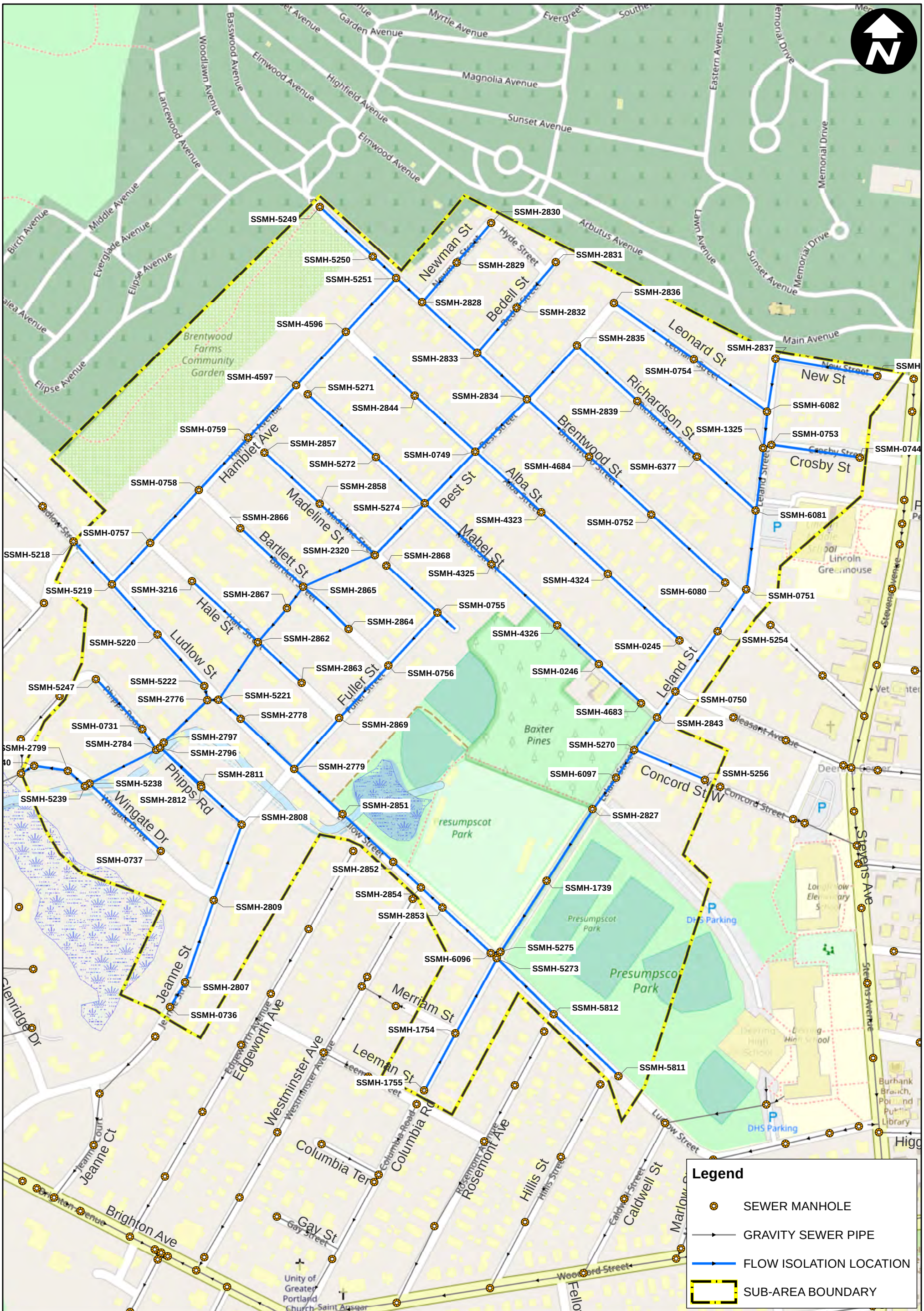
Flow Isolation Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 FLOW ISOLATION SUB AREA 15.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

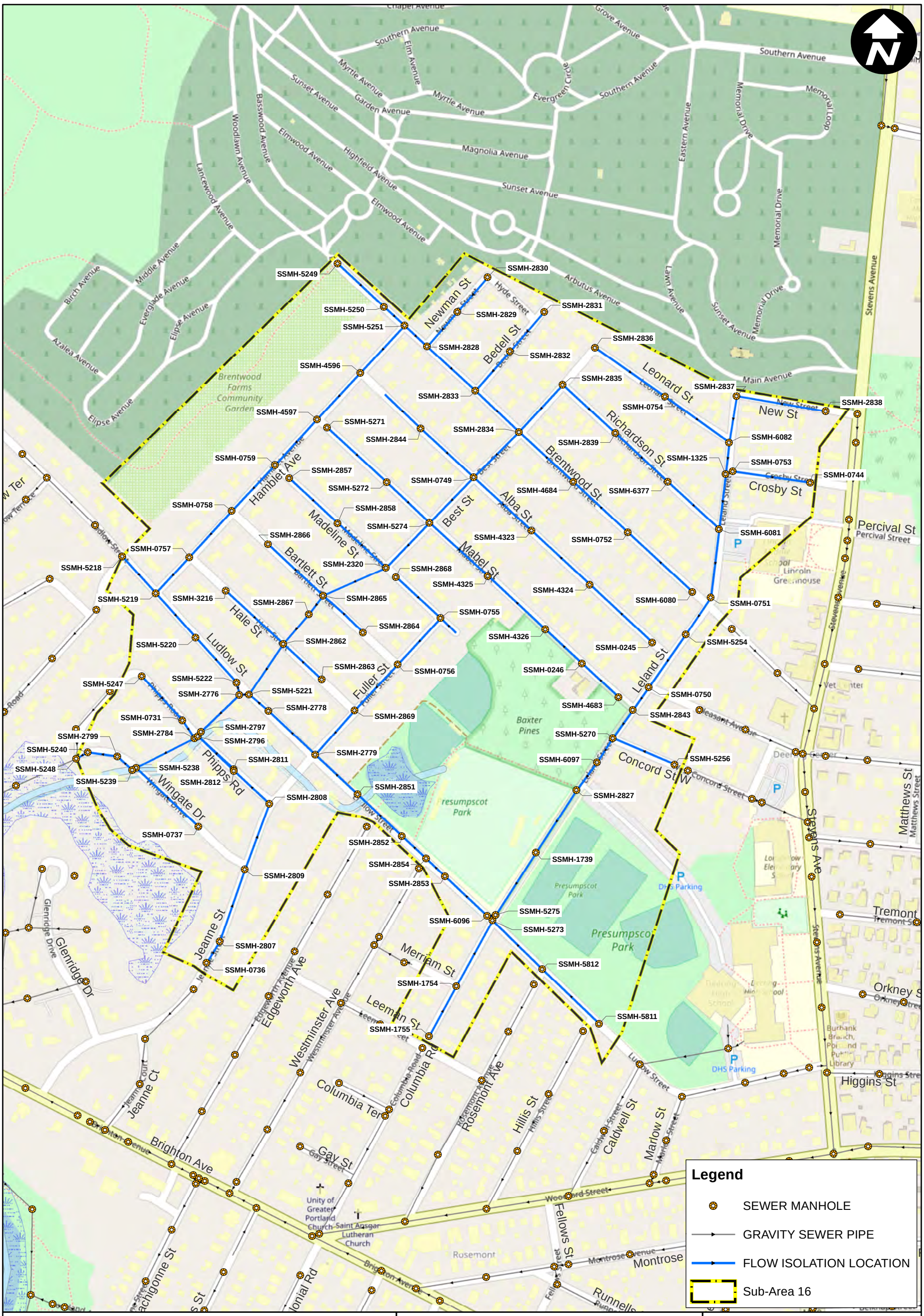
Sub-Area 16

Flow Isolation Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 FLOW ISOLATION SUB AREA 16.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 16

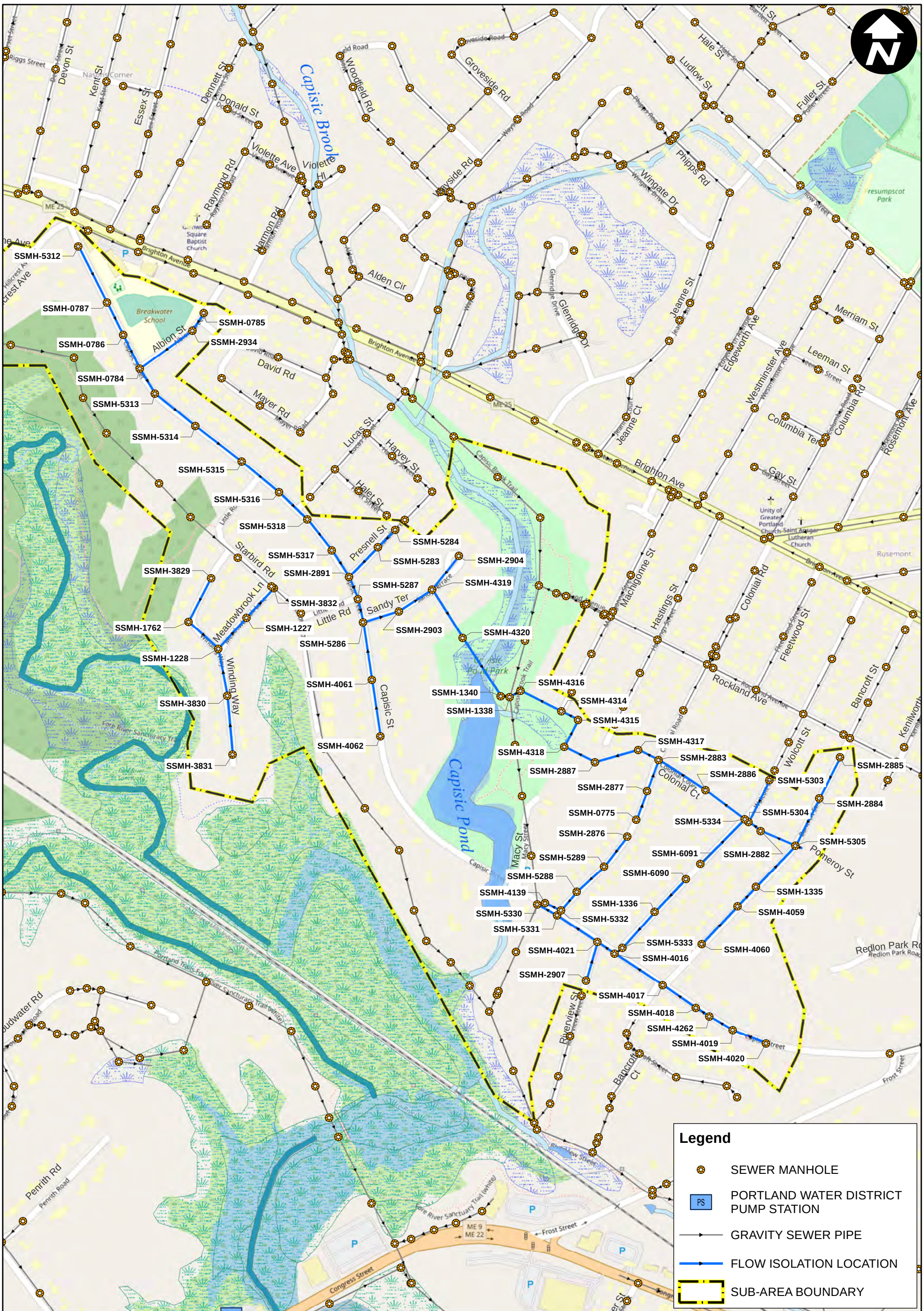
Flow Isolation Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 FLOW ISOLATION SUB AREA 18.mxd



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 21

Flow Isolation Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

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City of Portland, Maine

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Evaluation Survey

Sub-Area 22

Flow Isolation Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

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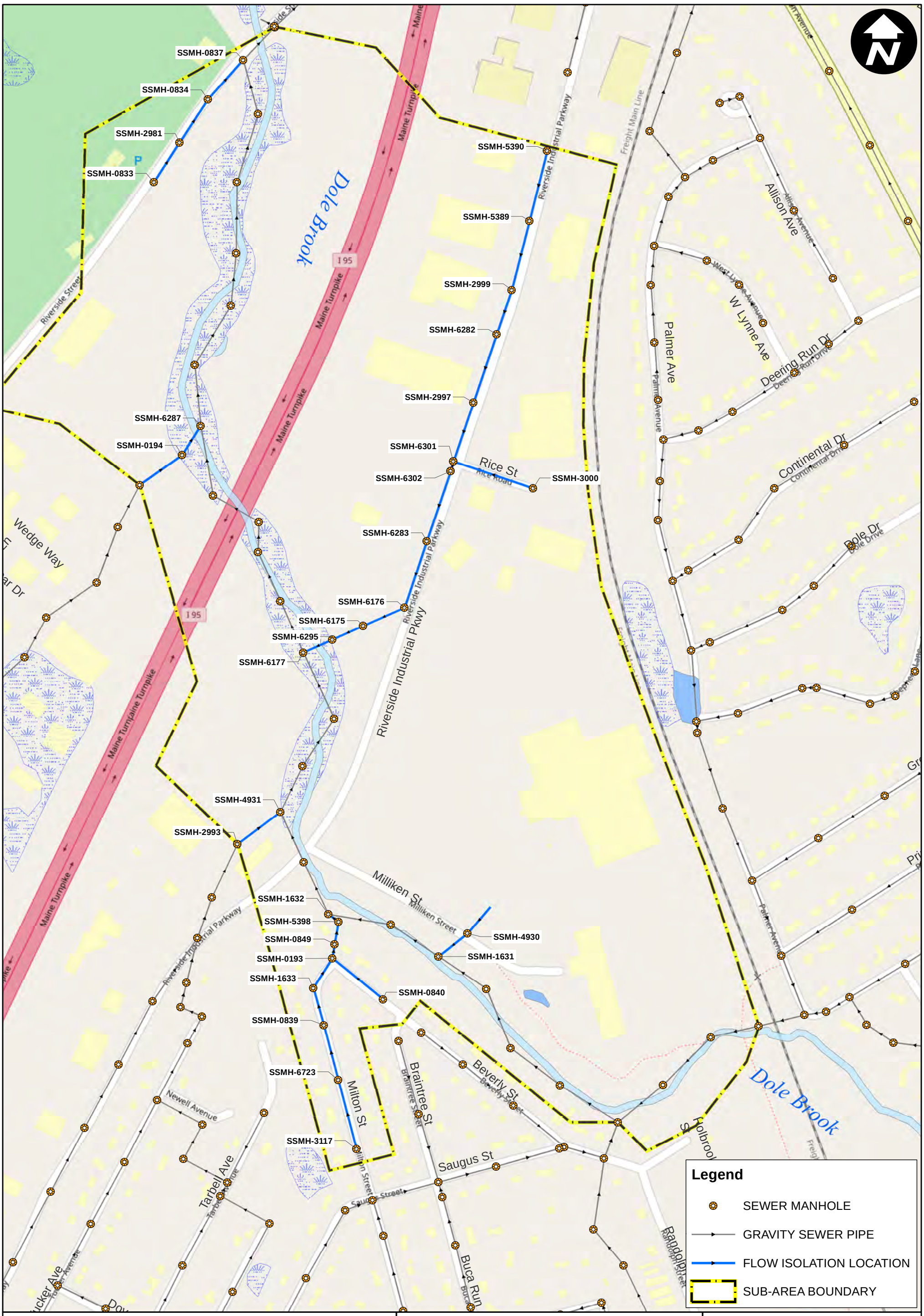

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 28

Flow Isolation Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

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INFILTRATION AND INFLOW INVESTIGATIONS:

CCTV INSPECTION LOCATIONS

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 9

Closed-Circuit Televised Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 CCTV SUB-AREA 9.mxd

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

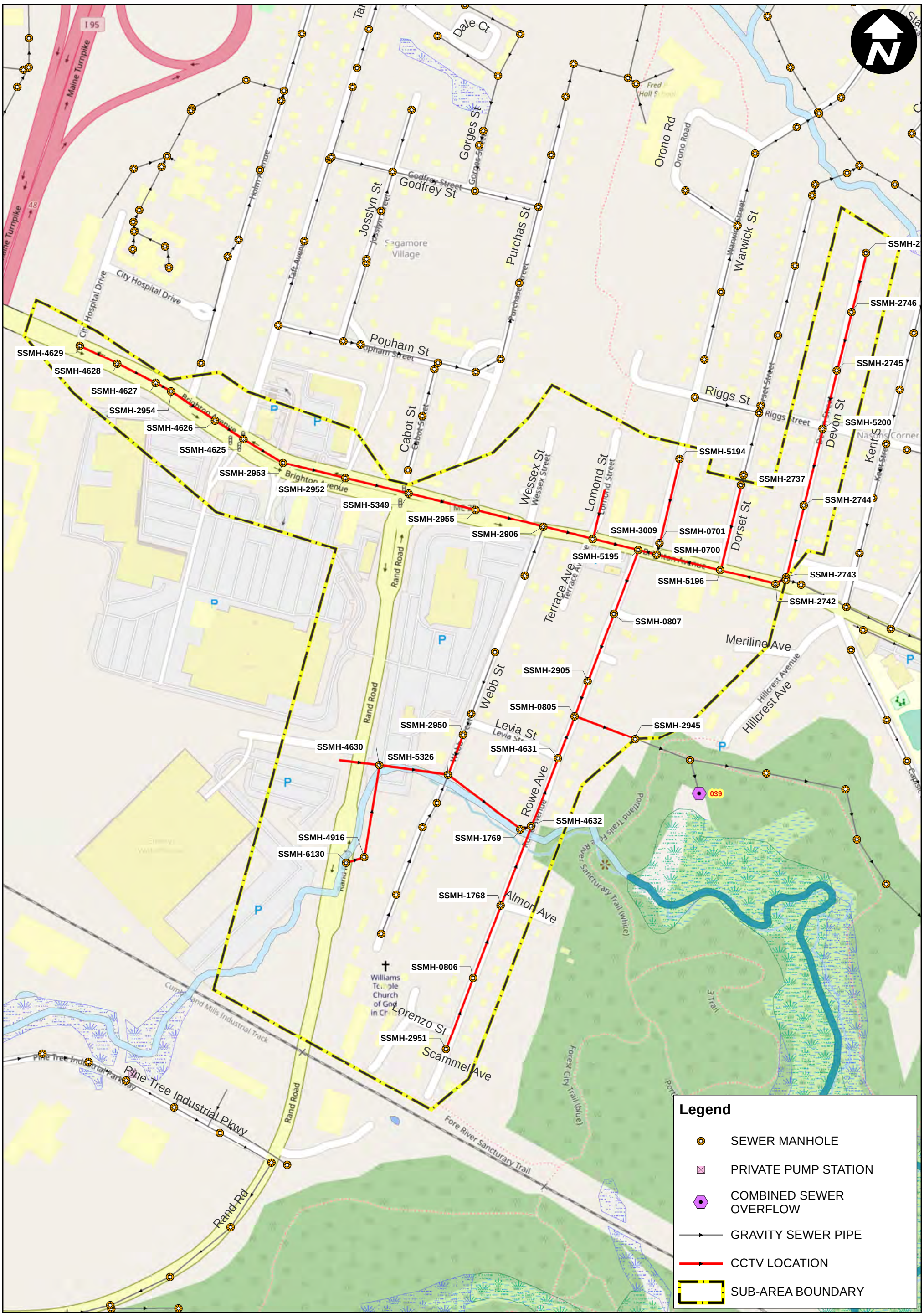
Sub-Area 19

Closed-Circuit Televised Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 CCTV SUB-AREA 19.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 20

Closed-Circuit Televised Inspection Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 CCTV SUB-AREA 20.mxd

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 29

Closed-Circuit Televised Inspection Locations

0 100 200 300 400 Feet

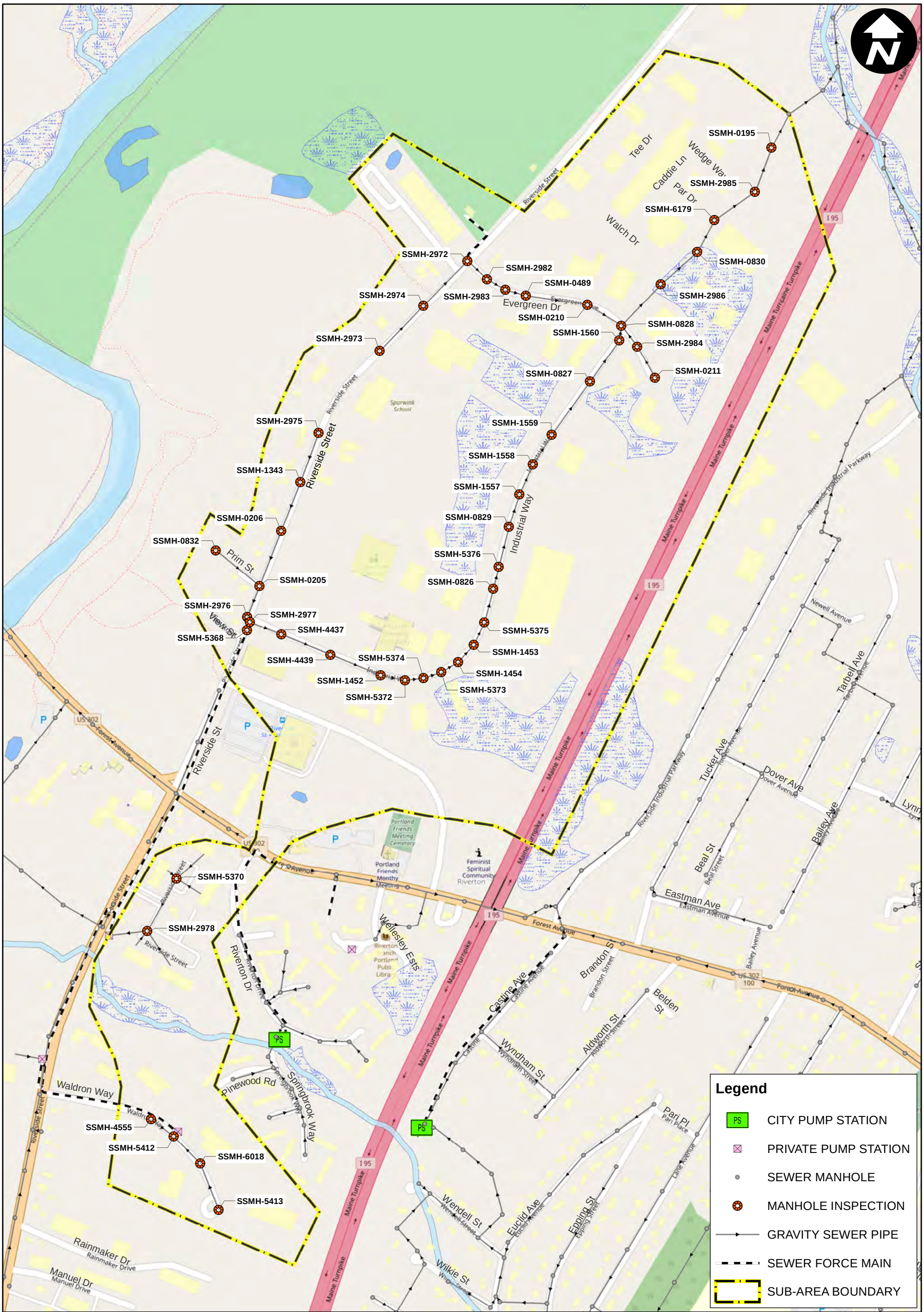
December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 CCTV SUB-AREA 29.mxd

INFILTRATION AND INFLOW INVESTIGATIONS:

MANHOLE INSPECTION LOCATIONS



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

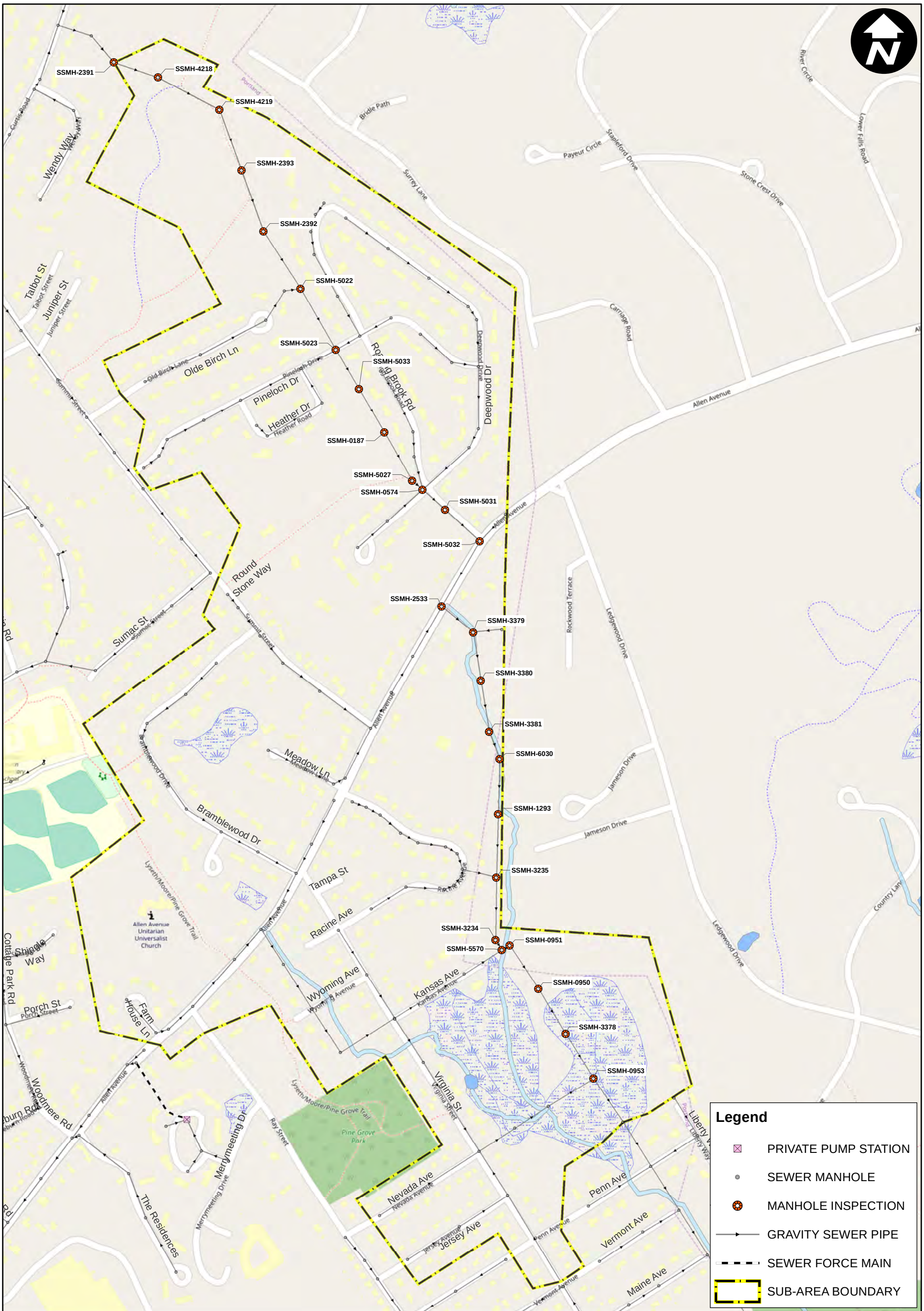
Sub-Area 4

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 4.mxd



City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

Sub-Area 8

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 8.mxd

City of Portland, Maine

Planning & Engineering Sewer System Evaluation Survey

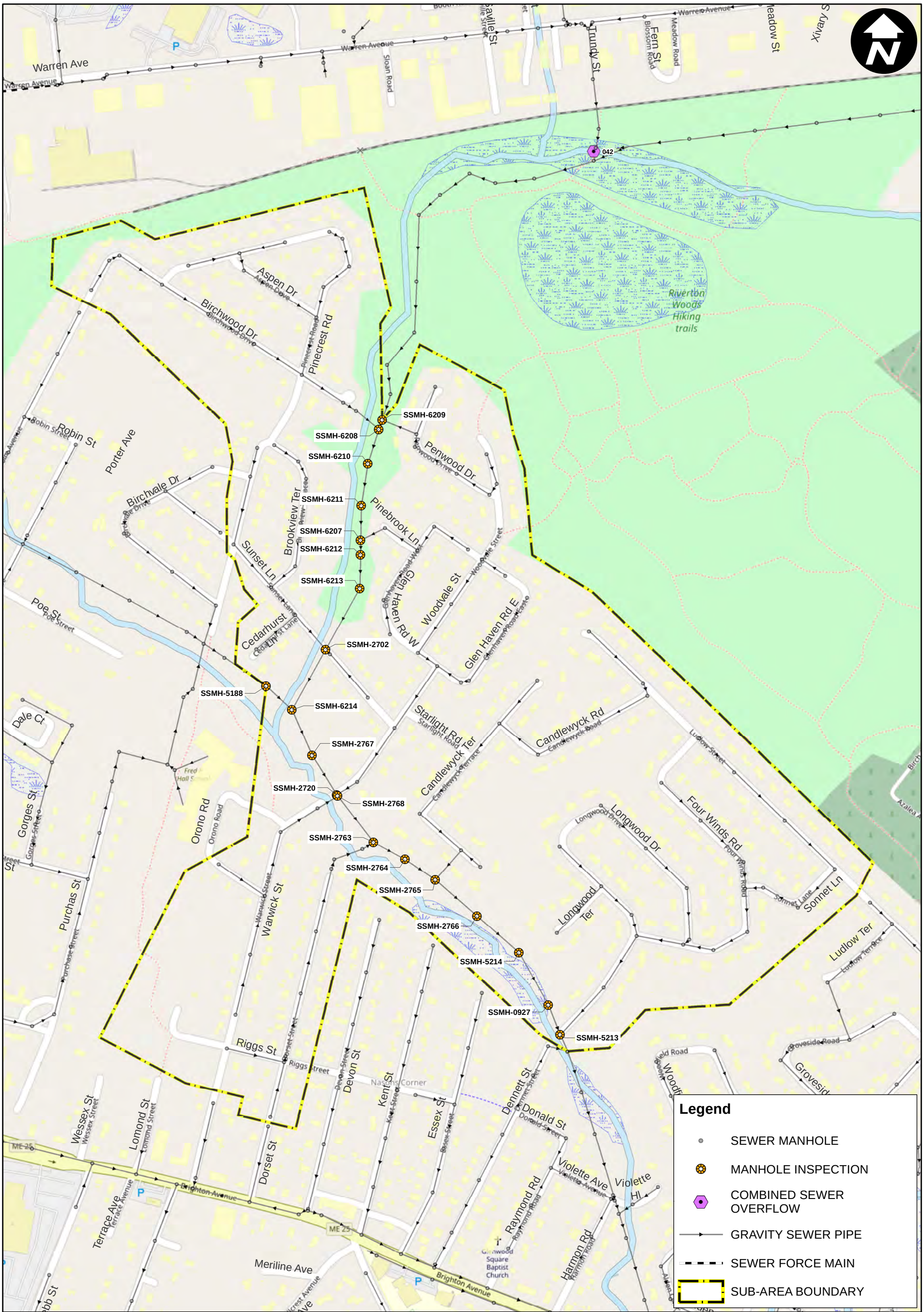
Sub-Area 9

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 9.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 15

Manhole Inspection Locations

0 200 400 600 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

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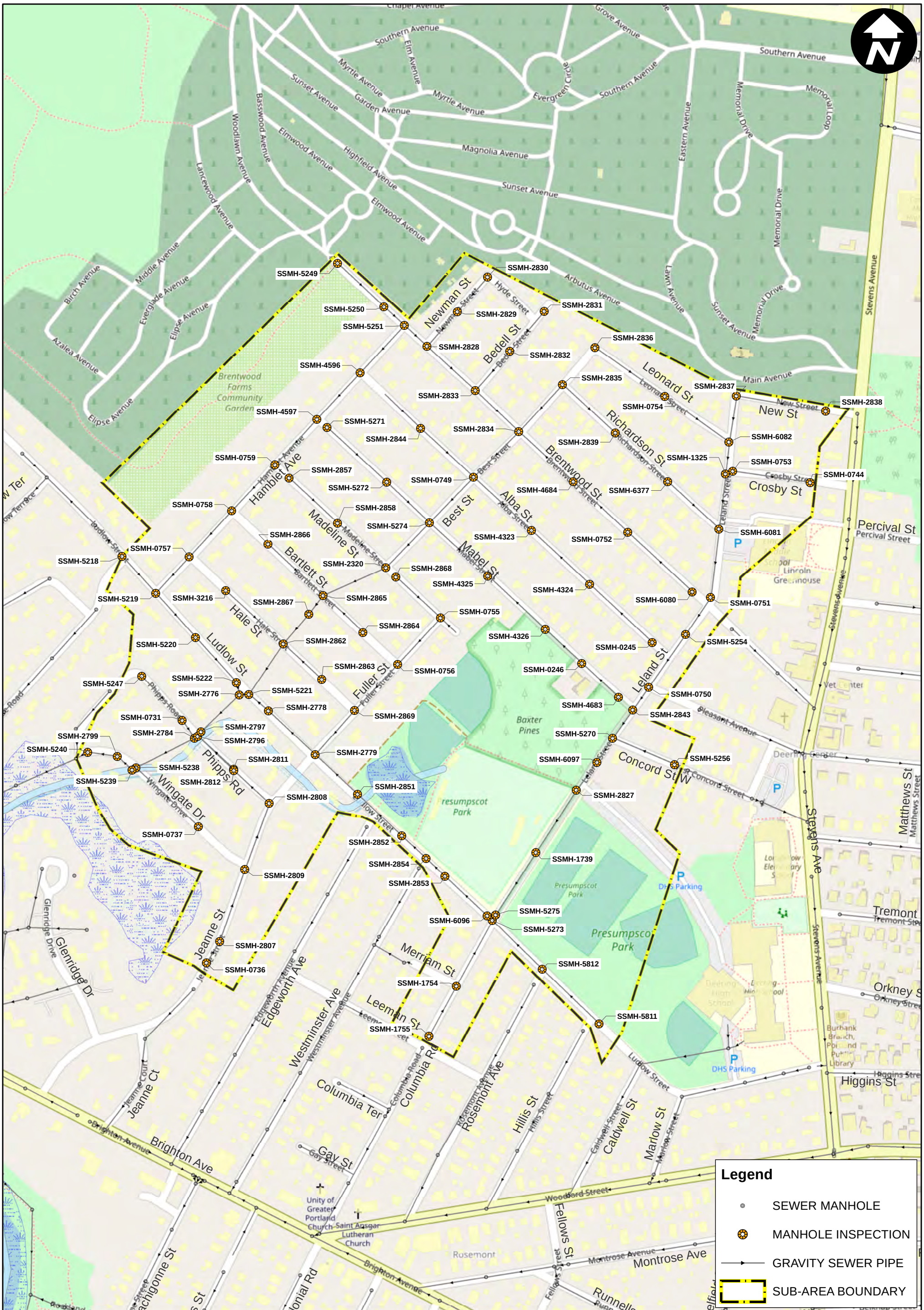


RESURGAM CITY OF PORTLAND, MAINE

City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

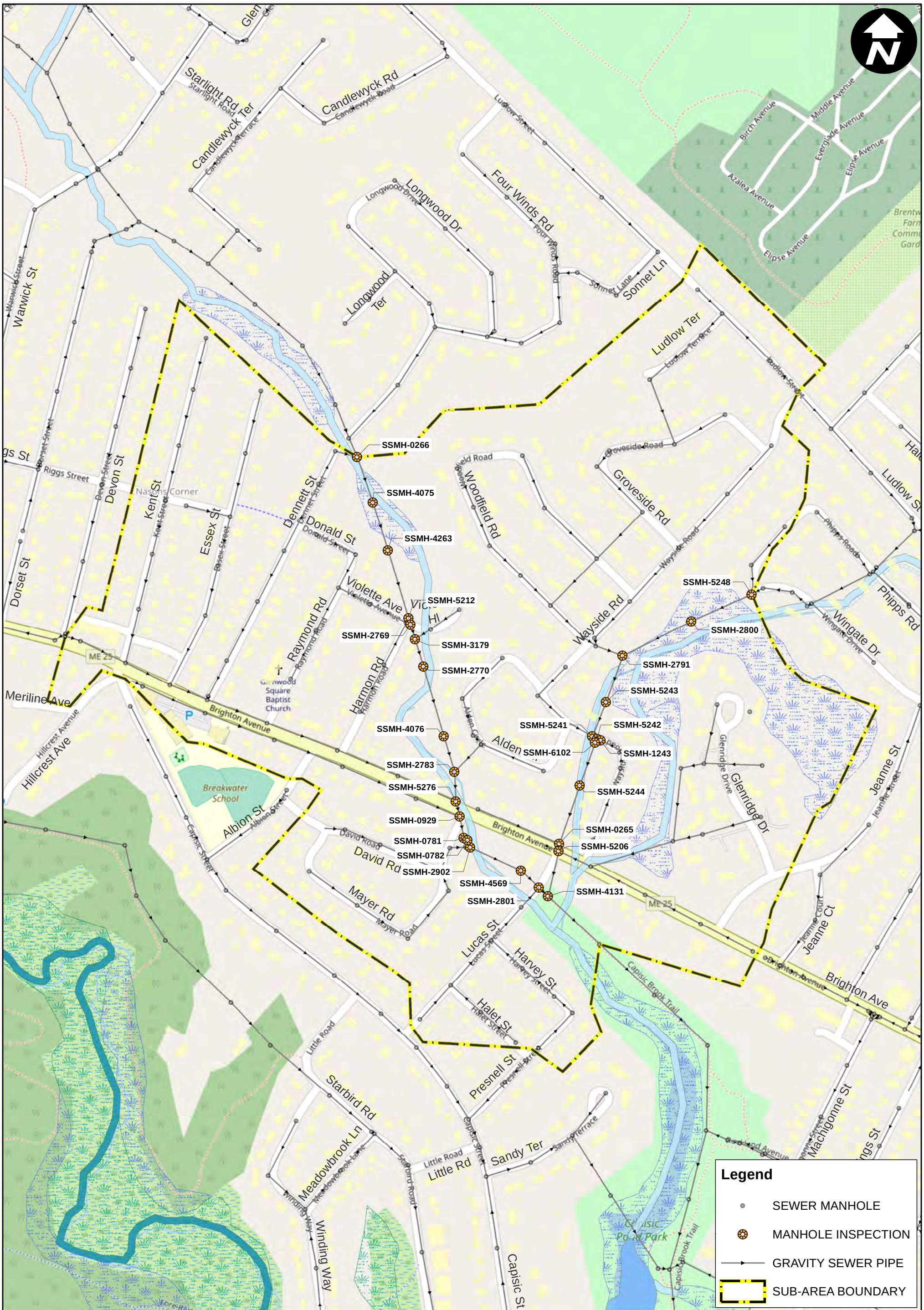
Sub-Area 16

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 16.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

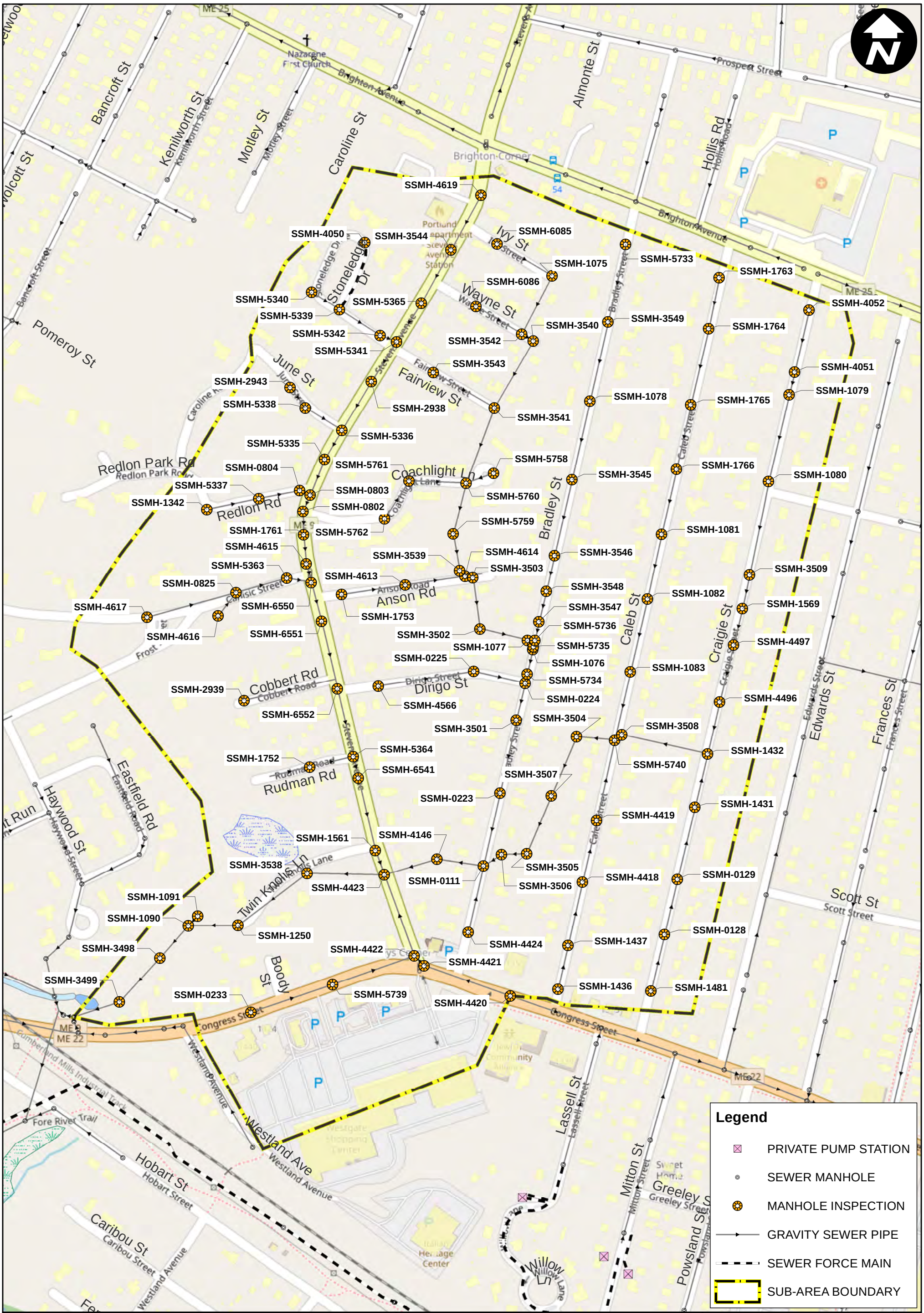
Sub-Area 17

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 17.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

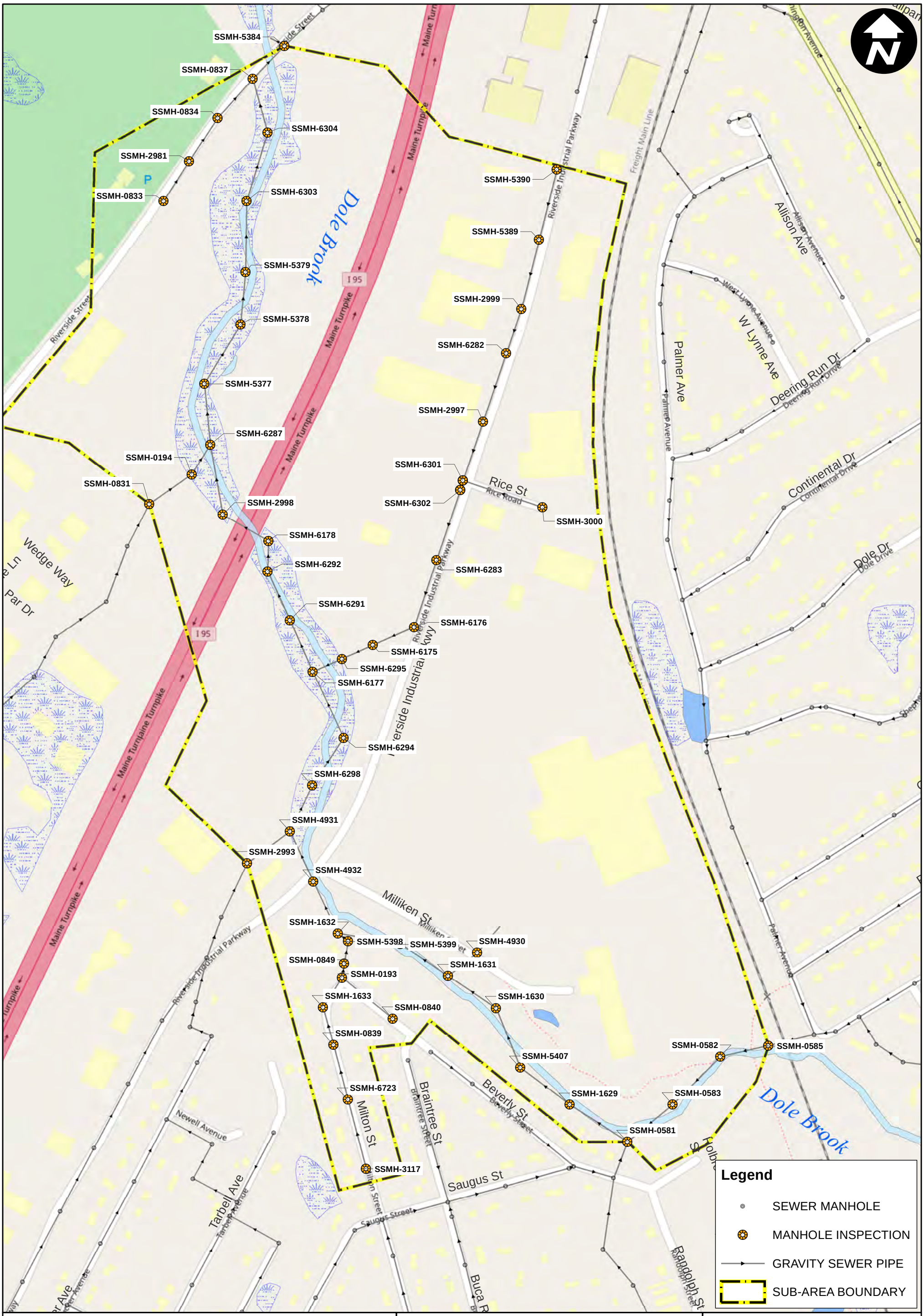
Sub-Area 22

Manhole Inspection Locations

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 22.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

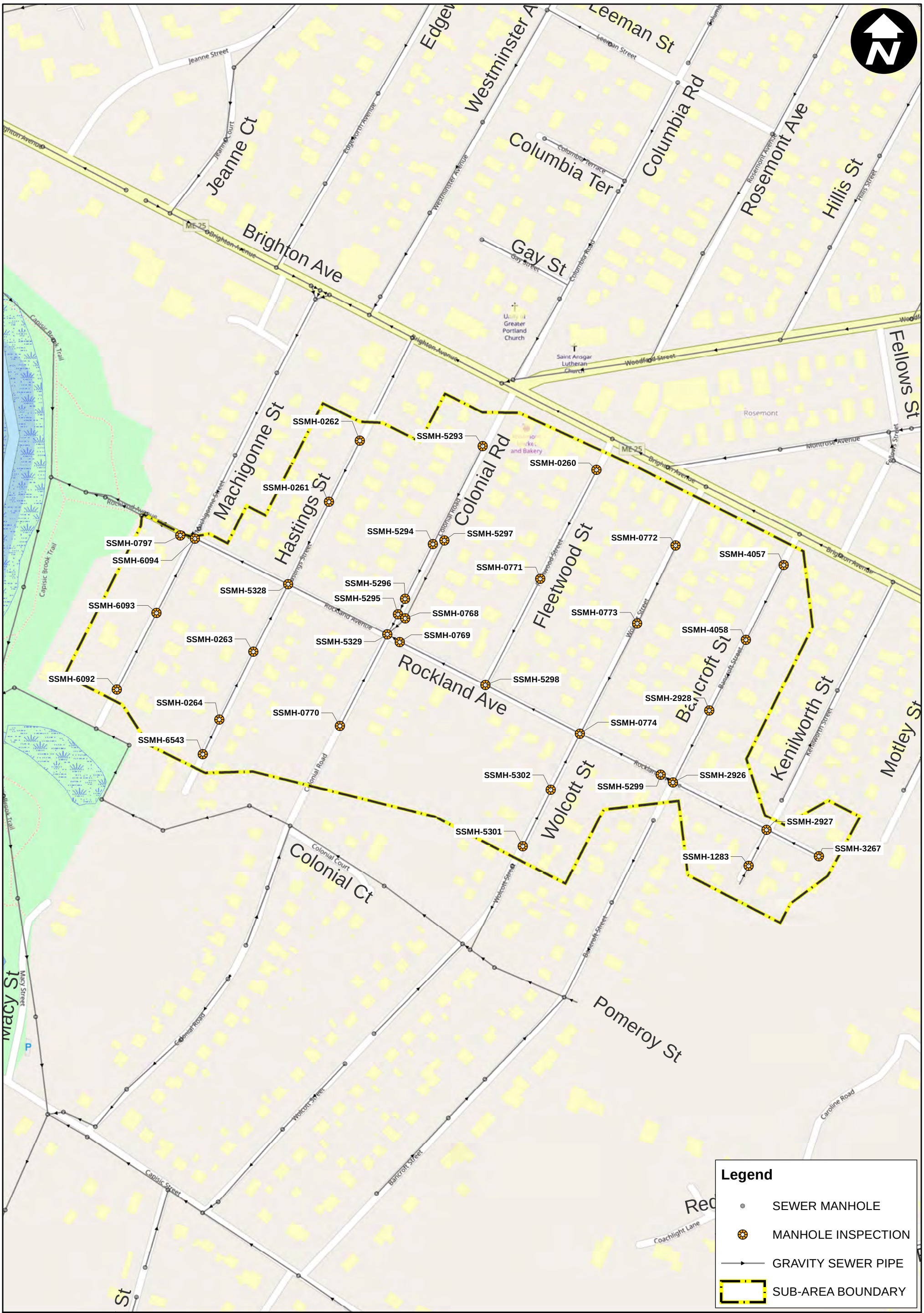
Sub-Area 28

Manhole Inspection Locations

November 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 28.mxd



City of Portland, Maine

Planning & Engineering
Sewer System
Evaluation Survey

Sub-Area 29

Manhole Inspection Locations

0 100 200 300 400 Feet

December 2018

ARCADIS Design & Consultancy for natural and built assets

G:\GIS\Portland\2018 - 2019 SSES Maps\2018 MANHOLE INSPECTION SUB-AREA 29.mxd

ARCADIS Design & Consultancy for natural and built assets

Appendix E – Pump Station Plan, Risk Analysis Map, and Rehabilitation Priorities

CITY OF PORTLAND
Department of Public Works
Christopher C. Branch, P.E., Director

January 31, 2020

City of Portland Maine
Long-term Pump Station Renewal
July 1, 2020 – July 1, 2025

Over the next five years, the City of Portland is planning on completing upgrades to several pump stations. The following projects will be completed during this time:

Franklin Street Pump Station Wet Well Coating

While the Franklin Street Pump Station was being rebuilt in 2019, Woodard and Curran structural engineers and Knowles Industrial Services staff inspected the wet well to determine the integrity of the concrete and the coating. A memorandum of this inspection was prepared outlining the structural investigation and includes recommendations on the type of work to be done. Since this work was not budgeted in the Franklin Street project, Water Resources Staff have requested Capital Improvement Project funding for this work. The work will include surface repair where necessary and a hydrogen sulfide resistant coating.

Riverside Street Pump Station Safety Upgrades

The Riverside Street Pump Station was upgraded in 2017. While many improvements were made during this time, including a new motor control cabinet and new pumps, minor safety improvements can still be made. The City will plan on replacing the handrails within the wet well and also make an electrical connection between the door and ventilator so that the fans start when the pump station is entered.

All Pump Stations: Updated Control Panels, Communication, Flow Meter Feasibility, Grading, and Safety Improvements

The stations that have not been recently upgraded remain in good working order and do not need major upgrades. Regardless, each pump station will undergo an inspection of electrical and mechanical components to determine what additional improvements should be made, including any safety improvements. The City will also be looking into the future of our SCADA systems to ensure that the installed hardware will be supported by the component's manufacturers in the future. While Franklin, Riverside, and Curtis have flow meters, all other pump stations will have a feasibility study completed for the installation of a flow meter. Additionally, some stations will need minor site improvements.

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Pump Station	Pumps	Flow Meter	Generator	Building	Wet/Dry Well	Building/Enclosure Condition	Site Grading Issues	2020 – 2025 Corrective Actions, Repairs, and Improvements
Franklin St Corner Franklin St & Marginal Way	3 - Centrifugal	Yes	Yes - Diesel	Yes, Masonry	Yes, Yes	Replaced - 2019	None	Wet well coating
Riverside Pump Station Riverside St near I-95	2 – Centrifugal	Yes	Yes - Diesel	Yes, Masonry	Yes, Yes	Roof leaks, wet well door freezes. Repair gate/fence.	None	Building and site improvements: Gate/fence repair, fix wet well door freezing issue and leaking roof Safety improvements: Interlock for ventilation and lights and new handrails
Curtis Road Clapboard Road and Alice Street	2 – Vertical Suction (Gorman-Rupp)	Yes	Yes - Propane	No, Fiberglass Enclosure	Yes, No	Replaced - 2019	Improve grading near meter manhole	Fix drainage issue causing water to flow towards meter manhole
Hope Avenue Hope Ave near Basket Lane	2 – Vertical Suction (Gorman-Rupp)	No	Yes - Propane	Yes, Fiberglass Enclosure	Yes, No	Enclosure needs painting and fiberglass repairs	Curb repair and grading	Building and site improvements: Repair curb and increase positive drainage away from concrete pad. Repair and paint fiberglass enclosure. Install a heater.
Pennell Avenue 127 Pennell Ave	2 – Vertical Suction (Gorman-Rupp)	No	Quick Connect - Gasoline	No, Fiberglass Enclosure	Yes, No	Fair	Curb repair and grading	Building and site improvements: Paint fiberglass enclosure. Improve door opening to prevent curb strike. Install a heater.
Castine End of road - gated	2 - Submersible Grinder (Vaughan Pumps)	No	Quick Connect - Gasoline	No	Yes, No	Concrete pad and gate needs repair	Access road in poor shape, drainage improvements needed	Building and site improvements: Repair concrete pad and gate. Regrade and add drainage for access road. Upgrade SCADA panel.
Linden/Ashmont Between 17 and 37	2 - Submersible Grinder	No	No Quick Connect	No	Yes, No	Fair	None	Building and site improvements: Bushes are overgrown and need to be removed and replaced. Install a quick connect for a generator.
Partridge 89 Partridge Circle	2 - Submersible Grinder	No	Quick Connect - Gasoline	No	Yes, No	Lose vent pipe	None	Building and site improvements: Repair loose vent pipe. Upgrade SCADA panel.
Riverton Springbrook Ln and Riverton Dr	2 –Dry Pit Grinder (Smith Loveless)	No	Quick Connect - Gasoline	No	Yes, Yes	Fair, gate needs repair	None	On schedule for full replacement in 2020.
East End East End Beach House (Seasonal)	2 - Submersible Grinder	No	No Quick Connect	No	Yes, No	Fair	None	Install a quick connect for a generator.

City of Portland Pump Station Work Completed since 2015:

Franklin Street Pump Station

This pump station was completely renovated in 2019. Upgrades included a new cooling water system, a new motor control center, a new generator with automatic transfer switch, a new roof membrane, new windows, new coatings on walls and floors, a new channel grinder with control panels, a new stainless steel isolation gate, suction valves with electric operators, a new 24" gate valve, an air release valve on the discharge force main, a new flow meter, a new SCADA control panel, and new heating and ventilation systems. Additional safety improvement included new handrails, new access stairs to the wet well, new grating and new gas detection hardware. The wet-well hatch was retrofitted with a safety grate in 2015.

Riverside Street Pump Station

This pump station was upgraded in 2015. Upgrades included replacing existing extended shaft cetifugal pumps with close-couple dry pit submersible pumps, replacing the secondary service conduit, main circuit breaker, automatic transfer switch, and motor control center . The hatch was retrofitted with a safety grate during this project.

Curtis Road Pump Station

All components of this pump station except the wet well were replaced and upgraded in 2019. The new station is a Gorman-Rupp package pump station with new pumps, an eight inch bypass connection, an inline electromagnetic flow meter, a new generator and transfer switch, and an 8' x 12' fiberglass building. The wet-well hatch was retrofitted with a safety grate in 2015.

Partridge Road Pump Station

In 2015, the wet-well hatch was retrofitted with a safety grate. Additional drainage improvements were made to the site to create positive drainage away from the building.

Castine Avenue Pump Station

In 2015, the wet-well hatch was retrofitted with a safety grate. Additionally, an inline valve was installed and the existing non-operational valve was removed. In 2016, a new generator was purchased for this station but it is not compatible with the existing electrical service. This generator's motor will be rewound in 2020.

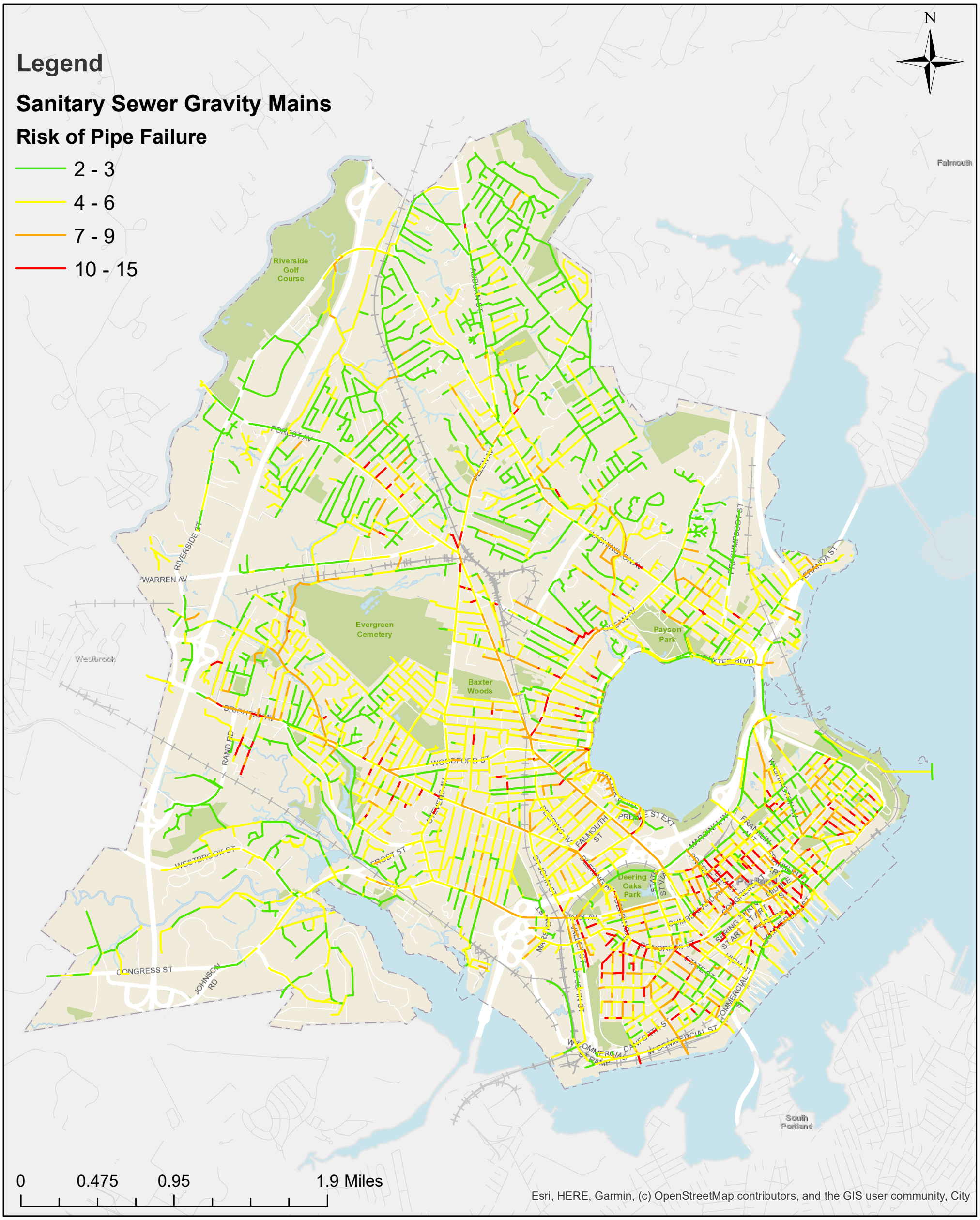
Riverton Drive Pump Station

In 2015, the wet-well hatch was replaced and included a safety grate.

Ashmont Street Pump Station

In 2015, the wet-well hatch was retrofitted with a safety grate.

City of Portland Sanitary Sewer System
Risk of Pipe Failure



The risk number of each pipe is calculated by multiplying the consequence of failure (COF) by the likelihood of failure (LOF).

Consequence of failure is determined by calculating the scores of each pipe as it relates to:

- proximity to critical users
- proximity to surface waters
- pipe diameter
- street classification
- proximity to railroads
- forced vs. gravity mains

Likelihood of Failure is determined by calculating the scores of each pipe as it relates to pipe age, material, and QSR (quick structural rating) *

* Where NASSCO data is unavailable, the QSR is an average of all pipes.

The LOF and COF calculations are stored in the GIS table and then uploaded into Cityworks Operational Insights. Within Operational Insights, each factor is given a weight and score. Operational Insights then calculates the COF/LOF and Risk numbers based on the information in the GIS. The GIS gets updated with the new calculations. This is done on an ongoing basis when CCTV data is received.

12/31/2019

Facility ID	Location Description	Width	Height	Length	Install Date	COF	LOF	RISK	Last Inspection
SSGM-00420	State St	15	18	239.21	1880	3.12	5	15.62	5/18/2016
SSGM-07915	Interceptor - Fall Brook	24	24	98.62		3.29	4.6	15.14	5/21/2019
SSGM-00777	Elm St	15	15	155.64	1916	3.08	4.8	14.8	5/2/2018
SSGM-06485	Allen Ave	8	8	130.58	1911	3.08	4.8	14.8	10/22/2019
SSGM-07918	Ray St XCountry	24	24	194.28		3.17	4.6	14.56	5/20/2019
SSGM-03529	Commercial St	36	44	198.08	1883	3.54	4.04	14.31	6/14/2018
SSGM-05539	Commercial St	36	44	91.47	1883	3.54	4.04	14.31	6/14/2018
SSGM-06366	Park St	24	24	311.73	1977	3.25	4.4	14.29	10/24/2017
SSGM-02925	Webb St	8	8	108.22	1958	3.17	4.4	13.93	7/5/2017
SSGM-02926	Webb St	8	8	274.83	1958	3.17	4.4	13.93	7/5/2017
SSGM-02954	Webb St	8	8	164.26	1958	3.17	4.4	13.93	3/12/2019
SSGM-04718	Baxter Blvd	30	30	129.40	1947	2.87	4.8	13.79	6/19/2018
SSGM-04719	Baxter Blvd	30	30	149.48	1947	2.87	4.8	13.79	6/19/2018
SSGM-05919	Valley St	12	12	29.84	1927	2.87	4.8	13.79	5/17/2016
SSGM-01016	Cumberland Ave	10	10	166.34	1911	2.87	4.8	13.79	5/10/2018
SSGM-03530	Union St	24	24	79.01	1937	2.87	4.8	13.79	6/14/2018
SSGM-03650	Ocean Ave	15	15	248.67	1930	2.87	4.8	13.79	4/27/2017
SSGM-05199	Deering Ave	15	15	684.29		3	4.6	13.79	5/24/2017
SSGM-05549	Elm St	12	12	90.91	1925	2.87	4.8	13.79	4/23/2018
SSGM-01005	Chestnut St	15	15	189.60	1925	2.87	4.8	13.79	4/24/2018
SSGM-05888	Eastern Prom	10	10	265.91	1893	2.75	5	13.74	6/11/2015
SSGM-06507	Casco St	15	15	102.79	1876	2.75	5	13.74	4/25/2018
SSGM-02468	Violette Hill St	8	8	132.05	1967	3.04	4.4	13.38	12/18/2015
SSGM-01085	Pearl St	24	24	214.12		2.87	4.6	13.22	5/16/2018
SSGM-05099	Bramhall St	10	10	192.41		2.87	4.6	13.22	3/16/2016
SSGM-05392	Congress St	18	18	110.53		2.87	4.6	13.22	8/1/2017
SSGM-05607	Exchange St	24	24	38.59		2.87	4.6	13.22	7/9/2018
SSGM-04483	Arbor St	8	8	187.67	1906	2.75	4.8	13.19	9/8/2016
SSGM-04556	Brighton Ave	12	12	250.77	1918	2.75	4.8	13.19	1/14/2016
SSGM-06593	Ocean Ave	10	10	187.61	1930	2.75	4.8	13.19	4/27/2017
SSGM-00274	Goodridge Ave	8	8	470.00	1911	2.75	4.8	13.19	8/30/2016
SSGM-00911	Market St	18	18	74.42	1931	2.75	4.8	13.19	4/26/2018
SSGM-00952	Stevens Ave	8	8	247.89	1915	2.75	4.8	13.19	9/8/2016
SSGM-01038	Portland St	10	10	146.71	1904	2.75	4.8	13.19	5/24/2018
SSGM-01095	Fore St	15	15	120.00	1937	2.75	4.8	13.19	5/15/2018
SSGM-01170	Danforth St	12	12	147.37	1936	2.75	4.8	13.19	3/22/2016
SSGM-01248	St John St	15	15	247.70	1948	2.75	4.8	13.19	5/4/2017
SSGM-02554	Brighton Ave	10	10	99.15	1917	2.75	4.8	13.19	2/15/2019
SSGM-02663	Westminster Ave	12	12	231.40	1939	2.75	4.8	13.19	1/28/2019
SSGM-04377	Washington Ave	12	12	238.63	1901	2.75	4.8	13.19	1/1/2014
SSGM-04781	Deering Ave	12	12	275.88	1907	2.75	4.8	13.19	1/1/2014
SSGM-05555	Myrtle St	15	15	244.22	1909	2.75	4.8	13.19	6/21/2018
SSGM-05576	Preble St	18	18	324.58	1921	2.75	4.8	13.19	5/2/2018
SSGM-05627	Forest Ave	18	18	79.25	1925	2.75	4.8	13.19	5/15/2018
SSGM-05814	Arbor St	10	10	248.17	1906	2.75	4.8	13.19	9/8/2016
SSGM-06555	Poland St	8	8	156.57	1910	2.75	4.8	13.19	9/8/2016
SSGM-07853	Chestnut St	15	15	78.16	1925	2.75	4.8	13.19	4/24/2018
SSGM-05491	Lancaster St	10	10	170.74	1905	2.75	4.8	13.19	5/9/2018
SSGM-00965	Vesper St	18	18	76.14	1890	2.62	5	13.12	6/20/2016
SSGM-05094	Vaughan St	15	18	375.37	1890	2.62	5	13.12	3/18/2016
SSGM-00277	Read St	12	12	120.09	1957	2.96	4.4	13.01	9/29/2016
SSGM-07462	Ellsworth St	10	10	257.75	1884	2.87	4.47	12.83	3/23/2016
SSGM-05895	Congress St	15	15	150.52		2.75	4.6	12.64	6/13/2016
SSGM-01014	Elm St	12	12	183.08	1966	2.87	4.4	12.64	4/23/2018
SSGM-01037	Oxford St	12	12	181.00		2.75	4.6	12.64	4/19/2018
SSGM-01178	Carleton St	12	18	357.22	1974	2.87	4.4	12.64	3/18/2016
SSGM-02974	Brighton Ave	12	12	175.60	1954	2.87	4.4	12.64	4/15/2019
SSGM-03078	Brighton Ave	15	15	193.68	1954	2.87	4.4	12.64	4/15/2019
SSGM-05538	Commercial St	36	44	311.46	1883	3.54	3.56	12.61	6/14/2018
SSGM-06595	Ocean Ave	10	10	273.83	1930	2.62	4.8	12.59	4/27/2017
SSGM-00027	Sherwood St	8	8	275.81	1905	2.62	4.8	12.59	5/20/2019
SSGM-00747	Deering Ave	8	8	63.00	1924	2.62	4.8	12.59	10/13/2017
SSGM-00796	Pine St	15	15	208.43	1935	2.62	4.8	12.59	4/8/2016
SSGM-00960	Chestnut St	18	18	340.34	1925	2.62	4.8	12.59	5/7/2018
SSGM-01007	Cedar St	15	18	263.13	1903	2.62	4.8	12.59	5/11/2018
SSGM-01054	Pearl St	15	15	190.66	1926	2.62	4.8	12.59	5/2/2018
SSGM-02912	Motley St	8	8	250.39	1925	2.62	4.8	12.59	5/22/2019
SSGM-04180	Washington Ave	8	8	365.41	1914	2.62	4.8	12.59	10/7/2019
SSGM-05440	Parris St	15	15	186.29	1928	2.62	4.8	12.59	4/19/2018
SSGM-05891	Morning St	10	10	320.33	1892	2.5	5	12.49	8/21/2017
SSGM-06359	Bowdoin St	12	12	236.11	1883	2.5	5	12.49	9/7/2017
SSGM-00765	St Lawrence St	12	18	323.68	1864	2.5	5	12.49	6/19/2015
SSGM-00766	St Lawrence St	15	18	198.41	1864	2.5	5	12.49	7/19/2016
SSGM-01197	West St	12	12	351.49	1893	2.5	5	12.49	12/16/2015
SSGM-05095	Vaughan St	15	18	510.26	1890	2.5	5	12.49	3/18/2016

SSGM-07331	Bowdoin St	10	10	80.60	1883	2.5	5	12.49	9/7/2017
SSGM-05393	Congress St	18	18	328.25		2.87	4.33	12.45	6/2/2016
SSGM-05468	Kennebec St	24	24	298.56	1887	3.08	4.04	12.45	4/20/2018
SSGM-01013	Elm St	12	12	102.78	1925	2.87	4.27	12.26	4/23/2018
SSGM-05019	Franklin Art	30	30	198.00	1899	3	4.04	12.11	7/12/2018
SSGM-00652	Auburn St	12	12	185.89	1961	2.75	4.4	12.09	9/8/2017
SSGM-05119	Spring St	10	10	198.25	1971	2.75	4.4	12.09	4/18/2018
SSGM-05955	Holm Ave	8	8	150.27	1959	2.75	4.4	12.09	5/21/2019
SSGM-00732	Oxford St	10	10	121.31		2.62	4.6	12.07	4/18/2018
SSGM-01024	Cumberland Ave	8	8	40.42		2.62	4.6	12.07	5/10/2018
SSGM-05579	Lancaster St	18	18	215.80		2.62	4.6	12.07	5/9/2018
SSGM-05956	Hospital Drive Cross Country	8	8	232.70		2.62	4.6	12.07	5/21/2019
SSGM-06230	Melbourne St	15	15	347.16	1902	2.5	4.8	11.99	6/24/2016
SSGM-00758	Kellogg St	10	10	282.01	1938	2.5	4.8	11.99	6/2/2015
SSGM-00762	Adams St	20	20	278.15	1903	2.5	4.8	11.99	6/16/2016
SSGM-00936	Parsons Rd	12	12	173.27	1939	2.5	4.8	11.99	5/3/2017
SSGM-01181	Brackett St	12	12	141.18	1933	2.5	4.8	11.99	3/18/2016
SSGM-02788	Wolcott St	8	8	206.88	1925	2.5	4.8	11.99	1/7/2019
SSGM-04323	Bayview Dr	10	10	264.09	1938	2.5	4.8	11.99	5/1/2017
SSGM-04379	Glenwood Ave	15	15	287.44	1935	2.5	4.8	11.99	7/19/2016
SSGM-05085	Neal St	10	10	211.57	1941	2.5	4.8	11.99	3/18/2016
SSGM-01919	Allen Ave	24	24	321.58	1920	3.54	3.36	11.9	9/28/2017
SSGM-05605	Moulton St	30	30	99.82	1901	3.54	3.36	11.9	6/18/2018
SSGM-07113	Newbury St	12	12	89.24	1892	2.37	5	11.87	6/8/2015
SSGM-01135	Pearl St	18	18	32.03	1925	2.75	4.27	11.73	5/16/2018
SSGM-07009	Crescent St	12	12	313.27	1889	2.62	4.47	11.72	3/23/2016
SSGM-06378	Pearl St	18	18	223.97		2.87	4.07	11.68	4/18/2018
SSGM-03533	Commercial St	48	36	203.00	1883	2.87	4.04	11.61	6/13/2018
SSGM-05275	State St	15	15	239.74	1880	2.87	4.04	11.61	8/4/2016
SSGM-00852	Chapel St	10	10	28.05	1971	2.62	4.4	11.54	4/18/2018
SSGM-02055	Westlawn Rd	8	8	299.77	1953	2.62	4.4	11.54	6/11/2019
SSGM-02088	Libby St	8	8	275.65	1957	2.62	4.4	11.54	6/27/2019
SSGM-03462	Homestead Ave	8	8	205.54	1952	2.62	4.4	11.54	6/27/2019
SSGM-05302	Clark St	24	24	265.02	1974	2.62	4.4	11.54	8/8/2016
SSGM-05401	Oak St	10	10	211.28	1889	2.75	4.2	11.54	4/18/2018
SSGM-05581	Franklin Art	8	8	253.04	1967	2.62	4.4	11.54	6/21/2018
SSGM-05658	India St	18	18	311.24	1955	2.62	4.4	11.54	6/10/2015
SSGM-05702	Cumberland Ave	18	18	195.78	1967	2.62	4.4	11.54	6/21/2016
SSGM-01230	Bramhall St	10	15	109.90	1910	2.87	4	11.5	3/16/2016
SSGM-05102	Bramhall St	10	15	220.01	1910	2.87	4	11.5	3/16/2016
SSGM-02187	Hicks St	12	12	27.26		2.5	4.6	11.49	3/23/2017
SSGM-05152	Thomas St	10	10	286.89		2.5	4.6	11.49	5/24/2016
SSGM-04872	Read St	42	42	369.37	1924	3.42	3.36	11.48	
SSGM-06597	Ocean Ave		48	5.83	1924	3.42	3.36	11.48	
SSGM-00467	Rowe Ave	18	18	279.66	1957	3.17	3.6	11.4	8/22/2019
SSGM-06475	Walton St	8	8	51.06	1937	2.37	4.8	11.39	3/27/2017
SSGM-06601	Florence St	8	8	149.19	1908	2.37	4.8	11.39	8/30/2017
SSGM-00590	Federal St	10	10	130.38	1911	2.37	4.8	11.39	6/8/2015
SSGM-00824	Greenleaf St	8	8	77.82	1939	2.37	4.8	11.39	8/15/2018
SSGM-02631	Westminster Ave	8	8	36.64	1915	2.37	4.8	11.39	1/11/2019
SSGM-02800	Wolcott St	8	8	150.32	1940	2.37	4.8	11.39	1/7/2019
SSGM-02804	Colonial Rd	8	8	181.66	1950	2.37	4.8	11.39	5/22/2019
SSGM-03444	Eleanor St	8	8	136.49	1911	2.37	4.8	11.39	9/7/2016
SSGM-03790	Kenilworth St	8	8	146.51	1925	2.37	4.8	11.39	2/27/2019
SSGM-04346	Fairmount St	8	8	199.98	1901	2.37	4.8	11.39	7/21/2017
SSGM-04359	Beacon St	8	8	209.13	1910	2.37	4.8	11.39	1/23/2015
SSGM-05093	Brackett St	8	8	127.00	1929	2.37	4.8	11.39	6/8/2016
SSGM-07081	Boynton St	8	8	177.36	1906	2.37	4.8	11.39	5/16/2016
SSGM-07083	Boynton St	8	8	147.38	1906	2.37	4.8	11.39	5/16/2016
SSGM-05669	Pearl St	18	18	231.43		2.75	4.07	11.18	5/16/2018
SSGM-06371	Pearl St	12	12	198.37		2.75	4.07	11.18	5/11/2018
SSGM-06372	Pearl St	12	12	196.92		2.75	4.07	11.18	5/11/2018
SSGM-06408	Canal Plaza	15	15	300.00		2.75	4.07	11.18	6/18/2018
SSGM-06756	Ellsworth St	10	10	78.28	1884	2.5	4.47	11.16	3/23/2016
SSGM-00888	St Lawrence St	18	18	33.58	1864	2.75	4.04	11.1	7/19/2016
SSGM-01202	Bramhall St	8	8	166.00	1892	2.75	4.04	11.1	3/16/2016
SSGM-06412	Preble St	18	18	338.21	1900	2.75	4.04	11.1	5/22/2018
SSGM-00134	Torrey St		48	235.50	1924	3.29	3.36	11.06	
SSGM-04885	Bay St		42	143.74	1924	3.29	3.36	11.06	
SSGM-04896	Torrey St		48	8.24	1924	3.29	3.36	11.06	
SSGM-04897	Torrey St		48	73.57	1924	3.29	3.36	11.06	
SSGM-05260	Bay St	24	24	222.57	1927	3.29	3.36	11.06	
SSGM-07496	Bay St		42	159.33	1924	3.29	3.36	11.06	
SSGM-07786	Bay St		42	11.47	1924	3.29	3.36	11.06	
SSGM-06787	Fore St	18	18	154.88	1935	2.87	3.84	11.04	6/14/2018
SSGM-01132	Congress St	15	15	259.75	1920	2.87	3.84	11.04	6/14/2016

SSGM-03535	Maple St	30	45	257.59	1901	2.87	3.84	11.04	6/11/2018
SSGM-04369	Ashmont St	15	15	212.19	1924	2.87	3.84	11.04	7/20/2017
SSGM-04702	Stevens Ave	8	8	204.39	1929	2.87	3.84	11.04	5/28/2019
SSGM-05047	Gilman St	12	12	218.17	1936	2.87	3.84	11.04	1/12/2016
SSGM-05329	Center St	24	24	221.13	1935	2.87	3.84	11.04	5/8/2018
SSGM-05606	Exchange St	24	24	53.58	1901	2.87	3.84	11.04	6/18/2018
SSGM-06063	Washington Ave	42	42	130.38	1934	2.87	3.84	11.04	1/1/2014
SSGM-07094	Falmouth St	24	24	304.68	1926	2.87	3.84	11.04	6/8/2016
SSGM-00806	Fox St	10	10	262.00	1887	2.62	4.2	11.02	6/20/2016
SSGM-01152	Cumberland Ave	18	18	28.50	1974	2.5	4.4	10.99	4/8/2016
SSGM-02080	Dorothy St	12	12	213.33	1958	2.5	4.4	10.99	3/20/2017
SSGM-05684	Middle St	24	24	206.62		3	3.64	10.92	5/14/2018
SSGM-01083	Congress St	24	24	197.32	1915	3.25	3.36	10.92	4/7/2016
SSGM-01173	Congress St	24	24	139.24	1915	3.25	3.36	10.92	4/8/2016
SSGM-05597	Franklin Art	30	30	82.27		3	3.64	10.92	7/12/2018
SSGM-07329	Briggs St	8	8	138.21		2.37	4.6	10.92	3/22/2016
SSGM-02924	Webb St	8	8	114.45	1958	3.17	3.44	10.89	7/5/2017
SSGM-04904	Murray St	12	12	151.29	1953	3.17	3.44	10.89	12/13/2018
SSGM-03077	Brighton Ave	30	30	178.64	1959	3	3.6	10.8	4/18/2019
SSGM-00020	Fernald St	18	18	145.81	1933	2.5	4.27	10.66	6/15/2016
SSGM-04224	Pya Rd	12	12	237.22	1949	3.17	3.36	10.64	5/22/2017
SSGM-05880	Atlantic St	18	18	194.05	1864	2.62	4.04	10.6	6/10/2015
SSGM-05144	Danforth St	10	10	401.10	1881	2.62	4.04	10.6	12/23/2015
SSGM-05187	Spring St	24	24	315.65	1870	2.62	4.04	10.6	5/14/2019
SSGM-05513	Everett St	12	12	276.98	1881	2.62	4.04	10.6	5/15/2015
SSGM-05601	Munjoy St	18	18	220.41	1864	2.62	4.04	10.6	6/10/2015
SSGM-07851	Brown St	15	15	90.52	1894	2.62	4.04	10.6	4/20/2018
SSGM-06423	Portland St	10	10	21.13	1928	2.75	3.84	10.56	4/20/2018
SSGM-00776	Elm St	15	15	160.49	1926	2.75	3.84	10.56	5/2/2018
SSGM-00781	Elm St	15	15	179.08	1926	2.75	3.84	10.56	7/16/2018
SSGM-00948	Walton St	15	15	247.72	1931	2.75	3.84	10.56	3/23/2017
SSGM-01035	Elm St	12	12	176.41	1926	2.75	3.84	10.56	4/23/2018
SSGM-01136	Pearl St	15	15	158.40	1926	2.75	3.84	10.56	4/26/2018
SSGM-04780	Deering Ave	12	12	354.41	1906	2.75	3.84	10.56	1/1/2014
SSGM-05232	Deering Ave	18	18	219.11	1915	2.75	3.84	10.56	6/6/2016
SSGM-05315	York St	12	12	173.01	1910	2.75	3.84	10.56	5/9/2018
SSGM-05419	Cross St	15	15	131.47	1919	2.75	3.84	10.56	4/27/2018
SSGM-05477	Lancaster St	44	44	210.35	1914	2.75	3.84	10.56	6/26/2018
SSGM-05508	Lancaster St	44	44	12.40	1905	2.75	3.84	10.56	6/26/2018
SSGM-05574	Chapel St	12	12	129.72	1934	2.75	3.84	10.56	4/18/2018
SSGM-05587	Market St	18	18	113.49	1928	2.75	3.84	10.56	4/26/2018
SSGM-05596	Fore St	15	15	100.22	1935	2.75	3.84	10.56	5/17/2018
SSGM-05659	India St	24	24	178.98	1940	2.75	3.84	10.56	6/9/2015
SSGM-06978	Cross St	18	18	72.27	1919	2.75	3.84	10.56	5/8/2018
SSGM-02034	Wall St	24	24	160.11	1949	2.62	4	10.5	7/2/2019
SSGM-05098	Vaughan St	18	18	154.48	1888	2.5	4.2	10.49	10/3/2016
SSGM-06433	Congress St	18	18	139.02		2.87	3.64	10.46	6/1/2016
SSGM-00466	Rowe Ave	8	8	322.63	1957	3.04	3.44	10.46	8/20/2019
SSGM-00675	Wilmot St	24	24	403.25		2.87	3.64	10.46	5/7/2018
SSGM-01087	Pearl St	24	24	280.00		2.87	3.64	10.46	5/16/2018
SSGM-05052	Gilman St	12	12	202.69		2.87	3.64	10.46	1/12/2016
SSGM-02089	Libby St	8	8	210.54	1957	2.37	4.4	10.44	6/26/2019
SSGM-02959	Rowe Ave	8	8	290.10	1957	2.37	4.4	10.44	8/20/2019
SSGM-05553	Elm St	15	15	78.20	1926	3.08	3.36	10.36	7/11/2018
SSGM-06482	Allen Ave	8	8	129.56	1921	3.08	3.36	10.36	10/22/2019
SSGM-00543	Baxter Blvd	24	24	144.06	1972	2.87	3.6	10.35	10/22/2019
SSGM-05086	Neal St	18	18	213.61	1972	2.87	3.6	10.35	3/18/2016
SSGM-06401	Spring St	18	18	235.75	1870	2.87	3.56	10.23	6/7/2016
SSGM-00763	St Lawrence St	12	18	170.12	1864	2.87	3.56	10.23	6/18/2015
SSGM-03528	Commercial St	48	36	266.46	1883	2.87	3.56	10.23	6/13/2018
SSGM-02280	Pinebrook Ln	8	8	119.55	1939	3.04	3.36	10.22	6/8/2017
SSGM-07874	Pearl St	24	24	69.91	1925	3.54	2.88	10.2	5/16/2018
SSGM-06469	Vaughan St	10	10	273.12		2.5	4.07	10.16	3/16/2016
SSGM-01036	Oxford St	8	8	204.04	1971	2.62	3.87	10.14	4/19/2018
SSGM-05295	A St	10	10	549.76	1999	2.62	3.87	10.14	3/30/2018
SSGM-05611	Wharf St	8	8	50.52	1979	2.62	3.87	10.14	5/22/2018
SSGM-06439	Sherman St	12	12	191.88	1893	2.5	4.04	10.09	12/14/2015
SSGM-00754	Monument St	10	10	225.73	1883	2.5	4.04	10.09	6/3/2015
SSGM-01125	Atlantic St	18	18	226.17	1864	2.5	4.04	10.09	6/10/2015
SSGM-01192	Vaughan St	12	12	120.16	1900	2.5	4.04	10.09	12/18/2015
SSGM-01201	Western Prom	10	10	162.50	1898	2.5	4.04	10.09	12/16/2015
SSGM-04725	Baxter Blvd	36	36	242.30	1947	3	3.36	10.08	4/17/2018
SSGM-06506	Congress St	24	24	219.67	1915	3	3.36	10.08	4/7/2016
SSGM-00947	Ocean Ave	15	15	222.71	1930	2.62	3.84	10.08	4/27/2017
SSGM-00978	Lancaster St	12	12	149.80	1905	2.62	3.84	10.08	5/9/2018
SSGM-01022	Casco St	15	15	84.35	1950	2.62	3.84	10.08	4/25/2018

SSGM-01028	Parris St	15	15	57.93	1928	2.62	3.84	10.08	4/19/2018
SSGM-01053	Pearl St	15	15	208.63	1926	2.62	3.84	10.08	5/2/2018
SSGM-01169	Danforth St	12	12	201.01	1936	2.62	3.84	10.08	3/22/2016
SSGM-02682	Machigonne St	42	42	220.52	1924	2.62	3.84	10.08	1/31/2019
SSGM-03606	High St	15	24	91.81	1940	3	3.36	10.08	8/4/2016
SSGM-03991	Parris St	15	15	34.97	1928	2.62	3.84	10.08	4/20/2018
SSGM-05231	Deering Ave	18	18	46.74	1929	2.62	3.84	10.08	6/6/2016
SSGM-05547	Brackett St	12	12	52.22	1940	2.62	3.84	10.08	6/24/2015
SSGM-05671	Church St	15	15	160.70	1906	2.62	3.84	10.08	5/14/2018
SSGM-05748	Madison St	18	18	257.08	1922	2.62	3.84	10.08	6/15/2016
SSGM-05511	Anderson St	24	24	193.21		2.75	3.64	10.01	6/23/2016
SSGM-05512	Anderson St	24	24	211.15		2.75	3.64	10.01	5/14/2015
SSGM-05554	Chestnut St	24	24	181.86		2.75	3.64	10.01	7/11/2018
SSGM-05595	Deer St	12	12	373.52		2.75	3.64	10.01	5/17/2018
SSGM-07884	Cumberland Ave	15	15	255.44		2.75	3.64	10.01	5/10/2018
SSGM-07968	Baxter Blvd	18	18	110.68		3.17	3.16	10.01	7/3/2019
SSGM-06381	Emery St	30	30	190.37		2.62	3.8	9.97	3/24/2016
SSGM-05433	Portland St	12	12	107.66	1965	2.75	3.6	9.9	5/24/2018
SSGM-05435	Forest Ave	12	12	38.30	1965	2.75	3.6	9.9	5/25/2018
SSGM-00464	Brighton Ave	12	12	129.57	1954	2.87	3.44	9.89	4/15/2019
SSGM-00979	Franklin Art	12	12	173.40	1967	2.87	3.44	9.89	5/22/2018
SSGM-02398	Dorset St	12	12	335.22	1954	2.87	3.44	9.89	4/16/2019
SSGM-02404	Brighton Ave	15	15	46.96	1954	2.87	3.44	9.89	4/16/2019
SSGM-02973	Brighton Ave	12	12	244.63	1954	2.87	3.44	9.89	4/15/2019
SSGM-02977	Brighton Ave	15	15	262.47	1954	2.87	3.44	9.89	4/15/2019
SSGM-02978	Brighton Ave	15	15	266.39	1954	2.87	3.44	9.89	2/5/2019
SSGM-05570	Franklin Art	12	12	247.42	1967	2.87	3.44	9.89	5/22/2018
SSGM-05571	Cumberland Ave	18	18	207.65	1967	2.87	3.44	9.89	5/21/2018
SSGM-07171	PWD Treatment Plant		48	188.27	1896	3.79	2.6	9.86	
SSGM-06362	Emery St	30	36	492.20	1895	2.75	3.56	9.79	3/25/2016
SSGM-06380	Emery St	20	36	257.95	1895	2.75	3.56	9.79	3/25/2016
SSGM-02857	Brighton Ave	8	8	335.76	1957	3.29	2.96	9.74	6/3/2019
SSGM-05794	Fore St	24	36	188.21	1901	2.87	3.36	9.66	6/22/2015
SSGM-06446	St John St	10	10	70.93	1927	2.87	3.36	9.66	5/2/2016
SSGM-00720	Congress St	15	15	386.29	1922	2.87	3.36	9.66	6/13/2016
SSGM-00772	Market St	12	12	230.07	1925	2.87	3.36	9.66	5/30/2019
SSGM-01011	Elm St	12	12	90.79	1925	2.87	3.36	9.66	4/23/2018
SSGM-01017	Cumberland Ave	12	12	249.68	1911	2.87	3.36	9.66	4/24/2018
SSGM-01058	Lancaster St	44	44	252.72	1905	2.87	3.36	9.66	6/26/2018
SSGM-01066	Lancaster St	44	44	112.95	1914	2.87	3.36	9.66	6/26/2018
SSGM-05073	Gilman St	15	15	212.72	1937	2.87	3.36	9.66	5/16/2016
SSGM-05191	Gray St	12	12	266.80	1986	2.5	3.87	9.66	8/28/2018
SSGM-05335	Center St	24	24	258.48	1935	2.87	3.36	9.66	5/8/2018
SSGM-05410	Monument Sq	18	18	125.84	1974	2.5	3.87	9.66	6/30/2015
SSGM-05413	One City Center	12	12	139.20	1974	2.5	3.87	9.66	6/25/2018
SSGM-05488	Lancaster St	44	44	250.76	1905	2.87	3.36	9.66	6/26/2018
SSGM-05550	Elm St	12	12	44.08	1925	2.87	3.36	9.66	4/23/2018
SSGM-05612	Exchange St	24	24	186.72	1901	2.87	3.36	9.66	6/6/2019
SSGM-06976	Commercial St	48	36	240.92	1901	2.87	3.36	9.66	6/14/2018
SSGM-01703	Greenwood Ln	8	8	300.08	1970	2.37	4.07	9.65	9/16/2019
SSGM-06370	Pearl St	12	12	82.72	1869	2.75	3.51	9.64	5/11/2018
SSGM-05777	Mountfort St	15	15	200.50	1938	2.5	3.84	9.6	6/11/2015
SSGM-05804	Kellogg St	10	10	297.46	1938	2.5	3.84	9.6	6/16/2016
SSGM-06389	Walton St	8	8	726.69	1937	2.5	3.84	9.6	3/23/2017
SSGM-00092	Presumpscot St	12	12	124.67	1924	2.5	3.84	9.6	5/20/2019
SSGM-00379	Payson St	12	12	363.33	1905	2.5	3.84	9.6	12/21/2015
SSGM-00412	Cottage St	15	15	298.80	1927	2.5	3.84	9.6	11/1/2016
SSGM-00699	Howard St	10	10	182.58	1937	2.5	3.84	9.6	4/24/2015
SSGM-00760	Kellogg St	12	12	37.49	1938	2.5	3.84	9.6	6/16/2016
SSGM-00890	Waterville St	10	10	281.61	1935	2.5	3.84	9.6	6/2/2015
SSGM-01193	Pine St	12	12	217.36	1903	2.5	3.84	9.6	12/15/2015
SSGM-01241	Carroll St	12	12	249.17	1903	2.5	3.84	9.6	12/17/2015
SSGM-01967	Short St	20	20	14.37	1922	2.5	3.84	9.6	9/24/2019
SSGM-01969	Pennell Ave	10	10	348.34	1922	2.5	3.84	9.6	9/24/2019
SSGM-02786	Colonial Rd	10	10	244.95	1923	2.5	3.84	9.6	1/22/2018
SSGM-04219	Parsons Rd	10	10	270.98	1946	2.5	3.84	9.6	5/3/2017
SSGM-05510	Lancaster St	10	10	179.78	1902	2.5	3.84	9.6	5/26/2015
SSGM-00733	Oxford St	10	10	25.40		2.62	3.64	9.55	4/18/2018
SSGM-00396	Commercial St	40	60	35.46	1883	3.67	2.6	9.53	
SSGM-01073	Commercial St	40	60	169.43	1883	3.67	2.6	9.53	6/18/2018
SSGM-05079	Congress St	24	24	102.04		3	3.16	9.48	4/7/2016
SSGM-07351	Congress St	24	24	100.44		3	3.16	9.48	4/7/2016
SSGM-06428	Oxford St	10	10	129.53	1971	2.75	3.44	9.46	4/19/2018
SSGM-00830	Diamond St	18	18	281.39	1960	2.75	3.44	9.46	5/29/2015
SSGM-01050	South St	12	12	148.43	1964	2.75	3.44	9.46	4/25/2018
SSGM-02553	Jeanne Ct	12	12	219.26	1957	2.75	3.44	9.46	2/15/2019

SSGM-04910	Murray St	15	15	272.44	1957	3.17	2.96	9.37	12/12/2018
SSGM-03989	Hanover St	15	15	97.11		2.96	3.16	9.35	7/11/2018
SSGM-00988	Atlantic St	18	18	210.95	1864	2.62	3.56	9.34	6/10/2015
SSGM-01046	Newbury St	10	10	40.39	1892	2.62	3.56	9.34	6/9/2015
SSGM-05186	Spring St	24	24	265.13	1870	2.62	3.56	9.34	5/13/2019
SSGM-05479	Casco St	12	12	106.97	1876	2.62	3.56	9.34	4/24/2018
SSGM-07701	Market St	12	12	53.67	1881	2.62	3.56	9.34	4/18/2018
SSGM-02975	Brighton Ave	12	12	200.15	1954	3.12	2.96	9.25	4/15/2019
SSGM-04782	Deering Ave	12	12	345.18	1909	2.75	3.36	9.24	1/1/2014
SSGM-06369	Portland St	10	10	258.61	1928	2.75	3.36	9.24	4/19/2018
SSGM-00024	Morse St	30	30	134.71	1931	2.75	3.36	9.24	5/17/2016
SSGM-00369	Kenwood St	12	12	250.00	1923	2.75	3.36	9.24	6/26/2015
SSGM-00391	Falmouth St	18	18	135.85	1912	2.75	3.36	9.24	6/8/2016
SSGM-00599	Holly St	8	8	251.64	1907	2.75	3.36	9.24	9/29/2016
SSGM-00748	Revere St	8	8	218.11	1924	2.75	3.36	9.24	10/13/2017
SSGM-00851	Chapel St	10	10	289.47	1934	2.75	3.36	9.24	4/18/2018
SSGM-00942	Fore St	10	10	227.30	1917	2.75	3.36	9.24	5/16/2018
SSGM-01075	Market St	18	18	268.01	1937	2.75	3.36	9.24	4/26/2018
SSGM-01096	Fore St	18	18	211.29	1937	2.75	3.36	9.24	5/15/2018
SSGM-01102	Forest Ave	18	18	222.94	1924	2.75	3.36	9.24	5/15/2018
SSGM-01271	Fore St	15	15	186.51	1935	2.75	3.36	9.24	6/14/2018
SSGM-02981	Forest Ave	10	10	360.11	1911	3.21	2.88	9.24	9/1/2016
SSGM-03648	Ocean Ave	10	10	236.29	1930	2.75	3.36	9.24	4/27/2017
SSGM-04600	Frances St	12	12	233.70	1925	2.75	3.36	9.24	3/23/2015
SSGM-04757	Brighton Ave	18	18	241.18	1923	2.75	3.36	9.24	10/22/2019
SSGM-04758	Brighton Ave	18	18	60.02	1923	2.75	3.36	9.24	10/22/2019
SSGM-05417	Union St	21	21	133.11	1937	2.75	3.36	9.24	5/10/2018
SSGM-05439	Portland St	15	15	42.26	1928	2.75	3.36	9.24	5/24/2018
SSGM-05472	Preble St	18	18	186.55	1921	2.75	3.36	9.24	5/10/2018
SSGM-05616	Exchange St	24	24	231.13	1901	2.75	3.36	9.24	5/11/2018
SSGM-05617	Exchange St	24	24	168.18	1901	2.75	3.36	9.24	5/11/2018
SSGM-05626	Forest Ave	18	18	126.11	1925	2.75	3.36	9.24	5/15/2018
SSGM-05529	Commercial St	24	36	140.53	1899	3.54	2.6	9.21	6/13/2018
SSGM-05532	Commercial St	36	36	141.67	1894	3.54	2.6	9.21	6/18/2018
SSGM-05533	Commercial St	24	36	210.06	1894	3.54	2.6	9.21	6/13/2018
SSGM-05540	Commercial St	36	44	238.51	1883	3.54	2.6	9.21	6/14/2018
SSGM-06128	Commercial St	24	44	182.34	1895	3.54	2.6	9.21	6/19/2018
SSGM-04501	Woodlawn Ave	8	8	318.43	1978	2.37	3.87	9.18	1/24/2019
SSGM-02050	Ninth St	8	8	229.86	1976	2.37	3.87	9.18	6/21/2019
SSGM-02196	Eighth St	8	8	310.26	1976	2.37	3.87	9.18	6/26/2019
SSGM-02197	Eighth St	8	8	340.28	1976	2.37	3.87	9.18	6/26/2019
SSGM-02205	Newton St	8	8	280.05	1976	2.37	3.87	9.18	3/23/2017
SSGM-02428	Candlewyck Ter	8	8	235.19	1969	2.37	3.87	9.18	1/31/2017
SSGM-03235	Aldworth St	8	8	338.57	1978	2.37	3.87	9.18	4/13/2017
SSGM-05183	Spring St	8	8	245.09	1972	2.37	3.87	9.18	5/13/2019
SSGM-05276	Spring St	8	8	195.76	1972	2.37	3.87	9.18	5/13/2019
SSGM-06683	Pennell Ave	8	8	139.54	1922	2.37	3.84	9.12	8/8/2017
SSGM-00048	Inverness St	8	8	175.00	1930	2.37	3.84	9.12	12/27/2018
SSGM-00050	Inverness St	8	8	127.09	1903	2.37	3.84	9.12	12/27/2018
SSGM-00400	Fairmount St	8	8	200.00	1901	2.37	3.84	9.12	7/21/2017
SSGM-02200	Homestead Ave	8	8	199.73	1949	2.37	3.84	9.12	7/1/2019
SSGM-02323	Josslyn St	8	8	309.91	1942	2.37	3.84	9.12	1/28/2019
SSGM-02798	Wolcott St	8	8	150.05	1940	2.37	3.84	9.12	1/7/2019
SSGM-03940	Grafton St	8	8	244.10	1931	2.37	3.84	9.12	7/2/2018
SSGM-05868	Vesper St	18	18	262.93		2.5	3.64	9.1	6/1/2015
SSGM-06356	Brackett St	12	18	299.00		2.5	3.64	9.1	3/29/2016
SSGM-06355	Congress St	15	15	454.31		2.87	3.16	9.08	4/8/2016
SSGM-05558	Chestnut St	18	18	104.16		2.87	3.16	9.08	5/14/2019
SSGM-08023				67.90		3.12	2.89	9.04	
SSGM-00812	Gould St	18	18	67.76	1959	2.62	3.44	9.03	5/28/2015
SSGM-00829	Diamond St	18	18	242.02	1960	2.62	3.44	9.03	5/29/2015
SSGM-02882	Frost St	12	12	252.26	1952	2.62	3.44	9.03	6/21/2017
SSGM-05893	Monument St	10	10	31.86	1883	2.5	3.56	8.9	6/3/2015
SSGM-00660	Munjoy St	18	18	222.33	1864	2.5	3.56	8.9	6/10/2015
SSGM-00661	Munjoy St	18	18	223.05	1864	2.5	3.56	8.9	6/10/2015
SSGM-00753	Monument St	12	12	131.86	1883	2.5	3.56	8.9	6/3/2015
SSGM-00764	St Lawrence St	12	18	311.65	1864	2.5	3.56	8.9	6/19/2015
SSGM-00900	Atlantic St	18	18	209.35	1864	2.5	3.56	8.9	6/10/2015
SSGM-05141	Vaughan St	10	10	274.29	1900	2.5	3.56	8.9	12/18/2015
SSGM-05142	Vaughan St	10	10	253.89	1900	2.5	3.56	8.9	12/18/2015
SSGM-06073	Williams St	12	12	560.78	1891	2.5	3.56	8.9	8/1/2019
SSGM-05858	Howard St	10	10	179.85	1937	2.62	3.36	8.82	4/24/2015
SSGM-05887	Eastern Prom	10	10	171.72	1927	2.62	3.36	8.82	6/11/2015
SSGM-06002	Myrtle St	20	20	40.52	1909	2.62	3.36	8.82	6/21/2018
SSGM-06525	Baxter Blvd	15	15	219.37		3.29	2.68	8.82	6/4/2019
SSGM-00009	Grafton St	12	12	275.00	1931	2.62	3.36	8.82	6/28/2018

SSGM-00025	Morse St	30	30	158.91	1931	2.62	3.36	8.82	5/17/2016
SSGM-00034	Morse St	30	30	100.18	1931	2.62	3.36	8.82	5/17/2016
SSGM-00035	Morse St	27	27	50.69	1933	2.62	3.36	8.82	
SSGM-00036	Sherwood St	27	27	105.12	1933	2.62	3.36	8.82	
SSGM-00037	Sherwood St	27	27	107.26	1933	2.62	3.36	8.82	
SSGM-00038	Sherwood St	27	27	217.00	1934	2.62	3.36	8.82	
SSGM-00040	Sherwood St	30	30	237.07	1934	2.62	3.36	8.82	
SSGM-00372	Brighton Ave	8	8	61.40	1912	2.62	3.36	8.82	10/22/2019
SSGM-00408	Ashmont St	15	15	271.67	1927	2.62	3.36	8.82	7/25/2017
SSGM-00446	Congress St	8	8	101.00	1916	2.62	3.36	8.82	9/19/2017
SSGM-00598	Holly St	8	8	304.36	1907	2.62	3.36	8.82	9/29/2016
SSGM-00792	Pine St	24	24	105.70	1933	2.62	3.36	8.82	3/25/2016
SSGM-00793	Pine St	24	24	40.13	1933	2.62	3.36	8.82	3/24/2016
SSGM-00794	Emery St	24	24	475.93	1918	2.62	3.36	8.82	3/24/2016
SSGM-01027	Parris St	15	15	179.66	1928	2.62	3.36	8.82	4/19/2018
SSGM-01040	Federal St	10	10	280.48	1906	2.62	3.36	8.82	6/8/2015
SSGM-01071	Silver St	12	12	187.00	1908	2.62	3.36	8.82	7/2/2019
SSGM-02660	Brighton Ave	18	18	51.32	1946	2.62	3.36	8.82	2/26/2019
SSGM-02935	Redlon Rd	10	10	37.70	1948	2.62	3.36	8.82	6/27/2017
SSGM-03610	Free St	12	12	89.55	1904	2.62	3.36	8.82	4/23/2018
SSGM-03946	Front St	36	36	231.05	1933	2.62	3.36	8.82	6/22/2016
SSGM-04138	Sherwood St	30	30	167.35	1934	2.62	3.36	8.82	
SSGM-04751	Brighton Ave	8	8	240.14	1912	2.62	3.36	8.82	10/22/2019
SSGM-05048	Gilman St	12	12	190.48	1936	2.62	3.36	8.82	1/12/2016
SSGM-05284	Brackett St	12	12	238.53	1937	2.62	3.36	8.82	6/24/2015
SSGM-05480	Brattle St	15	15	72.21	1924	2.62	3.36	8.82	4/18/2018
SSGM-06057	Sherwood St	27	27	29.93	1934	2.62	3.36	8.82	
SSGM-06058	Sherwood St	27	27	217.92	1934	2.62	3.36	8.82	
SSGM-06059	Sherwood St	30	30	167.83	1934	2.62	3.36	8.82	
SSGM-06060	Sherwood St	30	30	81.36	1934	2.62	3.36	8.82	
SSGM-06388	Bell St	10	10	175.58	1911	2.62	3.36	8.82	
SSGM-06606	Bancroft St	8	8	199.60	1931	2.62	3.36	8.82	1/7/2019
SSGM-07647	Brown St	12	12	13.08	1904	2.62	3.36	8.82	4/23/2018
SSGM-07978	BEDFORD ST	8	8	209.58	1922	2.62	3.36	8.82	
SSGM-01298	Baxter Blvd	36	36	54.14	1947	2.87	3.04	8.74	6/19/2018
SSGM-01203	Congress St	10	10	111.01	1889	2.87	3.03	8.7	8/3/2016
SSGM-02141	West Side Interceptor	54	54	212.83	1940	3.62	2.4	8.7	
SSGM-06409	Wilmot St	12	18	258.07		2.75	3.16	8.69	5/23/2018
SSGM-06430	York St	12	12	305.35		2.75	3.16	8.69	6/24/2015
SSGM-06464	Cumberland Ave	10	10	57.85		2.75	3.16	8.69	5/11/2018
SSGM-06467	Danforth St	15	24	187.44		2.75	3.16	8.69	3/22/2016
SSGM-03987	Hanover St	12	12	472.15		2.75	3.16	8.69	4/20/2018
SSGM-06421	Hanover St	12	12	449.82		2.75	3.16	8.69	4/20/2018
SSGM-05528	Cross St	12	12	74.28		2.75	3.16	8.69	4/27/2018
SSGM-07020	Emery St	36	36	324.22	1895	3.33	2.6	8.66	3/24/2016
SSGM-00406	Forest Ave	24	24	447.57	1923	3	2.88	8.64	7/20/2017
SSGM-00418	Park St	24	24	295.51	1921	3	2.88	8.64	10/24/2017
SSGM-04331	Forest Ave	24	24	42.81	1924	3	2.88	8.64	9/21/2016
SSGM-05894	Cumberland Ave	12	12	206.57	1953	2.5	3.44	8.6	6/14/2016
SSGM-01119	Vesper St	18	18	226.80	1963	2.5	3.44	8.6	6/1/2015
SSGM-02557	Jeanne St	12	12	172.71	1957	2.5	3.44	8.6	1/31/2019
SSGM-05328	Cumberland Ave	12	12	279.27	1961	2.5	3.44	8.6	8/3/2016
SSGM-05437	Parris St	8	8	241.25	1984	2.5	3.44	8.6	4/19/2018
SSGM-02269	Avalon Ter	8	8	145.20	1992	2.37	3.6	8.55	3/8/2017
SSGM-03947	Alton St	8	8	287.27	1998	2.37	3.6	8.55	1/7/2015
SSGM-00746	Revere St	8	8	202.00	1924	2.96	2.88	8.52	11/28/2016
SSGM-06504	Carleton St	12	18	40.29	1974	2.87	2.96	8.51	4/7/2016
SSGM-02392	Warwick St	15	15	45.57	1954	2.87	2.96	8.51	4/18/2019
SSGM-02393	Brighton Ave	18	18	249.78	1954	2.87	2.96	8.51	4/16/2019
SSGM-02403	Brighton Ave	15	15	217.53	1954	2.87	2.96	8.51	4/16/2019
SSGM-02897	Webb St	12	12	199.26	1958	2.87	2.96	8.51	6/29/2017
SSGM-02972	Brighton Ave	12	12	248.03	1954	2.87	2.96	8.51	2/5/2019
SSGM-01832	Allen Ave	12	12	237.16	1922	3.54	2.4	8.5	10/4/2017
SSGM-02539	Warwick St	24	24	192.34	1938	3.54	2.4	8.5	
SSGM-02726	West Side Interceptor	24	24	111.44	1938	3.54	2.4	8.5	6/17/2019
SSGM-04184	Washington Ave	24	24	144.48	1914	3.54	2.4	8.5	
SSGM-04185	Washington Ave	24	24	112.46	1916	3.54	2.4	8.5	
SSGM-04862	Ocean Ave	10	10	243.00	1924	3.54	2.4	8.5	
SSGM-05537	Exchange St	24	24	50.18	1901	3.54	2.4	8.5	
SSGM-06604	Ocean Ave	10	10	152.04	1930	3.54	2.4	8.5	
SSGM-05531	Pearl St	24	24	126.80	1925	3.54	2.4	8.5	5/16/2018
SSGM-04280	Ocean Ave	10	10	182.49	1894	2.75	3.08	8.47	10/11/2017
SSGM-07066	Middle St	18	18	75.64	1881	2.37	3.56	8.45	6/9/2016
SSGM-04877	Bay St	24	24	249.26	1948	3.29	2.56	8.43	
SSGM-04767	Falmouth St	12	12	130.58	1912	2.5	3.36	8.4	6/8/2016
SSGM-06228	Montreal St	10	10	279.79	1902	2.5	3.36	8.4	5/31/2016

SSGM-06594	Ocean Ave	8	8	104.44	1930	2.5	3.36	8.4	5/5/2017
SSGM-00320	Edwards St	10	10	211.47	1924	2.5	3.36	8.4	5/23/2019
SSGM-00545	Quebec St	12	12	194.99	1939	2.5	3.36	8.4	6/1/2016
SSGM-00556	Hersey St	12	12	253.18	1925	2.5	3.36	8.4	5/12/2017
SSGM-00565	Chenery St	10	10	186.41	1934	2.5	3.36	8.4	6/6/2017
SSGM-00577	Pya Rd	12	12	198.75	1949	2.5	3.36	8.4	5/22/2017
SSGM-00693	Merrill St	10	10	139.82	1938	2.5	3.36	8.4	4/22/2015
SSGM-00722	Mountfort St	15	15	146.45	1938	2.5	3.36	8.4	6/11/2015
SSGM-00892	Waterville St	10	10	312.09	1935	2.5	3.36	8.4	10/25/2017
SSGM-00992	North St	15	15	243.65	1945	2.5	3.36	8.4	5/31/2016
SSGM-01113	Quebec St	15	15	161.40	1939	2.5	3.36	8.4	6/1/2016
SSGM-01114	Quebec St	15	15	269.23	1939	2.5	3.36	8.4	6/1/2016
SSGM-01182	Brackett St	12	12	75.76	1933	2.5	3.36	8.4	3/18/2016
SSGM-01194	Chadwick St	10	10	165.58	1928	2.5	3.36	8.4	12/15/2015
SSGM-01847	Brook Rd	15	15	239.58	1943	2.5	3.36	8.4	8/15/2018
SSGM-02142	Trundy St	60	60	82.61	1940	3.5	2.4	8.4	
SSGM-02185	Dorothy St	15	15	255.31	1948	2.5	3.36	8.4	4/25/2017
SSGM-02637	Westminster Ave	10	10	254.71	1939	2.5	3.36	8.4	12/8/2016
SSGM-02789	Wolcott St	10	10	295.47	1925	2.5	3.36	8.4	1/4/2019
SSGM-02902	Colonial Rd	8	8	116.61	1950	2.5	3.36	8.4	5/22/2019
SSGM-04437	Woodford St	8	8	259.44	1907	2.5	3.36	8.4	1/1/2014
SSGM-05096	Brackett St	15	15	112.21	1941	2.5	3.36	8.4	3/18/2016
SSGM-05160	Neal St	12	12	50.72	1941	2.5	3.36	8.4	4/21/2016
SSGM-05272	Pine St	12	12	155.21	1935	2.5	3.36	8.4	3/25/2016
SSGM-05282	Brackett St	12	12	60.35	1937	2.5	3.36	8.4	6/24/2015
SSGM-05283	Brackett St	12	12	186.14	1937	2.5	3.36	8.4	6/24/2015
SSGM-05293	Grant St	15	15	232.16	1942	2.5	3.36	8.4	1/1/2014
SSGM-07498	Westminster Ave	12	12	307.91	1939	2.5	3.36	8.4	1/28/2019
SSGM-07506	Baxter Blvd	144	96	450.17		3.54	2.36	8.36	12/18/2017
SSGM-00839	Brighton Ave	15	15	163.11	1899	3.21	2.6	8.34	
SSGM-00840	Brighton Ave	15	15	190.14	1899	3.21	2.6	8.34	11/2/2017
SSGM-01020	Preble St	36	36	294.75	1900	3.21	2.6	8.34	6/13/2019
SSGM-05405	Cross St	12	12	302.76	1891	2.75	3.03	8.32	4/25/2018
SSGM-06357	Brackett St	12	18	254.59		2.62	3.16	8.29	3/29/2016
SSGM-01052	South St	12	12	31.25		2.62	3.16	8.29	5/15/2018
SSGM-05174	Cushman St	18	24	271.14		2.62	3.16	8.29	4/11/2016
SSGM-05436	Portland St	8	8	34.06		2.62	3.16	8.29	4/19/2018
SSGM-05548	York St	15	15	344.24		2.62	3.16	8.29	6/24/2015
SSGM-05578	Kennebec St	12	12	256.47		2.62	3.16	8.29	5/3/2018
SSGM-05668	Congress St	18	18	172.11		2.62	3.16	8.29	6/14/2016
SSGM-07347	Brackett St	12	18	62.50		2.62	3.16	8.29	3/29/2016
SSGM-01010	Elm St	12	12	90.12	1925	2.87	2.88	8.28	4/23/2018
SSGM-01012	Elm St	12	12	27.86	1925	2.87	2.88	8.28	4/23/2018
SSGM-02405	Devon St	12	12	283.45	1922	2.87	2.88	8.28	3/1/2019
SSGM-05340	Center St	24	24	152.68	1935	2.87	2.88	8.28	5/8/2018
SSGM-04295	Coyle St	8	8	193.44	1900	3.17	2.6	8.23	6/5/2019
SSGM-04298	Coyle St	8	8	124.21	1900	3.17	2.6	8.23	
SSGM-06518	Sullivan St	8	8	310.42	1904	3.42	2.4	8.2	7/19/2017
SSGM-00057	Washington Ave	20	20	182.41	1916	3.42	2.4	8.2	
SSGM-00139	Ocean Ave	8	8	224.88	1930	3.42	2.4	8.2	
SSGM-00140	Ocean Ave	8	8	83.69	1930	3.42	2.4	8.2	
SSGM-00202	Washington Ave	10	10	212.02	1915	3.42	2.4	8.2	
SSGM-01500	Pheasant Hill Dr	24	24	248.89	1916	3.42	2.4	8.2	
SSGM-01503	Pheasant Hill Dr	24	24	334.67	1916	3.42	2.4	8.2	
SSGM-03669	Ocean Ave	8	8	65.70	1930	3.42	2.4	8.2	
SSGM-04183	Washington Ave	8	8	238.41	1914	3.42	2.4	8.2	2/5/2018
SSGM-04186	Washington Ave	10	10	243.84	1915	3.42	2.4	8.2	
SSGM-04187	Washington Ave	10	10	240.36	1915	3.42	2.4	8.2	
SSGM-04188	Washington Ave	10	10	49.54	1915	3.42	2.4	8.2	
SSGM-04345	Vannah Ave	36	36	371.15	1919	3.42	2.4	8.2	7/15/2019
SSGM-05536	Silver St	18	18	133.58	1909	3.42	2.4	8.2	4/26/2018
SSGM-05665	India St	48	48	126.19	1901	3.42	2.4	8.2	10/10/2017
SSGM-06512	Veranda St	8	8	105.13	1907	3.42	2.4	8.2	6/20/2018
SSGM-08044	Mackworth St	36	36	71.82	1930	3.42	2.4	8.2	6/27/2019
SSGM-06526	Mackworth St	36	36	142.19	1930	3.42	2.4	8.2	6/27/2019
SSGM-00179	Hennessy Dr	8	8	248.34	1961	2.37	3.44	8.17	10/9/2019
SSGM-01985	Hennessy Dr	8	8	264.67	1961	2.37	3.44	8.17	9/26/2019
SSGM-02555	Jeanne St	8	8	265.62	1957	2.37	3.44	8.17	1/31/2019
SSGM-02958	Rowe Ave	8	8	294.34	1957	2.37	3.44	8.17	8/20/2019
SSGM-04916	Murray St	8	8	200.67	1958	2.37	3.44	8.17	12/11/2018
SSGM-00417	Park St	24	24	292.14	1977	2.75	2.96	8.14	10/24/2017
SSGM-01145	Lafayette St	12	12	249.66	1975	2.75	2.96	8.14	6/13/2016
SSGM-05699	Cumberland Ave	12	12	90.70	1961	2.75	2.96	8.14	6/21/2016
SSGM-06719	Cumberland Ave	12	12	281.13	1953	2.75	2.96	8.14	6/14/2016
SSGM-06398	Spring St	12	18	44.24	1870	3.12	2.6	8.12	6/7/2016
SSGM-00419	State St	15	15	200.15	1880	3.12	2.6	8.12	5/18/2016

SSGM-00805	Anderson St	48	48	204.74	1896	3.12	2.6	8.12	
SSGM-05525	Anderson St	48	48	204.41	1896	3.12	2.6	8.12	
SSGM-06399	Spring St	12	18	278.14	1870	3.12	2.6	8.12	6/7/2016
SSGM-04876	Bay St	24	24	193.81	1948	3.17	2.56	8.11	
SSGM-06414	Brown St	15	15	24.47	1894	2.62	3.08	8.08	4/20/2018
SSGM-05541	Commercial St	40	60	28.50		3.67	2.2	8.07	6/18/2018
SSGM-05075	State St Ext	48	48	136.54	1880	3.08	2.6	8.01	4/27/2018
SSGM-05965	Park Ave	56	0	26.69	1880	3.08	2.6	8.01	
SSGM-07024	West Commercial St	36	36	127.89	1895	3.08	2.6	8.01	8/5/2016
SSGM-05025	St John St	30	30	271.64	1927	3.33	2.4	8	5/19/2016
SSGM-04338	Forest Ave	24	24	181.37	1924	3.33	2.4	8	9/21/2016
SSGM-04339	Forest Ave	30	30	22.61	1924	3.33	2.4	8	
SSGM-04341	Forest Ave	24	24	84.82	1924	3.33	2.4	8	9/21/2016
SSGM-05028	Park Ave	30	30	35.20	1928	3.33	2.4	8	
SSGM-06666	Forest Ave	24	24	15.91	1924	3.33	2.4	8	
SSGM-06667	Forest Ave	24	24	176.65	1924	3.33	2.4	8	
SSGM-06668	Forest Ave	24	24	177.87	1924	3.33	2.4	8	
SSGM-06938	Clark St	24	24	89.58	1929	3.33	2.4	8	
SSGM-06959	Clark St	24	24	25.23	1929	3.33	2.4	8	
SSGM-07530	Forest Ave	30	30	21.79	1924	3.33	2.4	8	
SSGM-05409	Temple St	12	15	59.98	1972	2.75	2.91	7.99	7/17/2018
SSGM-04530	Whitney Ave	8	8	129.02	1919	2.37	3.36	7.98	8/8/2014
SSGM-05681	Hancock St	18	18	253.57	1922	2.37	3.36	7.98	6/9/2015
SSGM-06625	Machigonne St	8	8	199.41	1925	2.37	3.36	7.98	1/11/2019
SSGM-00223	Whitney Ave	8	8	300.00	1912	2.37	3.36	7.98	6/29/2015
SSGM-00368	Kenwood St	8	8	250.00	1923	2.37	3.36	7.98	6/24/2015
SSGM-01715	Presumpscot North	15	15	179.52	1970	3.62	2.2	7.98	
SSGM-02037	Wall St	8	8	192.93	1949	2.37	3.36	7.98	7/2/2019
SSGM-02275	Popham St	8	8	254.60	1942	2.37	3.36	7.98	1/28/2019
SSGM-02408	Devon St	8	8	229.28	1922	2.37	3.36	7.98	2/27/2019
SSGM-04402	Clinton St	8	8	186.09	1914	2.37	3.36	7.98	8/12/2014
SSGM-00373	Brighton Ave			22.29		2.75	2.89	7.95	
SSGM-08016	Hall School	10	10	159.84		2.75	2.89	7.95	
SSGM-08017	Hall School	10	10	99.40		2.75	2.89	7.95	
SSGM-08018	Hall School	10	10	49.96		2.75	2.89	7.95	
SSGM-08019	Hall School	10	10	80.92		2.75	2.89	7.95	
SSGM-08020	Hall School	10	10	217.99		2.75	2.89	7.95	
SSGM-00308	Edwards St	10	10	274.39	1921	2.75	2.88	7.92	5/23/2019
SSGM-00958	Pearl St	30	30	200.19	1925	2.75	2.88	7.92	5/2/2018
SSGM-01059	Preble St	18	18	179.55	1921	2.75	2.88	7.92	5/2/2018
SSGM-03212	Forest Ave	18	18	254.99	1950	2.75	2.88	7.92	6/7/2017
SSGM-05487	Cumberland Ave	10	10	225.03	1929	2.75	2.88	7.92	5/10/2018
SSGM-05960	Lomond St	24	24	192.12	1972	3	2.64	7.92	4/18/2019
SSGM-06979	Cross St	18	18	182.00	1919	2.75	2.88	7.92	5/8/2018
SSGM-04299	Coyle St	8	8	300.76	1900	3.04	2.6	7.91	
SSGM-05899	Lafayette St	12	12	262.96		2.5	3.16	7.9	6/23/2016
SSGM-05958	Cedarhurst Ln	15	15	216.12	1938	3.29	2.4	7.9	6/20/2019
SSGM-00069	Off Malilly Rd	24	24	356.80	1916	3.29	2.4	7.9	
SSGM-00123	Off Washington Av	24	24	152.04	1914	3.29	2.4	7.9	
SSGM-00141	Ivaloo St	24	24	169.53	1919	3.29	2.4	7.9	
SSGM-00150	Washington Ave	8	8	164.09	1915	3.29	2.4	7.9	
SSGM-00523	Baxter Blvd	12	12	65.57	1932	3.29	2.4	7.9	
SSGM-01199	West St	12	12	344.31		2.5	3.16	7.9	12/16/2015
SSGM-01833	Brook Rd	20	20	179.63	1943	3.29	2.4	7.9	
SSGM-02352	Cedarhurst Ln	15	15	149.99	1939	3.29	2.4	7.9	6/20/2019
SSGM-02364	Warwick St	8	8	283.47	1947	3.29	2.4	7.9	
SSGM-02448	West Side Interceptor	24	24	271.54	1938	3.29	2.4	7.9	6/17/2019
SSGM-02465	West Side Interceptor	24	24	24.69	1938	3.29	2.4	7.9	6/17/2019
SSGM-02526	Lucas St	24	24	93.90	1914	3.29	2.4	7.9	6/18/2019
SSGM-02540	Warwick St	24	24	6.26	1938	3.29	2.4	7.9	
SSGM-02542	Warwick St	24	24	250.96	1938	3.29	2.4	7.9	
SSGM-02733	Brighton Ave	8	8	305.36	1914	3.29	2.4	7.9	
SSGM-03576	West Side Interceptor	24	24	59.21	1938	3.29	2.4	7.9	6/17/2019
SSGM-03588	Brighton Ave	8	8	179.73	1914	3.29	2.4	7.9	
SSGM-03677	Ocean Ave	10	10	167.62	1930	3.29	2.4	7.9	
SSGM-03775	Maine Ave	24	24	339.12	1924	3.29	2.4	7.9	
SSGM-03813	Off Fall Brook St	24	24	169.11	1914	3.29	2.4	7.9	
SSGM-03840	Off Malilly Rd	24	24	383.77	1916	3.29	2.4	7.9	
SSGM-03870	Off Felicia Ln	24	24	191.83	1916	3.29	2.4	7.9	
SSGM-03871	Off Malilly Rd	24	24	106.65	1916	3.29	2.4	7.9	
SSGM-03897	Fall Brook St	24	24	247.14	1914	3.29	2.4	7.9	
SSGM-04170	Off Fall Brook St	24	24	112.91	1914	3.29	2.4	7.9	
SSGM-04171	Fall Brook St	24	24	165.51	1914	3.29	2.4	7.9	
SSGM-04233	Austin St	12	12	24.80	1939	3.29	2.4	7.9	6/4/2019
SSGM-04236	Mackworth St	42	42	310.03	1930	3.29	2.4	7.9	9/6/2018
SSGM-04792	Belmont St	12	12	63.04	1932	3.29	2.4	7.9	7/16/2019

SSGM-04793	Baxter Blvd	12	12	200.64	1932	3.29	2.4	7.9	6/6/2019
SSGM-04805	Bank Rd	10	10	128.33	1923	3.29	2.4	7.9	
SSGM-04871	Bay St	24	24	274.69	1927	3.29	2.4	7.9	5/5/2015
SSGM-04908	Murray St	24	24	20.41	1913	3.29	2.4	7.9	
SSGM-04919	Read St	48	48	111.93	1924	3.29	2.4	7.9	12/23/2016
SSGM-05128	Spruce St	12	18	258.23		2.5	3.16	7.9	1/6/2016
SSGM-05201	Mellen St	18	18	230.86		2.5	3.16	7.9	4/8/2016
SSGM-06686	Ocean Ave	12	12	87.82	1930	3.29	2.4	7.9	
SSGM-02550	West Side Interceptor	24	24	137.29	1938	3.29	2.4	7.9	6/20/2019
SSGM-08048	West Side Interceptor	24	24	78.34	1938	3.29	2.4	7.9	6/17/2019
SSGM-00004	Murray St	10	10	150.00	1953	3.17	2.48	7.85	12/13/2018
SSGM-02851	Mayer Rd	15	15	95.65	1953	3.17	2.48	7.85	6/29/2017
SSGM-02852	Mayer Rd	15	15	60.83	1953	3.17	2.48	7.85	7/10/2017
SSGM-01070	Park Ave	15	15	189.70	1897	3	2.6	7.8	
SSGM-03609	Congress Sq		24	25.55	1900	3	2.6	7.8	
SSGM-05032	Hadlock Field	58	75	276.43	1893	3	2.6	7.8	
SSGM-05051	Park Ave		36	98.23	1880	3	2.6	7.8	
SSGM-06123	Franklin Art	30	30	212.71	1899	3	2.6	7.8	
SSGM-07522	Free St	24	24	137.88	1900	3	2.6	7.8	
SSGM-01942	Auburn St	8	8	126.24		3.54	2.2	7.79	
SSGM-05542	Commercial St	44	44	11.08		3.54	2.2	7.79	6/18/2018
SSGM-05604	Moulton St	24	24	65.87		3.54	2.2	7.79	6/18/2018
SSGM-00809	Hammond St	12	12	249.09	1959	2.62	2.96	7.77	5/28/2015
SSGM-00811	Gould St	18	18	68.62	1959	2.62	2.96	7.77	5/28/2015
SSGM-00828	Diamond St	15	15	73.77	1960	2.62	2.96	7.77	5/29/2015
SSGM-01043	Middle St	18	18	198.59	1955	2.62	2.96	7.77	6/9/2015
SSGM-01051	South St	12	12	114.12	1964	2.62	2.96	7.77	4/25/2018
SSGM-04459	Off Read St	18	18	273.55	1957	2.62	2.96	7.77	
SSGM-06728	Bell Cross Country	18	18	261.67	1957	2.62	2.96	7.77	9/23/2016
SSGM-00755	Monument St	12	12	231.61	1883	2.5	3.08	7.7	6/3/2015
SSGM-01249	St John St	18	18	148.71	1948	3.21	2.4	7.7	5/4/2017
SSGM-04336	Forest Ave	18	18	179.40	1924	3.21	2.4	7.7	
SSGM-05114	Bowdoin St	15	15	39.21	1883	2.5	3.08	7.7	12/18/2015
SSGM-05252	Fitzpatrick Stadium	18	18	316.30	1927	3.21	2.4	7.7	
SSGM-05465	Preble St	24	24	166.42	1934	3.21	2.4	7.7	6/13/2019
SSGM-05469	Kennebec St	24	24	241.63	1914	3.21	2.4	7.7	5/8/2018
SSGM-05473	Alder St	30	30	54.59	1934	3.21	2.4	7.7	5/8/2018
SSGM-05474	Alder St	30	30	151.51	1934	3.21	2.4	7.7	5/8/2018
SSGM-05967	St John St	15	15	39.80	1948	3.21	2.4	7.7	
SSGM-07074	Emerson St	10	10	177.86	1900	2.5	3.08	7.7	4/24/2015
SSGM-07084	Park Ave			157.35	1928	3.21	2.4	7.7	
SSGM-07086	Park Ave			335.83	1928	3.21	2.4	7.7	
SSGM-07531	Ocean Ave	15	15	32.03	1924	3.21	2.4	7.7	
SSGM-07704	King Middle School	8	8	51.20		2.87	2.68	7.7	5/24/2017
SSGM-07840	West Commercial St	30	30	355.50		3.5	2.2	7.7	
SSGM-06596	Ocean Ave	72	72	129.80	1976	3.54	2.16	7.65	
SSGM-01834	Brook Rd	20	20	47.39	1943	3.17	2.4	7.6	
SSGM-01835	Brook Rd	20	20	255.19	1943	3.17	2.4	7.6	
SSGM-02136	West Side Interceptor	24	24	283.43	1944	3.17	2.4	7.6	
SSGM-02137	West Side Interceptor	24	24	265.56	1946	3.17	2.4	7.6	
SSGM-02294	Sunset Ln	18	18	296.23	1939	3.17	2.4	7.6	6/4/2019
SSGM-02297	Sunset Ln	18	18	296.00	1939	3.17	2.4	7.6	6/4/2019
SSGM-02447	Violette Av	15	15	17.38	1947	3.17	2.4	7.6	
SSGM-02466	Violette Ave	10	10	156.32	1947	3.17	2.4	7.6	
SSGM-02467	Violette Ave	10	10	133.71	1947	3.17	2.4	7.6	
SSGM-02528	Lucas St	10	10	99.77	1941	3.17	2.4	7.6	
SSGM-02538	West Side Interceptor	24	24	219.40	1939	3.17	2.4	7.6	
SSGM-02543	West Side Interceptor	24	24	154.34	1938	3.17	2.4	7.6	
SSGM-02546	West Side Interceptor	24	24	155.19	1938	3.17	2.4	7.6	
SSGM-02547	West Side Interceptor	24	24	238.55	1938	3.17	2.4	7.6	
SSGM-02548	West Side Interceptor	24	24	234.29	1938	3.17	2.4	7.6	
SSGM-02549	West Side Interceptor	24	24	258.12	1938	3.17	2.4	7.6	6/20/2019
SSGM-02854	Mayer Rd	24	24	212.96	1914	3.17	2.4	7.6	6/18/2019
SSGM-03716	Ray St	12	12	201.61	1925	3.17	2.4	7.6	
SSGM-03717	Ray St	12	12	74.93	1925	3.17	2.4	7.6	
SSGM-03724	Loraine St	10	10	258.41	1942	3.17	2.4	7.6	12/21/2016
SSGM-03774	Maine Ave	18	18	40.25	1924	3.17	2.4	7.6	
SSGM-03776	Interceptor - Fall Brook	24	24	264.37	1924	3.17	2.4	7.6	
SSGM-03865	Ray St	15	15	80.51	1925	3.17	2.4	7.6	
SSGM-04067	Veranda St	8	8	196.76	1913	3.17	2.4	7.6	
SSGM-04297	Woodford St	8	8	397.27	1910	3.17	2.4	7.6	6/5/2019
SSGM-04740	Belmont St	10	10	143.08	1932	3.17	2.4	7.6	
SSGM-04918	Read St	48	48	108.90	1924	3.17	2.4	7.6	12/23/2016
SSGM-04931	Off Hall St	12	12	95.85	1942	3.17	2.4	7.6	
SSGM-04932	Hall St	12	12	111.98	1942	3.17	2.4	7.6	
SSGM-04933	Off Hall St	12	12	41.43	1942	3.17	2.4	7.6	

SSGM-06655	West Side Interceptor	24	24	185.35	1938	3.17	2.4	7.6	6/17/2019
SSGM-06656	West Side Interceptor	24	24	189.34	1938	3.17	2.4	7.6	6/17/2019
SSGM-06657	West Side Interceptor	24	24	276.35	1938	3.17	2.4	7.6	6/17/2019
SSGM-06658	West Side Interceptor	24	24	142.22	1938	3.17	2.4	7.6	6/17/2019
SSGM-06912	West Side Interceptor	30	30	86.87	1906	3.17	2.4	7.6	
SSGM-07831	Belmont St	10	10	17.70	1932	3.17	2.4	7.6	7/16/2019
SSGM-07966	Woodford St	8	8	34.47	1910	3.17	2.4	7.6	7/3/2019
SSGM-03574	West Side Interceptor	24	24	63.37	1938	3.17	2.4	7.6	6/17/2019
SSGM-08049	West Side Interceptor	24	24	45.17	1938	3.17	2.4	7.6	6/17/2019
SSGM-07191	Presumpscot North	24	24	200.65	1963	3.79	2	7.58	7/10/2018
SSGM-03667	Bay St		30	275.81	1948	2.96	2.56	7.57	
SSGM-04880	Bay St		30	218.80	1948	2.96	2.56	7.57	
SSGM-00554	Hersey St	8	8	240.27	1925	2.62	2.88	7.56	5/12/2017
SSGM-00738	Ashmont St	15	15	293.39	1924	2.62	2.88	7.56	7/24/2017
SSGM-00791	Pine St	24	24	102.69	1933	2.62	2.88	7.56	3/25/2016
SSGM-02807	Colonial Rd	24	24	108.26	1936	2.62	2.88	7.56	1/24/2018
SSGM-02814	Colonial Ct	24	24	265.52	1936	2.62	2.88	7.56	1/25/2018
SSGM-03512	Congress St	8	8	207.42	1914	2.62	2.88	7.56	9/19/2017
SSGM-05153	Pine St	24	24	106.52	1933	2.62	2.88	7.56	12/16/2015
SSGM-02344	Brookview Ter	8	8	81.31	1960	3.04	2.48	7.54	2/26/2018
SSGM-04042	Watson St	8	8	269.14	1960	3.04	2.48	7.54	4/3/2017
SSGM-07762			8	104.36		3.42	2.2	7.52	
SSGM-07763			8	271.37		3.42	2.2	7.52	
SSGM-04826	Forest Ave	30	30	283.33	1921	3.12	2.4	7.5	5/18/2018
SSGM-04827	Forest Ave	30	30	448.35	1921	3.12	2.4	7.5	5/18/2018
SSGM-00450	Brighton Ave	10	10	209.45	1924	3.12	2.4	7.5	
SSGM-00532	Forest Ave	30	30	239.44	1922	3.12	2.4	7.5	
SSGM-00855	Kennedy Pk	10	10	117.23		2.37	3.16	7.5	5/26/2015
SSGM-01251	Forest Ave	30	30	199.84	1924	3.12	2.4	7.5	
SSGM-03617	Allen Ave	24	24	187.77	1911	3.12	2.4	7.5	
SSGM-03618	Allen Ave	24	24	243.93	1911	3.12	2.4	7.5	
SSGM-03619	Allen Ave	24	24	169.44	1911	3.12	2.4	7.5	
SSGM-04229	George St	10	10	168.96	2009	3.29	2.28	7.5	5/8/2017
SSGM-04503	Allen Ave	24	24	336.62	1911	3.12	2.4	7.5	
SSGM-04546	Brighton Ave	10	10	192.55	1924	3.12	2.4	7.5	
SSGM-04825	Forest Ave	30	30	281.77	1921	3.12	2.4	7.5	
SSGM-07511	Deering Ave	30	30	361.35	1927	3.12	2.4	7.5	
SSGM-05020	Valley St	12	12	254.23	1899	2.87	2.6	7.47	9/26/2017
SSGM-05021	Valley St	12	12	242.85	1899	2.87	2.6	7.47	9/25/2017
SSGM-06233	Winter St	12	18	489.27	1870	2.87	2.6	7.47	4/22/2016
SSGM-06400	Winter St	12	18	242.10	1870	2.87	2.6	7.47	6/9/2016
SSGM-06744	Forest Ave	10	10	48.44	1898	2.87	2.6	7.47	9/29/2016
SSGM-06745	Forest Ave	10	10	274.59	1898	2.87	2.6	7.47	9/29/2016
SSGM-00359	Noyes St	15	15	100.01	1898	2.87	2.6	7.47	
SSGM-00360	Noyes St	15	15	233.21	1898	2.87	2.6	7.47	
SSGM-00606	Forest Ave	12	12	369.90	1898	2.87	2.6	7.47	
SSGM-00644	Forest Ave	10	10	340.65	1898	2.87	2.6	7.47	9/29/2016
SSGM-00645	Forest Ave	10	10	235.41	1898	2.87	2.6	7.47	9/29/2016
SSGM-00685	Coyle St	12	12	71.80	1900	2.87	2.6	7.47	
SSGM-00784	Williams St	12	12	175.94	1891	2.87	2.6	7.47	11/16/2016
SSGM-00838	Brighton Ave	15	15	338.83	1899	2.87	2.6	7.47	
SSGM-01090	Commercial St	48	36	43.84	1883	2.87	2.6	7.47	6/13/2018
SSGM-01097	State St	12	20	244.76	1880	2.87	2.6	7.47	5/26/2016
SSGM-01156	Pine St	18	18	46.70	1900	2.87	2.6	7.47	5/25/2016
SSGM-01191	Pine St	18	18	396.45	1900	2.87	2.6	7.47	
SSGM-01205	Congress St	15	15	289.97	1881	2.87	2.6	7.47	6/3/2016
SSGM-03601	Valley St	10	10	236.83	1894	2.87	2.6	7.47	5/17/2016
SSGM-03603	Deering Ave	24	24	162.43	1896	2.87	2.6	7.47	
SSGM-03605	Park Ave	24	24	222.79	1880	2.87	2.6	7.47	
SSGM-04444	Park Ave			85.07	1880	2.87	2.6	7.47	
SSGM-04465	Forest Ave	10	10	350.26	1898	2.87	2.6	7.47	9/29/2016
SSGM-04830	Marginal Way	36	36	35.92	1900	2.87	2.6	7.47	7/10/2018
SSGM-05002	Congress St	12	12	294.60	1899	2.87	2.6	7.47	
SSGM-05292	Park Ave		33	56.94	1880	2.87	2.6	7.47	
SSGM-05372	Spring St	10	10	49.38	1897	2.87	2.6	7.47	
SSGM-05381	Congress St	18	18	162.08	1900	2.87	2.6	7.47	
SSGM-05412	Congress St	18	24	280.00	1900	2.87	2.6	7.47	5/24/2018
SSGM-05641	Middle St	24	24	472.26	1881	2.87	2.6	7.47	5/14/2018
SSGM-05914	Preble St	36	36	290.98	1900	2.87	2.6	7.47	6/13/2019
SSGM-06383	Huntress St	10	10	337.61	1892	2.87	2.6	7.47	8/10/2018
SSGM-06441	Park Ave		24	222.03	1880	2.87	2.6	7.47	
SSGM-06442	Park Ave		24	225.44	1880	2.87	2.6	7.47	
SSGM-06443	Park Ave		33	259.10	1880	2.87	2.6	7.47	
SSGM-06444	Park Ave		33	234.08	1880	2.87	2.6	7.47	
SSGM-06476	Forest Ave	18	18	131.16	1898	2.87	2.6	7.47	
SSGM-06477	Forest Ave	18	18	545.38	1898	2.87	2.6	7.47	

SSGM-06478	Forest Ave	18	18	206.45	1898	2.87	2.6	7.47	8/9/2018
SSGM-06662	Forest Ave	18	18	323.93	1898	2.87	2.6	7.47	
SSGM-07008	High St	15	15	276.91	1897	2.87	2.6	7.47	4/8/2016
SSGM-07089	Congress St	12	12	251.06	1899	2.87	2.6	7.47	
SSGM-07569	Williams St	12	12	37.09	1891	2.87	2.6	7.47	
SSGM-07807	Park Ave	24	33	17.77	1880	2.87	2.6	7.47	
SSGM-03945	Front St	36	36	251.40	1933	2.62	2.83	7.41	6/22/2016
SSGM-04513	Mayland St	8	8	245.95	1958	2.5	2.96	7.4	10/4/2017
SSGM-05866	Vesper St	12	12	174.22	1963	2.5	2.96	7.4	6/1/2015
SSGM-06480	Allen Ave	8	8	141.83	1911	3.08	2.4	7.4	8/25/2016
SSGM-06481	Allen Ave	8	8	64.69	1911	3.08	2.4	7.4	8/25/2016
SSGM-06483	Allen Ave	8	8	97.25	1911	3.08	2.4	7.4	8/25/2016
SSGM-00603	Walton St	24	24	140.00	1937	3.08	2.4	7.4	
SSGM-00604	Walton St	24	24	145.00	1937	3.08	2.4	7.4	
SSGM-00605	Walton St	24	24	104.62	1937	3.08	2.4	7.4	
SSGM-00808	Hammond St	10	10	244.48	1959	2.5	2.96	7.4	5/27/2015
SSGM-00821	Monroe Ct	12	12	210.00	1959	2.5	2.96	7.4	5/14/2015
SSGM-00822	Greenleaf St	10	10	150.60	1959	2.5	2.96	7.4	5/15/2015
SSGM-00994	North St	15	15	27.03	1962	2.5	2.96	7.4	5/31/2016
SSGM-01067	Cumberland Ave	12	12	249.25	1953	2.5	2.96	7.4	6/14/2016
SSGM-01187	West St	12	12	216.29	1969	2.5	2.96	7.4	12/17/2015
SSGM-02184	Hicks St	12	12	133.58	1956	2.5	2.96	7.4	3/13/2017
SSGM-02209	Bishop St	24	24	331.51	1944	3.08	2.4	7.4	
SSGM-02266	Hicks St	12	12	174.31	1960	2.5	2.96	7.4	3/13/2017
SSGM-02267	Hicks St	12	12	251.47	1960	2.5	2.96	7.4	6/5/2017
SSGM-02268	Hicks St	12	12	226.94	1960	2.5	2.96	7.4	6/5/2017
SSGM-02953	Webb St	8	8	85.19	1958	2.5	2.96	7.4	7/5/2017
SSGM-04337	Concord St	8	8	163.96	1916	3.08	2.4	7.4	
SSGM-05168	West St	12	12	260.19	1969	2.5	2.96	7.4	12/17/2015
SSGM-05470	Hanover St	24	24	26.47	1914	3.08	2.4	7.4	5/8/2018
SSGM-06669	Concord St	8	8	56.60	1916	3.08	2.4	7.4	
SSGM-06874	Maine Ave		66	306.40	1953	3.42	2.16	7.38	
SSGM-00279	Bay St	24	24	153.50	1948	2.87	2.56	7.36	
SSGM-05121	Vaughan St	12	12	122.90	1890	2.83	2.6	7.36	12/23/2015
SSGM-06714	Forest Ave	24	24	161.69		3.33	2.2	7.33	8/10/2018
SSGM-05454	Forest Ave	27	27	235.00		3.33	2.2	7.33	
SSGM-01100	Chadwick St	10	10	326.39	1890	2.87	2.55	7.32	3/30/2016
SSGM-06729	Burnham & Morrill	8	8	272.79	1907	3.04	2.4	7.3	5/14/2018
SSGM-00102	Oregon St	8	8	369.40	1913	3.04	2.4	7.3	
SSGM-02138	West Side Interceptor	10	10	78.90	1946	3.04	2.4	7.3	
SSGM-02139	West Side Interceptor	10	10	79.62	1946	3.04	2.4	7.3	
SSGM-02143	West Side Interceptor	18	18	57.11	1946	3.04	2.4	7.3	
SSGM-02152	Penwood Dr	8	8	162.60	1939	3.04	2.4	7.3	2/1/2017
SSGM-02175	Off Pinebrook Ln	18	18	185.31	1939	3.04	2.4	7.3	6/19/2019
SSGM-02176	Off Pinebrook Ln	18	18	151.98	1939	3.04	2.4	7.3	6/18/2019
SSGM-02281	West Side Interceptor	18	18	117.53	1939	3.04	2.4	7.3	
SSGM-02291	West Side Interceptor	18	18	118.53	1939	3.04	2.4	7.3	
SSGM-02292	West Side Interceptor	18	18	157.33	1939	3.04	2.4	7.3	
SSGM-02293	Off Glen Haven West	18	18	147.24	1939	3.04	2.4	7.3	6/19/2019
SSGM-02299	West Side Interceptor	18	18	184.12	1939	3.04	2.4	7.3	
SSGM-02300	Off Pinebrook Ln	18	18	61.92	1939	3.04	2.4	7.3	6/19/2019
SSGM-02301	Off Penwood Dr	18	18	41.02	1939	3.04	2.4	7.3	6/4/2019
SSGM-02302	Off Penwood Dr	18	18	150.27	1939	3.04	2.4	7.3	6/4/2019
SSGM-02409	Devon St	8	8	231.76	1922	3.04	2.4	7.3	2/8/2019
SSGM-02829	Lucas St	8	8	170.91	1938	3.04	2.4	7.3	
SSGM-03718	Ray St	8	8	61.97	1925	3.04	2.4	7.3	
SSGM-03826	Loring Ave	8	8	226.44	1923	3.04	2.4	7.3	
SSGM-03893	Fall Brook St	8	8	174.18	1931	3.04	2.4	7.3	4/3/2017
SSGM-03894	Fall Brook St	8	8	189.98	1931	3.04	2.4	7.3	4/3/2017
SSGM-03895	Fall Brook St	8	8	220.73	1931	3.04	2.4	7.3	4/3/2017
SSGM-03896	Fall Brook St	8	8	253.28	1931	3.04	2.4	7.3	
SSGM-05664	India St	51	51	158.81	1901	3.04	2.4	7.3	7/14/2016
SSGM-06673	West Side Interceptor	18	18	128.61	1939	3.04	2.4	7.3	
SSGM-06675	West Side Interceptor	18	18	219.23	1939	3.04	2.4	7.3	
SSGM-06676	Off Penwood Dr	18	18	126.91	1939	3.04	2.4	7.3	
SSGM-06677	West Side Interceptor	18	18	178.21	1939	3.04	2.4	7.3	
SSGM-06885	Capisic Pond Park	30	30	47.77	1924	3.04	2.4	7.3	
SSGM-02203	Harris Ave	10	10	253.93	1976	2.5	2.91	7.26	8/11/2017
SSGM-06527	Baxter Blvd	15	15	17.62		3.29	2.2	7.24	10/10/2017
SSGM-01941	Auburn St	8	8	95.81		3.29	2.2	7.24	
SSGM-04798	Dartmouth St		12	15.50		3.29	2.2	7.24	
SSGM-05908	Newbury St	10	10	118.14	1888	2.62	2.76	7.24	4/17/2018
SSGM-06096	Auburn St	21	21	242.31		3.29	2.2	7.24	
SSGM-06396	Winter St	12	12	289.24		2.5	2.89	7.23	3/15/2016
SSGM-07972				7.97		2.5	2.89	7.23	
SSGM-08024				176.85		2.5	2.89	7.23	

SSGM-08031				149.40		2.5	2.89	7.23	
SSGM-08032				165.92		2.5	2.89	7.23	
SSGM-08033				178.64		2.5	2.89	7.23	
SSGM-08034				190.59		2.5	2.89	7.23	
SSGM-07944				63.53		2.5	2.89	7.23	
SSGM-07945				36.98		2.5	2.89	7.23	
SSGM-07946				246.00		2.5	2.89	7.23	
SSGM-07947				91.05		2.5	2.89	7.23	
SSGM-05773	Washington Ave	12	12	303.59		2.75	2.63	7.22	6/16/2016
SSGM-04605	Frances St	10	10	300.59	1917	2.5	2.88	7.2	1/1/2014
SSGM-04741	Forest Ave	30	30	55.03	1923	3	2.4	7.2	7/20/2017
SSGM-05847	Howard St	10	10	29.83	1938	2.5	2.88	7.2	4/24/2015
SSGM-00265	Congress St	15	15	102.49	1922	3	2.4	7.2	
SSGM-00266	Congress St	15	15	151.09	1922	3	2.4	7.2	
SSGM-00268	Park Ave	15	15	136.18	1922	3	2.4	7.2	
SSGM-00453	Brighton Ave		36	147.45	1924	3	2.4	7.2	
SSGM-00454	Forest Ave	42	42	312.24	1925	3	2.4	7.2	
SSGM-00455	Forest Ave	24	24	298.51	1922	3	2.4	7.2	
SSGM-00504	Forest Ave	30	30	289.47	1922	3	2.4	7.2	
SSGM-00506	Noyes St	36	36	190.21	1928	3	2.4	7.2	
SSGM-00519	Ricker Park	30	30	123.29	1908	3	2.4	7.2	
SSGM-00529	Forest Ave	30	30	253.46	1922	3	2.4	7.2	
SSGM-00530	Forest Ave	30	30	450.16	1922	3	2.4	7.2	
SSGM-00531	Forest Ave	30	30	120.33	1922	3	2.4	7.2	
SSGM-00568	Codman St	10	10	349.40	1914	2.5	2.88	7.2	4/27/2017
SSGM-00586	Florence St	10	10	255.47	1906	2.5	2.88	7.2	8/30/2017
SSGM-00601	Walton St	27	27	134.95	1937	3	2.4	7.2	
SSGM-00672	Park Ave	15	15	148.79	1922	3	2.4	7.2	
SSGM-00694	Merrill St	10	10	33.75	1938	2.5	2.88	7.2	4/24/2015
SSGM-00695	Quebec St	15	15	222.57	1939	2.5	2.88	7.2	6/1/2016
SSGM-00718	Congress St	12	12	450.08	1922	3	2.4	7.2	10/29/2018
SSGM-00750	Forest Ave	30	30	408.57	1924	3	2.4	7.2	
SSGM-00789	Forest Ave	24	24	139.06	1924	3	2.4	7.2	9/21/2016
SSGM-00860	Lancaster St		44	200.00	1902	3	2.4	7.2	
SSGM-00898	Monument St	10	10	116.44	1935	2.5	2.88	7.2	6/2/2015
SSGM-00923	Forest Ave	30	30	61.64	1923	3	2.4	7.2	
SSGM-00926	Forest Ave	24	24	190.11	1924	3	2.4	7.2	9/21/2016
SSGM-00927	Forest Ave	24	24	35.41	1924	3	2.4	7.2	9/21/2016
SSGM-00928	Forest Ave	24	24	13.04	1924	3	2.4	7.2	9/21/2016
SSGM-01183	Brackett St	15	15	217.72	1937	2.5	2.88	7.2	3/18/2016
SSGM-01184	Neal St	15	15	102.35	1935	2.5	2.88	7.2	3/18/2016
SSGM-01214	Burnham St	10	10	41.64	1906	3	2.4	7.2	
SSGM-01215	Burnham St	12	12	183.12	1906	3	2.4	7.2	
SSGM-02721	Woodford St	24	24	328.63	1924	3	2.4	7.2	6/3/2019
SSGM-02744	Rockland Ave	30	30	99.08	1924	2.5	2.88	7.2	2/20/2019
SSGM-02752	Brighton Ave		36	238.66	1924	3	2.4	7.2	
SSGM-02753	Brighton Ave	24	24	28.83	1924	3	2.4	7.2	
SSGM-02928	Stevens Ave	8	8	31.75	1908	2.5	2.88	7.2	5/28/2019
SSGM-03214	Forest Ave	8	8	267.65	1950	3	2.4	7.2	
SSGM-03608	High St	20	30	88.99	1940	3	2.4	7.2	10/13/2017
SSGM-03858	Brighton Ave	36	36	295.35	1924	3	2.4	7.2	
SSGM-03905	Allen Ave	30	30	144.38	1920	3	2.4	7.2	
SSGM-03906	Allen Ave	30	30	179.40	1920	3	2.4	7.2	
SSGM-04212	Codman St	15	15	275.35	1935	2.5	2.88	7.2	4/27/2017
SSGM-04276	Vannah Ave	30	30	235.62	1919	3	2.4	7.2	
SSGM-04330	Forest Ave	24	24	291.86	1924	3	2.4	7.2	9/21/2016
SSGM-04333	Forest Ave	30	30	187.17	1924	3	2.4	7.2	
SSGM-04334	Forest Ave	30	30	151.71	1924	3	2.4	7.2	
SSGM-04342	Forest Ave	30	30	63.08	1919	3	2.4	7.2	
SSGM-04367	Forest Ave	30	30	225.15	1923	3	2.4	7.2	
SSGM-04545	Brighton Ave	8	8	206.27	1908	3	2.4	7.2	
SSGM-04548	Hollis Rd	8	8	283.55	1927	3	2.4	7.2	
SSGM-04598	Congress St	24	24	233.69	1925	3	2.4	7.2	
SSGM-04599	Congress St	24	24	18.01	1925	3	2.4	7.2	
SSGM-04735	Forest Ave	30	30	23.63	1922	3	2.4	7.2	7/18/2019
SSGM-04744	Forest Ave	30	30	78.05	1923	3	2.4	7.2	
SSGM-04841	Washington Ave	24	24	29.26	1916	3	2.4	7.2	
SSGM-04843	Washington Ave	24	24	59.35	1916	3	2.4	7.2	
SSGM-04988	Frederic St	12	12	225.71	1937	3	2.4	7.2	
SSGM-05001	Congress St	15	15	341.91	1925	3	2.4	7.2	
SSGM-05161	Neal St	12	12	229.13	1941	2.5	2.88	7.2	8/4/2016
SSGM-05204	High St	24	24	16.19	1926	3	2.4	7.2	
SSGM-05290	Park Ave	24	24	224.92	1926	3	2.4	7.2	
SSGM-05291	Park Ave	24	24	83.85	1926	3	2.4	7.2	
SSGM-05969	St John St	30	30	266.12	1927	3	2.4	7.2	
SSGM-05970	St John St	30	30	270.46	1927	3	2.4	7.2	

SSGM-06539	Brighton Ave	8	8	179.03	1908	3	2.4	7.2	
SSGM-07004	Adams St	20	20	288.55	1903	2.5	2.88	7.2	6/16/2016
SSGM-07092	Congress St	24	24	246.51	1925	3	2.4	7.2	
SSGM-07880	Forest Ave	30	30	102.35	1924	3	2.4	7.2	
SSGM-05889	Eastern Prom	10	10	61.46	1893	2.75	2.6	7.15	6/11/2015
SSGM-06418	Brown St	12	12	98.85	1894	2.75	2.6	7.15	5/10/2018
SSGM-00285	Clinton St	8	8	251.79	1900	2.75	2.6	7.15	
SSGM-00512	Fessenden St	8	8	316.62	1891	2.75	2.6	7.15	11/17/2016
SSGM-00832	Anderson St	44	44	226.26	1896	2.75	2.6	7.15	
SSGM-00836	Beacon St	10	10	200.00	1900	2.75	2.6	7.15	
SSGM-00969	Middle St	24	24	185.02		3.25	2.2	7.15	5/14/2018
SSGM-01008	Cumberland Ave	12	12	216.21	1894	2.75	2.6	7.15	5/10/2018
SSGM-01061	Congress St	18	18	236.60	1900	2.75	2.6	7.15	5/24/2018
SSGM-01062	Congress St	18	18	40.00	1900	2.75	2.6	7.15	5/25/2018
SSGM-01148	State St	20	20	54.29	1880	2.75	2.6	7.15	
SSGM-03604	Park Ave			23.55	1880	2.75	2.6	7.15	
SSGM-04288	Coyle St	8	8	256.26	1900	2.75	2.6	7.15	
SSGM-04432	Noyes St	8	8	45.55	1898	2.75	2.6	7.15	
SSGM-04433	Devonshire St	8	8	552.12	1898	2.75	2.6	7.15	
SSGM-05229	Deering Ave	24	24	70.85	1896	2.75	2.6	7.15	
SSGM-05486	Cumberland Ave	12	12	36.28	1894	2.75	2.6	7.15	5/10/2018
SSGM-05521	Anderson St	48	48	264.43	1896	2.75	2.6	7.15	
SSGM-05522	Anderson St	48	48	192.70	1896	2.75	2.6	7.15	3/10/2016
SSGM-05523	Anderson St	48	48	206.41	1896	2.75	2.6	7.15	3/10/2016
SSGM-05524	Anderson St	48	48	203.77	1896	2.75	2.6	7.15	3/10/2016
SSGM-05759	Romasco Ln	12	12	310.23	1885	2.75	2.6	7.15	9/5/2017
SSGM-05882	Atlantic St	18	18	33.66	1864	2.75	2.6	7.15	
SSGM-05885	Fore St		18	178.32	1890	2.75	2.6	7.15	
SSGM-06283	Federal St	24	24	36.17		3.25	2.2	7.15	5/16/2018
SSGM-06411	Preble St	18	18	248.72	1900	2.75	2.6	7.15	5/22/2018
SSGM-06533	Brighton Ave	12	12	407.54	1899	2.75	2.6	7.15	
SSGM-07077	Brown St	12	12	108.79	1894	2.75	2.6	7.15	5/25/2018
SSGM-07552	Anderson St	48	48	17.11	1896	2.75	2.6	7.15	
SSGM-07572	Fessenden St	8	8	20.64	1891	2.75	2.6	7.15	
SSGM-06417	Brown St	12	12	184.43	1894	2.75	2.6	7.15	4/20/2018
SSGM-00999	Cotton St	15	15	107.27	1889	2.75	2.6	7.15	5/8/2018
SSGM-07869	Cotton St	15	15	62.73	1889	2.75	2.6	7.15	5/8/2018
SSGM-03777	Maine Ave	36	36	314.48	1953	3.29	2.16	7.11	
SSGM-04340	Saunders St		30	206.45	1925	3.33	2.13	7.11	
SSGM-03500	Danforth St	8	8	68.51	1909	2.96	2.4	7.1	
SSGM-04543	Longfellow St	15	15	213.53	1928	2.96	2.4	7.1	
SSGM-06928	Congress St	8	8	230.41	1914	2.96	2.4	7.1	9/20/2017
SSGM-01943	Auburn St			53.68		3.67	1.93	7.09	
SSGM-03117	Riverside St	24	24	200.47	1963	3.54	2	7.08	
SSGM-03119	Riverside St	24	24	173.82	1963	3.54	2	7.08	6/8/2018
SSGM-03586	Interceptor - West Side 6	24	24	60.46	1999	3.54	2	7.08	6/17/2019
SSGM-03587	West Side Interceptor	24	24	82.74	1999	3.54	2	7.08	6/17/2019
SSGM-06513	Veranda St	10	10	19.10	1983	3.54	2	7.08	
SSGM-06516	Veranda St	10	10	381.15	1983	3.54	2	7.08	
SSGM-07196	Riverside St	24	24	213.07	1963	3.54	2	7.08	7/9/2018
SSGM-03497	West Commercial St	24	18	46.61		3.21	2.2	7.06	8/5/2016
SSGM-04881	Bay St		30	233.73	1948	2.75	2.56	7.04	
SSGM-06465	Brackett St	15	15	194.82		2.62	2.68	7.03	1/7/2016
SSGM-00725	Middle St	18	18	39.77	1955	2.37	2.96	7.03	6/9/2015
SSGM-02537	Woodfield Rd	8	8	159.61	1960	2.37	2.96	7.03	4/4/2017
SSGM-02811	Colonial Rd	8	8	145.69	1951	2.37	2.96	7.03	5/21/2019
SSGM-03666	Ocean Ave	18	18	66.11		2.62	2.68	7.03	5/5/2017
SSGM-03931	Woodlawn Ave	8	8	143.52	1963	2.37	2.96	7.03	1/24/2019
SSGM-01063	Franklin Art	36	36	286.94	1967	3.25	2.16	7.02	5/16/2018
SSGM-05313	State St	24	24	208.31	1978	3.25	2.16	7.02	10/7/2019
SSGM-01716	West Side Interceptor	15	15	187.35	1964	3.5	2	7	
SSGM-02441	Birchwood Dr	8	8	122.96	1939	2.92	2.4	7	
SSGM-04802	Off Bank Rd	8	8	296.46	1923	2.92	2.4	7	
SSGM-06674	West Side Interceptor	18	18	285.64	1939	2.92	2.4	7	