



September 10, 2019

Mr. Paul Mantello  
Town Manager  
Town of Boonsboro  
21 North Main Street  
Boonsboro, Maryland 21713

Re: Revised Proposal to Provide Engineering Services for a Wastewater System Master Plan and Hydraulic Model

Dear Mr. Mantello:

WRA is pleased to present our revised proposal to the Town of Boonsboro for a wastewater system master plan, hydraulic model, and capital improvements plan. We have added flow metering and analysis services to the scope to analyze wastewater flows in the Town's collection system.

Similar to the Water System Master Plan, I will provide proactive project management to the Town of Boonsboro while engineering oversight will be provided by Allyson Merola, P.E. In addition, Francis Bonkowski, P.E. will oversee the wastewater model development. Francis has recent experience developing wastewater models for Fallston, MD. and Herndon, VA., and will bring this experience to your project.

Thank you for the opportunity to present our proposal for this wastewater system master plan and hydraulic model. Should you have any questions regarding our submission, please do not hesitate to contact me at 443.224.1796 or at [acooper@wrallp.com](mailto:acooper@wrallp.com).

Very truly yours,

Whitman, Requardt and Associates, LLP

A handwritten signature in blue ink that reads "P. Andrew Cooper".

P. Andrew Cooper, PE, BCEE  
Associate

Enclosures  
cc: file



**SCOPE OF WORK  
TOWN OF BOONSBORO, MD  
WASTEWATER MASTER PLAN AND HYDRAULIC MODEL**

The intention of this project is to determine how much capacity for wastewater utility service is available based upon current operating capacities and how changes in planned development densities may impact collection, conveyance and treatment capacity. Wastewater flow totals will provide the Town with an understanding of their current obligations and of their projected future demands. Current flow data will be used to determine base flows and peak wet weather flows. This data will be used to identify capacity concerns and to calibrate future model development.

**1) Growth Projections**

- a) Preliminary Data Review: WRA will meet with the Town to review the pertinent information and discuss key issues of the project. The goal of this phase is to review existing flows and develop reasonable unit flow factors based on historical data, MDE standards, and Town development standards. WRA will develop unit flow factors and Town population and development projections will be used to develop flow projections. The following documents will be provided by the Town and reviewed by WRA:
  - Updates to the Town's development plans; specifically, the creation of revised zoning or land use associated with proposed residential and commercial development.
  - The Town's historical average and peak day wastewater flows.
  - The Town's billing records for water and wastewater, identifying the number of residential and commercial customers.
  - Determination of the "build-out" year and interim growth years. We have assumed that these will match the time steps used in the Water System Study: buildout is Year 2050; interim growth years are 2025 and 2030.
  - Parcel mapping and zoning/land use changes (GIS data if available).
- b) Review Meeting: WRA will present preliminary unit flow factors and projections to the Town for review and comment. WRA will utilize the data collected from the Town and any additional planning data from the Town's Planner, supplemented by MDE standards. WRA will recommend a preliminary wastewater system peak factor to be compared to flow metering records.
- c) Technical Memorandum: WRA will produce a Technical Memorandum summarizing information collected and developed with this evaluation including the historical data, the development of unit flow factors and projections for wastewater flows through a build-out year.

**2) System Mapping**

- a) Sewer System Survey: WRA's survey subconsultant will conduct field surveys of the Town wastewater collection system to spatially locate collection system manholes. During the survey effort, top of manhole rim and pipe invert elevations (upstream and downstream) will be collected. Pipe diameter and material (where possible) will also be collected.
- b) GIS Database: WRA will incorporate field data into the GIS database. This data will provide locations for manholes in the system mapping, as well as other attributes collected in the field, and will be provided to the Town.
- c) System Review: WRA will submit the updated wastewater system mapping to the Town. A conference call will be held to review the mapping and confirm WRA's understanding of the system configuration.

### 3) Planning Criteria

- a) Review of Planning Criteria: WRA will review system planning criteria for the wastewater collection system with the Town, including;
  - i) Allowable surcharge in existing mains
  - ii) Capacity requirements for sewer mains
  - iii) Peak factors

### 4) Sanitary Collection Sewer Evaluation

- a) Sewer Basin Delineation: WRA will utilize the wastewater system mapping, as well as discussions with the Town regarding locations of pumping stations, to determine sewer-sheds within the Town.
- b) Existing Flow Monitoring Data Analysis: WRA will analyze the ADS flow monitoring data acquired in 2016, as well as WWTP flow records, to determine base average daily flows. The peak flows in the system will be determined by a peaking factor estimated using record data.
- c) Sewer Model Creation/GIS Data Review: WRA will utilize the data from the GIS mapping updated under this project to develop a hydraulic system model for the Town's collection system under steady state conditions. WRA will use a design flow based on a single peaking factor as determined in conjunction with the Town. WRA will document all assumptions required to input the collection system data essential for model development. A Technical Memorandum will be provided to the Town outlining the model creation and stating assumptions used in creating the model.
- d) Model System Operations: After the wastewater model has been developed, WRA will validate connectivity and physical model data:
  - Run models with a nonspecific load at the upstream manhole to test model function
  - Review model projected full flow capacity
  - Produce a map of the model area, showing:
    - Sewer infrastructure
    - Sewer-shed boundaries
    - Modeled collector sewer identification

After validation, flow projections (loads) will be spatially distributed into the model. A base scenario will be developed to reflect base sanitary sewer flows from water consumption records and available flow information.

WRA will incorporate RDII using a peaking factor as determined from the flow data and selected in conjunction with the Town. WRA will evaluate capacity for existing conditions (Year 2020), two intermediate conditions (Years 2025 and 2030, corresponding with large development construction, as used in the Water System Study), and ultimate build-out conditions (Year 2050). Should the model indicate a surcharge condition, improvements will be investigated. All pipes which exceed capacity will be identified; in addition, all pipes above 80% of capacity will be noted. For each basin, the modeled pipe runs will be documented;

- Tabular data showing flow and HGL information
- Profiles as required to illustrate areas with deficient capacity

As previously mentioned, if deficiencies are found, system improvements will be investigated. This will include selecting improvements (such as upsizing a section of pipe) and testing the improvement(s) in the sewer model.

- e) Capacity Improvements Technical Memorandum: WRA will review model results with the Town. WRA will provide a Technical Memorandum that will include recommendations and capital improvement projects to correct identified surcharge conditions. Capital improvements will be identified with a scope, timing and



probable cost. The improvements will focus on upsizing existing sewers, and may consider constructing a parallel sewer or altering the sewer basins to re-route flow. The improvement(s) will be sized to convey ultimate flow without surcharging.

**5) RDII Flow Metering and Analysis**

- a) Flow Monitoring Analysis: Flow monitoring will be conducted as a part of this study. Base and peak flows will be determined from the existing 2016 meter data. An allowance will be made for infiltration and inflow (I&I) per inch-diameter miles of pipe in each major sewer-shed for infiltration. The basins will be ranked by I&I and the 2 basins with the highest I&I will be selected for additional metering. A meter will be installed at the same location as the original 2016 flow monitoring, and a second upstream within that basin to better identify the primary sources of I&I.

Four flow monitoring companies were contacted, and three proposals for monitoring of flows were received. The proposals included installation, maintenance and monitoring of four (4) flow meters and one rain gage for 2 months, as well as a price for one-month extensions of data collection. In addition, a price for data analysis was provided, if offered by the metering company. ADS offered the most complete package for the best price, so we are including their proposal as an attachment, and have included their base price plus 3 additional months of meter and rain gage data collection with our fee spreadsheet. Note that the 3 additional months of metering will not be performed without prior authorization from the Town.

After the flow monitoring is completed, the data will be analyzed and compared to the existing 2016 data. The sections with the highest I&I based on the combined analysis will be identified for RDII improvements.

- b) RDII Improvements Technical Memorandum: WRA will review analysis results with the Town. WRA will provide a Technical Memorandum that will include recommendations and capital improvement projects in select sewer basins to reduce RDII sources. Capital improvements will be identified with a scope, timing and probable cost. The improvements will focus on sewer rehab to eliminate leaks in the existing sewers.

**6) Deliverables**

Project deliverables will include updated GIS mapping and database electronic files, sewer model files, and a Sewer System Report including a combination of previous Technical Memoranda, with a prioritized CIP outline with suggested project timing and costs. The updated GIS information and CIP will be presented to the Town in a meeting.

**7) Schedule and Contract**

Based on a notice-to-proceed of October 1, 2019, we have assumed completion of this work by April 2020 with the approximate task deadlines below.

- Growth Projections Nov. 1<sup>st</sup>
- Planning Nov. 15<sup>th</sup>
- System Mapping Feb. 1<sup>st</sup>
- Sanitary Sewer Evaluation Apr. 1<sup>st</sup>
- RDII Flow Analysis May 1<sup>st</sup> \*
- Final Report May 31<sup>st</sup> \*

*\* Note: Assumes 2 months of RDII flow monitoring*

We have also assumed that this work will be conducted as a Change Order to our existing contract and will be performed under the same terms and conditions.



**8) Assumptions**

- Field Surveys: Town Public Works personnel will assist survey crews with manhole access (including traffic control)
- Field Surveys: manholes will be located (northing and easting), and rim and pipe invert will be determined. Pipe diameter and material will be determined where possible.
- Model will be run in the following time steps: current (2020), intermediate (2025 and 2030), and buildout (2050).
- Wastewater flow data will be provided to WRA in electronic format.
- Sewer model will be developed in InfoSewer modeling software.
- Wastewater treatment processes will not be analyzed as part of this study. Treatment capacity analysis will consist of a comparison between current WWTP capacity and projected wastewater flows.





## ADS ALWAYS MEETS OR EXCEEDS OUR CLIENT'S EXPECTATIONS...

ADS Environmental Services (“ADS”) is pleased to present this proposal in response to Whitman, Requardt & Associates, LLP’s request for equipment and services. The ADS team assigned to this flow monitoring project has carefully reviewed all of the provided information. We present in this proposal our commitment to provide and maintain four (4) flow monitoring locations and one (1) rain gauge for the duration of two (2) months. ADS Environmental Services was founded over 43 years ago, with the goal of providing the most comprehensive and accurate wastewater gravity flow and rain data as the cornerstone of our mission. We understand the impactful nature of the data we provide, and how it informs the mission critical, multimillion dollar decisions of our municipal clients. From our innovative hardware and software designs, to the regimented processes we follow, we have taken the desire and knowledge required to deliver the world’s most accurate data – on time and within budget – and institutionalized it. Our quality assurance management plan, the bedrock of the products and services that ADS delivers, ensures our consistent performance and satisfaction of our contract requirements and deliverables. Our client referrals, returning customers, and decades of experience speak for itself – ADS always meets or exceeds our client’s expectations.

### Why Choose ADS?

- ✓ Not Just an Equipment Supplier – ADS is a full service company with ISO 9001 certified Quality Management System that can provide variety of services Whitman, Requardt & Associates, LLP may draw upon on this project and in the future!
- ✓ Experts in Sewer Flow Monitoring – ADS focuses solely on flow monitoring, there is not a situation we haven’t seen. We are Sewer Flow Monitoring! We have been involved in most all of the largest flow monitoring, I&I and Consent Order projects in the world, we will bring unmatched knowledge base to Whitman, Requardt & Associates, LLP’s flow monitoring program with the Town of Boonsboro, Maryland.
- ✓ Long Term Partnership – We don’t look at this project as a sale but an opportunity to continue being a partner with you.

### Qualifications

For over 43 years ADS has been developing flow metering systems and methods to accomplish exactly what you are setting out to do. ADS began as a service company performing flow monitoring projects, but quickly found that the flow meters of the time were inadequate for precision flow metering and founder Peter Petroff set out to change the way sewer flow is measured. During the ensuing years ADS acquired more than 1,000,000 meter-months of metering experience. A quality depth and velocity meter will be critical to the success of this flow study. ADS will use an ultrasonic sensor to acquire depth measurements and a Doppler velocity sensor to obtain velocity measurements. A redundant pressure sensor will be used as a backup in cases where an



ultrasonic may need service or the pipe should become surcharged. This combination of depth and velocity technologies has proven to be a winner and it has resulted in ADS and our equipment being selected to conduct thousands of Capacity Studies, Billing Studies and I/I work for communities all over North America. Since releasing our metering technology to the open market in 2005, many competing flow metering service providers purchase our Best in Class equipment.

## Project Description

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Whitman, Requardt & Associates, LLP has requested ADS provide monitoring equipment to monitor four (4) locations and one (1) rain gauge for approximately two (2) months through the Town of Boonsboro, Maryland with the option for extending deployment for all of the equipment.

- ADS will provide site investigation, installation, data collection, monitor maintenance for four (4) Triton+ flow monitors and one (1) RainAlert III for two (2) months
- Provide FlowView web-based software, data analysis and reporting for two (2) months
- Provide monthly reporting with site description, hydrographs and scattergraphs, as well as digital data in .csv format

## Hardware Summary

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### Triton+ Flow Monitor

The choice of metering technology is an important one. Every monitor system has limitations, no matter how good the service provider is. As both a service provider and a systems manufacturer, ADS offers some advantages to Whitman, Requardt & Associates, LLP that flow-service-only companies cannot. The first of these advantages is an unsurpassed institutional knowledge of the technology used in flow monitoring. At ADS, we design and manufacture flow monitors, ultrasonic depth sensors, doppler velocity sensors, and wireless communications modules, among various other components. The TRITON+ is a “Fit-for-Purpose” open channel flow monitor for use in sanitary, combined, and storm sewers. It is designed to be the most readily adaptable flow monitoring device available for wastewater collection systems. It can be installed as a single pipe or dual pipe flow measurement system, and all components are certified to the highest level of Intrinsic Safety.



The TRITON+ flow monitor design is the culmination of our 43+ years of flow monitoring engineering experience and development, and offers the capability of a single flow monitor to drive every major sewer flow measurement technology available. Multiple sensor configuration options are available for the Triton, including up to three depths. Each sensor provides multiple technologies for continuous data collection of comparisons and tolerances. The sensor being utilized for this project include:

- Peak Combo Sensor: Combines peak Doppler velocity, an up-looking ultrasonic depth, and pressure depth technologies – all in one housing – for versatile, economical measurement across a wide range of hydraulics.





The CS4 Peak Combo sensor (at left) is our primary low-profile sensor for most standard manhole sites, and is installed in the invert of the pipe. This sensor includes three measurement technologies in a single housing: ADS' patented continuous wave peak velocity, up-looking ultrasonic depth, and pressure depth.

One of the distinctions between ADS technology and other flow monitoring equipment is that ultrasonic depth is the primary depth measurement; meanwhile pressure depth technology is used for both redundancy and measuring surcharge depth. Because both depths are measured in the same cross section of flow, ADS meters are able to automatically calibrate the pressure sensor to the zero-drift ultrasonic depth sensor.

### Intrinsic Safety (IS)

The ADS TRITON+ Flow Monitor has been certified under IECEx (International Electrotechnical Commission Explosion Proof) Intrinsic Safety (IS) standards for use in Zone 0/Class I, Div. 1, Groups C&D rated hazardous areas. While many end-users often overlook the Intrinsically Safe (IS) feature when purchasing a flow monitor or hiring a flow monitoring contractor, HRG should consider the safety benefits and potential liability reduction that installing ADS TRITON+ monitors will provide.

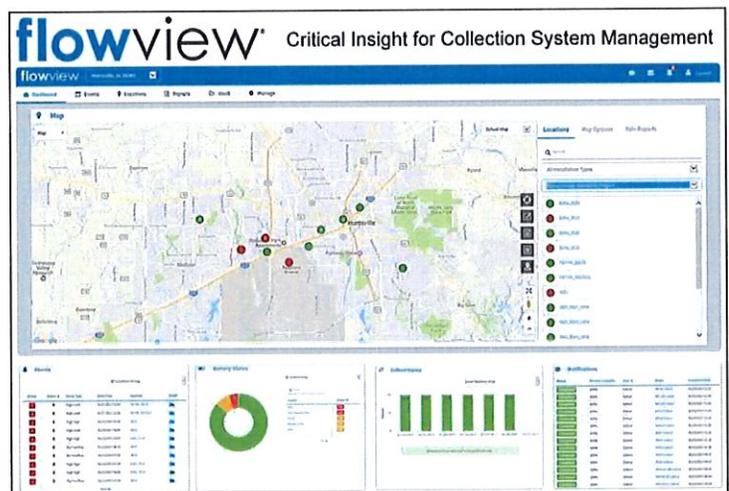
### Software Summary

#### ADS Web Hosting (FlowView)

FlowView connects consultants with municipal clients flow monitoring network, delivering near real-time operational intelligence on the status of flow activity throughout the wastewater collection system. FlowView is a dynamic tool for the management and oversight of collection system operation. This "cloud type" system provides vision, knowledge, and early detection of potential problems. FlowView performs data collection, storage, alarm management, and information presentation functions.

Whitman, Requardt & Associates, LLP and the Town of Boonsboro, Maryland will have the ability to access data directly.

Key features of FlowView include:



**flowview**

**System Security & Database Management:** The FlowView Hosting Center is a Tier 1 facility with industry-leading IT systems, networks, and infrastructure. It is owned and operated by the nation's leading provider, and is independently recognized for delivering the finest cloud-based solutions and services in the world. This



center is comprised of multiple levels of physical, network, and software security systems, and is managed by an expert team specializing in server performance and network security. The hosting center receives protection through video surveillance, 24/7 physical site monitoring, and event notification. Full database backups are done weekly; differential backups occur on a daily basis.

**Data Sharing:** Permission-based security allows clients to specify which users have authorization to acknowledge alarms, access data, and access other system settings. Administrators can control data views through location restrictions on a per-user basis. FlowView provides functionality to customize exactly what kind of data each user can access. Individual documents can be available to all users or restricted, allowing selective sharing of information.

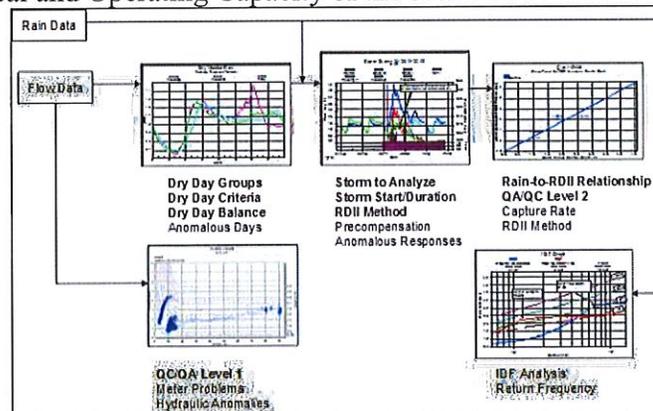
**Data Viewing:** Each monitoring site's information, data, and attachments are accessible online, using a rich set of features. The web user interface also provides versatile graphs and reports for easy access to current monitor data. FlowView allows the user to view monitor data in hydrograph and scattergraph format as well as run tabular reports which summarize data in daily, weekly and monthly formats.

**Dynamic Alarming:** FlowView utilizes Monitor Level Intelligence (MLI<sup>®</sup>), which produces learned hydraulic flow patterns that can identify flow losses during wet or dry weather on weekdays, weekends, and holidays. Alarming is initiated independently by the monitor at the time the alarm is evaluated and confirmed. There is no waiting for pre-configured communication windows, thus providing the client with near real-time alarming capabilities saving precious minutes for overflow notification and prevention actions.

## Slicer

Slicer.com is a software program that is accessed through the Internet and allows the extraction of vast amounts of engineering information from sewer flow data and rain gauge data. Slicer.com evolved from a platform which began as an in-house tool to allow ADS engineers to extract Infiltration & Inflow information from temporary flows studies across the nation and from any type of flow meter.

There are five separate and distinct analyses that engineers perform with Rain Data and Sewer Flow Data as shown below. Together these analyses allow the engineer to characterize both the wet weather and dry performance of each metered basin, determine the intensity and return frequency of each rain event and determine both the Theoretical and Operating Capacity of the sewer downstream of each meter.



## Service Summary

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### Flow Data Quality Assurance & Quality Control

While a flow monitoring program cannot be successful without reliable and accurate flow monitors, even the best monitoring equipment alone will not guarantee success. Hardware represents only one segment of a successful monitoring program. In addition to the monitors, the overall performance of a flow monitoring program is dependent on the data analysts and field staff who maintain the equipment, and analyze and manage the data. To ensure we deliver the best information possible, all ADS field technicians and data analysts are trained and certified through our ISO 9001:2008 Quality Management System. We have maintained this system since 1994, and are audited each year by SIRA Certification Services of England, an internationally recognized ISO registrar.



Our comprehensive Quality Assurance/Quality Control (QA/QC) Program is unmatched in the industry, and will provide a consistent approach to quality – ensuring that all products and deliverables meet project requirements. The program will address methodologies, work review, frequency and timing of review, review documentation and distribution, and approval/sign-off requirements. This guarantees the creation of a data editing and processing “paper trail” to address any outside questions regarding data accuracy, overflow volume calculations, etc. ADS is ISO 9001:2008 certified for manufacturing, field services, engineering, data analysis and management. Because of our ISO 9001:2008 status, ADS follows careful monitoring procedures to direct the manufacture of state-of-the-art instrumentation and equipment.

This proactive approach to consistent quality, coupled with our continuous efforts to improve field processes and methodologies, underscore our company’s driving commitment to provide high value/high quality products. Clients will be able to count on, and draw upon, our company’s ability to bring this comprehensive institutional knowledge of the industry to the project. ADS quality programs are unmatched, and result in attaining accurate, reliable flow information.

The quality of our flow monitoring data is a result of the quality of the measuring equipment employed and the competence of the field crews and data analysts that work on the project. Senior level Analysts with advanced training perform a monthly review of our Data Analyst’s work, insuring adherence to standard procedures and further enhancing the quality of final reported data.

Perhaps the most rigorous procedure that ADS Data Analysts follow is their data QA/QC procedure. ADS analysts will review the accuracy of all sensors and gauges on a frequent basis.

Key elements of this process are:

- Comparison of sensor readings to manual measurements of depth and velocity.
- Comparison of sensor readings over time in hydrograph format.
- Cross comparison of depth-velocity relationships in scatter plot format for consistency over time and consistency with theoretical curves, including our unique Stevens-Schutzbach pipe curves.
- Comparison of flow quantities between meters (flow balancing).
- Review of sensor consistency during multiple firings made in a single reading. The TRITON+ flow monitor stores quality information with each sensor reading.

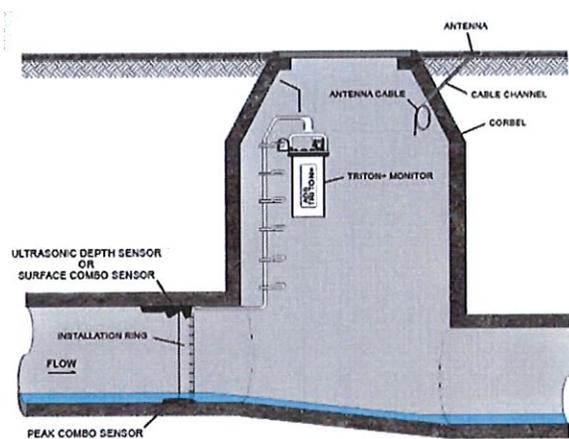


Our QA/QC and training methodologies are unparalleled within the industry, and we believe this approach meets the need for the most accurate and reliable flow information.

## Investigation & Installation

ADS Environmental Services will inspect the proposed flow-monitoring site that has been designated. A Site Report will be generated including photos and sketches upon completion of an investigation. A sample report can be provided upon request. The report will include details such as sensor installation position and manhole features/details/sediment. All installations will be scheduled through Darin Fife (Project Manager). Contact information will be made available upon acceptance of the proposal.

After the site investigations are completed, ADS will select the sensor configuration that is best suited to provide the highest level of accuracy and data quality, based on the hydraulic conditions of the location to be monitored. All TRITON+ sensor installations will include both an ultrasonic and pressure depth measurement. This will provide redundancy, and allow us to provide an extremely accurate ultrasonic depth measurement for in pipe flow and a backup pressure reading in the event of a full or surcharged pipe.



After the manhole has been determined to be suitable for monitoring, an ADS Environmental Services, two-man field crew will install the flow monitoring equipment. ADS will install an Area/Velocity sensor in the upstream end of each manhole. This will require a manhole entry from a confined space entry certified crew. ADS will provide all installation material as part of the quote. The Peak Combo sensor being installed is mounted on a ring and inserted so that the sensor is located at the invert of each pipe. The Peak Combo sensor is a bidirectional allowing for some different installation locations to be considered when choosing sensor positioning. During installation, ADS field crews will determine if a downstream installation will provide better results and if so, position the sensor there as an alternative location. As part of the installation process, a manual confirmation is done onsite. Site measurements will be taken and entered into the monitor parameters. The site will be activated and begin collecting data.

## Confirmations

Confirmations are performed by field personnel descending the manhole, using both a depth and a velocity measurement of the wastewater flow. Depth of flow measurements, as well as the distance above the flow to the crown of the pipe, are taken utilizing a calibrated ruled device and recorded. Velocity measurements utilizing a calibrated hand-held velocity meter are taken throughout the cross section of the flow and recorded. The data will be recorded by the field crew in their site software, and will be saved for historical use and plotted in the scattergraph provided in our monthly report. After the field team records the in-pipe measurements, the field crew or data analyst will connect to the monitor remotely and fire the sensors – comparing the readings to the field measurements. If the measurements confirm that the monitors are functioning according to specifications, no adjustments will be made. Additional confirmations will be conducted whenever changes in hydraulics are observed by the Data Analyst during our standard QA/QC process or anytime a sensor is replaced during the project.



## Data Collection and Flow Monitor Maintenance

**95% Nationwide  
Uptime**

Once the flow monitoring period has started, ADS will provide Comprehensive Field Services, which means that ADS is responsible for every aspect of maintaining the flow monitoring network at peak performance for the duration of this project. This methodology has proven nationwide to achieve >95% average uptime, but more importantly, this practice maximizes the accuracy of each monitoring location. The ADS TRITON+ flow meter is fitted with a GPRS wireless modem. This reduces the need to visit the locations to collect data, minimizing traffic disruptions and confined space entries. Data will be collected nightly, and the data analyst will review the data on a regular basis (at least twice per week). In the event that maintenance is needed, the analyst will issue a work order and the field crew will be dispatched quickly to perform site maintenance and site confirmations, as required.

ADS leverages the latest technology to effectively manage flow monitoring projects. Field service is directed through a server-based work order management system readily accessible to all ADS team members. Field crews are dispatched and routed in real-time using iPads. These devices are also used to document all onsite activities – from confined space entries and monitoring service activities, to required confirmation data – transferring the results wirelessly to our information management system before a field crew departs the work site (as seen above). Our mobile management system provides real-time tracking of all ADS personnel, supporting the most effective flow monitoring program in your community – in the safest and most efficient.

### Reporting

All data will be run through the Slicer software and an ADS generated I/I Report shall be compiled and submitted no later than thirty (45) days from the day the last monitor is removed. The total flow will be calculated per day. These reports will include hydrographs and scattergraphs, as well as digital data in either Excel or .csv format. Data will also be downloaded daily and can remain assessable for the duration of the project through our ADS Webhosted Platform, Flowview.

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## Pricing

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### Two Month Flow Monitoring Study

Description of Task	Quantity	Unit Cost	Total Cost
Mobilization	1 Unit	\$2,500.00	\$2,500.00
Flow Monitor Data Collects and Maintenance. Includes: Installation, confirmations, service, data analysis, online FlowView Services and Final Slicer report - 4 Meters for 2 months		\$1,720.00	\$13,760.00
Rain Monitor Data Collects and Maintenance. Includes: Installation, service, data analysis, online FlowView Service and Final report - 1 meter for 2 months		\$900.00	\$1,800.00
Monthly Extension Rate (Optional)		\$3,868.00	

**TOTAL: \$18,060.00**



- ✓ *Pricing is valid for 30 days and can be renewed by mutual agreement by ADS and Whitman, Requardt & Associates, LLP.*
- ✓ *Pricing assumes standard ADS installation and safety procedures and 2-person field crews, no special fees or taxes, no special traffic control required and no MBE/FBE/DBE requirements. Conditions requiring more than a two-person crew and/or special traffic control will require additional compensation.*
- ✓ *ADS will be prepared to start work within a three-week period after the contract is signed.*

